

2023

Reference Guide



KEYSTONE

ASSEMBLY SOLUTIONS, LLC

401 West King Street, East Berlin, PA 17316

Advanced Assembly, Critical Torque
& Ergonomic Handling Systems

844-KAS-TOOL - (844.527.8665)

www.keystoneassembly.com



New Products

CSP6D Interchangeable Preset Torque Wrench

Compact design with high precision for limited access

QH6D and SH6D Interchangeable Head

Designed for CSP6D with compact slimline dimensions

DOT10N4-G: Digital Torque Wrench Tester

New loading mechanism for highly accurate measurements

Scan QR Code for latest online information
<http://www.global-tohnichi.com>



Ideal for work in tight spaces

CSP6D
Series

NEW

Preset Type Interchangeable Head Torque Wrench



CSP2N x 6D+QH6D

Feature

Compact slimline dimensions QH6D and SH6D interchangeable heads are available
Features torque set completion with distinctive feel and click



Precision Tightening Work

Knurling is effectively applied to visually and sensibly guide the user to the correct grip position.

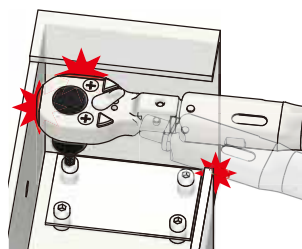
*Correct grip position leads to accurate torque output.



CLICK

Clear Click Sound

The improved internal link design creates a more distinctive click making it easier to confirm torque completion.



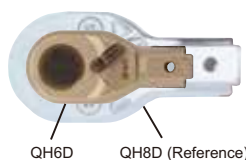
Long swing ratchet

Interference Reduction

The slimmer body, smaller head, and halved swing angle drastically reduce the interference area of the tool.



New product



QH6D

QH8D (Reference)

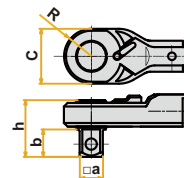


SH6DX10

SH8DX10 (Reference)

Model	Torque Range			Force P [N]	Weight [kg]
	[N·m]	[kgf·cm]	[lbf·in]		
CSP2NX6D	0.4 ~ 2	4.0 ~ 20	3.5 ~ 17.7	17.5	0.06
CSP5NX6D	1 ~ 5	10 ~ 50	8.8 ~ 44.2	44	

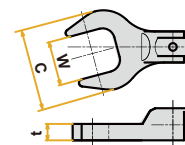
QH6D Ratchet head



Head Size	Model	R (mm)	C (mm)	h (mm)	Sq Drive a (mm)	b (mm)
6D	QH6D	7.5	15	15.5	6.35	7.5

- QH6D ratchet teeth 48 increments 7.5° swing angle improves workability (QH8D ratchet teeth in 24-tooth increments, swing angle of 15°)
- Improved accessibility makes it possible to accurately apply torque in narrow spaces.

SH6D Open Spanner Head



Head Size	Model (Body x AF size) (mm)	Outside Width C (mm)	Thickness t (mm)	Allowable Torque (N·m)
6D	SH6D x 5.5	13	3	1.5
	SH6D x 6	15		2.5
	SH6D x 7	17		3.5
	SH6D x 8	18	4.5	
	SH6D x 10	20		
	SH6D x 11	21		
	SH6D x 12	22		
	SH6D x 13	23	5	5
	SH6D x 14	24		
	SH6D x 16	26		
	SH6D x 17	27		
	SH6D x 19	29		

DOT E10N4-G Digital Torque Wrench Tester

NEW

Feature

Digital Torque Wrench Tester with Low Measurement Range:
0.2 - 10 N·m, 2 - 100 kgf·cm, 2 - 88 lbf·in

Developed with loading mechanism that rotates at the square drive for highly accurate measurements



Accuracy $\pm 1\% + 1$ digit

Model	Torque Range [N·m]		Torque Range [cN·m]		Torque Range [kgf·cm]		Torque Range [lbf·in]		Allowable Max. effective length L' [mm]	Sq. Drive [mm]	Weight [kg]
	Min. - Max.	1 digit	Min. - Max.	1 digit	Min. - Max.	1 digit	Min. - Max.	1 digit			
DOT E10N4-G	0.2 - 10	0.001	20-1000	0.1	2 - 100	0.01	2 - 88	0.01	255	6.35	7

Example of available models

QL Series	QSP Series	CSP Series
QL2N	QSP1.5N4	CSP1.5N4X8D
QL5N	QSP3N4	CSP2NX6D
QL10N	QSP6N4	CSP3N4X8D
		CSP5NX6D
		CSP6N4X8D
DB Series	SF Series	PTA-BT Series
DB1.5N4-S	SF1.5N	PTA5N-G-BT
DB3N4-S	SF3N	PTA10N-G-BT
DB6N5-S	SF6N	

Wide Range

One DOTE10N4-G can measure many types of torque wrenches below 10 N·m, such as QL, CL, and PQL models

New Loading Structure

Because the square drive side rotates, the position of the torque wrench does not change during testing, allowing for accurate measurements at lower torque values.

No need to adjust the viewpoint when measuring direct-reading torque wrenches

Data management on a PC

"Data receiver (DtRcv)" software, which can save in either Excel® or CSV format, is available.

*An optional cable (No.383 or No.385) is required to connect DOTE4-G and PC.

* "Excel®" is a registered trademark of Microsoft Corporation.



Data Receiver screen example

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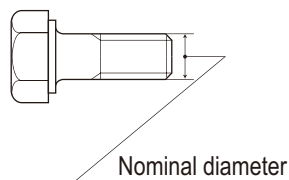


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How to Select Torque Products

Select the correct Tohnichi product for an application.



TORQUE WRENCH

Nominal diameter
M4-M40

FOR TIGHTENING

Tightening bolts at a given torque

QL



Standard model for tightening

P.11

FOR INSPECTION

Inspecting the torque of tightened bolts

DB/CDB



Standard model for inspection

P.41

TORQUE PRODUCTS

TORQUE SCREWDRIVER

Nominal diameter
M1.6-M6

FOR TIGHTENING

Tightening screws at a given torque

RTD/LTD/AMRD/AMLD



Rotary slip torque screwdriver
(Over-torque prevention)

P.5

FOR INSPECTION

Inspecting the torque of
tightened screws

FTD-S/FTD



Direct reading type

P.9

TORQUE GAUGE/ TORQUE METER

Measuring torque for
special products

FOR MEASURING VERY SMALL TORQUE

Inspecting small torque ranging
from 0.05cN·m-150cN·m



ATG/BTG

with 3-jaw chuck

P.59

FOR MEASURING CAP OPENING TORQUE

For checking torque on bottle caps,
starting torque test, and twisting torque, etc.



TM

Analog type

P.61

If other types of head is requested**CL**

Interchangeable head version of QL

P.12

In such working condition where resin handles are not suitable

QL-MH

Metal handle version of QL

P.11

CL-MH

Metal handle version of CL

P.12

If tightening at one particular torque only**QSP**

Preset version of QL

P.17

CSP

Interchangeable head version of QSP

P.18

If tightening the same bolts at particular torque only

SP2

Preset type open end head

P.19

SP2-MH**RSP2**

Preset type ring head

P.19

RSP2-MH**SF/F/QF/CF**

Beam type

P.43

CEM3-G/CTB2-G

Digital type

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P.55

Tightening at one particular torque only

RNTD/NTD

Preset version of RTD

P.6

STC2-G

Digital type

P.9

For daily inspection of torque wrenches**LC3-G** Line Checker

P.54

Other Torque Wrench Testers:
DOT and TF models are also available.**Other Torque Measurement****ST3-G/TCF/TCR**

P.58

P.62

ATGE-G

Digital type

P.59

BTGE-G

Digital type

P.60

TME2

Digital type

P.61

Example

CL 100 N × 15DSize of interchangeable head
* Interchangeable head type only

Unit (N = N·m, CN = cN·m, MN = mN·m)

Torque range (Maximum torque in S.I. unit)

Model

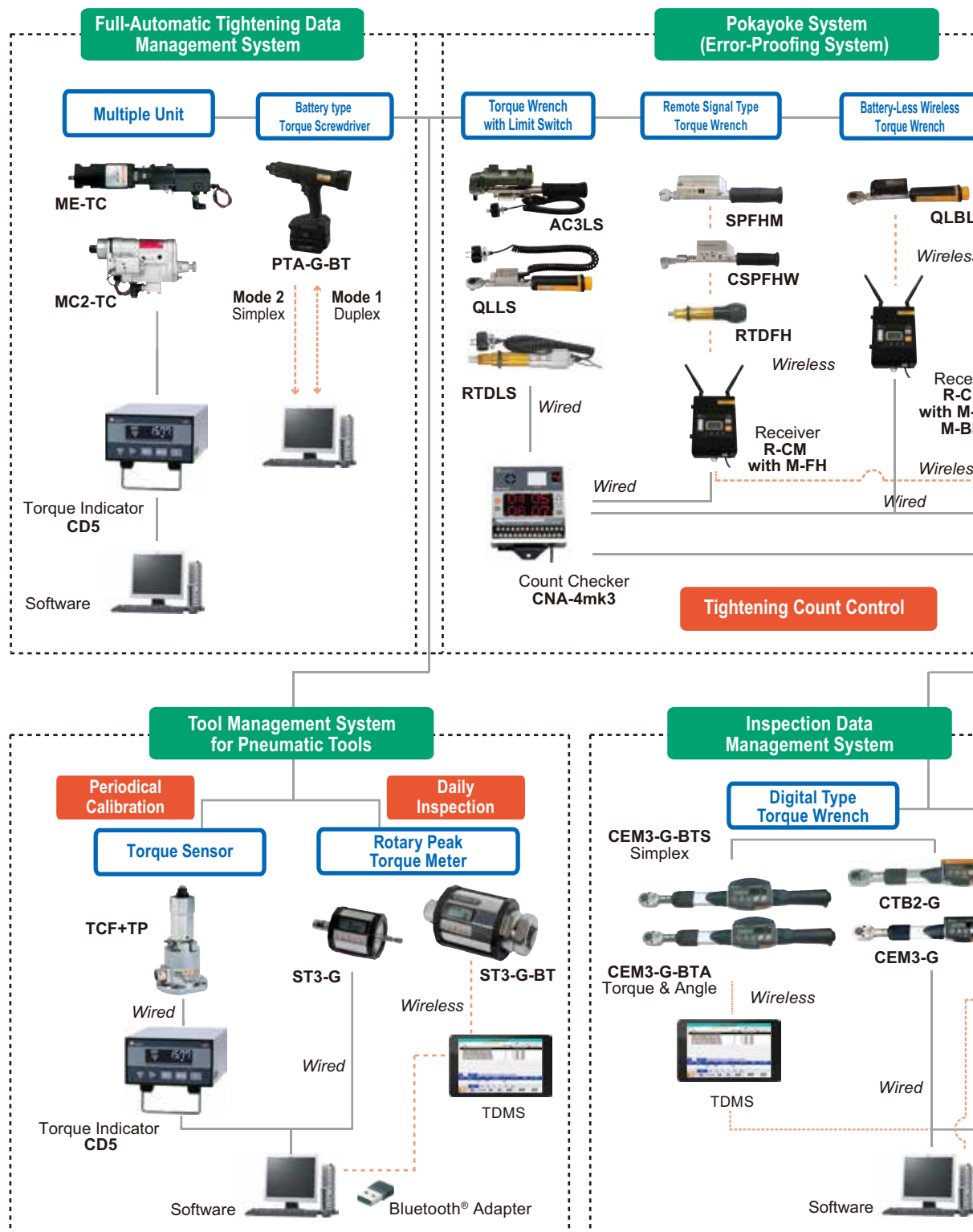
Please refer to the "Torque Handbook vol. 9"
for further technical information.

From Torque Control to Tightening Assurance System

Tohnichi's Torque Assurance System advises the users how to tighten bolts properly and how to eliminate various mistakes which occur during bolt tightening operations.

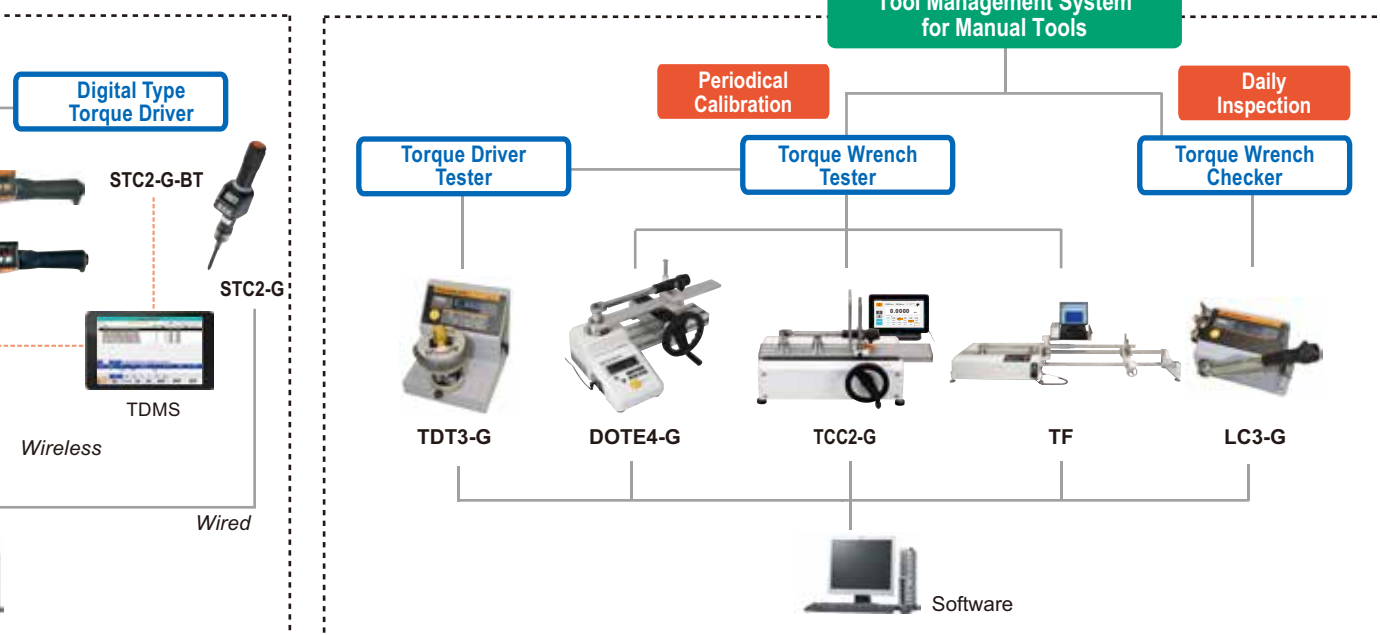
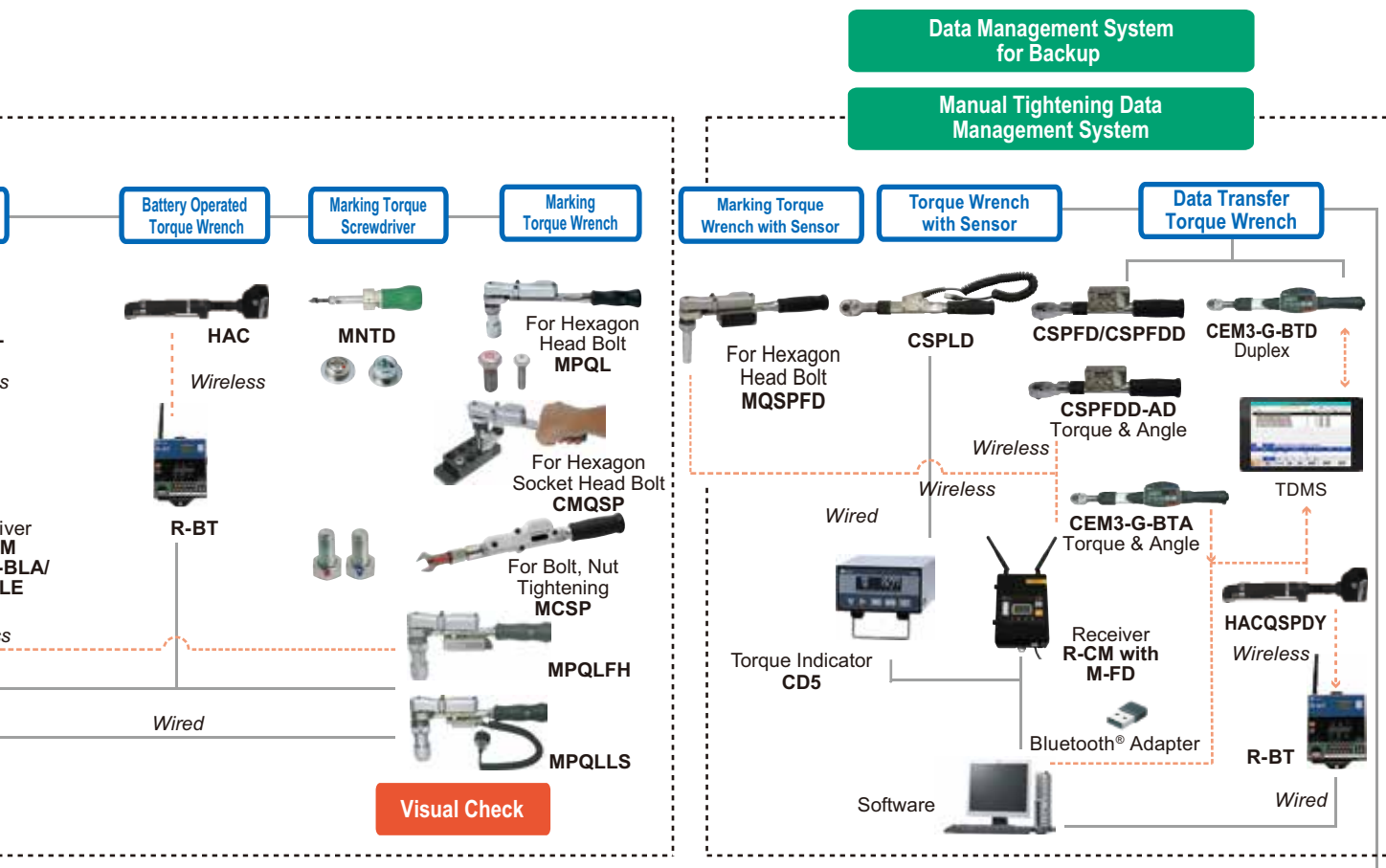
Total Tightening Management System, which completes tightening assurance, will be created through cooperation of your staffs. Each component and product which consists of the system can be sold separately. The components and products are described in the catalog.

TOHNICHI TIGHTENING ASSURANCE SYSTEM



Characteristic factors (4M's) of defects in bolt tightening

1. **MAN** (Tightening operator human error)
 - Missed tightening
 - Improper tightening tool usage
2. **METHOD** (Improper tightening specification)
 - Wrong tightening value specification
 - Wrong tightening procedure
 - Wrong tightening tool selection
3. **MACHINE** (Improper tightening equipment)
 - Inaccuracy
 - Mechanical failure
4. **MATERIAL** (Improper screw joint material)
 - Part out of tolerance
 - Defective part material
 - Insufficient screw part lubricant



RTD

Rotary Slip Adjustable Torque Screwdriver

Direction



RoHS



RTD60CN



RTD120CN with Resin Grip

Assembly

Adjustable

Rotary Slip

Graduation

ISO6789:2003

- Ratcheting mechanism prevents over torque.
- Torque easily set with external scale

Accuracy ±3%

S.I. Model	Torque Range [cN·m]		Metric Model	Torque Range [kgf·cm]		American Model	Torque Range [ozf·in/lbf·in]		Overall Length [mm]	Weight [g]
	Min.-Max.	Grad.		Min.-Max.	Grad.		Min.-Max.	Grad.		
-	-	-	-	-	-	RTD20Z	6-20	0.2	100	50
-	-	-	-	-	-	RTD40Z	15-40	0.5		
-	-	-	-	-	-	RTD80Z	20-80	1	110	80
-	-	-	-	-	-	RTD150Z	30-150	2	130	160
RTD15CN	2-15	0.1	1.5RTD	0.2-1.5	0.01	RTD1.3I	0.2-1.3	0.01	100	50
RTD30CN	4-30	0.2	3RTD	0.4-3	0.02	RTD2.6I	0.4-2.6	0.02		
RTD60CN	10-60	0.5	6RTD	1-6	0.05	RTD5I	1-5	0.05	110	80
RTD120CN	20-120	1	12RTD	2-12	0.1	RTD10I	2-10	0.1	130	160
RTD260CN	60-260	2	26RTD	6-26	0.2	RTD22I	6-22	0.2	150	270
RTD500CN	100-500	5	50RTD	10-50	0.5	RTD40I	10-40	0.5	155	320

Note

1. Auxiliary tightening tool for RTD500CN is sold separately.
2. Bits are sold separately. Refer to page 10.

Standard Accessories

1. Hook spanner for RTD260CN and RTD500CN
2. Resin grip for RTD120CN and RTD260CN

LTD

Adjustable Torque Screwdriver

Direction



RoHS



LTD60CN



LTD120CN with Resin Grip

Assembly

Adjustable

Graduation

ISO6789:2003

- Clicks at set torque value
- Torque easily set with external scale

Accuracy ±3%

S.I. Model	Torque Range [cN·m]		Metric Model	Torque Range [kgf·cm]		American Model	Torque Range [ozf·in/lbf·in]		Overall Length [mm]	Weight [g]
	Min.-Max.	Grad.		Min.-Max.	Grad.		Min.-Max.	Grad.		
-	-	-	-	-	-	LTD20Z	6-20	0.2	100	50
-	-	-	-	-	-	LTD40Z	15-40	0.5		
-	-	-	-	-	-	LTD80Z	20-80	1	110	80
-	-	-	-	-	-	LTD150Z	30-150	2	130	160
LTD15CN	2-15	0.1	1.5LTD	0.2-1.5	0.01	LTD1.3I	0.2-1.3	0.01	100	50
LTD30CN	4-30	0.2	3LTD	0.4-3	0.02	LTD2.6I	0.4-2.6	0.02		
LTD60CN	10-60	0.5	6LTD	1-6	0.05	LTD5I	1-5	0.05	110	80
LTD120CN	20-120	1	12LTD	2-12	0.1	LTD10I	2-10	0.1	130	160
LTD260CN	60-260	2	26LTD	6-26	0.2	LTD22I	6-22	0.2	150	270
LTD500CN	100-500		50LTD	10-50		LTD40I	10-40		155	320
LTD1000CN	200-1000	5	100LTD	20-100	0.5	LTD90I	20-90	0.5	185	580
LTD2000CN2	400-2000		LTD200M2	40-200		LTD180I2	40-180		255	1150

Note

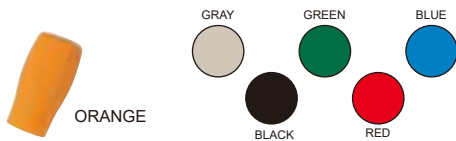
1. Auxiliary tightening tool for LTD500CN and LTD1000CN is available, sold separately.
2. Bits are sold separately. Refer to page 10.
3. LTD2000CN2 and the equivalent metric and American models has an 9.53mm square drive head.

Standard Accessories

1. Hook spanner for LTD260CN-LTD2000CN2
2. LTD2000CN2 comes with an auxiliary tightening tool.
3. Resin grip for LTD120CN and LTD260CN

Torque Screwdriver Optional Accessories

RESIN GRIP for 120CN, 260CN



For 120CN

For 260CN

Part #	Color	Applicable Model	Part #	Color	Applicable Model
850	Orange	RTD120CN LTD120CN RNTD120CN NTD120CN	856	Orange	RTD260CN
851	Gray		857	Gray	LTD260CN
852	Black		858	Black	
853	Green		859	Green	RNTD260CN
854	Red		860	Red	NTD260CN
855	Blue		861	Blue	

Resin Grip Dimensions

	120CN		260CN	
	RTD LTD	RNTD NTD	RTD LTD	RNTD NTD
Hexagon width across flats Maximum value [mm]	33		41	
Hexagon width across corner Maximum value [mm]	35		44	
Length [mm]	67		81	68
Overall Length with torque screwdriver [mm]	130	110	150	110

ADJUSTING TOOL for RTD/LTD

- Used for zero adjustment



Part #	Applicable Model
51	LTD/RTD15CN, 30CN
46	LTD/RTD60CN
1046	LTD/RTD120CN
47	LTD/RTD260CN
48	LTD/RTD500CN
49	LTD/RTD1000CN
1050	LTD2000CN2

AUXILIARY TIGHTENING TOOL for RTD/LTD/RNTD/NTD

- Make easier for large torque tightening



Part #	Applicable Model
31	LTD/RTD/NTD/RNTD500CN
32	LTD/NTD1000CN, RTDFH/RNTDFH500CN
40	LTD2000CN2
1031	RTDLS500CN RNTDSL500CN

HOOK SPANNER for RTD/LTD/MNTD

for RTD/LTD/MNTD

- Torque setting for middle and large size torque screwdriver



Part #	Applicable Model
52	LTD/RTD260CN, MNTD120CN
53	LTD/RTD500CN, MNTD260CN
54	LTD1000CN, MNTD500CN
55	LTD2000CN2

TORQUE ADJUSTING BAR for RNTD/NTD/RNTDZ

- Used for torque setting of preset torque screwdriver



Part #	Applicable Model
42	NTD/RNTD15CN-120CN
43	NTD/RNTD260CN, RNTDZ260CN
44	NTD/RNTD500CN-1000CN, RNTDZ500CN

RNTD

Rotary Slip Preset Torque Screwdriver

Direction

RoHS



RNTD60CN



RNTD120CN with Resin Grip

Assembly

Preset

Rotary Slip

ISO6789:2003

- Preset version of RTD
- No external scale, torque set by a torque driver tester

Accuracy ±3%

Model	Torque Range			Overall Length [mm]	Weight [g]
	[cN·m]	[kgf·cm]	[lbf·in]		
	Min.-Max.	Min.-Max.	Min.-Max.		
RNTD15CN	5-15	0.5-1.5	0.5-1.3	95	71
RNTD30CN	10-30	1-3	0.9-2.5		
RNTD60CN	20-60	2-6	2-5		
RNTD120CN	40-120	4-12	4-10	110	110
RNTD260CN	100-260	10-26	9-23		180
RNTD500CN	200-500	20-50	20-40	120	270

Note

1. A torque driver tester is necessary for torque setting.
Specify required set torque when you order. Ex. RNTD120CN × 100cN·m
2. Torque adjusting bar is sold separately. Refer to page 49.
3. Bits are sold separately. Refer to page 10.

Standard Accessories

1. Resin grip for RNTD120CN and RNTD260CN
2. Auxiliary tightening bar for RNTD500CN

NTD

Preset Torque Screwdriver

Direction

RoHS



NTD60CN



NTD120CN with Resin Grip



NTD500CN with Auxiliary Tightening Bar

Assembly

Preset

ISO6789:2003

- Preset version of LTD
- No external scale, torque set by a torque driver tester

Accuracy ±3%

Model	Torque Range			Overall Length [mm]	Weight [g]
	[cN·m]	[kgf·cm]	[lbf·in]		
	Min.-Max.	Min.-Max.	Min.-Max.		
NTD15CN	5-15	0.5-1.5	0.5-1.3	95	70
NTD30CN	10-30	1-3	1-2.5		
NTD60CN	20-60	2-6	2-5		
NTD120CN	40-120	4-12	4-10	110	110
NTD260CN	100-260	10-26	10-22		180
NTD500CN	200-500	20-50	20-40	120	270
NTD1000CN	400-1000	40-100	40-88	155	550

Note

1. A torque driver tester is necessary for torque setting.
Specify required set torque when you order. Ex. NTD120CN × 100cN·m
2. Torque adjusting bar is sold separately.

Standard Accessories

1. Resin grip for NTD120CN and NTD260CN
2. Auxiliary tightening bar for NTD500CN and NTD1000CN

RTDZ

Insulated Rotary Slip Adjustable Torque Screwdriver

Direction

RoHS



RTDZ260CN

Assembly

Adjustable

Rotary Slip

Resin Body

Insulated

ISO6789:2003

- Insulated design suited for use in electric shock hazard conditions
- Ideal for electric car assembly, connection of battery terminal wiring work etc

Accuracy ±3%

S.I. Model	Torque Range [cN·m]		Metric Model	Torque Range [kgf·cm]		Torque Range [lbf·in]		Overall Length [mm]	Weight [g]
	Min.-Max.	Grad.		Min.-Max.	Grad.	Min.-Max.	Grad.		
	Min.-Max.	Grad.		Min.-Max.	Grad.	Min.-Max.	Grad.		
RTDZ260CN	60-260	2	-	-	-	-	-	150	220
RTDZ500CN	100-500	5	-	-	-	-	-	183	380

Note

1. Torque adjusting bar is sold separately.
2. Bits are sold separately. Refer to page 10.
3. Bits are not insulation coating.

RNTDZ

Insulated Rotary Slip Preset Torque Screwdriver

Direction

RoHS



RNTDZ500CN

Assembly

Preset

Rotary Slip

Resin Body

Insulated

ISO6789:2003

- Insulated design suited for use in electric shock hazard conditions
- Ideal for electric car assembly, connection of battery terminal wiring work etc

Accuracy ±3%

S.I. Model	Torque Range [cN·m]		Metric Model	Torque Range [kgf·cm]		Torque Range [lbf·in]		Overall Length [mm]	Weight [g]
	Min.-Max.	Grad.		Min.-Max.	Grad.	Min.-Max.	Grad.		
	Min.-Max.	Grad.		Min.-Max.	Grad.	Min.-Max.	Grad.		
RNTDZ260CN	100-260	-	-	10-26	-	10-22	-	123	240
RNTDZ500CN	200-500	-	-	20-50	-	20-40	-	138	340

Note

1. A torque driver tester is necessary for torque setting.
Specify required torque when you order. Ex. RNTDZ260CN × 200cN·m
2. Torque adjusting bar is sold separately.
3. Bits are sold separately. Refer to page 10.
4. Bits are not insulation coating.

AMRD/BMRD

Direction Rotary Slip Adjustable Torque Screwdriver for Small Screws

RoHS



AMRD4CN



BMRD30CN2

Assembly

Adjustable

Rotary Slip

Graduation

ISO6789:2003

- Low torque version of RTD
- AMRD includes Tohnichi original bits.

Accuracy ±3%

S.I. Model	Torque Range [cN·m]		Metric Model	Torque Range [gf·cm/kgf·cm]		American Model	Torque Range [ozf·in/lbf·in]		Overall Length [mm]	Weight [g]	Standard Accessory Bit	
	Min.-Max.	Grad.		Min.-Max.	Grad.		Min.-Max.	Grad.			⊕	⊖ Thickness × Width
AMRD	cN·m	cN·m		gf·cm	gf·cm		ozf·in	ozf·in				
AMRD1CN	0.3-1	0.01	100AMRD	30-100	1	-	-	-				0.15 × 1
AMRD2CN	0.5-2	0.025	200AMRD	50-200	2.5	AMRD3Z	1-3	0.05	93	26	# 0	0.2 × 1.5
AMRD4CN	1-4	0.05	400AMRD	100-400	5	AMRD6Z	2-6	0.1				0.3 × 2
AMRD8CN	2-8		800AMRD	200-800	10	AMRD12Z	3-12	0.2				
BMRD		0.1		kgf·cm	kgf·cm		lbf·in	lbf·in				
BMRD15CN2	2-15		1.5BMRD2	0.2-1.5	0.01	1.5BMRD2-A	0.2-1.5	0.005	116	50	-	-
BMRD30CN2	4-30	0.2	3BMRD2	0.4-3	0.02	3BMRD2-A	0.4-3	0.01				

Note

1. Bits for BMRD are sold separately. Refer to page 10.
2. Bits for AMRD are supplied from only Tohnichi.

AMLD/BMLD

Direction Adjustable Torque Screwdriver for Small Screws

RoHS



AMLD4CN



BMLD30CN2

Assembly

Adjustable

Graduation

ISO6789:2003

- Low torque version of LTD
- AMLD includes Tohnichi original bits.

Accuracy ±3%

S.I. Model	Torque Range [cN·m]		Metric Model	Torque Range [gf·cm/kgf·cm]		American Model	Torque Range [ozf·in/lbf·in]		Overall Length [mm]	Weight [g]	Standard Accessory Bit	
	Min.-Max.	Grad.		Min.-Max.	Grad.		Min.-Max.	Grad.			⊕	⊖ Thickness × Width
AMLD	cN·m	cN·m		gf·cm	gf·cm		ozf·in	ozf·in				
AMLD1CN	0.3-1	0.01	100AMLD	30-100	1	-	-	-				0.15 × 1
AMLD2CN	0.5-2	0.025	200AMLD	50-200	2.5	AMLD3Z	1-3	0.05	83	26	# 0	0.2 × 1.5
AMLD4CN	1-4	0.05	400AMLD	100-400	5	AMLD6Z	2-6	0.1				0.3 × 2
AMLD8CN	2-8		800AMLD	200-800	10	AMLD12Z	3-12	0.2				
BMLD		0.1		kgf·cm	kgf·cm		lbf·in	lbf·in				
BMLD15CN2	2-15		1.5BMLD2	0.2-1.5	0.01	1.5BMLD2-A	0.2-1.5	0.005	116	50	-	-
BMLD30CN2	4-30	0.2	3BMLD2	0.4-3	0.02	3BMLD2-A	0.4-3	0.01				

Note

1. Bits for BMLD are sold separately. Refer to page 10.
2. Bits for AMLD are supplied from only Tohnichi.

Daily Check and Calibration of Torque Screwdrivers

Digital Torque Gauges for Daily Inspections

One use of ATGE-G and BTGE-G digital torque gauges is to check the accuracy of small torque screwdrivers such as AMLD/AMRD and BMLD/BMRD. Monitoring drivers with daily inspections confirms driver function and accuracy prior to use. Refer to page 59 and 60.

- ATGE-G
- BTGE-G
- ATGE-G with Measurement stand, #808
- BTGE-G with Measurement stand, #809



Torque checking figure for AMRD with ATGE-G and measurement stand, #808.



Torque checking figure for BMRD with BTGE-G

Torque Driver Tester for Calibration and Adjustments

TDT3-G digital torque screwdriver testers are for the calibration of torque screwdrivers such as click type and indicating type. The loading device keeps the driver steady and in a vertical position during testing for highly accurate calibration and easy adjustments.

- TDT3-G: Refer to page 57.



Click type RTD with TDT3-G and loading device STA.



Indicating type FTD with TDT3-G and optional loading device LTA.

MNTD

Marking Torque Screwdriver

Direction

RoHS



MNTD120CN



MNTD500CN



Red marked screw



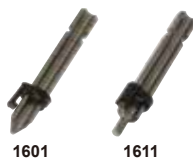
Blue marked screw



Blue MNTD Marker



Auxiliary Tightening Tool for MNTD500CN

1601 MNTD Bit
1611 MNTD Bit

Assembly

Preset

ISO6789:2003

- Non-rotary preset type marking torque screwdriver
- Total 7 types of phillips and hexagon bits available
- Marking screws as torque is achieved

Accuracy ±3%

Model	Torque Range			Overall Length [mm]	Weight [g]
	[cN·m] Min.-Max.	[kgf·cm] Min.-Max.	[lbf·in] Min.-Max.		
MNTD120CN	40-120	4-12	4-10	150	210
MNTD260CN	100-260	10-26	10-22	152	315
MNTD500CN	200-500	20-50	20-40	168	365

- Note**
1. MNTD special designed bits and markers are sold separately.
 2. Tester is required to set/change a torque value.
 3. MNTD is not applicable with hexagon socket set screws.
 4. Dark colored screws might not be suitable to detect MNTD marking.

Standard Accessories Green resin grip for 120CN and 260CN. Auxiliary tightening tool for 500CN

MNTD Optional Accessories

MNTD Plus Bit

Part #	Model	Applicable Screw/Ref.
1601	MNTD #1 bit	M2.5, (M3)
1602	MNTD #2 bit	M3, M4, M5
1603	MNTD #3 bit	M6

MNTD Hex Bit

Part #	Model	Applicable Screw/Ref.
1611	MNTD W2.5 bit	M3
1612	MNTD W3 bit	M4
1613	MNTD W4 bit	M5
1614	MNTD W5 bit	M6

- Note**
1. Tohnichi special designed bit is required for MNTD.
 2. Applicable for screw that head diameter is over ø 5.5mm. Unavailable to hexagon set screws.
 3. In M3 screw, only binding head screw is applicable.

MNTD Marker

Part #	Model
1621	MNTD Marker Red 10 pcs/set
1622	MNTD Marker Red 100 pcs/set
1623	MNTD Marker Blue 10 pcs/set
1624	MNTD Marker Blue 100 pcs/set

- Note**
1. It is a disposable marker.
 2. 1 pc of marker are capable of 1000 marking operations.

Preset Hook Spanner for MNTD

Part #	Applicable Model
52	MNTD120CN
53	MNTD260CN
54	MNTD500CN

Note To set/change torque value.

RTDLS/RNTDLS

Direction

Rotary Slip Type Torque Screwdriver with Limit Switch

RoHS



RTDLS120CN



RNTDLS120CN

Assembly

ISO6789:2003

- RTD/RNTD style with Limit Switch output
- Wired Error-Proofing, Pokayoke, system for assembly processes

Accuracy ±3%

S.I. Model	Torque Range [cN·m]		Metric Model	Torque Range [kgf·cm]		American Model	Torque Range [lbf·in]		Overall Length [mm]	Weight [g]
	Min.-Max.	Grad.		Min.-Max.	Grad.		Min.-Max.	Grad.		
RTDLS120CN	20-120	1	12RTDLS	2-12	0.1	RTDLS10I	2-10	0.1	184	340
RTDLS260CN	60-260	2	26RTDLS	6-26	0.2	RTDLS22I	6-22	0.2	201	450
RTDLS500CN	100-500	5	50RTDLS	10-50	0.5	RTDLS40I	10-40	0.5	212	540
RNTDLS120CN	40-120	-	-	4-12	-	-	4-10	-	166	320
RNTDLS260CN	100-260	-	-	10-26	-	-	10-22	-	167	390
RNTDLS500CN	200-500	-	-	20-50	-	-	20-40	-	175	480

- Note**
1. Bits are sold separately. Refer to page 10.
 2. RNTDLS models are required a torque driver tester for torque setting. Specify required torque when you order. Ex. RNTDLS120CN × 100cN·m
 3. Limit switch specifications AC30V below 1A, DC30V below 1A
 4. Female connector for LS cable is sold separately. Part# WA5219K.

POKA Patrol, Count Checker CNA-4mk3

Refer to page 27.



* Sold separately

RTDFH/RNTDFH

Direction

Rotary Slip Type Pokayoke Torque Screwdriver

RoHS



RTDFH120CN

RNTDFH120CN

Transmitter Specifications

Model	RTDFH/RNTDFH
Frequency Band	2.4GHz band (2.402GHz~2.479GHz, 1MHz interval 78ch)
Communication System	Spread spectrum (FHSS)
Modulation System	GFSK
Modulation Rate	1Mbps
Group Channel	Gr 000~255
ID	3 digit (000~999), 7 digit (alphanumeric)
Input/Output	-
Power[V]	DV3V(CR2032)
Antenna	Chip Antenna
Display	LED
Operating Temperature	0~45 °C
Communication Distance	approx. 10~20m

Assembly

ISO6789:2003

- Torque screwdriver with wireless error-proofing, Pokayoke, function
- High reliable FHSS technology with universal 2.4GHz frequency band

Accuracy ±3%

S.I. Model	Torque Range [cN·m]		Metric Model	Torque Range [kgf·cm]		American Model	Torque Range [lbf·in]		Overall Length [mm]	Weight [g]
	Min.-Max.	Grad.		Min.-Max.	Grad.		Min.-Max.	Grad.		
RTDFH120CN	20-120	1	12RTDFH	2-12	0.1	RTDFH10I	2-10	0.1	184	280
RTDFH260CN	60-260	2	26RTDFH	6-26	0.2	RTDFH22I	6-22	0.2	201	380
RTDFH500CN	100-500	5	50RTDFH	10-50	0.5	RTDFH40I	10-40	0.5	212	490
RNTDFH120CN	40-120	-	-	4-12	-	-	4-10	-	166	260
RNTDFH260CN	100-260	-	-	10-26	-	-	10-22	-	167	320
RNTDFH500CN	200-500	-	-	20-50	-	-	20-40	-	175	430

- Note**
1. RTDFH/RNTDFH are ESD/Electro Static discharge.
 2. Refer to page 30 for receiver and setting box.
 3. Contact to Tohnichi for condition of wireless equipment in each country.
 4. Auxiliary tightening tool for RTDFH/RNTDFH500CN is part # 32.

Standard Accessories Adjusting handle : RTDFH500CN and RNTDFH500CN

Receiver R-CM

Refer to page 29 for wireless Pokayoke system configuration.

*Sold separately



POKA Patrol, Count Checker CNA-4mk3

Refer to page 27.

* Sold separately



FTDDial Indicating Torque
Screwdriver with
Memory Pointer

Direction



RoHS



FTD200CN2-S



FTD100CN

Inspection Dial Indicating Memory Pointer Direct Reading ISO6789:2003

- Ideal for measuring torque
- FTD-S with memory pointer; FTD with preset knob

Accuracy ±3%

S.I. Model	Torque Range [cN·m]		Metric Model	Torque Range [gf·cm/kgf·cm]		American Model	Torque Range [ozf·in/lbf·in]		Overall Length [mm]	Weight [g]	Standard Accessory Bit	
	Min.-Max.	Grad.		Min.-Max.	Grad.		Min.-Max.	Grad.			⊕	⊖ Thickness × Width
FTD-S	cN·m	cN·m		gf·cm	kgf·cm		ozf·in	lbf·in				
FTD2CN-S	0.3-2	0.05	02FTD2-S	30-200	5	FTD3Z2-S	0.5-3	0.1				
FTD5CN-S	0.5-5	0.1	05FTD2-S	50-500	10	FTD7Z2-S	1-7	0.2				
				kgf·cm	kgf·cm				152	140		
FTD10CN-S	1-10	0.2	1FTD2-S	0.1-1	0.02	FTD15Z2-S	2-15	0.5				
FTD20CN-S	3-20	0.5	2FTD2-S	0.3-2	0.05	FTD30Z2-S	5-30	1				
FTD50CN2-S	5-50	1	5FTD2-S	0.5-5	0.1	FTD70Z2-S	10-70	2				
							lbf·in	lbf·in				
-	-	-	-	-	-	5FTD2-A-S	0.5-5	0.1	272	370		
FTD100CN2-S	10-100	2	10FTD2-S	1-10	0.2	10FTD2-A-S	1-10	0.2				
FTD200CN2-S	30-200	5	20FTD2-S	3-20	0.5	20FTD2-A-S	3-20	0.5				
FTD400CN2-S	50-400	10	40FTD2-S	5-40	1	40FTD2-A-S	5-40	1				
	N·m	N·m										
FTD8N2-S	1-8	0.2	80FTD2-S	10-80	2	80FTD2-A-S	10-70	2		900		
FTD16N2-S	3-16	0.5	160FTD2-S	30-160	5	160FTD2-A-S	20-140	5		930	# 3	1.2 × 8
FTD	cN·m	cN·m										
FTD50CN	10-50	1	5FTD	1-5	0.1	5FTD-A	1-5	0.1	215	285	# 1	0.7 × 7
FTD100CN	20-100	2	10FTD	2-10	0.2	10FTD-A	1-10	0.2		290		
FTD200CN	40-200	5	20FTD	4-20	0.5	20FTD-A	3-20	0.5		390	# 2	0.9 × 7
FTD400CN	80-400	10	40FTD	8-40	1.0	40FTD-A	5-40	1		410		

Note FTD8N2-S, FTD16N2-S: Square drive type, 6.35mm

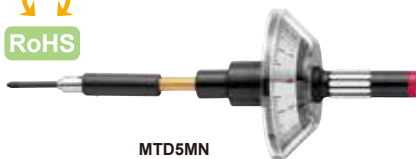
Standard Accessories Auxiliary tightening bar for FTD8N2-S and FTD16N2-S

MTDMicro Dial Indicating
Torque Screwdriver

Direction



RoHS



MTD5MN

Inspection Dial Indicating Direct Reading ISO6789:2003

- Low torque capacity version of FTD
- Requires special size bits

Accuracy ±3%

S.I. Model	Torque Range [mN·m]		Metric Model	Torque Range [gf·cm]		American Model	Torque Range [ozf·in]		Overall Length [mm]	Weight [g]	Standard Accessory Bit	
	Min.-Max.	Grad.		Min.-Max.	Grad.		Min.-Max.	Grad.			⊕	⊖ Thickness × Width
MTD5MN	0.5-5	0.1	50MTD	5-50	1	MTD07Z	0.1-0.7	0.02	100	21		
MTD10MN	1-10	0.2	100MTD	10-100	2	MTD1.4Z	0.2-1.4		132	23	# 0	0.15 × 1 0.2 × 1.5 0.3 × 2

Note MTD models require Tohnichi made bits. Refer to page 10.

STC2-G/-BTDigital Torque
Screwdriver

Direction



RoHS



CE



STC200CN2-G

Assembly Inspection Digital Direct Reading Ratchet ISO6789:2003

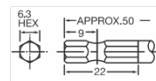
- Ideal for tightening and inspection operation
- 1000 data memory storage and data output function
- Color LED indicator, White, Blue, Yellow, and Red

Accuracy ±1%

Model		Torque Range								Overall Length [mm]	Weight [g]
		[cN·m]		[kgf·cm]		[lbf·in]		[ozf·in]			
Standard Version	Bluetooth® Version	Min.-Max.	1digit	Min.-Max.	1digit	Min.-Max.	1digit	Min.-Max.	1digit		
STC50CN2-G	STC50CN2-G-BT	10-50	0.05	1-5	0.005	1-4.4	0.005	15-70	0.05		
STC200CN2-G	STC200CN2-G-BT	40-200	0.2	4-20	0.02	4-17	0.02	-	-	230	325
STC400CN2-G	STC400CN2-G-BT	80-400	0.5	8-40	0.05	8-35	0.05	-	-		

- Note
1. Bits are sold separately. Refer to page 10.
 2. Bits size as below
 3. Display can be turned upside down with keypad operation.
 4. Data output of standard version is through USB only.
 5. Data output of Bluetooth® version is through USB and Bluetooth®.
 6. Contact to Tohnichi for condition of wireless equipment in each country.

Standard Accessories USB cable/384, AC adapter/BA-7, and Battery pack/BP-7. Refer to page 50.

White LED light
80% of target torqueBlue LED light
Achieving target torqueYellow & Red flashing LED light
Over torque indication

* Bluetooth is a registered trademark of Bluetooth SIG, Inc.

STC2-G/-BT Specifications

Accuracy	±1%
Measurement Mode	Tightening / Inspection mode
Battery Indicator	4 levels
Judgment Mode	Buzzer and LED indicator on upper/lower limit
Basic Functions	Auto-power off, Auto memory & reset, Auto zero setting
Power Supply	Lithium Ion Battery
Data Output	USB
Operating Time	approximate 30 hours
Recharging Time	AC adaptor: 5 hours USB through PC: 10 hours

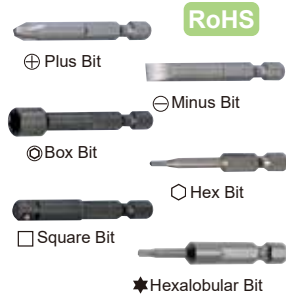
STC2-G-BT Communication Specifications

Bluetooth® Version	V3.0
Transmitting System	AFH
Modulation System	GFSK
Wireless Output	4dBm
Transmission Power Class	Class 2
Profile	SPP
Communication Distance	10m
Operating Time	15 hours

[EX.] Torque checking figure
for torque screwdriver

STC2-G

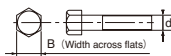
Interchangeable Bit



Torque Screwdriver	Root Shape						
		RTD/RTDZ/LTD BMRD BMLD FTD50CN - 400CN FTD2CN-S - 400CN2-S STC2-G	FTD8N2-S - FTD16N2-S, (FTD8N - 16N)	AMRD AMLD MTD	LTD2000CN	-	-
Power Torque Tool	U30CN	U (except U30CN)	-	-	-	-	AUR5N
Root Shape Sign	A	B	C	D	F	G	H
Root Shape and Dimensions							

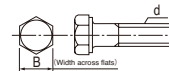
Screw Head Shape	Sign	Size		Screw	Tohnichi Original Bit	Common (Standard)		Tohnichi Original Bit	Tohnichi Original Bit	Tohnichi Original Bit	Common (Standard)
		0	1								
Plus	⊕	0	#0 (S-0)	Refer to Table A	104		109		115		
		1	#1 (H-1)	Refer to Table A		85	106	84	116		
		2	#2 (H-2)	Refer to Table A		86	107	80			
		3	#3 (H-3)	Refer to Table A		87		81		35	700
		4	#4 (H-4)	Refer to Table A						36	
	⊖	10	0.15 × 1	Refer to Table B					111		
		11	0.2 × 1.5	Refer to Table B					112		
		12	0.3 × 2	Refer to Table B					113		
		13	0.4 × 2.4	Refer to Table B	105		108				
		14	0.6 × 3.8	Refer to Table B							
		15	0.7 × 7	Refer to Table B		88					
		16	0.9 × 7	Refer to Table B		89					
Hex bit socket	⊙	17	1 × 10	Refer to Table B						37	
		18	1 × 12	Refer to Table B						38	
		19	1.2 × 17	Refer to Table B						39	
		20	1.6 × 10	Refer to Table B				82			
		21	1.2 × 8	Refer to Table B				83			
	Hex Bolt	W 5.5	5.5	M3		91					
		W 6	6	(M3.5)		95					
		W 7	7	M4		92					
		W 8	8	(M4.5) M5		93					
		W 10	10	M6		94					
Hex	⬡	Cap Screw		Set Screw							
		W 1.27	1.27	M2.5		56					
		W 1.5	1.5	M3		57					
		W 2	2	M2.5	M4	58					
		W 2.5	2.5	M3	M5	59					
		W 3	3	M4	M6	60					
		W 4	4	M5	M8	61					
		W 5	5	M6	M10	62					
		W 6	6	M8	M12 (M14)	63					
		W 8	8	M10	M16 (M18)	64					
Square Drive	□	2	□ 6.35 (1/4)			90				33	
		3	□ 9.53 (3/8)							34	
Hexalobular	★	Flat Head		Socket Head	Set Screw						
		T 5	M2		M2.5		470				
		T 6	M2		M3		471				
		T 7			M3.5						
Hexalobular	★	T 8	M2.5	M2.5	M4		472				

Bolt Head Shape * Reference

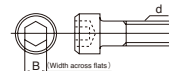


Nominal Size of Screw (d)	Hex head Bolt (B)	Small Hex Head Bolt (B)	High Strength Hex Bolt for Friction Grip Joint (B)	Hex Socket Head Cap Screw (B)	Hex Socket Set Screw (B)
M2.5	4.5	-	-	2	1.27
M3	5.5	-	-	2.5	1.5
(M3.5)	6	-	-	-	-
M4	7	-	-	3	2
(M4.5)	8	-	-	-	-
M5	8	-	-	4	2.5
M6	10	-	-	5	3
(M7)	11	-	-	-	-
M8	13	12	-	6	4
M10	16	17	14	8	5
M12	18	19	17	10	6
(M14)	21	22	19	12	-
M16	24	22	27	14	8
(M18)	27	24	-	-	-
M20	30	27	32	17	10
(M22)	32	34	36	-	-
M24	36	32	41	19	-
(M27)	41	36	46	-	-
M30	46	41	50	22	-
(M33)	50	46	-	24	-
M36	55	50	-	27	-
(M39)	60	55	-	-	-
M42	65	-	-	32	-
JIS	JIS B 1180	JIS B 1180	JIS B 1186	JIS B 1176	JIS B 1177

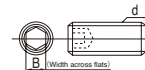
Hex Bolt



Cap Screw



Set Screw



Flat Head Screw

How to order :

Indicate the model name and catalog No.

EX. MODEL NAME CATALOG No.

⊕ BIT A - 0 104

Root Shape Sign Point Shape Sign

Size of Bits

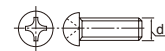


Table A

No. of Cross Nominal Size of Screw (d)	Hole No.	Remark
M1.6, M2	#0 (S-0)	
[M2], (M2.2), M2.5, (M3)	#1 (H-1)	Pan head screw, Flat head screw, Pan flat screw, Bind screw
M3, (M3.5), M4, (M4.5), M5	#2 (H-2)	[(M3) #1 is bind small screw only]
M6	#3 (H-3)	[(M2) #1 is not compliant with ISO]
M8, M10	#4 (H-4)	

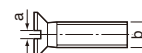


Table B

Nominal Size (b)	M1	M1.2	(M1.4)	M1.6	(M1.7)	M2	(M2.2)	M2.3	M2.5	(M2.6)	M3	M3.5	M4	(M4.5)	M5	M6	M8	M10
Groove	ISO screws	0.4	0.5	0.6	0.8	1	1.2	1.6	2	2.5								
Width (a)	Non-ISO screws	0.32	0.4	0.6	0.8	1	1.2	1.6										

QL/QL-E2

Ratchet Head
Type Adjustable
Torque Wrench

Assembly

Adjustable

Ratchet Head

Graduation

ISO6789:2003
2017

Direction

RoHS



QL5N



QLE750N2



QL100N4

QL/QL-MH Optional Accessories



842



846

Carrying Case (P.49)

Part #	Applicable Model Dimension [mm]
842	QL50N, QL50N-MH, QL100N4-MH H60 × W400 × D70
843	QL140N, QL140N-MH, QL200N4, QL200N4-MH H60 × W520 × D80
846	QL140N, QL140N-MH and below H170 × W500 × D100
847	QL280N, QL280N-MH and below H170 × W740 × D100



879

880

881

Part #	Color	Applicable Model
879	Red	QL2N, QL5N, QL10N, QL15N, QL25N5-1/4, QL25N5
880	Blue	
881	Green	
882	Black	



873

QL Protective Head Cover (P.49)

Part #	Applicable model
870	QL2N(-MH) - 15N(-MH)
871	QL25N5, QL25N-MH
872	QL50N(-MH)
873	QL100N4(-MH)
874	QL140N(-MH)
875	QL200N4(-MH)
877	QL280N(-MH)
878	QSP420N

- Basic adjustable click style with resin grip
- Torque value easily set with external scale and knob

S.I. Model	Torque Range [N·m]		Metric Model	Torque Range [kgf·cm/kgf·m]		American Model	Torque Range [lbf·in/lbf·ft]		Overall Length [mm]	Square Drive [mm]	Weight [kg]
	Min.-Max.	Grad.		Min.-Max.	Grad.		Min.-Max.	Grad.			
QL	N·m	N·m		kgf·cm	kgf·cm		lbf·in	lbf·in			
QL2N	0.4-2.0	0.02	20QL	4-20	0.2	QL15I-2A	3-15	0.1	194		0.27
QL5N	1-5	0.05	50QL	10-50	0.5	QL30I-2A	6-30	0.2			
QL10N	2-10	0.1	100QL	20-100	1	QL50I-2A	10-50	0.5	219	6.35	0.29
QL15N	3-15		150QL	30-150		QL100I-2A	20-100	1			
QL25N5-1/4	5-25	0.2	225QL5-1/4	50-250	2.5	QL200I-2A	40-200	2.5	237		0.33
QL25N5			225QL5			QL200I-3A					
QL50N	10-50	0.5	450QL3	100-500	5	QL400I-3A	100-400	5	260		0.45
						QL750I-3A	150-750	10		9.53	
QL100N4-3/8	20-100		900QL4-3/8	200-1000			lbf·ft	lbf·ft	335		0.69
QL100N4	20-100	1	900QL4	200-1000	10	QL75F-3A	15-75	-			
QL140N	30-140		1400QL3	300-1400		QL100F-4A	30-100	1	400		0.88
QL200N4	40-200		1800QL4	400-2000	20	QL150F-4A	30-150		490	12.7	1.4
				kgf·m	kgf·m						
QL280N-1/2	40-280	2	2800QL3-1/2	4-28		QL200F-4A	30-210	2	695		2.0
QL280N			2800QL3		0.2						
QL420N	60-420		4200QL2	6-42		QL300F-6A	60-300		995		3.4
							lbf·ft	lbf·ft		19.05	
QLE2	N·m	N·m		kgf·m	kgf·m						
QLE550N2	100-550		5500QLE2	10-55		QLE400F-6A	100-400		1189		4.3
QLE750N2	150-750	5	7500QLE2	15-75	0.5	QLE600F-6A	150-600	5	1342		5.6
QLE1000N2	200-1000		10000QLE2	20-100		QLE700F-8A	200-700		1515		7.7
QLE1400N2	300-1400	10	14000QLE2	30-140	1	QLE1000F-8A	300-1000	10	1787	25.4	11.1
QLE2100N2	500-2100		21000QLE2	50-210		QLE1500F-8A	500-1500		1895		14.6
QLE2800N2	800-2800	20	28000QLE2	80-280	2	QLE2000F-12A	600-2000	20	2405	38.1	23.7

Note

1. QL2N-QL25N5 are yellow/black resin grips. QL50N-QL280N are black resin grips.
2. QL420N and QLE550N2-QLE2800N2 are knurled handles.
3. Use a through-hole socket for square drive over 25.4mm.
4. QL2N, QL5N and the equivalent metric models, American models comes with ISO:6789-2003 cert.

QLLS RoHS

- QL style with Limit Switch output
- Wired Error-Proofing, Pokayoke, system for assembly processes



QLLS100N4

POKA Patrol, Count Checker CNA-4mk3

Refer to page 27.



* Sold separately

S.I. Model	Metric Model
QLMS2N-MH	20QLMS-MH
QLMS5N-MH	50QLMS-MH
QLMS10N-MH	100QLMS-MH
QLMS10N	100QLMS
QLMS15N	150QLMS
QLMS15N-MH	150QLMS-MH
QLLS25N5	225QL5LS
QLLS50N	450QL3LS
QLLS100N4	900QL4LS
QLLS140N	1400QL3LS
QLLS200N4	1800QL4LS
QLLS280N	2800QL3LS
QLLS420N	4200QL2LS

QL-MH

Ratchet Head Type
Adjustable Torque
Wrench with Metal
Handle

Assembly

Adjustable

Ratchet Head

Graduation

ISO6789:2003
2017

Direction

RoHS



QL100N4-MH



QL5N-MH

- Knurled metal handle version of QL
- Ideal for oily working conditions

S.I. Model	Torque Range [N·m]		Metric Model	Torque Range [kgf·cm/kgf·m]		American Model	Torque Range [lbf·in]		Overall Length [mm]	Square Drive [mm]	Weight [kg]
	Min.-Max.	Grad.		Min.-Max.	Grad.		Min.-Max.	Grad.			
QL2N-MH	0.4-2.0	0.02	20QL-MH	4-20	0.2	QL15I-2A-MH	3-15	0.1	160		0.16
QL5N-MH	1-5	0.05	50QL-MH	10-50	0.5	QL30I-2A-MH	6-30	0.2			
QL10N-MH	2-10	0.1	100QL-MH	20-100	1	QL50I-2A-MH	10-50	0.5	195	6.35	0.19
QL15N-MH	3-15		150QL-MH	30-150		QL100I-2A-MH	20-100	1			
QL25N-MH	5-25	0.25	225QL-MH	50-250	2.5	-	-	-	230		0.25
QL50N-MH	10-50	0.5	450QL-MH	100-500	5	-	-	-	260		0.45
QL100N4-MH	20-100		900QL4-MH	200-1000		-	-	-	335		0.69
QL140N-MH	30-140	1	1400QL-MH	300-1400	10	-	-	-	400	12.7	0.88
QL200N4-MH	40-200		1800QL4-MH	400-2000	20	-	-	-	490		1.4
				kgf·m	kgf·m						
QL280N-MH	40-280	2	2800QL-MH	4-28	0.2	-	-	-	695	19.05	1.9

Note

1. QL2N-MH, QL5N-MH and the equivalent metric models, American models comes with ISO:6789-2003 cert.

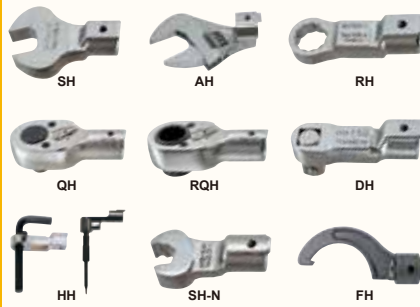
CL/CLE2

Interchangeable
Head Type
Adjustable
Torque Wrench

Direction



Interchangeable Head



CL/CL-MH Optional Accessories



Carrying Case (P.49)

Part #	Applicable Model Dimension [mm]
842	CL50N×12D/15D, CL50N×12D/15D-MH, CL100N×15D-MH H60 × W400 × D70
843	CL140N×15D/-MH, CL200N×19D/-MH H60 × W520 × D80
846	CL200N×19D, CL200N×19D and below H170 × W500 × D100
847	CL280N×22D, CL280N×22D-MH and below H170 × W740 × D100



Color Cap

Part #	Color	Applicable Model
879	Red	CL2N×8D, CL5N×8D CL10N×8D, CL15N×8D CL25N×10D
880	Blue	
881	Green	
882	Black	

CL-MH

Interchangeable
Head Type
Adjustable Torque
Wrench with Metal
Handle

Direction



Assembly

Adjustable

Interchangeable

Graduation

ISO6789:2003
2017

- Interchangeable Head can be easily exchanged.
- Torque value easily set with external scale and knob



Accuracy ±3%													
Head Size	S.I. Model	Torque Range [N·m]		Metric Model	Torque Range [kgf·cm/kgf·m]		American Model	Torque Range [lbf·in/lbf·ft]		Overall Length [mm]	Weight [kg]		
		Min.-Max.	Grad.		Min.-Max.	Grad.		Min.-Max.	Grad.				
8D	CL	N·m	N·m	20CL	kgf·cm	kgf·cm	CL151×8D	lbf·in	lbf·in	174	0.24		
	CL2N×8D	0.4-2	0.02		4-20	0.2		3-15	0.1				
	CL5N×8D	1-5	0.05		50CL	10-50		0.5	CL301×8D			6-30	0.2
	CL10N×8D	2-10	0.1		100CL	20-100		1	CL501×8D			10-50	0.5
CL15N×8D	3-15	150CL		30-150	CL1001×8D	20-100	1						
10D	CL25N5×10D	5-25	0.2	225CL5	50-250	2.5	CL2001×10D	40-200	2.5	216	0.3		
12D	CL50N×12D	10-50	0.5	450CL3	100-500	5	450CL3-A	100-400	5	230	0.37		
	CL50N×15D			500CL3			500CL3-A	100-450		235			
15D	CL100N×15D	20-100	1	900CL3	200-1000	10	900CL3-A	200-800	10	310	0.52		
	CL140N×15D	30-140		1400CL3	300-1400		1400CL3-A	30-100	lbf·ft	lbf·ft	1	370	0.67
19D	CL200N×19D	40-200	2	1800CL3	400-2000	20	1800CL3-A	30-150	2	455	1.2		
22D	CL280N×22D CL420N×22D	40-280		2800CL3	4-28	kgf·m	kgf·m	2800CL3-A		30-200			
		60-420		4200CL2	6-42	0.2	4200CL2-A	60-300					
											940	3.1	
27D	CLE2	N·m	N·m	5500CLE2	kgf·m	kgf·m	CLE400F×27D	lbf·ft	lbf·ft	1148	3.9		
	CLE550N2×27D	100-550	5		7500CLE2	15-75		0.5	CLE550F×27D			150-550	
	CLE750N2×27D	150-750			8500CLE2	20-85			CLE600F×32D			150-600	
32D	CLE850N2×32D	200-850	5	12000CLE2	30-120	0.5	CLE900F×32D	200-900	5	1297	5.1		
	CLE1200N2×32D	300-1200								1464	6.9		

Note

- Overall length does not include interchangeable head. Interchangeable heads are optional.
- PH type interchangeable head/p.48 is not applicable.
- CL2N - CL25N5 are yellow/black resin grips. CL50N - CL280N are black resin grips.
- CL420N and CLE550N2-CLE1200N2 are knurled handles.
- CL2N×8D, CL5N×8D and the equivalent metric models, American models comes with ISO:6789-2003 cert.

CLLS RoHS

- CL style with Limit Switch output
- Wired Error-Proofing, Pokayoke, system for assembly processes

S.I. Model	Metric Model
CLMS2N×8D-MH	20CLMS-MH
CLMS5N×8D-MH	50CLMS-MH
CLMS10N×8D-MH	100CLMS-MH
CLMS10N×8D	100CLMS
CLMS15N×8D	150CLMS
CLMS15N×8D-MH	150CLMS-MH
CLLS25N5×10D	225CL5LS
CLLS50N×12D	450CL3LS
CLLS50N×15D	500CL3LS
CLLS100N×15D	900CL3LS
CLLS140N×15D	1400CL3LS
CLLS200N×19D	1800CL3LS
CLLS280N×22D	2800CL3LS
CLLS420N×22D	4200CL2LS

POKA Patrol, Count Checker
CNA-4mk3

Refer to page 27.



* Sold separately

Assembly

Adjustable

Interchangeable

Graduation

ISO6789:2003
2017

- Knurled metal handle version of CL
- Ideal for oily working conditions

											Accuracy ±3%	
Head Size	S.I. Model	Torque Range [N·m]		Metric Model	Torque Range [kgf·cm/kgf·m]		American Model	Torque Range [lbf·in]			Overall Length [mm]	Weight [kg]
		Min.-Max.	Grad.		Min.-Max.	Grad.		Min.-Max.	Grad.			
8D	CL2N×8D-MH	0.4-2	0.02	20CL-MH	kgf·cm 4-20	kgf·cm 0.2	CL15I×8D-MH	lbf·in 3-15	lbf·in 0.1	140	0.13	
	CL5N×8D-MH	1-5	0.05	50CL-MH	10-50	0.5	CL30I×8D-MH	6-30	0.2			
	CL10N×8D-MH	2-10	0.1	100CL-MH	20-100	1	CL50I×8D-MH	10-50	0.5	175	0.16	
	CL15N×8D-MH	3-15		150CL-MH	30-150		CL100I×8D-MH	20-100	1			
10D	CL25N×10D-MH	5-25	0.25	225CL-MH	50-250	2.5	-	-	-	200	0.22	
12D	CL50N×12D-MH	10-50	0.5	450CL-MH	100-500	5	-	-	-	230	0.37	
	CL50N×15D-MH			500CL-MH			-	-	-	235		
15D	CL100N×15D-MH	20-100	1	900CL-MH	200-1000	10	-	-	-	310	0.52	
	CL140N×15D-MH	30-140		1400CL-MH	300-1400		-	-	-	370	0.67	
19D	CL200N×19D-MH	40-200	2	1800CL-MH	400-2000	20	-	-	-	455	1.2	
22D	CL280N×22D-MH	40-280		2800CL-MH	kgf·m 4-28	kgf·m 0.2	-	-	-	655	1.6	

Note

- Overall length does not include interchangeable head.
- PH type interchangeable head/p.48 is not applicable.
- Interchangeable heads are optional.
- CL2N×8D-MH, CL5N×8D-MH and the equivalent metric models, American models comes with ISO:6789-2003 cert.

DQL/DQLE2

Direction



RoHS

Dual Square Drives
Type Adjustable Torque
Wrench

■ DQL200N4 Optional Accessories Carrying Case (P.49)

Part #	Applicable Model Dimension [mm]	Weight [kg]
843	DQL200N4 H60 × W520 × D80	0.36
847	DQL280N and below H170 × W740 × D100	1.0

■ Protective Head Cover



875

Part #	Applicable Model
875	DQL200N4

Assembly

Adjustable

Ratchet Head

Graduation

Bi-Directional

ISO6789:2017

- For bi-directional tightening
- Ideal for tightening large vehicle tires



DQL200N4



DQLE750N2

S.I. Model	Torque Range [N·m]		Metric Model	Torque Range [kgf·cm/kgf·m]		American Model	Torque Range [lbf·ft]		Overall Length [mm]	Square Drive [mm]	Weight [kg]
	Min.-Max.	Grad.		Min.-Max.	Grad.		Min.-Max.	Grad.			
DQL200N4	N·m 40-200	N·m	1800DQL4	kgf·cm 400-2000	kgf·cm 20	1800DQL4-A	30-150		490	12.7	1.4
DQL280N	40-280	2	2800DQL3	kgf·m 4-28	kgf·m 0.2	2800DQL3-A	30-200		695		2.0
DQLE2	N·m	N·m		kgf·m	kgf·m		lbf·ft	lbf·ft		19.0	
DQLE550N2	100-550		5500DQLE2	10-55		DQLE400F-6A	100-400		1189		4.4
DQLE750N2	150-750	5	7500DQLE2	15-75	0.5	DQLE600F-6A	150-600	5	1342		5.7
DQLE1000N2	200-1000		10000DQLE2	20-100		DQLE700F-8A	200-700		1515	25.4	7.9

Accuracy ±3%

Note

1. DQL200N4 and DQL280N have resin grips.
2. For the model having 25.4mm square drive, use a through-hole socket.
3. DQLE550N2-DQLE1000N2 have knurled handles.
4. DQLE2 with built-in Adjusting Handle

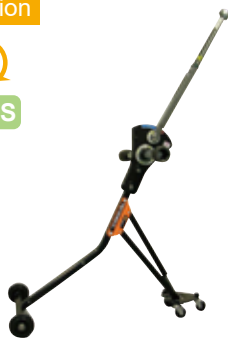
TW2

Adjustable Torque
Wrench with Multiplier

Direction



RoHS



TW750N2

Assembly

Adjustable

Ratchet Head

Graduation

Bi-Directional

- Easy bolt tightening for large vehicle tires

Model	Torque Range [N·m]		Square Drive [mm]	Weight [kg]	
	Min.-Max.	Grad.		Body	Torque Wrench
TW750N2	350-750				1.5
TW1000N2	400-1000	5	25.4	20	2.0

Accuracy ±5%

Note

1. TW2 is a set of dedicated torque wrench and stand. Standard torque wrench cannot be used.
2. Use through hole type socket for square drive 25.4mm.
3. Socket, pin, and O-ring are sold separately.
4. Applicable height of nut is between 255 and 790mm

Usage Example



MTQL

Torque Wrench for
Motorsports

Direction



RoHS



MTQL70N

Assembly

Adjustable

Ratchet Head

Graduation

- Wide capacity adjustable style
- Ideal for motorcycle & motorbike maintenance

S.I. Model	Torque Range [N·m]		Metric Model	Torque Range [kgf·m]		Overall Length [mm]	Square Drive [mm]	Weight [kg]
	Min.-Max.	Grad.		Min.-Max.	Grad.			
MTQL40N	5-40	0.5	400MTQL	0.5-4	0.05	250	9.5	0.45
MTQL70N	10-70	1	700MTQL	1-7	0.1	285		0.47
MTQL140N	20-140		1400MTQL	2-14		400	12.7	0.77

Accuracy ±5%

Standard Accessories Carrying case

■ MTQL Optional Accessories



842



846

Carrying Case (P.49)

Part #	Applicable Model Dimension [mm]	Weight [kg]
842	MTQL40N, MTQL70N H60 × W400 × D70	0.25
843	MTQL140N H60 × W520 × D80	0.36
846	MTQL140N and below H170 × W500 × D100	1.0

TiQL/TiQLE

Direction

Titanium Type Adjustable Torque Wrench



RoHS



TiQL180N



TIEQLE750N

TiEQLE Optional Accessories



Adjusting Tool for TIEQLE (P.49)

Part #	Applicable Model
301	TIEQLE750N, 1400N

Assembly	Pre-Lock	Ratchet Head	Graduation	Titanium Material	ISO6789:2017
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- 50% lighter than standard wrenches
- Ideal for working overhead

S.I. Model	Torque Range [N·m]		Metric Model	Torque Range [kgf·cm/kgf·m]		Overall Length [mm]	Square Drive [mm]	Weight [kg]
	Min.-Max.	Grad.		Min.-Max.	Grad.			
TiQL				kgf·cm	kgf·cm			
TiQL180N	40-180	2	1800TiQL	400-1800	20	494	12.7	0.9
TiQL180N			1800TiQLQL			594		1.0
TIEQL360N	80-360		3600TIEQL	kgf·m	kgf·m	987	19.0	2.4
				8-36	0.2			
TiQLE	N·m	N·m		kgf·m	kgf·m			
TIEQLE750N	100-750	5	7500TIEQLE	10-75	0.5	1365		4.5
TIEQLE1400N	200-1400	10	14000TIEQLE	20-140	1	1794	25.4	7.5

Note

For the model having 25.4mm square drive, use a through-hole socket.

Standard Accessories

1. Hex key and Color bands for TiQL180N, TiQL180N and TIEQL360N
2. Adjusting tool for TIEQLE750N, TIEQLE1400N

TiQLLS

RoHS

- TiQL style with Limit Switch output
- Wired Error-Proofing, Pokayoke, system for assembly processes

S.I. Model	Metric Model
TiQLLS180N	1800TiQLLS
TiQLLS180N	1800TiQLLS
TIEQLLS360N	3600TIEQLLS

POKA Patrol, Count Checker
CNA-4mk3

Refer to page 27.



* Sold separately

PHL/PHLE2

Direction

Pipe-Wrench Head Type Adjustable Torque Wrench



RoHS



PHL140N



PHLE850N2

Assembly	Adjustable	Graduation	Pipe-Wrench Head
----------	------------	------------	------------------

- Ideal for use with pipes and plumbing applications

Accuracy ±5%												
S.I. Model	Torque Range [N·m]		Metric Model	Torque Range [kgf·cm/kgf·m]		American Model	Torque Range [lbf·in/lbf·ft]		Grippable Pipe Dia. [mm]	Overall Length [mm]	Weight [kg]	
	Min.-Max.	Grad.		Min.-Max.	Grad.		Min.-Max.	Grad.				
PHL				kgf·cm	kgf·cm		lbf·in	lbf·in				
PHL50N	10-50	0.5	500PHL3	100-500	5	450PHL3-A	100-400	5		316	1.46	
							lbf·ft	lbf·ft				
PHL100N	20-100	1	900PHL3	200-1000	10	900PHL3-A	15-75	1	13-38	472	1.61	
PHL140N	30-140		1400PHL3	400-1400		1400PHL3-A	30-100			530	1.76	
PHL200N	40-200	2	1800PHL3	400-1800	20	1800PHL3-A	30-150	2		620	2.3	
				kgf·m	kgf·m							
PHL280N	40-280	3	2800PHL3	4-28	0.2	2800PHL3-A	30-200	5	26-52	833	2.92	
PHL420N	60-420		4200PHL	6-42		4200PHL-A	60-300			1122	4.83	
PHLE2	N·m	N·m		kgf·m	kgf·m		lbf·ft	lbf·ft				
PHLE850N2	200-850	5	8500PHLE2	20-85	0.5	PHLE600F	150-600	5		1664	8.2	
PHLE1300N2	300-1300		13000PHLE2	30-130		PHLE900F	200-900			1831	10	

Note

1. PHLE2 Models have extension bar handle.
2. PHL420N, PHLE850N2, and PHLE1300N2 have knurled handles.
3. PHLE2 with built-in Adjusting Handle

QRSP

Direction

Open Ring Head Type Preset Torque Wrench



RoHS



QRSP38N×17

Assembly	Preset	Open Ratchet Head	ISO6789:2017
----------	--------	-------------------	--------------

- Ring head opens to allow fitting on tubes or pipes.

Model	Torque Range		Overall Length [mm]	Weight [kg]
	[N·m]	[kgf·cm]		
	Min.-Max.	Min.-Max.		
QRSP38N×17	10-45	100-450	300	0.4
QRSP38N×19			305	
QRSP38N×21			310	
QRSP38N×24			310	0.43

Note

A torque wrench tester is necessary for torque setting. Specify required set torque when you order.
Ex. QRSP38N×17 × 25N·m

QRSPLS

RoHS

- QRSP style with Limit Switch output
- Wired Error-Proofing, Pokayoke, system for assembly processes

Model	Weight [kg]
QRSPLS38N×17	0.4
QRSPLS38N×19	
QRSPLS38N×21	
QRSPLS38N×24	0.43

POKA Patrol, Count Checker
CNA-4mk3

Refer to page 27.



* Sold separately

QRSP Optional Accessories

Thrusting Tool for QRSP (P.49)

Part #	Tool #	Applicable Model
312	A-3	QRSP38N

PQLRatchet Head Type
Pre-Lock Torque
Wrench

Direction



RoHS

■ PQL Optional Accessories



Carrying Case (P.49)

Part #	Applicable Model Dimension [mm]	Weight [kg]
842	50N-100N4 H60 × W400 × D70	0.25
843	140N-200N4 H60 × W520 × D80	0.36
846	200N and below H170 × W500 × D100	1.0
847	280N and below H170 × W740 × D100	0.36

PQL Protective Head Cover (P.49)

Assembly

Pre-Lock

Ratchet Head

Graduation

ISO6789:2017

- External scale, set by a hex key



PQL100N4

Accuracy ±3%											
S.I. Model	Torque Range [N·m]		Metric Model	Torque Range [kgf·cm/kgf·m]		American Model	Torque Range [lbf·in/lbf·ft]		Overall Length [mm]	Square Drive [mm]	Weight [kg]
	Min.-Max.	Grad.		Min.-Max.	Grad.		Min.-Max.	Grad.			
PQL10N	2-10	0.1	100PQL	kgf·cm 20-100	kgf·cm	PQL50I-2A	lbf·in 10-50	lbf·in 0.5	190	6.35	0.19
PQL15N	3-15		150PQL	30-150	1	PQL100I-2A	20-100	1			
PQL25N	5-25	0.25	225PQL	50-250	2.5	225PQL-A	40-200	2	215	9.53	0.25
PQL50N	10-50	0.5	450PQL	100-500	5	450PQL-A	100-400	5	260		
PQL100N4	20-100	1	900PQL4	200-1000	10	900PQL4-A	lbf·ft 15-75	lbf·ft 1	320	12.7	0.65
PQL140N	30-140		1400PQL	300-1400		1400PQL-A	30-100	-	385		
PQL200N4	40-200	2	1800PQL4	400-2000	20	1800PQL4-A	30-150	2	470	19.05	1.40
PQL280N	40-280		kgf·m	kgf·m	0.2	-	-	-	670		
			2800PQL	4-28		-	-	-	975		
PQL420N	60-420		4200PQL	6-42		-	-	-	-		3.4

Accuracy ±3%

Standard Accessories Hex key for torque adjustment

PQLLS

RoHS

- PQL style with Limit Switch output
- Wired Error-Proofing, Pokayoke, system for assembly processes

Refer to page 28.

POKA Patrol, Count Checker
CNA-4mk3

Refer to page 27.

PQLZPre-Lock Adjustable
Insulated Torque
Wrench

Direction



PQLZ100N4

Assembly

Pre-Lock

Graduation

Vinyl Coating

Insulated

ISO6789:2017

- Insulated casing prevents electrical shocks.
- Specialized version of PQL

S.I. Model	Torque Range [N·m]		Metric Model	Torque Range [kgf·cm]		Overall Length [mm]	Square Drive [mm]	Weight [kg]
	Min.-Max.	Grad.		Min.-Max.	Grad.			
PQLZ25N	5-25	0.25	225PQLZ	50-225	2.5	227	9.5	0.28
PQLZ100N4	20-100	1	900PQLZ4	200-900	10	340	12.7	0.80

Accuracy ±3%

Standard Accessories Hex key for torque adjustment

QSPZPreset Insulated
Torque Wrench

Direction



QSPZ25N

Assembly

Preset

Vinyl Coating

Insulated

ISO6789:2017

- Insulated design suited for use in electric shock hazard conditions
- Ideal for electric car assembly, connection of battery terminal wiring work etc.

Model	Torque Range			Overall Length [mm]	Square Drive [mm]	Weight [kg]
	[N·m]	[kgf·cm]	[lbf·in]			
QSPZ25N	5-25	50-250	50-200	227	9.5	0.28
QSPZ100N4	20-100	200-1000	100-750	334	12.7	0.8

Accuracy ±3%

Note

1. A torque wrench tester is necessary for torque adjustment. Specify required set torque when you order.
2. Adjusting tools for QSPZ are sold separately.
3. Sockets are sold separately. Refer to page 44.
4. Sockets are not insulation coating.

CLWPWater Proof and
Dust Free Torque
Wrench

Direction



RoHS



CLWP50NX12D



Assembly

Pre-Lock

Interchangeable

Water/Dust Proof

ISO6789:2017

- Waterproof and Dustproof torque wrench meets IP55/IP57 rating
- Washable torque wrench
- Anticorrosion coating

Head Size	Model	Torque Range [N·m]		Overall Length [mm]	Weight [kg]
		Min.-Max.	Grad.		
10D	CLWP15NX10D	5-15	0.25	220.5	0.3
	CLWP25NX10D	10-25			
12D	CLWP50NX12D	20-50	0.5	243	0.5
15D	CLWP100NX15D	40-100	1	333.5	0.7
	CLWP140NX15D	60-140		378.5	0.8
	CLWP200NX19D	80-200	2	457.5	1.4

Accuracy ±4%

■ CLWP Optional Accessories

CPQHCorrosion-resistant
interchangeable ratchet head

CPQH12D

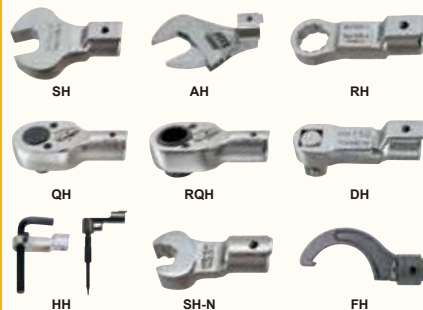
PCLInterchangeable Head
Type Pre-Lock Torque
Wrench

Direction



RoHS

Interchangeable Head



Assembly

Pre-Lock

Interchangeable

Graduation

ISO6789:2017

- Interchangeable head version of PQL
- External scale, set by a hex key



PCL100N×15D

Accuracy ±3%

Head Size	S.I. Model	Torque Range [N·m]		Metric Model	Torque Range [kgf·cm]		American Model	Torque Range [lbf·in/lbf·ft]		Overall Length [mm]	Weight [kg]
		Min.-Max.	Grad.		Min.-Max.	Grad.		Min.-Max.	Grad.		
8D	PCL10N×8D	2-10	0.1	100PCL	20-100	1	PCL50I×8D	10-50	0.5	170	0.16
	PCL15N×8D	3-15		150PCL	30-150		PCL100I×8D	20-100	1		
10D	PCL25N×10D	5-25	0.25	225PCL	50-250	2.5	225PCL-A	40-200	2	195	0.22
12D	PCL50N×12D	10-50	0.5	450PCL	100-500	5	450PCL-A	100-400	5	220	0.32
	PCL50N×15D			500PCL			500PCL-A	100-450		225	
15D	PCL100N×15D	20-100	1	900PCL	200-1000	10	900PCL-A	15-75	1	295	0.48
	PCL140N×15D	30-140		1400PCL	300-1400		1400PCL-A	30-100		355	
19D	PCL200N×19D	40-200	2	1800PCL	400-2000	20	1800PCL-A	30-150	2	435	1.3

Note

1. Overall length does not include interchangeable head.
2. PH type interchangeable head/p.48 is not applicable.
3. Interchangeable heads are optional.

Standard Accessories Hex key for torque adjustment

PCL Optional Accessories

Carrying Case (P.49)

PCLLS

RoHS

- PCL style with Limit Switch output
- Wired Error-Proofing, Pokayoke, system for assembly processes

Refer to page 28.

POKA Patrol, Count Checker
CNA-4mk3**MT70N**Moto Tork/Pre-Lock
Adjustable Specialty
Torque Wrench

Direction



RoHS



MT70N

Assembly

Pre-Lock

Interchangeable

Graduation

- Converts basic hand tools into torque wrenches
- Ideal for motorcycle maintenance

Accuracy ±5%

S.I. Model	Torque Range [N·m]		Metric Model	Torque Range [kgf·m]		Overall Length [mm]	Weight [kg]
	Min.-Max.	Grad.		Min.-Max.	Grad.		
MT70N	10-70	0.2	MT-7	1.0-7.0	0.02	238	0.65

Note

1. Ring head wrench shown in the photo is not included.
2. Max. clamp width for interchangeable tool is approx. 15mm.
3. Min. interchangeable hex wrench key size is 5mm.
4. Tools such as spanner and ring spanner are not included.

Standard Accessories

1. Carrying case
2. Hex key wrench for torque adjustment

SCLEuropean Style
Interchangeable Head Type
Adjustable Torque Wrench

Direction



RoHS



SCL50N-9×12

Assembly

Pre-lock

Interchangeable

Graduation

ISO6789:2017

- DIN interchangeable head connection
- Same function of CL

Accuracy ±3%

S.I. Model	Torque Range [N·m]		Head Size [mm]	Overall Length [mm]	Weight [kg]
	Min.-Max.	Grad.			
SCL25N5-9×12	5-25	0.2	9×12	226	0.3
SCL50N-9×12	10-50	0.5		239	0.37
SCL100N-9×12	20-100	1		313	0.52
SCL200N-14×18	40-200	2	14×18	464	1.2

Note

1. Overall length does not include interchangeable head.
2. Applicable to European style interchangeable head only. Tohnichi's interchangeable heads are not available for SCL models.
3. SCL25N5-9 × 12N is a yellow/black resin grip.

SCSPEuropean Style
Interchangeable
Head Type Preset
Torque Wrench

Direction



RoHS



SCSP50N-9×12

Assembly

Interchangeable

Preset

ISO6789:2017

- DIN interchangeable head connection
- Same function of CSP

Accuracy ±3%

Model	Torque Range [N·m]		Head Size [mm]	Overall Length [mm]	Weight [kg]
	Min.-Max.	Min.-Max.			
SCSP25N-9×12	5-25	50-250	9×12	204	0.15
SCSP50N-9×12	10-50	100-500		230	0.3
SCSP100N-9×12	20-100	200-1000		302	0.45
SCSP200N-14×18	40-200	400-2000	14×18	434	1

Note

1. Overall length does not include interchangeable head.
2. Applicable to European style interchangeable head only. Tohnichi's interchangeable heads are not available for SCL models.

QSPRatchet Head Type
Preset Torque Wrench

Direction



Assembly

Preset

Ratchet Head

ISO6789:2003
2017

- No external scale, torque set by a torque wrench tester
- Ideal for mass production application



QSP100N4

Accuracy ±3%

■ QSP3/QSP-MH Optional Accessories

931
930

932

Adjusting Tool (P.49)

Part #	Applicable Model
931	QSP1.5N4-12N4, QSP25N3/-MH
930	QSP50N3/-MH ~ 420N3
932	QSP100N4/-MH, 200N4/-MH



873

QSP Protective Head Cover (P.49)

Part #	Applicable model
870	QSP1.5N4 - 12N4
871	QSP25N3(-MH)
872	QSP50N3(MH)
873	QSP100N4(-MH)
874	QSP140N3(-MH)
875	QSP200N4
877	QSP280N3
878	QSP420N3

- Note
1. Adjusting tools are sold separately.
 2. A torque wrench tester is necessary for torque setting. Specify required set torque when you order.
Ex. QSP100N4 × 80N·m
 3. QSP200N4-QSP420N have knurled handles.
 4. QSP1.5N4 and QSP3N4 are issued ISO:6789-2003 certificate when request initial torque setting.

QSPLS

- QSP style with Limit Switch output
- Wired Error-Proofing, Pokayoke, system for assembly processes

Refer to page 28.

POKA Patrol, Count Checker
CNA-4mk3

* Sold separately

Refer to page 27.

QSP-MHRatchet Head
Type Preset
Torque Wrench
with Metal Handle

Direction



QSP100N4-MH

Assembly

Preset

Ratchet Head

ISO6789:2017

- Knurled metal handle version of QSP
- Ideal for oily working conditions

Accuracy ±3%

Model	Torque Range			Overall Length [mm]	Square Drive [mm]	Weight [kg]
	[N·m] Min.-Max.	[kgf·cm/kgf·m] Min.-Max.	[lbf·in] Min.-Max.			
QSP25N3-MH	5-25	50-250	45-221	215	9.5	0.25
QSP50N3-MH	10-50	100-500	89-442	240		0.4
QSP100N4-MH	20-100	200-1000	177-885	315	12.7	0.65
QSP140N3-MH	30-140	300-1400	266-1238	380		0.7

- Note
1. A torque wrench tester is necessary for torque adjustment. Specify required set torque when you order.
Ex. QSP100N4-MH × 80N·m
 2. Adjusting tools for QSP-MH are sold separately.
 3. Sockets are sold separately. Refer to page 44.

BQSPBi-Directional Type
Preset Torque Wrench

Direction



BQSP70N

■ BQSP Optional Accessories

931
930

314

Adjusting Tool (P.49)

Part #	Applicable Model
931	BQSP10N-20N
930	BQSP40-300N
314	BQSP400N

Assembly

Preset

Ratchet Head

Bi-Directional

ISO6789:2017

- Click for both CW & CCW applications
- Same function of QSP

Accuracy ±3%

Model	Torque Range			Overall Length [mm]	Square Drive [mm]	Weight [kg]	Adjusting Tool Part #
	[N·m] Min.-Max.	[kgf·cm/kgf·m] Min.-Max.	[lbf·in] Min.-Max.				
BQSP10N	5-10	50-100	44.3-88.5	213.5	6.35	0.2	931
BQSP20N	10-20	100-200	88.5-177				
BQSP40N	20-40	200-400	177-354	240	9.53	0.4	930
BQSP70N	35-70	350-700	310-619	314		0.63	
BQSP120N	60-120	600-1200	531-1061	380	12.7	0.73	
BQSP220N	110-220	1100-2200	974-1946	462		1.3	
BQSP300N	150-300	15-30	1328-2654	665	19.05	2.4	314
BQSP400N	200-420	20-42	1770-3716	970.5		3.7	

- Note
1. BQSP10N-300N have resin grips.
 2. BQSP400N has a knurled handle.
 3. Adjusting tool is sold separately.
 4. Sockets are sold separately. Refer to page 44.

CSPInterchangeable Head
Type Preset Torque
Wrench

Direction



RoHS

Interchangeable Head



CSP Optional Accessories



Adjusting Tool (P.49)

Part #	Applicable Model
931	CSP1.5N4-12N4, 25N3/-MH
930	CSP50N3/-MH ~ 420N3
932	

Assembly

Preset

Interchangeable

ISO6789:2003
2017

- Interchangeable head version of QSP
- No external scale, torque set by a torque wrench tester



CSP2N×6D



CSP100N3×15D

Accuracy ±3%

Head Size	Model	Torque Range			Overall Length [mm]	Weight [kg]
		[N·m]	[kgf·cm/kgf·m]	[lbf·in]		
		Min.-Max.	Min.-Max.	Min.-Max.		
6D	NEW CSP2N×6D	0.4-2	4-20	3.5-17.7	133	0.06
	NEW CSP5N×6D	1-5	10-50	8.8-44.2	130	
8D	CSP1.5N4×8D	0.3-1.5	3-15	2.7-13.2	165	0.2
	CSP3N4×8D	0.6-3	6-30	5.3-26.5		
	CSP6N4×8D	1-6	10-60	8.9-53.0		
	CSP12N4×8D	2-12	20-120	17.7-106		
10D	CSP25N3×10D	5-25	50-250	45-221	195	
12D	CSP50N3×12D	10-50	100-500	89-442	215	0.3
	CSP50N3×15D				220	
15D	CSP100N3×15D	20-100	200-1000	177-885	290	0.45
	CSP140N3×15D	30-140	300-1400	266-1238	350	0.55
19D	CSP200N3×19D	40-200	400-2000	354-1769	430	1.0
22D			kgf·m			
	CSP280N3×22D	40-280	4-28	354-2477	625	1.4
	CSP420N3×22D	60-420	6-42	531-3716	920	2.7

Note

1. Overall length does not include interchangeable head.
2. Adjusting tools are sold separately.
3. Interchangeable heads are optional.
4. A torque wrench tester is necessary for torque setting. Specify required set torque when you order.
Ex. CSP100N3×15D × 80N·m
5. CSP200N3×19D-CSP420N×22D have knurled handles.
6. CSP1.5N4×8D and CSP3N4×8D are issued ISO:6789-2003 certificate when request initial torque setting.

CSPLS

- CSP style with Limit Switch output
- Wired Error-Proofing, Pokayoke, system for assembly processes

CSP-MHInterchangeable
Head Type
Preset Torque
Wrench with
Metal Handle

Direction



RoHS



CSP100N3×15D-MH

Assembly

Interchangeable

Preset

ISO6789:2017

- Knurled metal handle version of CSP
- Ideal for oily working conditions

Accuracy ±3%

Model	Torque Range			Overall Length [mm]	Weight [kg]
	[N·m]	[kgf·cm]	[lbf·in]		
	Min.-Max.	Min.-Max.	Min.-Max.		
CSP25N3×10D-MH	5-25	50-250	45-221	195	0.2
CSP50N3×12D-MH	10-50	100-500	89-442	215	0.3
CSP50N3×15D-MH				220	
CSP100N3×15D-MH	20-100	200-1000	177-885	290	0.45
CSP140N3×15D-MH	30-140	300-1400	266-1238	350	0.55

1. A torque wrench tester is necessary for torque adjustment. Specify required set torque when you order.
Ex. CSP100N3×15D-MH × 80N·m
2. Adjusting tools for CSP-MH are sold separately.
3. Interchangeable heads are optional.

BCSPBi-Directional
Interchangeable Head
Type Preset Torque
Wrench

Direction



RoHS



BCSP70N×15D

BCSP Optional Accessories

Adjusting Tool (P.49)

Part #	Applicable Model
931	BCSP10N-20N
930	BCSP40N-300N
314	BCSP400N

Assembly

Preset

Interchangeable

Bi-Directional

ISO6789:2017

- Click for both CW & CCW applications
- Same function of CSP

Accuracy ±3%

Head Size	Model	Torque Range			Overall Length [mm]	Effective Length [mm]	Weight [kg]	Adjusting Tool Part #
		[N·m]	[kgf·cm/kgf·m]	[lbf·in]				
		Min.-Max.	Min.-Max.	Min.-Max.				
8D	BCSP10N×8D	5-10	50-100	44.3-88.5	189.5	176	0.2	931
10D	BCSP20N×10D	10-20	100-200	88.5-177	192.5	186		
12D	BCSP40N×12D	20-40	200-400	177-354	214	208	0.23	
	BCSP70N×12D	35-70	350-700	310-619	286	280	0.57	
15D	BCSP70N×15D				290	291		
	BCSP120N×15D	60-120	600-1200	531-1061	348.5	349.5	0.62	930
19D	BCSP220N×19D	110-220	1100-2200	974-1946	427	445	1.2	
22D			kgf·m					
	BCSP300N×22D	150-300	15-30	1328-2654	625	660	2	
	BCSP400N×22D	200-420	20-42	1770-3716	918	950	3.7	314

Note

1. Overall length does not include interchangeable head. Interchangeable heads are optional.
2. BCSP10N-300N have resin grips.
3. BCSP400N has a knurled handle.
4. Adjusting tool is sold separately.

SP·SP2/-MH RSP2/-MH

Direction



RoHS

Open End/
Ring Head
Type Preset
Torque
Wrench

Assembly

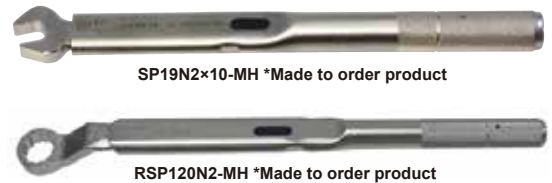
Preset

Open End Spanner

Ring Head

ISO6789:2003
2017

- Various sizes of open end or ring heads fixed on wrench
- Ideal for specific bolt size application



Model (Body Size × Width)		Torque Range		Head Dimension O.W. × Thickness [mm]	Overall Length [mm]	Weight [kg]
SP2	SP2-MH	[N·m] Min.-Max.	[kgf·cm] Min.-Max.			
SP2N2×5.5	-	0.4-2	4-20	17 × 5	168	0.15
SP2N2×7	-			18 × 5	169	
SP2N2×8	-			19 × 5	171	
SP2N2×10	-			21 × 5	173	
SP2N2×12	-			23 × 5	175	
SP2N2×13	-			24 × 5	176	
SP2N2×17	-			27 × 5	180	
SP2N2×19	-			28 × 8	180	
SP8N2×7	-			18 × 5	169	
SP8N2×8	-			19 × 5	171	
SP8N2×9	-	1.5-8	15-80	20 × 5	172	0.15
SP8N2×10	-			21 × 5	173	
SP8N2×12	-			23 × 5	175	
SP8N2×13	-			24 × 5	176	
SP8N2×19	-			28 × 8	180	
SP8N2×24	-			33 × 8	186	
SP8N2×27	-			36 × 8	189	
SP19N2×10	SP19N2×10-MH			27 × 6.5	202 (202)	
SP19N2×11	SP19N2×11-MH				203 (204)	
SP19N2×12	SP19N2×12-MH			30 × 6.5	204 (204)	
SP19N2×13	SP19N2×13-MH				204 (205)	
SP19N2×14	SP19N2×14-MH				204 (205)	
SP19N2×17	SP19N2×17-MH	3.5-19	35-190	31 × 8	208 (208)	0.21
SP19N2×19	SP19N2×19-MH			33 × 8	209 (210)	
SP19N2×21	SP19N2×21-MH			35 × 8	211 (212)	
SP19N2×1×10	SP19N2×1×10-MH			24 × 12	205 (205)	
SP19N2×2×10	SP19N2×2×10-MH			24 × 20	204 (204)	
SP19N2×3×10	SP19N2×3×10-MH			24 × 15	205 (205)	
SP38N2×8	SP38N2×8-MH				220 (220)	
SP38N2×9	SP38N2×9-MH			31 × 8	222 (221)	
SP38N2×10	SP38N2×10-MH				222 (222)	
SP38N2×11	SP38N2×11-MH				223 (223)	
SP38N2×12	SP38N2×12-MH	8-38	80-380		225 (225)	0.37
SP38N2×13	SP38N2×13-MH			35 × 8	225 (225)	
SP38N2×14	SP38N2×14-MH				226 (226)	
SP38N2×16	SP38N2×16-MH				230 (230)	
SP38N2×17	SP38N2×17-MH			38 × 8	231 (231)	
SP38N2×19	SP38N2×19-MH				231 (231)	
SP38N2×22	SP38N2×22-MH			41 × 8	234 (234)	
SP38N2×24	SP38N2×24-MH			43 × 8	236 (236)	
SP38N2×27	SP38N2×27-MH			45 × 8	240 (239)	
SP38N2×1×10	SP38N2×1×10-MH			24 × 12	221 (221)	
SP38N2×2×10	SP38N2×2×10-MH	13-67	130-670	25 × 20	223 (223)	0.48
SP38N2×3×10	SP38N2×3×10-MH			24 × 15	221 (221)	
SP67N2×14	SP67N2×14-MH			35 × 10	285 (284)	
SP67N2×16	SP67N2×16-MH			37 × 10	287 (286)	
SP67N2×17	SP67N2×17-MH			38 × 10	288 (287)	
SP67N2×18	SP67N2×18-MH			39 × 10	289 (287)	
SP67N2×19	SP67N2×19-MH			40 × 10	290 (289)	
SP67N2×21	SP67N2×21-MH			42 × 10	292 (291)	
SP67N2×22	SP67N2×22-MH			43 × 10	293 (292)	
SP67N2×24	SP67N2×24-MH			44 × 11	299 (298)	
SP67N2×27	SP67N2×27-MH	24-120	240-1200	47 × 11	303 (301)	0.75
SP67N2×29	SP67N2×29-MH			49 × 11	304 (303)	
SP67N2×30	SP67N2×30-MH			50 × 11	305 (304)	
SP67N2×32	SP67N2×32-MH			52 × 11	307 (306)	
SP67N2×33.3	SP67N2×33.3-MH			54 × 11	308 (307)	
SP120N2×14	SP120N2×14-MH			42 × 10	360 (359)	
SP120N2×17	SP120N2×17-MH			45 × 10	362 (361)	
SP120N2×18	SP120N2×18-MH			46 × 10	364 (364)	
SP120N2×19	SP120N2×19-MH			47 × 10	365 (364)	
SP120N2×21	SP120N2×21-MH			50 × 10	368 (367)	
SP120N2×22	SP120N2×22-MH	30-160	300-1600		369 (368)	0.75
SP120N2×23	SP120N2×23-MH			51 × 11	369 (368)	
SP120N2×24	SP120N2×24-MH				370 (369)	
SP120N2×27	SP120N2×27-MH			53 × 12	370 (369)	
SP120N2×30	SP120N2×30-MH			55 × 14	373 (373)	
SP160N2×19	SP160N2×19-MH			50 × 10		
SP160N2×21	SP160N2×21-MH			51 × 12	368 (367)	
SP160N2×22	SP160N2×22-MH			52 × 12		
SP160N2×24	SP160N2×24-MH			53 × 12	369 (369)	
SP160N2×26	SP160N2×26-MH			55 × 12	373 (373)	
SP160N2×27	SP160N2×27-MH			70 × 14	386 (386)	
SP160N2×41	SP160N2×41-MH					

Accuracy ±3%

Model (Body Size × Width)		Torque Range		Head Dimension O.W. × Thickness [mm]	Overall Length [mm]	Weight [kg]
SP/SP2	SP2-MH	[N·m] Min.-Max.	[kgf·cm] Min.-Max.			
SP220N2×19	SP220N2×19-MH	45-220	450-2200	53×13	448 (447)	1.3
SP220N2×22	SP220N2×22-MH			56×13	451 (450)	
SP220N2×24	SP220N2×24-MH			58×13	453 (452)	
SP220N2×27	SP220N2×27-MH			61×13	456 (455)	
SP220N2×29	SP220N2×29-MH			63×13	458 (458)	
SP220N2×30	SP220N2×30-MH			72×15	468 (467)	
SP220N2×32	SP220N2×32-MH			65×13	464 (464)	
SP220N2×34	SP220N2×34-MH			67×15	463 (463)	
SP220N2×36	SP220N2×36-MH			72×15	468 (467)	
SP310N2×22	SP310N2×22-MH			60×14	647 (646)	
SP310N2×24	SP310N2×24-MH	65-310	650-3100	62×14	648 (647)	1.8
SP310N2×27	SP310N2×27-MH			65×14	651 (650)	
SP310N2×30	SP310N2×30-MH			68×14	654 (653)	
SP310N2×32	SP310N2×32-MH			70×14	655 (654)	
SP310N2×41	SP310N2×41-MH			80×15	670 (670)	
SP310N2×46	SP310N2×46-MH			85×15	671 (671)	
SP420N×27	-					
SP420N×30	-					
SP420N×32	-					
SP420N×34	-					
SP420N×35	-					
SP420N×36	-					
SP560N×30	-	130-560	1300-5600	81×19		4
SP560N×32	-			83×19	995	
SP560N×36	-			87×19	1000	
SP560N×46	-			97×19	1005	
SP560N×55	-			104×19	1010	

Accuracy ±3%

Model (Body Size × Width)		Torque Range		Head Dimension O.W. × Thickness [mm]	Overall Length [mm]	Weight [kg]
		[N·m] Min.-Max.	[kgf·cm] Min.-Max.			
RSP2	RSP2-MH					
RSP8N2×8	-	2-9	20-90	15×6	200	0.15
RSP8N2×10	-			17.5×7	205	
RSP19N2×8	RSP19N2×8-MH	4-14.1	40-141	15×6	220 (220)	0.2
RSP19N2×10	RSP19N2×10-MH			17.5×7	221 (221)	
RSP19N2×13	RSP19N2×13-MH	4-21	40-210	22×7	223 (223)	0.35
RSP38N2×10	RSP38N2×10-MH	9-24.2	90-242	17.5×7	244 (244)	
RSP38N2×12	RSP38N2×12-MH	9-29.5	90-295	20.5×8	247 (247)	
RSP38N2×13	RSP38N2×13-MH			21.5×8	246 (246)	
RSP38N2×14	RSP38N2×14-MH	9-42	90-420	23.5×9	247 (247)	0.45
RSP38N2×16	RSP38N2×16-MH			26×9	248 (248)	
RSP38N2×17	RSP38N2×17-MH			27.5×9		0.45
RSP67N2×14	RSP67N2×14-MH	14-59	140-590	25×10	312 (311)	
RSP67N2×16	RSP67N2×16-MH			27×10	313 (312)	
RSP67N2×17	RSP67N2×17-MH			29×12	314 (313)	
RSP67N2×18	RSP67N2×18-MH	14-73	140-730	29.5×12		0.8
RSP67N2×19	RSP67N2×19-MH			30×12	315 (314)	
RSP120N2×17	RSP120N2×17-MH	24-100	250-1000	29.4×12	393 (393)	0.8
RSP120N2×18	RSP120N2×18-MH			30.6×12	394 (393)	
RSP120N2×19	RSP120N2×19-MH			31.8×13	394 (394)	0.9
RSP120N2×21	RSP120N2×21-MH	24-120	250-1270	34×13	396 (396)	
RSP120N2×22	RSP120N2×22-MH			35×13	396 (396)	0.9
RSP160N2×19	RSP160N2×19-MH	30-160	320-1700	32.8×13	395 (394)	
RSP160N2×21	RSP160N2×21-MH			34×13	396 (395)	
RSP160N2×22	RSP160N2×22-MH			35×13	396 (396)	
RSP160N2×24	RSP160N2×24-MH			38×15	398 (397)	1.5
RSP220N2×22	RSP220N2×22-MH			38.4×13	480 (479)	
RSP220N2×24	RSP220N2×24-MH	45-220	480-2300	40×13	481 (480)	2
RSP220N2×27	RSP220N2×27-MH			45×13	483 (482)	
RSP310N2×24	RSP310N2×24-MH	65-255	680-2550	41.8×15	678 (678)	2
RSP310N2×27	RSP310N2×27-MH	65-310	680-3200	45×15	680 (680)	
RSP310N2×30	RSP310N2×30-MH			50×15	682 (681)	

SP2-H Torque Wrench for Piping Work

Direction

RoHS



SP38N2×19H



Assembly Preset Open End Spanner ISO6789:2017

- Made with smaller outside width to work in narrow spaces, including hydraulic piping, where current open-end type is unable to access.
- Aligned with appropriate inner widths commonly used for hydraulic piping applications.

Accuracy ±3%

Model (Body Size × Width)	Torque Range		Minimum Piping Pitch [mm]	Head Dimension (O.W. × Thickness) [mm]	Overall Length [mm]	Weight [kg]	Adjusting Tool Part #
	[N·m] Min.-Max.	[kgf·cm] Min.-Max.					
SP2-H	8-25	80-250	26	26.3×8	220	0.37	930
SP38N2×14H	8-25	80-250	26	26.3×8	220	0.37	
SP38N2×19H	8-39	80-390	35	33.1×8	224	0.48	
SP67N2×27H	13-67	130-670	46	43.6×11	294	0.75	
SP120N2×32H-MH	24-120	240-1200	54	51.6×14	363	0.75	

- Note
1. Minimum piping pitch is required.
 2. A torque wrench tester is necessary for torque setting. Specify required set torque when you order.
Ex. SP38N2×14H × 25N·m
 3. SP120N2×32H-MH is a knurled handle. Others are resin handles.

Adjusting Tool (P.49) * Sold separately

Part #	Applicable Model
930	SP38N2-H, SP67N2-H, SP120N2×32H-MH

SP2-N/-MH

Direction

RoHS

Notched Head Type
Preset Torque Wrench



SP19N2-1×10N



SP19N2-1×10N-MH
*Made to order product



Head Shape "Even"



Head Shape "All down"

Assembly Preset Notched Head ISO6789:2017

- Notch creates speed in tightening process.
- Ideal for brake lines

Accuracy ±3%

Model (Body Size × Width)		Torque Range		Head Dimension		Overall Length [mm]	Weight [kg]	Adjusting Tool Part #
		[N·m]	[kgf·cm]	O.W. × Thickness	Head Shape			
SP2-N	SP2-N-MH	Min.-Max.	Min.-Max.	[mm]				
SP19N2-1×10N	SP19N2-1×10N-MH	3.5-19	35-190	24×12	Even	203	0.21	931
SP19N2-3×10N	SP19N2-3×10N-MH			24×15				
SP19N2-4×10N	SP19N2-4×10N-MH			24×10				
SP19N2-5×10N	SP19N2-5×10N-MH			24×15	All down			
SP19N2-9×10N	SP19N2-9×10N-MH			24×10				
SP38N2×14N	SP38N2×14N-MH	8-38	80-380	35×8	Even	224	0.37	930

- Note
1. A torque wrench tester is necessary for torque setting. Specify required set torque when you order.
Ex. SP19N2-1×10N × 15N·m
 2. Adjusting tool for SP19N2-N/-MH is 931 and for SP38N2-N/-MH is 930.
 3. SP2-N-MH models are made to order products.

SPLS2-N/-MH

- SP-N style with Limit Switch output
- Wired Error-Proofing, Pokayoke, system for assembly processes

Accuracy ±3%

Model (Body Size × Width)		Torque Range		Head Dimension		Overall Length [mm]	Weight [kg]	Adjusting Tool Part #
		[N·m] Min.-Max.	[kgf·cm] Min.-Max.	O.W. × Thickness [mm]	Head Shape			
SPLS2-N	SPLS2-N-MH	3.5-19	35-190	24×12		Even	203	0.36
SPLS19N2-1×10N	SPLS19N2-1×10N-MH			24×15				
SPLS19N2-3×10N	SPLS19N2-3×10N-MH			24×10	All down			
SPLS19N2-4×10N	SPLS19N2-4×10N-MH			24×15				
SPLS19N2-5×10N	SPLS19N2-5×10N-MH			24×12	Even			
SPLS19N2-8×10N	SPLS19N2-8×10N-MH			24×10				
SPLS19N2-9×10N	SPLS19N2-9×10N-MH							
SPLS38N2X14N	SPLS38N2X14N-MH	8-38	80-380	35×8		224	0.52	930

- Note
1. The curl cord length of SPLS19N2-8×10N is about 5m in full extension.
Others are extended to about 2m in full extension.
 2. Adjusting tool for SPLS19N2-N/-MH is 931 and for SPLS38N2-N/-MH is 930.
 3. SPLS2-N-MH models are made to order products.

NSP100CNx8

Break-Over Torque Wrench

Direction

RoHS



NSP100CN×8

Assembly Preset Open End Spanner Break-Over ISO6789:2003

- Ideal for SMA connector tightening
- 90 degree of "breaking" upon reaching the set torque to reduce the possibility of over-torque

Accuracy ±5%

Model (Body Size × Width)	Torque Range		Head Dimension [mm]	Overall Length [mm]	Weight [kg]
	[cN·m] Min.-Max.	[kgf·cm] Min.-Max.			
NSP100CN×8	50-100		16×4	128	0.33

- Note
1. A torque wrench tester is necessary for torque setting. Specify required set torque when you order.



■ NSP Optional Accessories

QSPCASlip Type
Torque Wrench

Direction



QSPCA6N

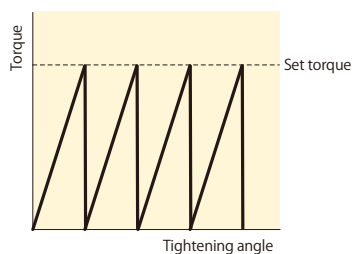


QSPCA30N



QSPCA70N

■ Wave form of slip type torque wrench



■ QSPCA Optional Accessories

931
930

Adjusting Tool (P.49)

Part #	Applicable Model
931	QSPCA6N, QSPCAMS6N QSPCA12N, QSPCAMS12N
930	QSPCA30N, QSPCALS30N QSPCA70N, QSPCALS70N QSPCAFH30N, QSPCAFH70N

Assembly Preset Ratchet Head Slip Type ISO6789:2017

- Cam action mechanism generates a 45 degree "slip" action.
- No torque variation by gripping point
- Conforms to the Electrostatic Discharge (ESD) standard

Model	Torque Range			Overall Length [mm]	Sq.Drive [mm]	Weight [kg]	Accuracy [%]
	Min.-Max. [N·m]	Min.-Max. [kgf·cm]	Min.-Max. [lbf·in]				
QSPCA6N	2-6	20-60	20-50	197	6.35	0.33	±6%
QSPCA12N	4-12	40-120	40-100				±4%
QSPCAMS6N	2-6	20-60	20-50			0.45	±6%
QSPCAMS12N	4-12	40-120	40-100				
QSPCA30N	10-30	100-300	90-265	267	9.53	0.64	±4%
QSPCA70N	20-70	200-700	180-619	346		1.24	
QSPCALS30N	10-30	100-300	90-265	267		0.81	
QSPCALS70N	20-70	200-700	180-619	346		1.41	

Note

1. A torque wrench tester is necessary for torque setting. Specify required set torque when you order.
Ex. QSPCA6N × 5N·m
2. Adjusting tools for QSPCA are sold separately.
3. Limit Switch specifications are AC30V below 1A, DC30V below 1A.
4. Standard curl cord can be extended to about 2m in full extension.
5. Female connector for LS cable is sold separately. Part# WA5219K.
6. QSPCA70N and QSPCALS70N have knurled handles.

QSPCAMS/ QSPCALS

RoHS

- QSPCA style with Limit Switch output
- Wired Error-Proofing, Pokayoke, system for assembly processes

POKA Patrol, Count Checker
CNA-4mk3

Refer to page 27.



* Sold separately



QSPCAMS6N



QSPCAMS12N



QSPCALS30N



QSPCAFHLSM70N

QSPCAFHHP/FHM

RoHS

- Wireless error-proofing, Pokayoke, system

Receiver
R-CM

Refer to page 29 for wireless Pokayoke system configuration.

* Sold separately

Model
QSPCAFHHP6N
QSPCAFHHP12N

Model
QSPCAFHLSM30N
QSPCAFHLSM70N



QSPCAFHHP12N



QSPCAFHLSM70N



Note

QSPCAFHHP transmitter is not provided separately.

YCL2 Two Step Motion
Torque Wrench

Direction

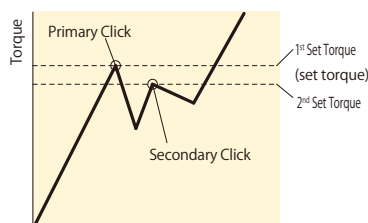


RoHS



YCL90N2×15D

■ Wave form of two step motion torque.



Assembly Adjustable Interchangeable Graduation Two Step Motion ISO6789:2017

- Two step motion prevents over-torque.
- Suitable for assembly of critical parts
- Easy torque setting by graduation
- Interchangeable head

Accuracy ±3%

Head Size	S.I. Model	Torque Range [N·m]		Metric Model	Torque Range [kgf·cm]		American Model	Torque Range [lbf·in/lbf·ft]		Max Hand Force [N]	Effective Length [mm]	Overall Length [mm]	Weight [kg]
		Min.-Max.	Grad.		Min.-Max.	Grad.		Min.-Max.	Grad.				
10D	YCL10N2×10D	5-10	0.10	100YCL2	50-100	1	YCL100I	50-100	1	46.5	215	245	0.35
	YCL20N2×10D	10-20	0.20	200YCL2	100-200	2	YCL200I	100-200	2	93			
12D	YCL40N2×12D	20-40	0.25	400YCL2	200-400	2.5	YCL400I	200-400	2.5	145.5	275	309	0.53
	YCL70N2×12D	35-70	0.50	700YCL2	350-700	5	YCL600I	300-600	5	254.5			
15D	YCL90N2×15D	45-90	0.25	900YCL2	450-900	2.5	YCL750I	400-750	2.5	236.8	380	414	1.05
	-	-	-	-	-	-	YCL1000I	600-1000	5	-			
19D	YCL140N2×15D	70-140	0.50	1400YCL2	700-1400	5	YCL100F	45-100	0.5	368.4	310	607	1.75
	YCL180N2×19D	90-180	-	1800YCL2	900-1800	-	-	-	-	-			
	-	-	-	-	-	-	YCL150F	80-150	0.5	-			

CPT-G

PRO TORK/
Digital Torque
Wrench for
Tightening

Direction



RoHS

PRO TORK™



CPT50×12D-G



CPT100×15D-G

How to Order:

[Ex. 1] CPT100×15D-G-SET

* "Set" model version
with standard accessories

[Ex. 2] CPT200×19D-G

* "Torque Wrench Only" version
without standard accessories

CPT-G Optional Accessories



844

Carrying Case for "SET" model only

Part #	Applicable Model Dimension [mm]	Weight [kg]
844	CPT20×10D-G ~ CPT100×15D-G H170 × W500 × D100	1.0
845	CPT200×19D-G, CPT280×22D-G H170 × W740 × D100	1.6



585



Connecting to CPT-G

Connecting Cable

Part #	Applicable Model
585	CPT-G - PC (D-Sub 9 Pin Female)

Data Processing Software

Model
EXCEL RECEIVER

Assembly

Digital

Interchangeable

Signal

Battery

ISO6789:2003

- Highly responsive to the applied torque value with indicator display
- Equipped with bright LED lamp indicating current torque level
- 5 changeable units of measure through keypad set up
- Data memory, torque set registration and output functions

"Torque Wrench Only" Models

Accuracy ±3%

Model	Torque Range										Overall Length [mm]	Weight [kg]
	[N·m]		[kgf·cm]		[kgf·m]		[lbf·in]		[lbf·ft]			
	Min.-Max.	1 digit	Min.-Max.	1 digit	Min.-Max.	1 digit	Min.-Max.	1 digit	Min.-Max.	1 digit		
CPT20×10D-G	4-20	0.02	40-200	0.2	0.4-2	0.002	36-180	0.2	3-14.5	0.02	280.5	0.63
CPT50×12D-G	10-50	0.05	100-500	0.5	1-5	0.005	100-440	0.5	7.5-36	0.05	282.5	0.65
CPT100×15D-G	20-100	0.1	200-1000	1	2-10	0.01	200-880	1	15-73	0.1	384.5	0.85
CPT200×19D-G	40-200	0.2	400-2000	2	4-20	0.02	360-1700	2	30-150	0.2	475.5	1.37
CPT280×22D-G	56-280		560-2800		5.6-28		500-2400		42-200		591.5	1.76

Note

1. "Torque Wrench Only" version is provided in basic carton product box and does not include TQH Head, Batteries, Storage Case.
2. "Overall Length" does not include the length of interchangeable head TQH.
3. "Weight" does not include the weight of interchangeable head TQH and batteries.
4. Interchangeable heads are sold separately. Refer to page 45-48.

"Set" Models including Accessories

Model	Standard Accessory			
	Ratchet Head		Battery	Storage Case
	Model	Sq. Drive [mm]		
CPT20×10D-G-SET	TQH10D	9.5	AA Alkaline	Small
CPT50×12D-G-SET	TQH12D			
CPT100×15D-G-SET	TQH15D	12.7	Battery (2 pcs)	Large
CPT200×19D-G-SET	TQH19D			
CPT280×22D-G-SET	TQH22D	19.0		

Note

Recommendation: Use 2xAA Ni-MH batteries for longer continuous use.

CPT-G Common Specifications

Accuracy	±3% of indicated value
Tightening Direction	Clockwise/Counter clockwise
Display/Character Height	14 segment LCD 6 digits/7mm 7 segment LCD 4 digits/3mm
Battery Life Indicator	4 steps
Number of Data Memory	50
Torque Setting Memory	Preset Tightening mode: 10 torque values to register Judgment Tightening mode: Up to 10 values of each Upper/Lower/Tightening direction
Basic Function	Auto power off (3 minutes)
	Auto memory/Reset
	Auto zero
	Over torque alarm
Power	AA battery × 2pcs
Continuous Use	40 hours
Operating Condition	0-40 Celsius below 85%RH (no condensation)

Several different tightening modes available to cater to a variety of applications. Quick and accurate tightening while preventing errors.

Modes include:

[Preset Tightening Mode](#), [Judgment Tightening Mode](#), [Peak/Run Modes](#)

* Retightening/loosening torque is performed in the Peak Mode.

Preset Tightening Mode: Allows user to set the target torque with specific % of torque allowable beyond target, then the red LED moves towards the right to indicate the level of the applied torque. When it reaches the target torque range, the blue LED blinks and the buzzer signals tightening completion.

Judgment Tightening Mode: Allows user to set judgment ranges for lower/upper limit in the tightening operation. Upon tightening completion a judgment is made as torque value is stored in the memory.

Display example 1



Preset Tightening Mode
Red LED shows the level of the applied torque

Display example 2



Judgment Tightening Mode
As torque is being applied prior to completion

Display example 3



Judgment Tightening Mode
The case of exceeding target torque range



CTA2-G

Digital Torque
and Angle
Wrench

Direction



RoHS

CTA100N2×15D-G



CTA500N2×22D-G



CTA2 Optional Accessories

Battery Pack (P.50)

Model
BP-5

Quick Battery Charger (P.50)

Model	Voltage
BC-3-G	100-240V

Printer (P.68)

Model
EPP16M3

Connecting Cable (P.49)

Part #	Applicable Model
575	CTA2-G - PC, EPP16M3 (D-SUB 9 Pin Female)
584	CTA2-G - PC (USB A Type)

Note

- () shows pin shape of the connecting cables.
- Contact Tohnichi for other types of connecting cables.

Carrying Case (P.49)

Model	Applicable Model Dimension [mm]	Weight [kg]
846	CTA50N2×12D-G, CTA100N2×15D-G H170 × W500 × D100	1.0
847	CTA200N2×19D-G, CTA360N2×22D-G H170 × W740 × D100	1.6

Assembly

Digital

Interchangeable

Signal

Re-Chargeable

ISO6789:2003

- Snug and angle setting functions
- Buzzer/Light alerts to snug torque and angle completion
- Angle mode activates automatically, once snug torque is achieved.

Accuracy ±1%

Model	Torque Range [N·m]		Torque Range [kgf·m]		Torque Range [lbf·ft]		Angle Measuring Range		Angle Accuracy	Overall Length [mm]	Weight [kg]	Interchangeable Head
	Min.-Max.	1 digit	Min.-Max.	1 digit	Min.-Max.	1 digit	Min.-Max.	1 digit				
CTA50N2×12D-G	(2.5) 10-50	0.05	(0.25) 1-5	0.005	(1.85) 7.5-36.5	0.05			±2°+1digit (Angular velocity is 30°/X~180°/s when the bolt turned to 90°)	282	0.58	QH12D
CTA100N2×15D-G	(5) 20-100	0.1	(0.5) 2-10	0.01	(3.8) 15-75	0.1				384	0.63	QH15D
CTA200N2×19D-G	(10) 40-200	0.2	(1) 4-20	0.02	(7.5) 30-150	0.2				475	0.78	QH19D
CTA360N2×22D-G	(18) 72-360	0.4	(1.8) 7-36	0.05	(13) 52-260	0.5	0-999°	1°		713	1.13	
CTA500N2×22D-G	(25) 100-500	0.5	(2.5) 10-50	0.05	(18) 72-360	0.5				949	4	QH22D
CTA850N2×32D-G	(43) 170-850	1.0	(4.3) 17-85	0.1	(31) 124-620	1				1387	5.14	QH32D

Note

- The value shown in () shows the lowest snug torque. Accuracy cannot be guaranteed for snug torque set beyond the operative torque range.
- Overall length does not include interchangeable head.
- PH (Pipe wrench head) type interchangeable head cannot be used with this model.
- CTA500N2×22D-G and CTA850N2×32D-G have knurled handles.

Standard Accessories

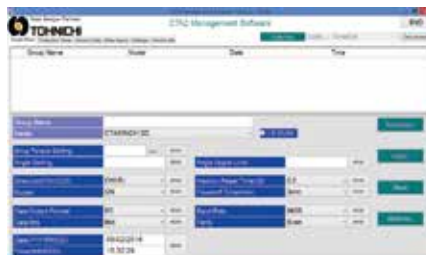
Battery pack/BP-5, QH interchangeable head (P.45), Quick battery charger/BC-3-G (100-240V), cable/584

CTA2-G Features 2 Tightening Modes: Single Spindle and Production Tightening Modes

1. Single Spindle Tightening Mode: For angle method tightening of a single bolt tightening with snug torque, tightening angle and tightening angle upper limit settings.

2. Production Tightening Mode: For angle method tightening of multi spindle, with tightening torque, snug torque, 1st, 2nd and 3rd tightening angle, each upper limited angle, the numbers of spindles are registered.

By using the included software package, various settings can be done through the PC and transferred to the wrench with the final tightening values being sent back to an Excel spreadsheet.



Single spindle tightening mode setting display



Production tightening mode setting display

Spindle	Angle	Snug	1st	2nd	3rd	Final
1	11.1	10.0	11.1	11.1	11.1	11.1
2	11.2	10.0	11.2	11.2	11.2	11.2
3	11.3	10.0	11.3	11.3	11.3	11.3
4	11.4	10.0	11.4	11.4	11.4	11.4
5	11.5	10.0	11.5	11.5	11.5	11.5
6	11.6	10.0	11.6	11.6	11.6	11.6
7	11.7	10.0	11.7	11.7	11.7	11.7
8	11.8	10.0	11.8	11.8	11.8	11.8
9	11.9	10.0	11.9	11.9	11.9	11.9
10	12.0	10.0	12.0	12.0	12.0	12.0

Output data in single spindle tightening mode

Spindle	1st	2nd	3rd	Final
1	11.1	11.1	11.1	11.1
2	11.2	11.2	11.2	11.2
3	11.3	11.3	11.3	11.3
4	11.4	11.4	11.4	11.4
5	11.5	11.5	11.5	11.5
6	11.6	11.6	11.6	11.6
7	11.7	11.7	11.7	11.7
8	11.8	11.8	11.8	11.8
9	11.9	11.9	11.9	11.9
10	12.0	12.0	12.0	12.0

Output data in production tightening mode

CTA2-G Common Specifications

Data Memory	999 data (Tightening torque, 1st angle value, 2nd angle value, 3rd angle value and final torque value)
Measurement Mode	Single spindle/Production mode
Data Output	RS232C compliant
Zero Adjustment	Auto zero (Angle, Torque)
Power	Ni-MH rechargeable battery
Continuous Use	20 hours with fully charged (8 hours by 1 hour recharging)
Recharging Time	3.5 hours
Operating Temperature [°C]	0-40
Other Functions	Snug torque, Tightening torque, Max. tightening torque, 1st, 2nd, 3rd angle, 1st, 2nd, 3rd max. angle, Number of bolts, Auto reset, Judgment, Setting through PC, Battery indicator

DWQL

Analog Torque Wrench with Digital Angle Module

Direction



DWQL100N



* M-DW shows 20° from snug torque.

Assembly Adjustable Digital Ratchet Head Graduation ISO6789:2003

- Easily apply snug torque with "click" followed by angle with integrated digital angle display.
- Digital angle starts once snug torque setting is achieved.
- Correct angle is calculated and shown even when ratcheting feature is used.

Accuracy ±3%							
S.I. Model	Torque Range [N·m]		Angle Range		Angle Accuracy	Overall Length [mm]	Weight [kg]
	Min.-Max.	Grad.	Min.-Max.	1 digit			
DWQL50N	(5) 10-50	0.5			±2°+1digit (Angular velocity is 30°/s-180°/s when the bolt is turned to 90°.)	260	0.62
DWQL100N	(10) 20-100	1				335	0.86
DWQL140N	(25) 30-140	2	0-999°	1		400	1.00
DWQL200N	(30) 40-200					490	1.6
DWQL280N	(30) 40-280					695	2.2
DWQL420N	(40) 60-420					995	3.6

Note

1. The capacity values in the () are minimum setting values for snug torque, but these values are not within guaranteed accuracy range.
2. A value in the () might not be exact same when purchased M-DW is installed on LS torque wrench.
3. Certificates of calibration for both torque and angle are included.
4. Prior to use, confirm final applied torque value do not exceed max torque of the tool.

M-DW

- Convert torque wrench with limit switch to angle torque wrench by installing M-DW.

Digital Angle Module

Model	Description
M-DW	Angle module for torque wrench with limit switch

Note

1. M-DW can be installed on torque wrench with limit switch except for the following models: QSPCAL5, ALS, ACLS, and MS type torque wrench. Refer to page 28.
2. Operate within torque range of installed torque wrench.
3. Certificate of angle calibration is attached.

M-DW Specifications

Range of Angle	0-999°
1digit	1°
Angle Accuracy	±2°+1digit (Angular velocity is 30°/s-180°/s when the bolt is turned to 90°.)
Display	7 segments LED, 3 digits/Character height 10mm
Continuous Operation	60 hours
Operating Condition	0-40°C Below 85%RH (no condensation)
Standard Accessories	Limit switch with connector 1 pc.
	Screw & Washer: 2 pcs. per each
	Operating instruction, AAA battery: 1 pc.
Weight	0.12kg

- Torque wrench with Limit Switch is converted to digital angle torque wrench.



WQL

Analog Torque and Angle Wrench

Direction



WQL100N4

Assembly Ratchet Head Graduation Angle Direct Reading ISO6789:2017

- Includes built-in protractor with flexible arm
- Specialized version of QL

Accuracy ±3%

S.I. Model	Torque Range [N·m]		Metric Model	Torque Range [kgf·cm/kgf·m]		American Model	Torque Range [lbf·in/lbf·ft]		Sq. Drive [mm]	Overall Length [mm]	Angle Scale	
	Min.-Max.	Grad.		Min.-Max.	Grad.		Min.-Max.	Grad.			Max.	Grad.
WQL50N	(5) 10-50	0.5	450WQL3	kgf·cm (50) 100-500	0.5	450WQL3-A	lbf·in (40) 100-400	5	9.5	260		
WQL100N4	(10) 20-100	1	900WQL4	(100) 200-1000	1	900WQL4-A	(7) 15-75	1	12.7	345	360°	2°
WQL200N4	(30) 40-200		1800WQL4	(300) 400-2000	2	1800WQL4-A	(20) 30-150	2		495		
WQL280N	(30) 40-280	2	2800WQL3	(3) 4-28	0.2	2800WQL3-A	(20) 30-200	2	19.0	695		
WQL420N	(40) 60-420		4200WQL2	(4) 6-42		4200WQL2-A	(30) 60-300					

Note

1. The capacity value in the () are minimum setting value for snug torque, but this value is not within guaranteed accuracy range.
2. WQL Models are supplied upon request.

MPQL/MQL

Direction

Marking Torque Wrench

RoHS



Assembly

Pre-Lock

Ratchet Head

Graduation

Quick Drying Ink

ISO6789:2017

- Mechanism marks bolt as torque is achieved.
- Requires special socket, marker and ink

Accuracy ±3%

S.I. Model	Torque Range [N·m]		Metric Model	Torque Range [kgf·cm/kgf·m]		American Model	Torque Range [lbf·in/lbf·ft]		Overall Length [mm]	Weight [kg]
	Min.-Max.	Grad.		kgf·cm	kgf·m		Min.-Max.	Grad.		
MPQL50N	10-50	0.5	450MPQL	100-500	5	450MPQL-A	100-400	5	246	0.7
MPQL100N4	20-100	1	900MPQL4	200-1000	10	900MPQL4-A	15-75	1	320	0.95
MPQL140N	30-140		1400MPQL	400-1400		1400MPQL-A	30-100		385	1.1
MPQL200N4	40-200		1800MPQL4	400-2000		1800MPQL4-A	30-150		468	1.8
MQL280N	40-280	2	2800MQL3	4-28	0.2	2800MQL3-A	30-210	2	692	2.6

Note Use Tohnichi's original socket. Standard sockets can not be used.

Standard Accessories Hex key for torque adjustment

MQSP

Marking Torque Wrench

Direction

RoHS



Assembly

Preset

Ratchet Head

Quick Drying Ink

ISO6789:2017

- Mechanism marks bolt as torque is achieved.
- Preset style of MPQL

Accuracy ±3%

Model	Torque Range			Overall Length [mm]	Weight [g]
	[N·m]	[kgf·cm]	[lbf·in]		
	Min.-Max.	Min.-Max.	Min.-Max.		
MQSP50N	10-50	100-500	88.5-442.5	240	0.7
MQSP100N	20-100	200-1000	177-885	315	1.0
MQSP140N	30-140	400-1400	266-1238	380	1.1
MQSP200N	40-200	400-2000	354-1769	465	1.8

Note 1. Use Tohnichi original socket. Standard sockets can not be used.

2. A torque wrench tester is necessary for torque adjustment. Specify required set torque when you order.

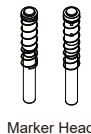
3. Adjusting tool #930 is sold separately.

4. MQSP200N has knurled handles.

MPQL/MQL/MQSP Optional Accessories

Marker Head

Model	Part #	Marking size	Color	Applicable Socket Size
MK53RB	1780	5mm	Red, Blue	W17 or more *Need a Marker Guide
MK53WY	1782		White, Yellow	
MK53RB	2780		Red, Blue	
MK53WY	2782		White, Yellow	
MK93RB	2783	9mm	Red, Blue	W17 or more
MK93WY	2785		White, Yellow	



Note

- #1780/1782 is for previous sockets, size W16 or less, #1700 to 1704. For the size W17 or more of new Sockets, #2705 to 2717, 2716 and 2717, requires a Marker Guide #2786 additionally.
- #2783/2785 is for new Sockets only. When use it with an old sockets, size W17 or more, #1705 to 1723, remove Marker Return Spring and a Guide from the Marker Head. Previous 9 mm Marker Head #1783, 1785 can not be used for new Sockets.
- When newly use 5 mm marking for W17 or more of new Sockets #2705 to 2723, 2716 and 2717, purchase Marker Guide set #2787/2788.

Marker Guide

Model	Part #	Marking size	Content
Marker Guide	2786	-	-
Marker Guide set MK53RB	2787	5mm	1780 and 2786
Marker Guide set MK53WY	2788		1782 and 2786



Note

- Marker Guide 2786 can be used with Marker Head 1780, 1782 only.
- 2787 and 2788 are applicable for the sockets over W17, #2705 to 2723, 2716 and 2717.

Refill Ink and Solvent

Model	Part #	Color
Refill Ink R	1770	Red
Refill Ink B	1771	Blue
Refill Ink W	776	White
Refill Ink Y	777	Yellow
Solvent	794	For White and Yellow



Note

- Solvent for red and blue inks is not available.
- Refill Ink and solvent are classified as hazardous material in Aviation law.

Felt Tip

Model	Part #	Color
Felt tip for MK53RB	1775	Red, Blue
Felt tip for MK53WY	775	White, Yellow
Felt tip for MK93RB	1776	Red, Blue
Felt tip for MK93WY	1777	White, Yellow



Note

Sold in pack of ten tip

Extension Bar

Specification	Part #	Applicable Model
50mm	1749	MPQL/MQSP50N-200N4
100mm	1748	MPQL/MQSP50N-200N4
50mm	1752	MQL280N



Note

Only one Extension Bar can be connected to a socket.

Socket

Model	Part #	Width Across Flat [mm]	Length H [mm]	Outside Width φd [mm]	Applicable Torque T-max [N·m]	Applicable Model
Socket 4MH-10	2700	10	100	17.5	25	MQSP/MPQL 50N-200N4
Socket 4MH-12	2701	12		20.5	35	
Socket 4MH-13	2702	13		21.5	40	
Socket 4MH-14	2703	14		22.5	60	
Socket 4MH-16	2704	16	105	25	70	MQSP/MPQL 50N-200N4
Socket 4MH-17	2705	17		28	110	
Socket 4MH-18	2706	18		29	120	
Socket 4MH-19	2707	19		30	170	
Socket 4MH-22	2709	22	110	30	190	MQL280N
Socket 4MH-24	2710	24		32.8	200	
Socket 4MH-22	2720	22		32	255	
Socket 6MH-24	2721	24		34.5	255	
Socket 6MH-27	2722	27	110	38.5	255	MQL280N
Socket 6MH-30	2723	30		42	280	

Note

- To be applied new Marker Heads #2780 and 2782 to previous W16 or less Sockets #1700 to 1704, remove a spring from the inside of socket and insert it.
- To use previous W17 or more size of Sockets #1705 to 1723, 2716 and 2717 with 5mm Marker heads #1780/1782, required Marker Guide #2786.

Inch Size Socket

Model	Part #	Width Across Flat		Tmax [lbf·in] (N·m)	Length H [mm]	Outside Width φd [mm]	Applicable Model
		[inch]	[mm]				
Socket 4MH-7/16	2712	7/16	11.113	300(35)	100	20	MQSP/MPQL 50N-200N4
Socket 4MH-1/2	2713	1/2	12.7	400(45)		21	
Socket 4MH-9/16	2714	9/16	14.288	700(80)		23	
Socket 4MH-5/8	2715	5/8	15.875	800(90)		25.5	
Socket 4MH-11/16	2716	11/16	17.463	1000(120)	105	28.5	MQSP/MPQL 50N-200N4
Socket 4MH-3/4	2717	3/4	19.05	1500(170)		30	

MPQL/MQSP Torque Adjusting Adapter

Model	Part #	Applicable Model	Applicable Tester
MQSP 3/8-17 Adapter	817	MPQL50N MQSP50N	DOT50N3-G
MQSP 1/2-17 Adapter	818	MPQL100N4-200N4 MQSP50N-200N	DOT100N3-G DOT200N3-G

MQSP Adjusting Tool

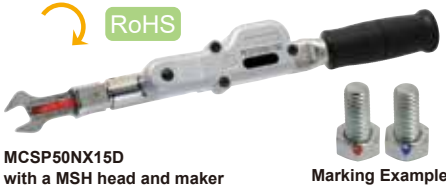
Part #	Applicable Model
930	MQSP50N/100N/200N

As of May 2016, sockets and marker head were renewed. Contact to Tohnichi for combination of previous parts and new one.

MCSP

Marking Torque Wrench

Direction



MCSP50N×15D
with a MSH head and maker

Marking Example

Assembly Preset Interchangeable ISO6789:2017

- Interchangeable type marking torque wrench.
- Put ink mark on a bolt/nut when torque achieved.

Accuracy ±3%

Head Size	Model	Torque Range			Overall Length [mm]	Weight [kg]
		[N·m] Min.-Max.	[kgf·cm/kgf·m] Min.-Max.	[lbf·in] Min.-Max.		
15D	MCSP50N×15D	10-50	100-500	88.5-442	282	0.65
	MCSP100N×15D	20-100	200-1000	177-885	355	0.9
	MCSP140N×15D	30-140	300-1400	266-1238	418.5	1.0

Note 1. Overall length does not include interchangeable head.
2. Adjusting tools and MSH head, marker pen are sold separately.
3. A torque wrench tester is necessary for torque setting. Specify required set torque when you order.

MPCL

Marking Torque Wrench

Direction



MPCL50N×15D
with a MSH head and maker

Marking Example

Assembly Pre-Lock Interchangeable ISO6789:2017

- Pre-lock style of spanner type marking torque wrench.

Accuracy ±3%

Head Size	Model	Torque Range		Standard accessories	Overall Length [mm]	Weight [kg]
		[N·m] Min.-Max.	1 Grad. Min.-Max.			
15D	MPCL50N×15D	10-50	0.5	Torque setting hex key	282	0.65
	MPCL100N×15D	20-100			355	0.9
	MPCL140N×15D	30-140	1		418.5	1.0

Note 1. Overall length does not include interchangeable head.
2. Adjusting tools and MSH head, marker pen are sold separately.

MCSP/MPCL Optional Accessories

Spanner type Interchangeable Head

Model (Body size x Spanner size)	Tmax. [N·m]	Head Outside Width	Head Thickness	Weight [g]	Applicable Marker End
MSH15Dx10	30	30	7.5	80	1671 Silver
MSH15Dx12				82	
MSH15Dx13		31	8	83	
MSH15Dx14		32		84.5	
MSH15Dx16	40	35		95	
MSH15Dx17	55	38	9	106.5	1672 Black
MSH15Dx18				108	
MSH15Dx19		39	10	115	
MSH15Dx21	75	44		123	
MSH15Dx22			11	132.5	
MSH15Dx24		46		132	
MSH15Dx26	100	50	12	152.5	1673 Gold
MSH15Dx27		51		150.5	
MSH15Dx30	140	58	13	192	
MSH15Dx32		60		194.5	

Note 1. One piece of Maker End and attachment bolt comes with a MSH head.
2. MCSP/MPCL body and MSH head are fixed by the attachment bolt W2 mm.

Marker Pen

Part #	Description
1651	Red maker, 10pcs/pack
1652	Red maker, 100pcs/pack
1653	Blue maker, 10pcs/pack
1654	Blue maker, 100pcs/pack

Note 1. Disposable type maker.
2. 2000 times of stamping by a maker. * It depends on conditions.

Marker End

Part #	Description
1671	Silver
1672	Black
1673	Gold

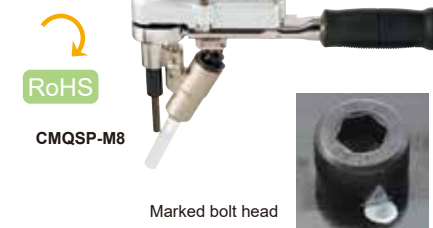
Adjusting Tool

Part #	Description
930	MCSP50N - 140N

CMQSP

Marking Torque Wrench

Direction



CMQSP-M8

Marked bolt head

Assembly Preset Ratchet Head Quick Drying Ink ISO6789:2017

- Preset style marking torque wrench for hex screws
- Mechanism marks side of bolt and work piece.

Accuracy ±3%

Model	Torque Range			Width Across Flats [mm]	Overall Length [mm]	Weight [kg]
	[N·m] Min.-Max.	[kgf·cm] Min.-Max.	[lbf·in] Min.-Max.			
CMQSP-M6	5-25	50-250	44.3-221.2	5	241	0.85
CMQSP-M8	10-50	100-500	86.5-442.5	6		0.85
CMQSP-M10	20-100	200-1000	177-865	8	320	1.13
CMQSP-M12	30-140	300-1400	265.5-1239.1	10	380	1.13

Note A torque wrench tester is necessary for torque setting. Specify required set torque when you order.
Ex. CMQSP-M10 × 50N·m

Standard Accessories 2 x Hex wrench (including 1 spare), Marker head, Marker case, Hex wrench position adjustment tool

CMQSP Optional Accessories

Bit

Part #	Description
724	CMQSP-M6 Bit
725	CMQSP-M8 Bit
726	CMQSP-M10 Bit
727	CMQSP-M12 Bit

Marker Head

Part #	Description
792	Marker Head for CMQSP

Refill Ink and Solvent

Part #	Description
776	White Ink
777	Yellow Ink
794	Solvent

CMQSP Adjusting Adapter

Part #	Description	Applicable Tester
811	CMQSP-M6 Adapter	DOTE20N3-G, 50N3-G, 100N3-G
812	CMQSP-M8 Adapter	
813	CMQSP-M10 Adapter	DOTE200N3-G, 500N3-G
814	CMQSP-M12 Adapter	

CMQSP Adjusting Pole Holder

Part #	Applicable Model	Applicable Tester
815	CMQSP-M6, M8 Pole Holder	DOTE20N3-G, 50N3-G, 100N3-G
816	CMQSP-M10, M12 Pole Holder	DOTE200N3-G, 500N3-G

Note A torque wrench tester, Tohnichi's Adjusting Adapter, and Pole Holder are necessary for CMQSP torque adjustment.

CMQSP Adjusting Tool (P.49)

Part #	Applicable Model
930	CMQSP-M6, M8, M10, M12

CNA-4mk3

RoHS

POKA Patrol/
Count Checker



CNA-4mk3

Assembly

Digital

Relay Counter

Judgment

- Tightening count verification with connecting up to 4 torque wrenches.
- Max. 8 preset counts, timer, alert by buzzer and lamp function are built in.
- Ideal for manufacturing process management of mixed production line.

Count Display	16 × 32 dot-matrix LEDs
OK/NG Judgment Display	30 × 25 square display lamp (commonly used for OK/NG) OK: Blue lamp turned on NG: Red lamp blinking + Buzzer sounds (4 patterns)
Work No. Selection Display	1-digit 7-segment LED
Count Input	Contact input × 4
Max. Tightening Number of Bolts	99 counts
Max. Number of Works	8 sets
OK/NG Judgment Setting	• Preset judgment, • END input judgment, • Automatic judgment (0 to 300 seconds in steps of 1 second)
Output Function	• OK/NG output (Relay contact output rating: 30 V DC, 1 A, 125 V AC, 0.3 A) • Torque wrench selection signal output (Open collector rating: 100 mA)
Input Function	• SELECT input × 4, • START input, • END input, • RESET input, • WORK SENSOR input
Timer Function Setting	• Double count prevention timer (0 to 10 seconds in steps of 0.1 second) • Automatic reset timer (0 to 60 seconds in steps of 1 second) • Interval warning timer (0 to 99 seconds in steps of 1 second)
Setting Method	Special-purpose application software (USB communication), key operation
Operating Condition	0 ~ 40 °C, Below 85%RH (no condensation)
Power Supply/Electricity Consumption	AC100 ~ 240V ± 10% 50/60Hz, Below 10W
Weight/Dimension	400g, W121 × D175 × H44.9mm

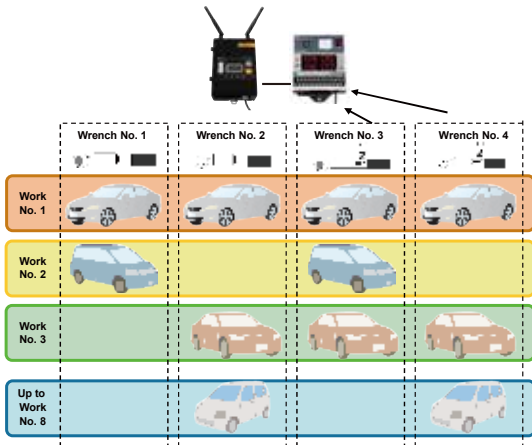
Standard Accessories Connecting cable (CNA-4mk3 to PC, USB A-B type)

Add the Count Checker to complete your torque verification system, to visualize and track clicks captured from a variety of compatible Tohnichi models.

Compatible Models • LS/MS Limit Switch Wrenches.

• Wrenches & Receivers Models Series: FH/FHM, FHSL, FHP, FHD, FD/FDD, BLA, BLE and FMA

CNA-4mk3 Outline



Setting example

Connect 2 LS torque wrenches directly and 2 Wireless torque wrench through R-CM receiver with M-FH module.

Work No.2 is required to tighten 2 different portions, one has hexagon bolts 4pcs and the other has cap screw 3pcs

No.	Setting	WRENCH No.1	WRENCH No.2	WRENCH No.3	WRENCH No.4
2	Tightening count	4	0	3	0

1 4 3 2 3 2

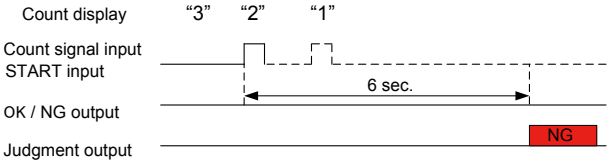
Set the number of bolts (0-99pcs) the work needs for each torque wrench. Set 0 when no torque wrench is needed.

Example of Various Timer Functions

Automatic Judgment Timer (1-300 sec. 1 sec. interval)
Starts after START input or input of first count signal, and judges OK/NG as the timer reaches set time

[Timing chart]

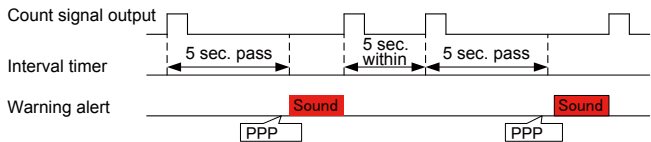
Tightening number 3pcs, Judgment mode JG3, Automatic judgment timer 6sec.



Interval Timer (0-99 sec. 1 sec. interval)
If the operator does not go on to the next bolt within the interval timer (0-99 sec. 1 sec. interval), the alarm goes off to warn the operator.

[Timing chart]

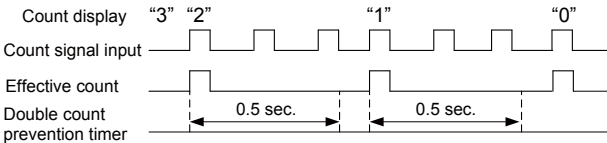
Tightening number 4pcs, Interval timer 5 sec.



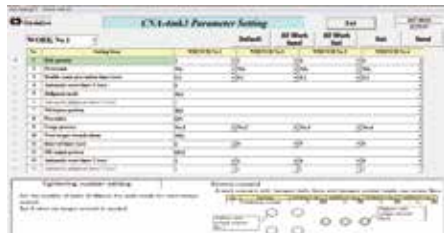
Double count prevention (0.1-10 sec. 0.1 sec. interval)
Prevents counting an accidental double click

[Timing chart]

Tightening number 3pcs, set on 0.5 sec. and operates torque wrench several times within 0.5 sec.



Easy setting with CNA-4mk3 setting software
Setting software gives instruction for each setting parameter.



Torque Wrench with Limit Switch

- Limit switch counts the number of "Clicks".
- Connect to PLC or Count Checker/CNA-4mk3 to build verification system
- Can be upgraded into wireless output system by installing T-FHLS256



QLLS25N5

QL type with LS

RoHS

S.I. Model	Metric Model
QLMS2N-MH	20QLMS-MH
QLMS5N-MH	50QLMS-MH
QLMS10N-MH	100QLMS-MH
QLMS10N	100QLMS
QLMS15N	150QLMS
QLMS15N-MH	150QLMS-MH
QLLS25N5	225QL5LS
QLLS50N	450QL3LS
QLLS100N4	900QL4LS
QLLS140N	1400QL3LS
QLLS200N4	1800QL4LS
QLLS280N	2800QL3LS
QLLS420N	4200QL2LS

CL type with LS

RoHS

S.I. Model	Metric Model
CLMS2N×8D-MH	20CLMS-MH
CLMS5N×8D-MH	50CLMS-MH
CLMS10N×8D-MH	100CLMS-MH
CLMS10N×8D	100CLMS
CLMS15N×8D	150CLMS
CLMS15N×8D-MH	150CLMS-MH
QLLS25N5×10D	225CL5LS
CLLS50N×12D	450CL3LS
CLLS100N×15D	900CL3LS
CLLS140N×15D	1400CL3LS
CLLS200N×19D	1800CL3LS
CLLS280N×22D	2800CL3LS
CLLS420N×22D	4200CL2LS

SP2/-MH type with LS

RoHS

Model (Body Size × Width)	
SP2MS/SP2LS	SPLS2-MH
SPMS2N2×5.5	-
SPMS2N2×7	-
SPMS2N2×8	-
SPMS2N2×10	-
SPMS2N2×12	-
SPMS2N2×13	-
SPMS2N2×17	-
SPMS2N2×19	-
SPMS8N2×7	-
SPMS8N2×8	-
SPMS8N2×9	-
SPMS8N2×10	-
SPMS8N2×12	-
SPMS8N2×13	-
SPMS8N2×19	-
SPMS8N2×24	-
SPMS8N2×27	-
SPLS19N2×10	SPLS19N2×10-MH
SPLS19N2×11	SPLS19N2×11-MH
SPLS19N2×12	SPLS19N2×12-MH
SPLS19N2×13	SPLS19N2×13-MH
SPLS19N2×14	SPLS19N2×14-MH
SPLS19N2×17	SPLS19N2×17-MH
SPLS19N2×19	SPLS19N2×19-MH
SPLS19N2X21	SPLS19N2×21-MH
SPLS19N2-1×10	SPLS19N2-1×10-MH
SPLS19N2-2×10	SPLS19N2-2×10-MH
SPLS19N2-3×10	SPLS19N2-3×10-MH
SPLS38N2×8	SPLS38N2×8-MH
SPLS38N2×9	SPLS38N2×9-MH
SPLS38N2×10	SPLS38N2×10-MH
SPLS38N2×11	SPLS38N2×11-MH
SPLS38N2×12	SPLS38N2×12-MH
SPLS38N2×13	SPLS38N2×13-MH
SPLS38N2×14	SPLS38N2×14-MH
SPLS38N2×16	SPLS38N2×16-MH
SPLS38N2×17	SPLS38N2×17-MH
SPLS38N2×19	SPLS38N2×19-MH
SPLS38N2×22	SPLS38N2×22-MH
SPLS38N2×24	SPLS38N2×24-MH
SPLS38N2×27	SPLS38N2×27-MH
SPLS38N2-1×10	SPLS38N2-1×10-MH
SPLS38N2-2×10	SPLS38N2-2×10-MH



QLLS100N4

QSP type with LS

RoHS

Model
QSPMS12N4
QSPLS25N3
QSPLS50N3
QSPLS100N4
QSPLS140N3
QSPLS200N4
QSPLS280N3
QSPLS420N

CSP type with LS

RoHS

Model
CSPMS12N4×8D
CSPLS25N3×10D
CSPLS50N3×12D
CSPLS50N3×15D
CSPLS100N3×15D
CSPLS140N3×15D
CSPLS200N3×19D
CSPLS280N3×22D
CSPLS420N×22D

QRSP type with LS

RoHS

Model
QRSPMS38N×17
QRSPMS38N×19
QRSPMS38N×21
QRSPMS38N×24

SP2/-MH type with LS

RoHS

Model (Body Size × Width)	
SP2LS	SP2LS-MH
SPLS38N2-3×10	SPLS38N2-3×10-MH
SPLS67N2×14	SPLS67N2×14-MH
SPLS67N2×16	SPLS67N2×16-MH
SPLS67N2×17	SPLS67N2×17-MH
SPLS67N2×18	SPLS67N2×18-MH
SPLS67N2×19	SPLS67N2×19-MH
SPLS67N2×21	SPLS67N2×21-MH
SPLS67N2×22	SPLS67N2×22-MH
SPLS67N2×24	SPLS67N2×24-MH
SPLS67N2×27	SPLS67N2×27-MH
SPLS67N2×29	SPLS67N2×29-MH
SPLS67N2×30	SPLS67N2×30-MH
SPLS67N2×32	SPLS67N2×32-MH
SPLS67N2×33.3	SPLS67N2×33.3-MH
SPLS120N2×14	SPLS120N2×14-MH
SPLS120N2×17	SPLS120N2×17-MH
SPLS120N2×18	SPLS120N2×18-MH
SPLS120N2×19	SPLS120N2×19-MH
SPLS120N2×21	SPLS120N2×21-MH
SPLS120N2×22	SPLS120N2×22-MH
SPLS120N2×23	SPLS120N2×23-MH
SPLS120N2×24	SPLS120N2×24-MH
SPLS160N2×19	SPLS160N2×19-MH
SPLS160N2×21	SPLS160N2×21-MH
SPLS160N2×22	SPLS160N2×22-MH
SPLS160N2×24	SPLS160N2×24-MH
SPLS160N2×26	SPLS160N2×26-MH
SPLS160N2×27	SPLS160N2×27-MH
SPLS220N2×19	SPLS220N2×19-MH
SPLS220N2×22	SPLS220N2×22-MH
SPLS220N2×24	SPLS220N2×24-MH
SPLS220N2×27	SPLS220N2×27-MH
SPLS220N2×29	SPLS220N2×29-MH
SPLS220N2×30	SPLS220N2×30-MH
SPLS220N2×32	SPLS220N2×32-MH
SPLS220N2×34	SPLS220N2×34-MH
SPLS220N2×36	SPLS220N2×36-MH
SPLS310N2×22	SPLS310N2×22-MH
SPLS310N2×24	SPLS310N2×24-MH
SPLS310N2×27	SPLS310N2×27-MH
SPLS310N2×30	SPLS310N2×30-MH
SPLS310N2×32	SPLS310N2×32-MH
SPLS310N2×41	SPLS310N2×41-MH
SPLS310N2×46	SPLS310N2×46-MH



SPLS38N2×17-MH

PQL type with LS

RoHS

S.I. Model	Metric Model
PQLLS25N	225PQLLS
PQLLS50N	450PQLLS
PQLLS100N4	900PQL4LS
PQLLS140N	1400PQLLS
PQLLS200N4	1800PQL4LS
PQLLS280N	2800PQLLS
PQLLS420N	4200PQLLS

PCL type with LS

RoHS

S.I. Model	Metric Model
PCLLS25N×10D	225PCLLS
PCLLS50N×10D	450PCLLS
PCLLS50N×12D	500PCLLS
PCLLS100N×15D	900PCLLS
PCLLS140N×15D	1400PCLLS
PCLLS200N×19D	1800PCLLS

TiQL type with LS

RoHS

Model	Metric Model
TiQLS180N	1800TiQLLS
TiQLS180N	1800TiQLLS
TiQLS360N	3600TiQLLS

QSPCA type with LS

RoHS

Model
QSPCAMS6N
QSPCAMS12N
QSPCALS30N
QSPCALS70N

RSP2/-MH type with LS

RoHS

Model (Body Size × Width)	
RSP2MS/RSP2LS	RSP2LS-MH
RSPMS8N2×8	-
RSPMS8N2×10	-
RSPLS19N2×8	RSPLS19N2×8-MH
RSPLS19N2×10	RSPLS19N2×10-MH
RSPLS19N2×13	RSPLS19N2×13-MH
RSPLS38N2×10	RSPLS38N2×10-MH
RSPLS38N2×12	RSPLS38N2×12-MH
RSPLS38N2×13	RSPLS38N2×13-MH
RSPLS38N2×14	RSPLS38N2×14-MH
RSPLS38N2×16	RSPLS38N2×16-MH
RSPLS38N2×17	RSPLS38N2×17-MH
RSPLS67N2×14	RSPLS67N2×14-MH
RSPLS67N2×16	RSPLS67N2×16-MH
RSPLS67N2×17	RSPLS67N2×17-MH
RSPLS67N2×18	RSPLS67N2×18-MH
RSPLS67N2×19	RSPLS67N2×19-MH
RSPLS120N2×17	RSPLS120N2×17-MH
RSPLS120N2×19	RSPLS120N2×19-MH
RSPLS120N2×22	RSPLS120N2×22-MH
RSPLS160N2×19	RSPLS160N2×19-MH
RSPLS160N2×22	RSPLS160N2×22-MH
RSPLS160N2×24	RSPLS160N2×24-MH
RSPLS220N2×22	RSPLS220N2×22-MH
RSPLS220N2×24	RSPLS220N2×24-MH
RSPLS220N2×27	RSPLS220N2×27-MH
RSPLS310N2×24	RSPLS310N2×24-MH
RSPLS310N2×27	RSPLS310N2×27-MH
RSPLS310N2×30	RSPLS310N2×30-MH

SP2-N/-MH type with LS

RoHS

Model (Body Size × Width)	
SP2LS-N	RSP2LS-N-MH
SPLS19N2-1×10N	SPLS19N2-1×10N-MH
SPLS19N2-3×10N	SPLS19N2-3×10N-MH
SPLS19N2-4×10N	SPLS19N2-4×10N-MH
SPLS19N2-5×10N	SPLS19N2-5×10N-MH
SPLS19N2-8×10N	SPLS19N2-8×10N-MH
SPLS19N2-9×10N	SPLS19N2-9×10N-MH
SPLS38N2×14N	SPLS38N2×14N-MH

Limit switch specifications

AC30V Below 1A

DC30V Below 1A

Note

1. Refer to base model series for torque ranges and wrench specs.
2. Female connector for LS cable is sold separately. Part# WA5219K.
3. Standard curl cord can be extended to about 2m in full extension.

4. The curl cord length of SPLS19N2-8×10N is about 5m in full extension.
5. SPLS-MH, RSPLS-MH models are made to order products.
6. SPMS2 models come with ISO6789:2003 cert when request torque setting.

R-CM

Modular Conversion Receiver

RoHS



R-CM

CE



R-CM with M-FH radio module



Mounting position of Radio Module

- Modular radio receiver for wireless torque wrench and driver
- Interchangeable modules allow for easy upgrades from basic radio signal to torque data transfer system
- Accepts 4 different interchangeable radio modules with ability to accept the next generation modules with easy exchange on the R-CM unit.

Specifications

Model	Receiver	Available Radio Module			
	R-CM	M-FH	M-FD	M-BLA	M-BLE
Frequency	Depend on the module	2.402GHz-2.479GHz		902.875MHz	868.3MHz
Communication		Spread spectrum (FHSS)		-	-
Modulation		GFSK		FSK	ASK
Group channel		256 (000-255)		-	-
ID		3-digits (000-999), 7-digits alphanumeric		8-digits fixed, not selectable	
In/Output	Relayx4, RS232C	-		-	
Input	LS-IN, Reset	-		-	
Power supply	DC24V	-		-	
Antenna	Depend on the module	Diversity antenna		Dipole antenna	
Distance		M-FH mode: 10 - 30m R-FH mode: 10 - 20m	10 - 20m	10 - 20m	
Temperature in use	0 - 50 °C				
Weight (kg)	0.24	0.047	0.036	0.36	0.035
Other function	Time stamp, Battery alert, Remote setting, Quick pairing, Count checker (OUT1, OUT2)	M-FH mode, R-FH mode:	-	-	-

Note

1. Communication distance varies depending on surrounding radio environment.
2. M-FH mode: Advanced function mode, available Time stamp, Battery alert, long-distance communication mode.
R-FH mode: Compatible mode with previous FH256MC series
3. M-FH mode is available for the newly updated T-FH/T-FHM transmitter which has a white antenna cover.
The previous transmitter, black antenna cover type is available at R-FH mode only and cannot be converted.
4. M-FD, M-BLA/BLE are not support Remote Setting function.
5. Count checker function is not available for M-FD.
6. Multiple wrenches can connect to one receiver as long as they do not signal at the exact same time.
7. An Ethernet terminal can be attached as an option.
8. Contact Tohnichi for status of wireless certification acquisition for each country.

Standard Accessory Part No. 1070

R-CM New Functions

Advanced Longer Distance Radio Wave

R-CM with M-FH module at M-FH mode, the wraparound radio wave avoids obstructions between receiver and transmitter.

* For T-FH/T-FHM/FHW at M-FH mode

Battery Alert

R-CM receives residual battery life signal from the transmitter and alerts when the voltage drops.

* For T-FH/T-FHM/FHW at M-FH mode

Quick Pairing

Easy pairing with transmitters when the tools require replacement

* For previous T-FH256MC and T-FH/T-FHM/FHW

Remote Setting

Group, ID and Judgment code are changed remotely. Convenient when receiver is located out of reach.

* For previous T-FH256MC and T-FH/T-FHM/FHW

Count Checker Function

Available count checker function (1-99 count) for the wrench set in Output 1.

* For M-FH, M-BLA and M-BLE

R-CM Optional Accessories



M-FH

M-FD

M-BLA

M-BLE



IO-CM



BZ-CM



SB-FH2



Part No. 1070



BA-8R

Radio Module

Interchangeable Type Radio Modules for R-CM

RoHS

Model	Specification	Available Transmitter
M-FH	2.402GHz-2.479GHz FHSS radio signal	R(N)TDFH/FHP/FHLS256/T-FH256MC(-LS), T-FH, T-FHM, FHW
M-FD	2.402GHz-2.479GHz FHSS data transfer	T-FD
M-BLA	902.875MHz solar powered radio signal	T-BLA
M-BLE	868.3MHz solar powered radio signal	T-BLE

Standard Accessory Antenna

Optional Extension Box

Extend relay output and loud buzzer with big lamp of R-CM

RoHS

Model	Applicable Module	Specification
IO-CM	M-FH, M-BLA, M-BLE	Add additional 4 relay output
BZ-CM	M-FH, M-FD, M-BLA, M-BLE	Extend loud-buzzer and large lamp

Note

The power is supplied from R-CM.

Setting Box

Manage 4 tightening signals from receiver and output to external device

RoHS

Model	Applicable Module	Specification
SB-FH2	M-FH, M-FD	Input RS232C, Power DC9V battery x 1

AC Adapter

AC adapter for R-CM

Model	Applicable Model	Description
BA-8R	R-CM	AC100V-240V, cable length 2m

Connecting Cable

For setting and RS232C data output

Part No.	Description
387	D-sub 9 Pin female

DIN Rail

280mm DIN rail to fixing R-CM, IO-CM and BZ-CM

Part No.	Description
1070	280mm

FH Series

Radio Frequency
Torque Wrench System



- Wireless error-proofing, Pokayoke, system by 2.4GHz FHSS ISM band
- Wrench ID transfer feature establishes bolt tightening traceability
- R-CM+M-FH module features diversity antenna for long-range communication
- Easily change frequency with wireless setting box, SB-FH2

Torque wrench with FH256MC transmitter popular model series.

QLFH	* Adjustable type	QLFH	* Adjustable type	QSPFHM	* Preset type	CSPFHM	* Preset type
S.I. Model		Metric Model		Model		Model	
QLFHM25N5		225QL5FHM		QSPFHM25N3		CSPFHM25N3X10D	
QLFHM50N		450QL3FHM		QSPFHM50N3		CSPFHM50N3X12D	
QLFHM100N4		900QL4FHM		QSPFHM100N4		CSPFHM50N3X15D	
QLFHM140N		1400QL3FHM		QSPFHM140N3		CSPFHM00N4X15D	
QLFHM200N4		1800QL4FHM		QSPFHM200N4		CSPFHM140N3X15D	
QLFHM280N		2800QL3FHM		QSPFHM280N3		CSPFHM200N3X19D	
QLFHM420N		4200QL2FHM		QSPFHM420N		CSPFHM280N3X22D	
						CSPFHM420N3X22D	

- Note**
1. Refer to base model series for torque ranges and wrench specs.
 2. Can be mounted on any other torque wrenches, contact to distributor or Tohnichi
 3. The wrench's model with "FHM" is set at M-FH mode initially, it is available advance long-range mode, battery alert with using R-CM and M-FH module. The wrenches model "FH", (e.g. QLFH100N4), is set the transmitter at R-FH mode in default for corresponding to previous R-FH256 receiver.

FHP transmitter for small size torque wrenches

- Applicable to small torque wrenches with a range from 0.4 to 15N·m

QLFHP	CLFHP	QSPFHP	SP2FHP	RSP2FHP
S.I. Model	Model	Model	Model	Model
QLFHP10N	CLFHP10NX8D	QSPFHP1.5N4 *	SPFHP2N2X5.5	RSPFHP8N2X8
QLFHP15N	CLFHP15NX8D	QSPFHP3N4 *	SPFHP2N2X7	RSPFHP8N2X10
		QSPFHP6N4	SPFHP2N2X8	
		QSPFHP12N4	SPFHP2N2X10	
			SPFHP2N2X12	
			SPFHP2N2X13	
			SPFHP2N2X17	
			SPFHP2N2X19	
			SPFHP8N2X7	
			SPFHP8N2X8	
			SPFHP8N2X9	
			SPFHP8N2X10	
			SPFHP8N2X12	
			SPFHP8N2X13	
			SPFHP8N2X19	
			SPFHP8N2X24	
			SPFHP8N2X27	

- Note**
1. Refer to base model series for torque ranges and wrench specs.
 2. FHP transmitter is using the same T-FHLS transmitter module as T-FHLS256.
 3. FHP transmitter is provided in combination with a torque wrench.

* Position of FHP transmitter is on the back surface at rightangles

Transmitter Module

Model	Description	Dimension [mm]	Selectable Mode
T-FHM	AAA battery x 1, 650,000 times of use	W36 × D80 × H18	M-FH/R-FH (Default: M-FH)
T-FH	AAA battery x 1, 650,000 times of use	W36 × D80 × H18	M-FH/R-FH (Default: R-FH)
T-FHLS256	CR2032 battery x 1, 300,000 times of use	W32.4 × D56 × H22.3	N/A (R-FH mode only)

- Note**
1. Transmission distance 10-20 m at R-FH mode and 10-30 m at M-FH mode.
 2. T-FH and T-FHM are changeable the operation mode by SB-FH2 setting box.
 3. T-FHLS256 is a wireless transmitter module to be installed on LS type torque wrenches.

Modular Conversion Receiver

Interchangeable radio module type receiver

Model	Specification	Standard Accessories
R-CM	Output: No-Voltage contact output x 4, RS232C, Input: LS-IN, Reset, Power: DC24V	Part. No. 1070

Note Radio module is not included, it is optional.

Radio Module

Interchangeable type radio module for R-CM

Model	Specification	Standard Accessories
M-FH	2.402GHz-2.479GHz Spread spectrum (FHSS)	Diversity antenna

Note Required to set and change frequency of receiver and transmitter.

Optional Extension Box

Extend relay output and loud buzzer with large lamp of R-CM

Model	Applicable Model	Specification
IO-CM	R-CM with M-FH, R-CM with M-BLA/BLE	Add additional 4 relay output
BZ-CM	R-CM with M-FH/M-FD/M-BLA/BLE	Extend loud-buzzer with large lamp

Note The power is supplied from R-CM.

Setting Box

Manage 4 tightening signals from receiver and output to external device

Model	Applicable Model	Specification
SB-FH2	R-CM with M-FH or M-FD, T-FH/T-FHM	Input RS232C, Power DC9V battery x 1

Antenna Extension Cable

Extends antenna from R-FH256 receiver to improve communication conditions

Model	Description	Applicable Model	Specification
FH-MHD	Magnet antenna holder	R-CM with M-FH or M-FD	Cable Length: 1.5m
FH-COD	Antenna extension cable		Cable Length: 9.5m

Protective Cover

Install on transmitter (T-FH256MC and T-FHLS256) to protect from physical damage

Model	Applicable Model	Specification
FHM-PCV	T-FH / T-FHM	NBR
FHLS-PCV	T-FHLS256, T-FMA	Material: Silicon Resin

Contact Tohnichi or distributor for conditions of wireless certification acquisition for each country.

FHW

Radio Frequency Torque Wrench
with Double Tightening Detection

Direction



RoHS



- Radio frequency torque wrench system with double tightening detection
- Mechanically detect double tightening and prevent double counting
- R-CM+M-FH module features diversity antenna for long-range communication
- Compatible to both previous R-FH256 receiver and R-CM with M-FH module

Head Size	Model	Torque Range			Overall Length [mm]	Weight [kg]
		[N·m]	[kgf·cm/kgf·m]	[lbf·in]		
		Min.-Max.	Min.-Max.	Min.-Max.		
10D	CSPFHW25N3×10D	5-25	kgf·cm	44.3-221.2	193	0.32
12D	CSPFHW50N3×12D	10-50	50-250	88.5-442.5	214	0.46
	CSPFHW50N3×15D				217	
15D	CSPFHW100N3×15D	20-100	200-1000	177-885	290	0.65
	CSPFHW140N3×15D	30-140	300-1400	265.5-1239.1	349	0.75
19D	CSPFHW200N3×19D	60-200	400-2000	354-1770.1	429	1.24
22D	CSPFHW280N3×22D	100-280	kgf·m	354-2478.2	627	1.66
			4-28			

Note

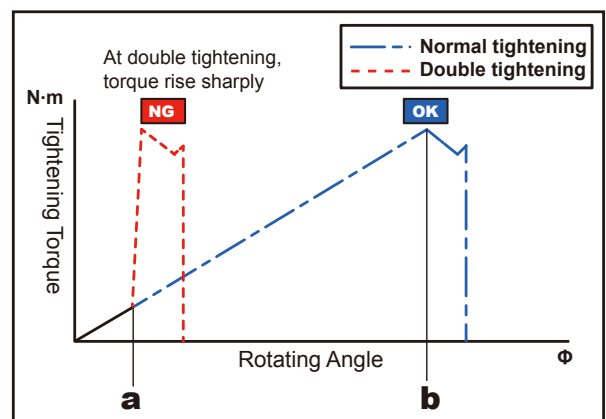
1. Consult to Tohnichi or distributor for any other types of torque wrench.
2. FHW transmitter has both R-FH, previous FH256MC mode and M-FH, advanced mode for R-CM+M-FH.
3. Set at R-FH mode as factory default, selecting modes, R-FH or M-FH can be done by SB-FH2.

Two Steps Click of double tightening detection

FHW mechanically detects rotated angle from A point to B using limit switches and a gyro sensor inside the transmitter, it can detect double tightening without error.



- 1st click: Light click feeling, it starts angle detection --- a
2nd click: Strong click when reaches set torque --- b

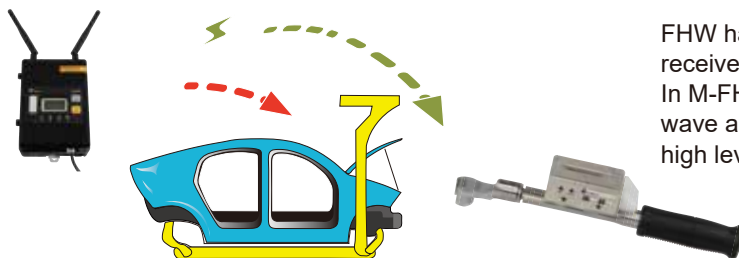


The transmitter can send 3-digits of double tightening detection signal to the R-CM. By receiving the signal via RS232C, the external device can monitor whether double tightening has occurred.

Setting software is available for angle setting and double tightening signal ON/OFF.

Note: Angle setting can be conducted by the FHW itself and the tightening application.

Advanced Wireless Pokayoke Communication



FHW has advanced wireless communication with R-CM receiver and the M-FH module. In M-FH mode, the diversity antenna and wraparound radio wave are effective in avoiding obstructions and achieves a high level of reliable communications.

FHW Optional Accessories



R-CM



M-FH

Modular Conversion Receiver

RoHS

Model	Specification
R-CM	Output: Relay x 4, RS232C, Input: LS-IN, Reset

Note: Power source: DC24V

Connecting Cable

RoHS

Part No.	Applicable Model	Specification
387	SB-FH2, R-CM - PC	RS232C straight

Protective Cover

RoHS

Model	Applicable Model	Specification
FHW-PCV	FHW	Material: NBR

AC Adaptor for R-CM

RoHS

Model	Description	Cable length
BA-8R	AC100V-240V	approx. 2m

Radio Module

RoHS

Model	Specification	Standard Accessory
M-FH	2.4GHz FHSS	Material: Silicon Resin

Standard Accessory: Diversity antenna

Setting Box

RoHS

Model	Available Setting Items	Dimension [mm]
SB-FH2	Group channel, Judgment code, 3-digit/7-digit ID, Communication settings	W160 × D120 × H35

- Note: 1. Provide PC setting software
2. RS232C straight cable needs optionally to use setting software.

Standard Accessory: Dipole antenna

BL Battery Less Wireless Torque Wrench

Direction



CSPBLA25N3x10D with SH-N head
CSPBLE25N3x10D with SH-N head



T-BLA/T-BLE



T-BLA



T-BLE



R-CM



IO-CM



BZ-CM



M-BLA



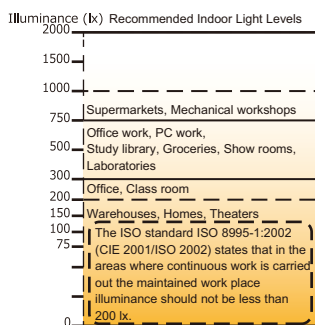
M-BLE



BL-PCV



BA-8R



- Solar powered radio frequency torque wrench system
- Eliminates the need for battery replacements
- Chargeable under level of illuminance 200lx.
- Great for the environment
- Available on a wide variety of click type torque wrenches.

QSPBLA *QSP with T-BLA

Model
QSPBLA25N3
QSPBLA50N3
QSPBLA100N4
QSPBLA140N3
QSPBLA200N4
QSPBLA280N3
QSPBLA420N

CSPBLA *CSP with T-BLA

Model
CSPBLA25N3x10D
CSPBLA50N3x12D
CSPBLA50N3x15D
CSPBLA100N3x15D
CSPBLA140N3x15D
CSPBLA200N3x19D
CSPBLA280N3x22D
CSPBLA420Nx22D

QSPBLE *QL with T-BLE

Model
QSPBLE25N3
QSPBLE50N3
QSPBLE100N4
QSPBLE140N3
QSPBLE200N4
QSPBLE280N3
QSPBLE420N

CSPBLE *CSP with T-BLE

Model
CSPBLE25N3x10D
CSPBLE50N3x12D
CSPBLE50N3x15D
CSPBLE100N3x15D
CSPBLE140N3x15D
CSPBLE200N3x19D
CSPBLE280N3x22D
CSPBLE420Nx22D

Note Available in USA and Canada only

Note Available in EU and China only

SPBLA *SP with T-BLA

Model
SPBLA38N2x14
SPBLA38N2x27

Note Available in USA and Canada only

SPBLE *SP with T-BLE

Model
SPBLE38N2x14
SPBLE38N2x27

Note Available in EU and China only

Transmitter module

Model	Description	Dimension [mm]
T-BLA	BLA Transmitter for USA and Canada	W34.4 × D73 × H23.2mm
T-BLE	BLE Transmitter for EU and China	

- Note
1. T-BLA/BLE can be installed on LS type torque wrenches.
 2. LED on the side of transmitter to check communication status
 3. For repair or conversion.

Modular Conversion Receiver

Model	Description	Standard Accessories
R-CM	Output: No-Voltage contact output x 4, RS232C, Input: LS-IN, Reset, Power: DC24V	Part. No. 1070

- Note
1. Simultaneous reception from multiple torque wrenches cannot be done.
 2. It transmits relay signal up to 4 torque wrenches.
 3. Required to capture signal from BLA/BLE wrenches.

Interchangeable Radio Module

Model	Available Area	Standard Accessory
M-BLA	T-BLA for US and Canada	Dipole Antenna
M-BLE	T-BLE for EU and China	

Optional Extension Box

Model	Specification
IO-CM	Add additional 4 relay output
BZ-CM	Extend loud-buzzer and large lamp

Protective Cover

Model	Applicable model	Material
BL-PCV	T-BLA, T-BLE	NBR

AC Adaptor for R-CM

Model	Description	Cable length
BA-8R	AC100V-240V	approx. 2m

Specifications of BLA/BLE

Approved Market	USA and Canada		EU and China	
Model	Transmitter	Receiver	Transmitter	Receiver
	T-BLA	R-CM with M-BLA	T-BLE	R-CM with M-BLE
Frequency	902.875MHz		868.3MHz	
Modulation Method	FSK		ASK	
Modulation Speed	125kbps			
ID	8 digits ID /Non-modifiable			
Input/Output	-	Output: Relay x4, RS232C Input: Reset-in, LS-in	-	Output: Relay x4, RS232C Input: Reset-in, LS-in
Power Supply	Solar cell	DC24V/18 ~ 36V Power consumption: Less than 5W	Solar cell	DC24V/18 ~ 36V Power consumption: Less than 5W
Antenna	Whip antenna	Dipole antenna	Helix antenna	Dipole antenna
Operating Temperature [°C]	0 ~ 40			
Communication Distance	10 ~ 20m			
Acquisition of License	FCC/USA, IC/Canada		CE/EU, CMIT/China	

FMA *For United States and Canada Only

Radio Frequency Torque Wrench System



R-FMA



T-FMA

- 900 MHz frequency wireless error-proofing torque system
- For facilities that restrict the use of 2.4GHz
- Transmission Distance 10-20 Meters/30-60 Feet
- Easily change frequency with wireless setting box, SB-FMA
- Available on a wide variety of click type torque wrenches.

Transmitter, Receiver, and Setting Box

Model	Description	Specifications
T-FMA	Transmitter for R-FMA	900MHz (902.5 - 927.5MHz) 250kHz interval, 80CH, approx. 10 - 20m / 30 - 60 feet operating distance
R-FMA	Receiver for T-FMA	
SB-FMA	Setting box	

- Note
1. Radio frequency communication errors may be caused by noise or a shield placed between the transmitter and receiver. In addition, radio waves reflected by metal, concrete, etc. may interfere with radio waves directly sent to the antenna of the receiver and dead point occurs, resulting in communications errors.
 2. Available only in the United States and Canada.
 3. CSPFMA, QSPFMA model series are most popular.

FD/FDD

Click Type Torque Wrench
with Wireless Data Transfer

Direction



CSPFD25N3X12D with QH



R-CM receiver with
M-FD module



BA-8R



FD-PCV

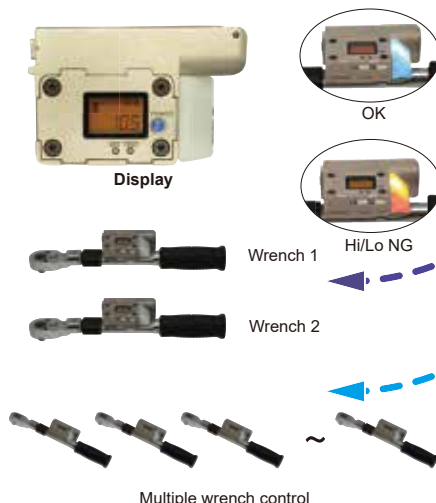


SB-FH2



FD/FDD Free setting
software is provided

FD/FDD Common Outline



Tightening Data Management System

- Transfer actual applied torque and wrench ID establish tightening traceability
- LED light offers simple visual judgment
- Interchangeable torque wrench type allows to use variety of standard heads
- FDD prevents double tightening counting by angle detection

Accuracy $\pm 3\% + 1 \text{ digit}$

Model		Torque Range [N·m]		Torque Range [kgf·m]		Torque Range [lbf·ft]		Overall Length [mm]	Weight [kg]	Head Size
FD	FDD	Min.-Max.	1 digit	Min.-Max.	1 digit	Min.-Max.	1 digit			
CSPFD25N3-10N×10D	CSPFDD25N3-10N×10D	2-10		kgf·m 0.2-1	kgf·m 0.01	lbf·ft 1.5-7.5	lbf·ft 0.1	193	0.32	10D
CSPFD25N3×10D	CSPFDD25N3×10D	5-25	0.1	0.5-2.5	0.01	3.6-18		214	0.46	12D
CSPFD50N3×12D	CSPFDD50N3×12D	10-50	0.2	1-5	0.02	7.5-36		217		
CSPFD50N3×15D	CSPFDD50N3×15D									
CSPFD100N3×15D	CSPFDD100N3×15D	20-100	0.5	2-10	0.05	15-75	0.2	290	0.65	15D
CSPFD140N3×15D	CSPFDD140N3×15D	30-140		3-14		25-100	0.5	349	0.77	
CSPFD200N3×19D	CSPFDD200N3×19D	40-200	1	4-20	0.1	30-150	1	429	1.2	19D
CSPFD280N3×22D	CSPFDD280N3×22D	40-280		4-28		30-200		627	1.65	22D

Note

1. Interchangeable head is sold separately.
2. The transmitter display shows 3 digit for torque value.
3. FDD comes with double tightening detection function.
4. Contact Tohnichi for status of wireless certification acquisition for each country.
5. Ask to Tohnichi or distributor for any other torque range.

Standard Accessories Rechargeable AAA battery x 2 pcs, Protective Cover * Battery charger does not come with the set

Modular Conversion Receiver

Receiver	Specification
R-CM	Output: Relay x 4, RS232C, Input: LS-IN, Reset

Note Power source: DC24V

Connecting Cable

Part No.	Applicable Model	Specification
387	SB-FH2, R-CM - PC	RS232C straight

Protective Cover

Model	Applicable Model	Specification
FD-PCV	FD, FDD	Material: Silicon Resin

Radio Module

Model	Specification	Standard Accessory
M-FD	2.4GHz FHSS	Diversity antenna

Setting Box

Model	Available Setting Items	Dimension [mm]
SB-FH2	Group channel, Judgment code, 3-digit/7digit ID, Communication settings	W160 × D120 × H35

Note

1. Provide PC setting software
2. RS232C straight cable needs optionally to use setting software.

FD/FDD Transmitter Specifications

Model	FD	FDD
Double Tightening Detection Angle Range		0 - 360°
LED	Blue: OK judgment for tightening torque Red: NG judgment for tightening torque Red flashing: Transmitting error	Blue: OK judgment for tightening torque and double tightening Red: NG judgment for tightening torque and double tightening Red flashing: Transmitting error
LCD Display	Tightening torque-3 digits, Torque unit, Battery level/4 levels	Tightening torque/angle convertible 3-digits, Torque unit, Battery level/4 levels
Operation Key	POWER key, TEST button, SET button	
Operating Time	24 hrs	12 hrs
Other Functions	Auto zero, Auto power off/0-99 minutes.	

FHSS, Frequency Hopping Spectrum System and 10 times of retry make communication reliability.

Use 2 FD/FDD wrenches by One Receiver

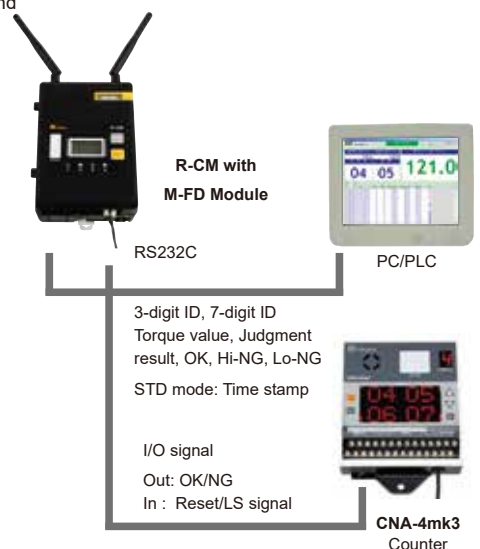
Preset 2 points of Upper & Lower limit

R-CM controls up to two units of wrench and gives OK/Hi-NG/Lo-NG judgment for applied torque value from wrench No.1 and No.2. Receiver conducts judgment and sends answer back signal to the wrench with the result.

Use Multiple FD/FDD wrenches by One Receiver

Control each Upper & Lower limit by PC/PLC

An external device gives OK/Hi-NG/Lo-NG judgment for applied torque value from each wrench. R-CM receives the result from PC/PLC and sends answer back to each wrench.



Note:
Multiple wrenches can connect to one receiver as long as they do not signal at the exact same time.

FDD Double Tightening Detection Function

If the same fastener is tightened twice the second tightening data will be rejected.



Completion of tightening
process with Blue signal.



LED lights Red when FDD
wrench click on tightened bolt.

FDD-AD

Click Type Torque Wrench with
Torque and Angle Data Transfer

Direction



CSPFD25N3X12D-AD with QH

Tightening Data Management System

- Transfer tightening peak torque and angle started from trigger torque
- Eliminating tightening error caused by bolt or application issues
- Interchangeable torque wrench type allows to use variety of standard heads

Accuracy $\pm 3\% + 1 \text{ digit}$

Model	Torque Range [N·m]		Torque Range [kgf·m]		Torque Range [lbf·ft]		Angle		Overall Length [mm]	Weight [kg]	Head Size	
FDD-AD	Min.-Max.	1 digit	Min.-Max.	1 digit	Min.-Max.	1 digit	Range	Accuracy				
CSPFDD25N3-10N×10D-AD	2-10	0.1	kgf·m	kgf·m	lbf·ft	lbf·ft	0°-240° 1 digit: 1°	±2°+1digit (Angular velocity is 30°/s when the bolt turned to 90°)	193	0.32	10D	
CSPFDD25N3×10D-AD	5-25		0.2-1	0.01	1.5-7.5	3.6-18			214	0.46	12D	
CSPFDD50N3×12D-AD	10-50	0.2	1-5	0.02	7.5-36	0.2			X-180°/s when the bolt turned to 90°)	217	0.65	15D
CSPFDD50N3×15D-AD										290		
CSPFDD100N3×15D-AD	20-100	0.5	2-10	0.05	15-75	0.5			349	0.77		
CSPFDD140N3×15D-AD	30-140	1	3-14	0.1	25-100	1			429	1.2	19D	
CSPFDD200N3×19D-AD	40-200		4-20		30-150				627	1.65	22D	
CSPFDD280N3×22D-AD	40-280		4-28		30-200							

Note

1. Interchangeable head is sold separately.
2. The transmitter display shows 3 digit for torque value.
3. Contact Tohnichi for status of wireless certification acquisition for each country.
4. Ask to Tohnichi or distributor for any other torque range.

Standard Accessories Rechargeable AAA battery x 2 pcs, Protective Cover * Battery charger does not come with the set

Modular Conversion Receiver

Receiver	Specification
R-CM	Output: Relay x 4, RS232C, Input: LS-IN, Reset

Note Power source: DC24V

Connecting Cable

Part No.	Applicable Model	Specification
387	SB-FH2, R-CM - PC	RS232C straight

Protective Cover

Model	Applicable Model	Specification
FD-PCV	FD, FDD, FDD-AD	Material: Silicon Resin

Radio Module

Model	Specification	Standard Accessory
M-FD	2.4GHz FHSS	Diversity antenna

Setting Box

Model	Available Setting Items	Dimension [mm]
SB-FH2	Group channel, Judgment code, 3-digit/7digit ID, Communication settings	W160 × D120 × H35

Note

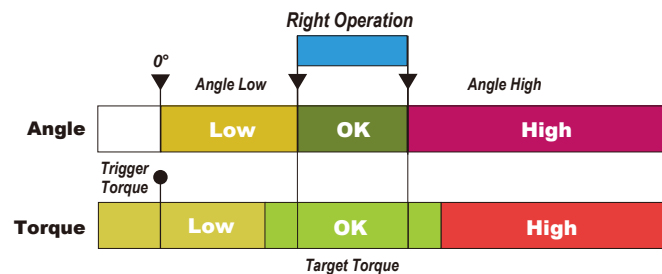
1. Provide PC setting software
2. RS232C straight cable needs optionally to use setting software.

FDD-AD Torque & Angle Data Transfer

By detecting final angle at the completion of the tightening operation, it is possible to eliminate tightening errors caused by provisional tightening, the tightening application or double tightening.

The receiver's set value can be changed by command input from PC / tablet depending on each tightening operation.

Detection of Tightening Error by Torque & Angle Monitoring



Angle Low

- ≡ Double Tightening
- ≡ Cross Threaded Screws
- ≡ Defect of work/Bolt
- ≡ Contamination

Angle High

- ≡ Defect of Work/Bolt
- ≡ Lack of O-Ring/Gasket
- ≡ Over torque of the provisional tightening

More Accurate with Angle function



Right Operation

Torque OK
Angle OK

Error Operation

Torque OK / NG
Angle NG

Torque & Angle OK



Torque or Angle, or Both NG



Answer Back

Converts Tohnichi format to NR Protocol
Integrates VIN info. Time stamp

Ethernet

Server

R-CM Receiver M-FD Module

TPC/TPC2 ver.1.3 Protocol Converter

NR

- TPC standard Protocols
- 1.ACOP Serial
 - 2.ACOP Socket
 3. Stanley
 4. Request Custom Settings

Note:

1. TPC-AD is special type of TPC protocol converter, refer to page 67 for standard.
2. ATLAS COPCO is registered trademark of Atlas Copco Aktiebolag
3. STANLEY is registered trademark of Stanley Logistics, LLC

CSPLD CSPLDC

Click Type
Torque Wrench
with Wired
Data Transfer

Direction



CSPLD100N3X15D
with QH head and fixed cable



CD5

* CD5 Display is calibrated to one wrench.
(Purchase of CD5 is required.)



CSPLDC25N3X10D
with quick connect cable

Tightening Data Management System

- Transfer actual applied torque by cable connection with CD5 display
- CD5 display gives judgment for Hi/Lo set torque value
- Interchangeable torque wrench type allows to use variety of standard heads
- CD5 and wrench are calibrated together to one torque setting

Accuracy $\pm 3\%$

Model		Torque Range [N·m]	Torque Range [kgf·cm/kgf·m]		Torque Range [lbf·in/lbf·ft]	
Fixed Cable	Quick Connect Cable	Min.-Max.	Min.-Max.	Min.-Max.	Min.-Max.	Min.-Max.
CSPLD	CSPLDC		kgf·cm	kgf·m	lbf·in	lbf·ft
CSPLD25N3-10N×10D	CSPLDC25N3-10N×10D	2-10	20-100	0.2-1	18-88	2.0-7.0
CSPLD25N3×10D	CSPLDC25N3×10D	5-25	50-250	0.5-2.5	45-221	4.0-18
CSPLD50N3×12D	CSPLDC50N3×12D	10-50	100-500	1-5	89-442	8.0-36
CSPLD50N3×15D	CSPLDC50N3×15D					
CSPLD100N3×15D	CSPLDC100N3×15D	20-100	200-1000	2-10	178-885	15-73
CSPLD140N3×15D	CSPLDC140N3×15D	30-140	300-1400	3-14	266-1239	23-103
CSPLD200N3×19D	CSPLDC200N3×19D	40-200	400-2000	4-20	355-1770	30-147
CSPLD280N3×22D	CSPLDC280N3×22D	40-280	400-2800	4-28	355-2478	30-206

- Note**
- 1 CSPLD/CSPLDC wrench and CD5 display are calibrated together. At time of order, provide torque set value and confirm cable types and length.
 - 2 Wrench only are supplied as back ups or for replacement.
Calibration procedure required when connecting new wrench to CD5 Display. Contact Tohnichi for assistance.
 - 3 Interchangeable head is sold separately. Refer to page 45 to 48.
 - 4 If connecting CSPLD/CSPLDC to your existing CD5 display and use the OK/NG judgment LED light on the wrench, it requires a power supply AC adapter sold separately, contact to Tohnichi for details.

Display (Required)

Model	Dimension [mm]
CD5	W150 × D190 × H94

Note Refer to page 67 for more information.

CD5 Output Cable (Optional)

Model	Description	Plug
383	CD5 - PC	D-SUB Pin Female

CSPLD/CSPLDC Outline

Wired system features highly reliable transmitter mounted on a click torque wrench that captures actual applied torque data. CD5 display shows actual tightening torque and judgment is made whether or not the torque is within the programmed Hi/Lo parameters. Connect to PLC and PC software to store and control data for increased tightening reliability. Select from two different cable styles, CSPLD for fixed cable type and CSPLDC for quick connect type.

System Example



CSPLD

Wired transfer of actual
tightening torque

Model AQSPD2/AQSPDLC2/
ACQSPD2/ACQSPDLC2,
AirTork versions are also available

OK/NG judgment
Red: NG Blue: OK

Lighting in blue or red for the next use wrench
by command input from PC/PLC



PC connecting cable/383
Refer to P.50.

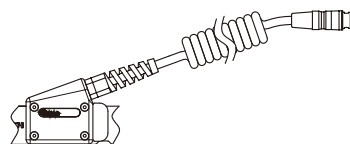


PC/PLC

Specify cable specification
when ordering.
Refer to diagram bellows.

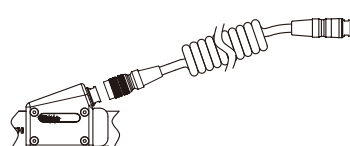
CSPLD/CSPLDC Cable Figure

Cable 1: 300mm Curled cable



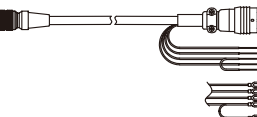
LD : Fixed cable type

Cable 2: 300mm Curled cable



LDC : Quick connect type

Cable 3



Connected to an indicator CD5

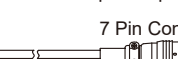
LS lead cable

LS lead cable with Y terminal

Cable 4



Cable 5 *Upon request



7 Pin Connector male

7 Pin Connector female

Note

- 1 Cable 1 : Fixed 300mm
- 2 Cable 3 : The length is selectable from 4 to 10m
- 3 Cable 4, Cable 5 : Available from 1 to 10m
- 4 Cable 5 is for connecting LD/LDC to the previous CSPD/ACQSPD cable from CD5.
Select the connector shape depending on your CSPD.
- Standard "CSPD", Fixed Cable type : 7 Pin male
- "CSPD-KN", Quick Connector Type : 7 Pin female
- 5 For further details, contact Tohnichi.

TDMS

Tightening Data Management Software

Tightening Data Management Software

- For process control of tightening or inspection of each portion and fastener
- Connectable with Tohnichi products equipped with Bluetooth® module
- Statistic processing [N], [X-bar], [σ], [cp], and [cpk] for analysis of quality trends
- Ver 3.0 released, added angle data management function

TDMS Software Operation Example

Sample Master

No.	Portion Name	Spindle No.	Number of Spindle	TI Low	TI High	Measured Torque	Judgment
1	RH Mount BKTXLH E/G Mount Insulator	1	1	15.0	20.0	17.3	OK
2	RH Mount BKTXRH E/G Mount Insulator	1	1	10.0	15.0	0.0	
3	Fr Hubnuts LH	1	2	12.0	17.0	0.0	
3	Fr Hubnuts LH	2	2	12.0	17.0	0.0	
4	Fr Hubnuts RH	1	2	12.0	17.0	0.0	
4	Fr Hubnuts RH	2	2	12.0	17.0	0.0	

No. 2 Portion RH Mount BKTXRH E/G Mount Insulator

Spindle No.	Number of Spindle	TI Low	TI High	Measured Torque	Judgment	Date	Time
1	1	10.0	15.0	0.0			

ALL	<	<<	>	>>	>	
ALL	Not	OK	NG	SKIP	SKIP	EXIT

Operation screen

M-Mode: Measurement

Simplex communication



T-Mode: Tightening

Duplex communication



Refer to page 37 for CEM3-BTS, CEM3-BTD functions

TDMS shows the correct sequence of each operation process, including the upper and lower torque value for each fastener, then operator simply follows the instruction sequences shown on the screen.

The collected data is linked to each fastener automatically eliminating the need to manually transcribe the information and prevents human error.

In tightening T-Mode with CEM3-G-BTD, the software wirelessly transmits correct upper and lower limit according to each torque specification, so tightening management for various torque values is easy to control.

TDMS Software Data Base

A	B	C	D	E	F
1	Item Name	Sample Master			
2					
3	Portion Name	Number of Spindle	TI Low	TI High	Tool No.
4	RH Mount BKTXLH E/G Mount Insulator	1	15.0	20.0	123456A
5	RH Mount BKTXRH E/G Mount Insulator	1	10.0	15.0	123456A
6	Fr Hubnuts LH	2	12.0	17.0	654321B
7	Fr Hubnuts RH	2	12.0	17.0	654321B

Portion Master Editing Excel Screen

Before use, input each parameters in Portion Master Excel file and save onto the PC where the TDMS is installed and then establish the Bluetooth communications with torque wrenches.

Measurement Data Master Excel

Measured data can be output by Excel format. TDMS performs statistic processing for each portion and fastener such as [N], [X-bar], [σ], [cp], and [cpk] for analysis of quality trends.

Customized software is available upon request with additional fees.

Consult with Tohnichi for assistance.

Available Bluetooth® products for TDMS

M-Mode : Measurement operation

- CEM3-G-BTS
- CTB2-G-BT
- STC2-G-BT

T-Mode: Tightening operation

- CEM3-G-BTD, CEM3-G-BTA
- STC2-G-BT



STC2-G-BT



CTB2-G-BT

Model	Description	Language
TDMS	Software only	Japanese
TDMS-E		English
TDMS-C		Chinese

Note

1. Software installation is allowed on a single PC at one time.
2. Connectable with up to 7 Bluetooth® devices when using.
3. Excel® and Windows® is a trademark registration of Microsoft Co., Ltd.
4. Bluetooth® is a trademark registration of Bluetooth SIG, Inc.
5. CEM3-G-BTA and ST3-G-BT angle output can be handled from the version 3.0

Standard Accessories

USB flash drive for portion master file management

System Requirements	
Operating System	Windows® XP, 7, 8, 8.1, 10

CEM3-G-BTS CEM3-G-BTD

Wireless Data Transfer
Digital Torque Wrench

Direction



RoHS



CEM100N3×15D-G-BTS

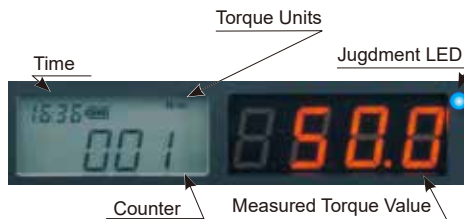
CEM100N3×15D-G-BTD



* Bluetooth is a registered trademark of Bluetooth SIG, Inc.

CEM3-G-BTS

CEM3G-BTS Display



Measured torque value

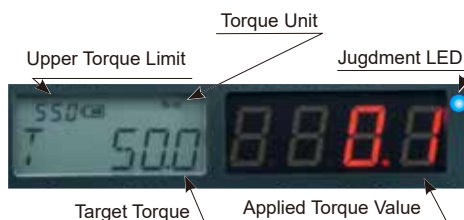
Save the data



TDMS
or
Special made software

CEM3-G-BTD

CEM3G-BTD Display



Target and Upper limit
Torque Setting Command

Applied torque value



TDMS
or
Special made software

- Transfer collected data wirelessly by built in Bluetooth® module
- -BTS saves the data and transfers to an external device.
- -BTD receives tightening torque instructions from external device then transfers collected data back out.

Accuracy ±1%

Head Size	Model	Model	Torque Range						Overall Length	Weight
			N-m		kgf-m		lbf-ft			
	Simplex communication	Duplex communication	Min.-Max.	1digit	Min.-Max.	1digit	Min.-Max.	1digit	[mm]	[kg]
8D	CEM10N3×8D-G-BTS	CEM10N3×8D-G-BTD	2-10	0.01	0.200-1.000	0.001	1.50-7.30	0.01	212	0.54
10D	CEM20N3×10D-G-BTS	CEM20N3×10D-G-BTD	4-20	0.02	0.400-2.000	0.002	3.00-14.50	0.02	214	0.55
12D	CEM50N3×12D-G-BTS	CEM50N3×12D-G-BTD	10-50	0.05	1.000-5.000	0.005	7.50-36.00	0.05	282	0.66
15D	CEM100N3×15D-G-BTS	CEM100N3×15D-G-BTD	20-100	0.1	2.00-10.00	0.01	15.0-73.0	0.1	384	0.71
19D	CEM200N3×19D-G-BTS	CEM200N3×19D-G-BTD	40-200	0.2	4.00-20.00	0.02	30.0-150.0	0.2	475	0.86
22D	CEM360N3×22D-G-BTS	CEM360N3×22D-G-BTD	72-360	0.4	7.2-36.00	0.04	52.0-260.0	0.4	713	1.21
	CEM500N3×22D-G-BTS	CEM500N3×22D-G-BTD	100-500	0.5	10.00-50.00	0.05	73.0-360.0	0.5	949	4.08
32D	CEM850N3×32D-G-BTS	CEM850N3×32D-G-BTD	170-850	1	17.0-85.0	0.1	124-620	1	1387	5.22

Note

1. For the specification, standard accessories and note of the basic CEM3-G model, refer to page 39.
2. To use various functions, special software is required separately.
3. Contact Tohnichi for conditions of wireless certification acquisition for each country

- Suitable for bolt inspection
- Transfer the realtime inspection record to PC/Tablet

- Suitable for bolt tightening operation
- Change the preset target and upper limit torque by Bluetooth command input
- Preliminary alert at 80 % of the target torque
- Transfer realtime tightening data to PC/Tablet
(Data will not be saved in the wrench memory)

CEM3-G-WF

Wireless LAN communication
data transfer digital torque wrench

Direction



CEM100N3×15D-G-WF



- 2.4/5GHz wireless LAN communication version of CEM3-G
- Conforming to the IEEE 802.11 wireless communication for LAN network
- Includes both simple and duplex functionality for tightening and inspection

Accuracy ±1%

Head Size	Model	Torque Range						Overall Length [mm]	Weight [kg]
		N-m		kgf-m		lbf-ft			
	Min.-Max.	1digit	Min.-Max.	1digit	Min.-Max.	1digit			
8D	CEM10N3×8D-G-WF	2-10	0.01	0.200-1.000	0.001	1.50-7.30	0.01	212	0.54
10D	CEM20N3×10D-G-WF	4-20	0.02	0.400-2.000	0.002	3.00-14.50	0.02	214	0.55
12D	CEM50N3×12D-G-WF	10-50	0.05	1.000-5.000	0.005	7.50-36.00	0.05	282	0.66
15D	CEM100N3×15D-G-WF	20-100	0.1	2.00-10.00	0.01	15.0-73.0	0.1	384	0.71
19D	CEM200N3×19D-G-WF	40-200	0.2	4.00-20.00	0.02	30.0-150.0	0.2	475	0.86
22D	CEM360N3×22D-G-WF	72-360	0.4	7.2-36.00	0.04	52.0-260.0	0.4	713	1.21
	CEM500N3×22D-G-WF	100-500	0.5	10.00-50.00	0.05	73.0-360.0	0.5	949	4.08
32D	CEM850N3×32D-G-WF	170-850	1	17.0-85.0	0.1	124-620	1	1387	5.22

Note

1. For the specification, standard accessories and note of the basic CEM3-G model, refer to page 39.
2. To use various functions, special software is required separately.
3. Contact Tohnichi for status of wireless certification acquisition for each country

CEM3-G-WF Wireless LAN transmitter Specifications

Wireless Standard	IEEE 802. 11a/b/g/n	Authentication Method	WPA2
Frequency	11b/g/n: 2.4/5GHz 11b/g : 2.4/ 11n/a : 5GHz	Transmission Speed	11b: Max.11Mbps 11a/g: Max. 54Mbps 11n: Max. 72.2Mbps
Modulation Method	11b: DSSS, 11a/g/n: OFDM	Communication Distance	Approx. 50m* *Veris in radio conditions
Protocol	TCP/IPv4	Acquisition of License	TELEC, FCC, IC, SRRC
Display	Power LED, Status LED		

CEM3-G-BTA

Wireless Data Transfer Digital Torque Wrench with Angle

Direction



RoHS



CEM100N3x15D-G-BTA



Tightening Data Management System

- Transfer collected data wirelessly by built in Bluetooth® module
- Angle monitoring at the peak tightening torque or measured torque value
- Wireless duplex communication sends the Hi/Lo limit torque and angle settings to the wrench then sends the collected data back out to PC

Accuracy ±1%

Head Size	Model	Torque Range						Overall Length [mm]	Angle Range		Angle Accuracy	Weight [kg]
		N·m		kgf·m		lbf·ft			Min.-Max.	1digit		
		Min.-Max.	1digit	Min.-Max.	1digit	Min.-Max.	1digit					
8D	CEM10N3×8D-G-BTA	2-10	0.01	0.200-1.000	0.001	1.50-7.30	0.01	212	0-999°	1°	±2°+1digit (Angular velocity is 30°/s X=180°s when the bolt turned to 90°)	0.54
10D	CEM20N3×10D-G-BTA	4-20	0.02	0.400-2.000	0.002	3.00-14.50	0.02	214				0.55
12D	CEM50N3×12D-G-BTA	10-50	0.05	1.000-5.000	0.005	7.50-36.00	0.05	282				0.66
15D	CEM100N3×15D-G-BTA	20-100	0.1	2.00-10.00	0.01	15.0-73.0	0.1	384				0.71
19D	CEM200N3×19D-G-BTA	40-200	0.2	4.00-20.00	0.02	30.0-150.0	0.2	475				0.86
22D	CEM360N3×22D-G-BTA	72-360	0.4	7.2-36.00	0.04	52.0-260.0	0.4	713				1.21
	CEM500N3×22D-G-BTA	100-500	0.5	10.00-50.00	0.05	73.0-360.0	0.5	949	4.08			
32D	CEM850N3×32D-G-BTA	170-850	1	17.0-85.0	0.1	124-620	1	1387				5.22

Note

1. For the specification, standard accessories and note of the basic CEM3-G model, refer to page 39.
2. Trigger torque can be set from the 5% of the maximum torque to the maximum.
3. Trigger torque set below the minimum torque range of the body is not guaranteed.

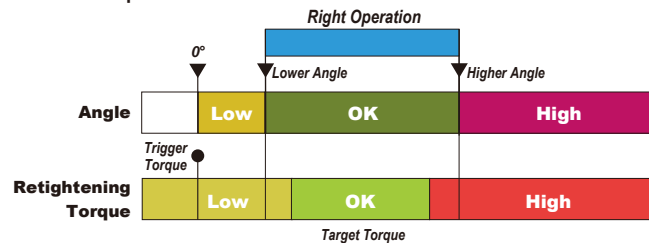
* Bluetooth is a registered trademark of Bluetooth SIG, Inc.

By monitoring the final torque and the final angle, reliability for tightening and inspection data can be confirmed

For Inspection

Monitoring excessive or extremely small angle rotation during the re-tightening inspection will provide evidence for correct data verification.

M-Mode: Inspection



Possible causes of angle monitoring results

Angle Low

- Possibility of the operation errors
- Stopped loading before the bolt moving

Angle High

- Possibility of the operation errors
- Rotated too much on the retightening inspection process

Right Operation

Torque OK, Angle OK
Torque NG, Angle OK

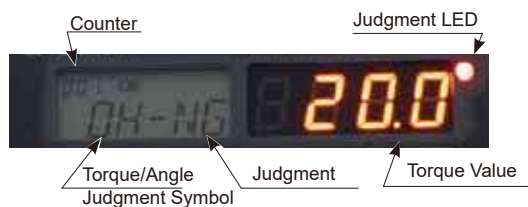
Error Operation

Torque OK / NG
Angle NG

For Tightening

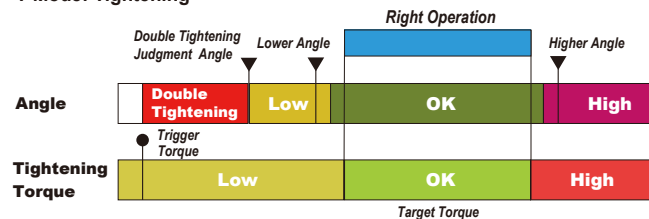
By detecting final angle at the completion of the tightening operation, it is possible to eliminate tightening errors caused by provisional tightening, the tightening application or double tightening.

Judgment Result Display

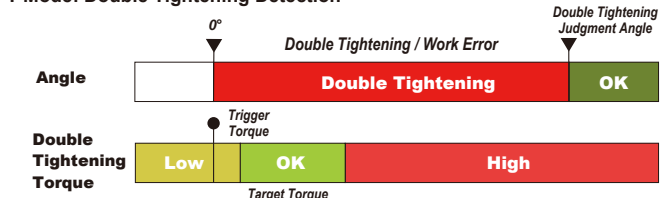


- L : Less than the lower limit (Low-NG)
O : OK
H : Beyond the upper limit (High-NG)
D : Double tightening (NG tightening)

T-Mode: Tightening



T-Mode: Double Tightening Detection



Possible causes of angle monitoring results

Angle Low

- Double Tightening
- Cross Threaded Screw
- Defect to work/Bolt
- Contamination

Angle High

- Defect of Work/Bolt
- Lack of O-Ring/Gasket
- Over torque of the provisional tightening

Right Operation
Torque OK
Angle OK



Error Operation
Torque OK / NG
Angle NG

CEM3-G

DATA TORK/
Digital Torque
Wrench

Direction



RoHS



CEM100N3x15D-G



Common Specifications

Display	7 segments LED 4 lines 10mm (Torque value)
	14 segments LCD 3 lines 7mm (Counter)
	7 segments LCD 4 lines 3mm (Clock)
	Battery life indicator (4 steps)
Judgment LED RED/BLUE	
Number of Data Memory	999 (M-2 mode: 99 data)
Communication	RS232C (2400-19200bps)
Functions	Serial output corresponding to a USB connector
Power Supply	Ni-MH rechargeable battery
Continuous Use	20 hrs with fully charged (8 hours by 1 hour recharging)
Recharging Time	3.5 hours
Operating Temperature	0-40 °C
Basic Functions	Peak Hold, Auto memory & resetting, Tightening completion buzzer, Judgment of measured data, Auto zero setting, Auto off (3 minutes), Clock

Inspection

Digital

Interchangeable

Direct Reading

Re-Chargeable

ISO6789:2003

- Dual LED & LCD displays for optimal viewing
- 999 memory storage capacity
- For inspection and tightening



CEM20N3x10D-G



CEM850N3x32D-G

Model	Torque Range										Hand Force [N]	Overall Length [mm]	Weight [kg]
	N·m		kgf·cm		kgf·m		lbf·in		lbf·ft				
	Min.-Max.	1digit	Min.-Max.	1digit	Min.-Max.	1digit	Min.-Max.	1digit	Min.-Max.	1digit			
CEM10N3×8D-G	2-10	0.01	20-100	0.1	0.200-1.000	0.001	20.0-90.0	0.1	1.50-7.30	0.01	48.1	212	0.46
CEM20N3×10D-G	4-20	0.02	40-200	0.2	0.400-2.000	0.002	36.0-180.0	0.2	3.00-14.50	0.02	92.2	214	0.47
CEM50N3×12D-G	10-50	0.05	100-500	0.5	1.000-5.000	0.005	100.0-440.0	0.5	7.50-36.00	0.05	196.9	282	0.58
CEM100N3×15D-G	20-100	0.1	200-1000	1	2.00-10.00	0.01	200-880	1	15.0-73.0	0.1	275.5	384	0.63
CEM200N3×19D-G	40-200	0.2	400-2000	2	4.00-20.00	0.02	360-1700	2	30.0-150.0	0.2	428.3	475	0.78
CEM360N3×22D-G	72-360	0.4	720-3600	4	7.2-36.00	0.04	650-3100	4	52.0-260.0	0.4	498.6	713	1.13
CEM500N3×22D-G	100-500	0.5	1000-5000	5	10.00-50.00	0.05	890-4400	5	73.0-360.0	0.5	549.5	949	4.00
CEM850N3×32D-G	170-850	1	-	-	17.0-85.0	0.1	-	-	124-620	1	608	1387	5.14

Accuracy ±1%

Note

1. Overall length does not include interchangeable head.
2. For interchangeable head, refer to page 45-48.
3. For infrared data transfer, use with R-DT999. Refer to page 70.
4. PH Pipe wrench head type interchangeable head is not available for this model.
5. CEM500N3x22D-G and CEM850N3x32D-G have knurled handles.
6. For USB data transfer, use optional connecting cable, No.584. Refer to page 50.

Standard Accessories

1. Battery pack/BP-5
2. QH interchangeable head. Refer to page 47.
3. Quick battery charger/BC-3-G (100-240V).

CEM3-P

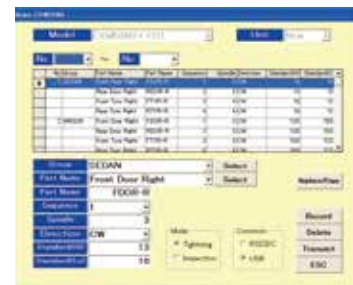
RoHS

- Programmable version of CEM3-G with data management software that links work name with test results.

Torque Accuracy	±1%
Portion Registration Memory	Max. 100 parts (Part name, number of screws, tightening direction, high/low torque, measuring order)
Measurement Data Storage	Up to 3,000 screw data (vary depending on parts registered), measurement part name, measured value, pass/fail judgment, measurement time and date)



CEM50N3x12D-P

Display part
Left: Part name, Right: Torque value

CEM3-P application software

Model
CEM10N3x8D-P
CEM20N3x10D-P
CEM50N3x12D-P

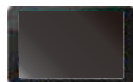
Model
CEM100N3x15D-P
CEM200N3x19D-P
CEM360N3x22D-P

Model
CEM500N3x22D-P
CEM850N3x32D-P

Handy Terminal

Compact data collection device
for CEM3-G

- Upload & download torque measuring information
- Guides user through torque assembly & quality inspection processes
- Statistics and charting capabilities
- Contact Tohnichi for lithium battery shipping specifications.



Battery Pack (P.50)

Model
BP-5

Quick Battery Charger (P.50)

Model	Description
BC-3-G	100V-240V

Printer (P.69)

Model
EPP16M3

Connecting Cable (P.50)

Part #	Applicable Model
575	CEM3-G, CEM3-P, R-DT999 - PC, EPP16M3
584	CEM3-G, CEM3-P, R-DT999G - PC

Data Filing System (P.69)

Model	Media
DFS	CD-ROM

CTB2-G Digital Retightening Torque Wrench

Direction



RoHS



CTB100N2×15D-G



CTB850N2×32D-G

Common Specifications

Data Memory	999 data (T-point torque)
Arithmetic Function	Sampling, Maximum, Minimum, Means
Measurement Mode	Peak/Run
Data Output	RS232C I/F, USB serial output
Zero Adjustment	Auto zero function (C key)
Other Function	Auto power off (3 min./10 min./30 min./non)
Power Source	Ni-MH Nickel metal-hydrate battery
Continuous Use	20 hours (8 hours by 1 hour charging)
Battery Charge	3.5 hours
Operating Temperature	0-40 °C

Inspection	Digital	Interchangeable	Signal	Re-Chargeable	ISO6789:2003
------------	---------	-----------------	--------	---------------	--------------

- Detects movement of fastener for more accurate testing
- For quality inspection applications, confirms previously tightened torque values.

Accuracy ±1%

Model	Torque Range										Hand Force [N]	Overall Length [mm]	Weight [kg]
	N·m		kgf·cm		kgf·m		lbf·in		lbf·ft				
	Min.-Max.	1digit	Min.-Max.	1digit	Min.-Max.	1digit	Min.-Max.	1digit	Min.-Max.	1digit			
CTB10N2×8D-G	2-10	0.01	20-100	0.1	0.2-1	0.001	20-90	0.1	1.5-7.3	0.01	48.1	212	0.46
CTB20N2×10D-G	4-20	0.02	40-200	0.2	0.4-2	0.002	36-180	0.2	3-14.5	0.02	92.2	214	0.47
CTB50N2×12D-G	10-50	0.05	100-500	0.5	1-5	0.005	100-440	0.5	7.5-36	0.05	196.9	282	0.58
CTB100N2×15D-G	20-100	0.1	200-1000	1	2-10	0.01	200-880	1	15-73	0.1	275.5	384	0.63
CTB200N2×19D-G	40-200	0.2	400-2000	2	4-20	0.02	360-1700	2	30-150	0.2	428.3	475	0.78
CTB360N2×22D-G	72-360	0.4	720-3600	4	7.2-36	0.04	650-3100	4	52-260	0.4	498.6	713	1.13
CTB500N2×22D-G	100-500	0.5	1000-5000	5	10-50	0.05	890-4400	5	73-360	0.5	549.5	949	4.00
CTB850N2×32D-G	170-850	1	-	-	17-85	0.1	-	-	124-620	1	608	1387	5.14

Note

1. Overall length does not include interchangeable head.
2. For interchangeable head, refer to page 45-48.
3. For infrared data transfer, use with R-DT999. Refer to page 69.
4. PH type interchangeable head is not available for this model.

Standard Accessories

1. Battery pack/BP-5
2. QH interchangeable head (P.47).
3. Quick battery charger/BC-3-G, 100-240V

Battery Pack (P.50)

Model
BP-5

Quick Battery Charger (P.50)

Model	Description
BC-3-G	100-240V

Printer (P.69)

Model
EPP16M3

Connecting Cable (P.50)

Part #	Applicable Model
575	CTB2-G - PC, EPP16M3
584	CTB2-G, R-DT999G - PC

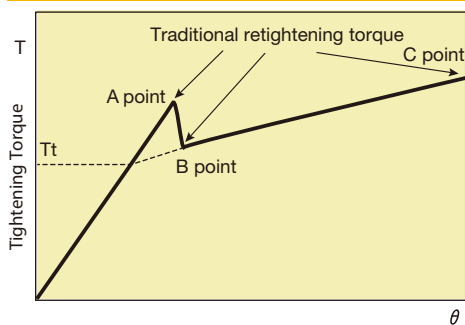
Data Filing System (P.69)

Model	Media
DFS	CD-ROM

Advantages of the New Retightening Method: T-point Method

- Anyone can measure the tightening torque easily.
- Requires less time to perform the measurement.
- Dispersion of data is small (Figure-3).
- No individual interpretation or performance variable is involved in measuring the torque (Figure-3).
- Internal software converts measured torque to initial tightening torque value (Figure-3).

Figure-1 Traditional retightening torque method



Retightening Torque Method

Retightening torque method aims to measure the torque at which a tightened bolt start to rotate again as further torque is applied. The retightening measured values are classified as one of these three kinds:

- The torque which overcome the static friction of the bolt (A point).
- The torque at which the bolt starts on turn continuously (B point).
- The maximum torque at this inspection (C point).

Proposal of T-point method (Figure-2)

Retightening torque first starts with the rotation of the head only, then the screw starts to rotate. Shifting from static friction to dynamic friction, the friction whip settles and the torque starts to increase at the steady pace again. T-point method figures TT as retightening torque value.

Figure-2 New retightening torque method by CTB2-G

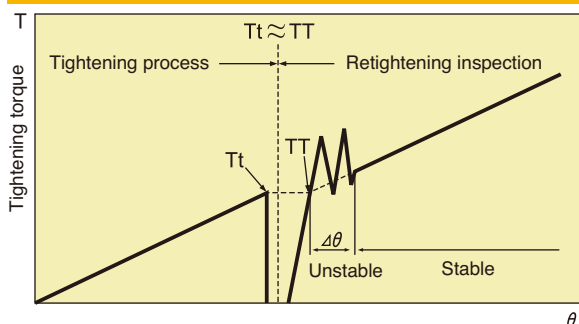
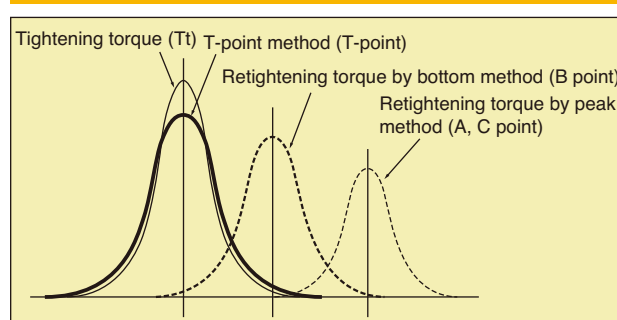


Figure-3 Distribution of retightening torque



Refer to Tohnichi Torque Handbook Vol. 9 on page 46 to 47 for the details.

DB/DBE/DBR

Direction Dial Indicating Torque Wrench



RoHS



DB12N4



DB100N



DBE700N



Memory Pointer, Red color point

DB Optional Accessories



846

Carrying Case (P.49)

Part #	Applicable Model Dimension [mm]	Weight [kg]
846	DB100N-S, CDB100N×15D-S or less H170 × W500 × D100	1.0
847	DB280N5-S, CDB280N5×22D-S or less H170 × W740 × D100	1.6

Inspection Dial Indicating Direct Reading ISO6789:2003
2017

- Memory pointer for easy torque reading
- Ideal for torque measuring and quality check applications

S.I. Model	Torque Range [N·m/kN·m]		Metric Model	Torque Range [kgf·cm/kgf·m]		American Model	Torque Range [lbf·in/lbf·ft]		Overall Length [mm]	Square Drive [mm]	Weight [kg]
	Min.-Max.	Grad.		Min.-Max.	Grad.		Min.-Max.	Grad.			
DB1.5N4-S	0.2-1.5	0.02	15DB4-S	2-15	0.2	DB131-2AS	0-13	0.2			
DB3N4-S	0.3-3	0.05	30DB4-S	3-30	0.5	DB261-2AS	0-26	0.5	205	6.35	0.4
DB6N5-S	0.7-6	0.1	DB60M5-S	7-60	1	DB401-2AS	0-40	1			
DB12N5-S	1.4-12	0.2	DB120M5-S	14-120	2	DB751-2AS	0-75	2			
DB25N5-1/4-S	3.5-25	0.5	DB250M5-1/4-S	35-250	5	DB1501-2AS	0-150	2	245		
DB25N5-S			DB250M5-S			DB1501-3AS					
						DB3001-3AS	0-300	5			0.6
DB50N-S	5-50		DB500M-S	50-500			lbf·ft	lbf·ft	320		
						DB25F-3AS	0-25	0.5		9.5	
							lbf·in	lbf·in			
						DB6001-3AS	0-600	10			
DB100N-3/8-S			DB100M-3/8-S				lbf·ft	lbf·ft			
						DB50F-3AS	0-50	0.5			
	10-100	1		100-1000	10		lbf·in	lbf·in	400		0.7
						DB6001-4AS	0-600	10			
DB100N-S			DB100M-S				lbf·ft	lbf·ft			
						DB50F-4AS	0-50	0.5			
DB200N-S	20-200	2	DB2000M-S	200-2000	20	DB100F-4AS	0-100	1	500	12.7	
				kgf·m	kgf·m						1.0
				-	-	DB175F-4AS	0-175	2	580		
DB280N5-1/2-S	35-280	5	DB2800M5-1/2-S	3.5-28	0.5	-	-	-	690		1.65
DB280N5-S			DB2800M5-S			DB250F-6AS	0-250	5			
DB420N-S	40-420		DB4200M-S	4-42		DB350F-6AS	0-350		890		2.5
DBE560N-S	50-560		DBE5600M-S	5-56		-	-	-	1100		4.0
DBE700N-S	70-700		DBE7000M-S	7-70		DB500F-6AS	0-500	10	1260		5.5
DBE850N-S	100-850	10	DBE8500M-S	10-85	1	-	-	-	1360		6.1
DBE1000N-S	100-1000		DBE10000M-S	10-100		DB800F-8AS	0-800		1490		6.4
DBE1400N-S	200-1400	20	DBE14000M-S	20-140	2	DB1000F-8AS	0-1000	10	1740		8.6
DBE2100N-S	200-2100		DBE21000M-S	20-210		DB1500F-8AS	0-1500	20	2140		12.8
DBE2800N5-S	350-2800	50	DBE28000M5-S	35-280		DB2000F-12AS	0-2000		2380		16.8
	kN·m	kN·m								38.1	
DBR4500N-S	0.5-4.5	0.05	45000DBR-S	50-450	5	DB3000F-12AS	0-3000	50	1285		26.5
DBR6000N-S	0.6-6	0.1	60000DBR-S	60-600		-	-	-	1585	44.5	27.5

Note

1. "Without memory pointer" models are available. Remove "S" from the model name when ordering.
Ex. DB100N
2. DBR models require winch or mechanical loading device.
3. DBR Models are supplied upon request.
4. For models having over 25.4mm square drive, use with a through-hole socket.
5. Accuracy of American models is warranted from 20% of max. torque.
6. DB1.5N4, DB3N4 and the equivalent metric models, American unit models come with ISO6789-2003 certificate.

CDB-S

Interchangeable
Head Type Dial
Indicating Torque
Wrench

Direction



CDB14N4x8D-S



CDB100Nx15D-S

Inspection

Dial Indicating

Interchangeable

Memory Pointer

ISO6789:2003
2017

- Interchangeable head version of DB
- Ideal for torque measuring and quality inspections

Accuracy ±3%

Head Size	S.I. Model	Torque Range [N·m]		Metric Model	Torque Range [kgf·cm/kgf·m]		American Model	Torque Range [lbf·in/lbf·ft]		Overall Length [mm]	Weight [kg]
		Min.-Max.	Grad.		Min.-Max.	Grad.		Min.-Max.	Grad.		
8D	CDB7N4x8D-S	0.7-7	0.1	CDB70Mx8D-S	7-70	1	70CDB4-A-S	6-60	1	215	0.45
	CDB14N4x8D-S	2-14	0.2	CDB140Mx8D-S	20-140	2	140CDB4-A-S	20-120	2	255	0.48
10D	CDB25N5x10D-S	3.5-25	0.5	CDB250M5x8D-S	35-250	5	250CDB-A-S	30-220	5	330	0.53
12D	CDB50Nx12D-S	5-50		CDB500Mx12D-S	50-500		500CDB-A-S	40-430			
								lbf·ft	lbf·ft		
15D	CDB100Nx15D-S	10-100	1	CDB1000Mx15D-S	100-1000	10	1000CDB-A-S	7-70	1	415	0.76
19D	CDB200Nx19D-S	20-200	2	CDB2000Mx19D-S	200-2000	20	2000CDB-A-S	14-140	2	525	1.0
					kgf·m	kgf·m					
22D	CDB300N5x22D-S	35-300	5	CDB300M5x22D-S	3.5-30	0.5	3000CDB-A-S	20-220	5	720	1.65
	CDB420Nx22D-S	40-420		CDB4200Mx22D-S	4-42		4200CDB-A-S	30-300		920	2.7

Note

1. Overall length does not include interchangeable head.
2. PH (Pipe wrench head) type interchangeable head is not available.
3. Interchangeable heads are optional.
4. American models come with ISO:6789-2003 certificate.

SCDB-S

European Style
Interchangeable
Head Type
Dial Indicating
Torque Wrench

Direction



SCDB50N-9x12-S

Inspection

Dial Indicating

Interchangeable

Memory Pointer

ISO6789:2017

- Specialized version of DB
- Accepts DIN interchangeable head connection

Accuracy ±3%

S.I. Model	Torque Range [N·m]		Head Size [mm]	Overall Length [mm]	Weight [kg]
	Min.-Max.	Grad.			
SCDB25N5-9x12-S	3.5-25		9x12	271	0.48
SCDB50N-9x12-S	5-50	0.5	9x12	342	0.53
SCDB100N-9x12-S	10-100	1	9x12	422	0.76
SCDB200N-14x18-S	20-200	2	14x18	535	1

Note

1. Overall length does not include interchangeable head.
2. Applicable to European style head. Tohnichi's interchangeable heads are not available for SCDB-S.

T-S

T-Handle Dial Indicating
Torque Wrench

Direction



T90N-S

Inspection

Dial Indicating

Direct Reading

Memory Pointer

ISO6789:2003
2017

- Dual handle for increased stability
- Memory pointer for easy reading

Accuracy ±3%

S.I. Model	Torque Range [N·m]		Metric Model	Torque Range [kgf·cm/kgf·m]		American Model	Torque Range [lbf·in/lbf·ft]		Overall Length [mm]	Neck Length [mm]	Square Drive [mm]	Weight [kg]
	Min.-Max.	Grad.		Min.-Max.	Grad.		Min.-Max.	Grad.				
T23N2-S	3.5-23		T230M2-S	35-230		T200I-3AS	20-200	2	205	71		0.41
T45N-S	5-45	0.5	T450M-S	50-450	5	T400I-3AS	50-400	5	261	82	9.5	0.53
							lbf·ft	lbf·ft				
T90N-S	10-90	1	T900M-S	100-900	10	T65F-4AS	10-65	1	376	102.5		0.8
T180N-S	20-180	2	T1800M-S	200-1800	20	T130F-4AS	20-130	2	656	118.5	12.7	1.2
				kgf·m	kgf·m							
T700N-S	70-700		7000T-S	7-70		7000T-A-S	50-500		1300		19.0	4
T1000N-S	100-1000	10	10000T-S	10-100	1	10000T-A-S	50-700	5	1630			4.8
T1400N-S	200-1400		14000T-S	20-140		14000T-A-S	100-1000	10	1880		25.4	6.2
T2100N-S	200-2100	20	21000T-S	20-210	2	21000T-A-S	200-1500		2500			10
T2800N-S	300-2800		28000T-S	30-280		28000T-A-S	200-2000	20	2960			15.5
T4200N-S	400-4200	50	42000T-S	40-420	5	42000T-A-S	400-3000	50	3660		38.1	21.5

Note

1. T700N-S to T4200N-S models are supplied upon request.
2. For models having over 25.4mm square drive, use with a through-hole socket.
3. American models come with ISO:6789-2003 certificate.



SF/F/FR

Beam Type
Torque
Wrench

Direction



RoHS



SF6N



F92N

Inspection

Beam

Direct Reading

ISO6789:2003

- Direct reading torque wrench with scale plate
- For measuring and tightening applications

Accuracy ±3%

S.I. Model	Torque Range [N·m/N·m]		Metric Model	Torque Range [kgf·cm/kgf·m]		American Model	Torque Range [lbf·in/lbf·ft]		Overall Length [mm]	Square Drive [mm]	Weight [kg]
	Min.-Max.	Grad.		Min.-Max.	Grad.		Min.-Max.	Grad.			
SF40CN	8-40	2	4SF	0.8-4	0.2	4SF-A	0.3-3.4	0.2	115		0.04
SF70CN	10-70		7SF	1-7		7SF-A	0-6		135		0.05
SF1.5N	0.2-1.5	0.05	15SF	2-15	0.5	15SF-A	0-13	0.5	145	6.35	0.07
SF3N	0.5-3	0.1	30SF	5-30	1	30SF-A	0-26	1	175		0.09
SF6N	0.6-6	0.2	60SF	6-60	2	60SF-A	0-50	2	205		0.2
SF12N	2-12		120SF	20-120		120SF-A	0-100		235		0.25
F23N	3-23	0.5	230F	30-230	5	230F-A	0-200	5	295		0.4
F46N	5-46	1	460F	50-460	10	460F-A	0-400	10	355	9.5	0.6
F92N	10-92		920F	100-920		920F-A	10-66		400		0.95
F130N	20-130	2	1300F	200-1300	20	1300F-A	10-95	2	445	12.7	1.2
F190N	30-190		1900F	300-1900	50	1900F-A	25-135		490		1.5
F280N	50-280	5	2800F	5-28	0.5	2800F-A	30-200	5	565		2.2
F420N	70-420		4200F	7-42		4200F-A	30-300		825	19.0	3.5
F560N	100-560	10	5600F	10-56	1	5600F-A	50-400	10	945		4.0
F700N	100-700		7000F	10-70		7000F-A	50-500		1175		6.0
F850N	100-850		8500F	10-85		8500F-A	60-600		1410		7.8
F1000N	100-1000	20	10000F	10-100	2	10000F-A	70-700	20	1640		8.8
FR1050N	100-1050		10500FR	10-105		10500FR-A	100-750		835	25.4	8
FR1400N	200-1400		14000FR	20-140		14000FR-A	100-1000		981		11.5
FR2100N	300-2100	50	21000FR	30-210	5	21000FR-A	200-1500	50	1148		14.5
FR2800N	300-2800		28000FR	30-280		28000FR-A	200-2000		1292		20
FR4200N	400-4200	100	42000FR	40-420	10	42000FR-A	300-3000	100	1460	38.1	28
FR6000N	600-6000		60000FR	60-600		60000FR-A	400-4300		1624		30

Note

1. FR models are supplied upon request.
2. FR models require winch or mechanical loading device.
3. For models having over 25.4mm square drive, use with a through-hole socket.
4. Accuracy of American models is warranted from 20% of max. torque.

CSF/CF

Interchangeable
Head Type Beam
Type Torque
Wrench

Direction



RoHS



CSF7N×8D



CF25N×10D

Inspection

Beam

Interchangeable

Direct Reading

ISO6789:2003

- Interchangeable head version of SF/F
- For measuring and tightening applications

Accuracy ±3%

Head Size	S.I. Model	Torque Range [N·m]		Metric Model	Torque Range [kgf·cm/kgf·m]		American Model	Torque Range [lbf·in/lbf·ft]		Overall Length [mm]	Weight [kg]
		Min.-Max.	Grad.		Min.-Max.	Grad.		Min.-Max.	Grad.		
8D	CSF7N×8D	1-7	0.2	70CSF	10-70	2	70CSF-A	10-60	2	220	0.2
	CSF14N×8D	2-14	0.5	140CSF	20-140	5	140CSF-A	20-120	5	250	0.25
	CF25N×10D	5-25	1	250CF	50-250	10	250CF-A	40-220	10	320	0.4
10D	CF50N×12D	10-50		500CF	100-500		500CF-A	80-420	20	380	0.6
			2			20		lbf·ft	lbf·ft		
15D	CF100N×15D	10-100		1000CF	100-1000		1000CF-A	6-70	2	435	1.0
19D	CF150N×19D	20-150		1500CF	200-1500	50	1500CF-A	15-110		480	1.3
			5		kgf·m						
22D	CF230N×22D	30-230		2300CF	3-23	0.5	2300CF-A	20-160	5	530	1.6
	CF420N×22D	70-420	10	4200CF	7-42	1	4200CF-A	30-300		725	3.1
32D	CF850N×32D	100-850	20	8500CF	42-85	2	8500CF-A	60-600	20	1260	7.1

Note

1. Overall length does not include interchangeable head.
2. PH (Pipe wrench head) type interchangeable head is not available.
3. Interchangeable heads are optional.

QF/QFR

Ratchet Head
Beam Type
Torque Wrench

Direction



RoHS



QF120N

Inspection

Beam

Ratchet Head

Direct Reading

ISO6789:2003

- Fixed ratchet head flat beam style
- Ideal for working in narrow spaces

Accuracy ±3%

S.I. Model	Torque Range [N·m]		Metric Model	Torque Range [kgf·cm/kgf·m]		American Model	Torque Range [lbf·in/lbf·ft]		Overall Length [mm]	Square Drive [mm]	Weight [kg]
	Min.-Max.	Grad.		Min.-Max.	Grad.		Min.-Max.	Grad.			
QF60N	6-60	1	600QF	60-600	10	600QF-A	0-520	10	455	9.5	0.8
QF120N	10-120	2	1200QF	100-1200	20	1200QF-A	6-86	2	515	12.7	1.2
QF220N	30-220	5	2200QF	300-2200	50	2200QF-A	25-160		580		1.8
				kgf·m	kgf·m						
QF320N	60-320		3200QF	6-32		3200QF-A	40-230	5	655		2.6
QF420N	70-420		4200QF	7-42		4200QF-A	30-300		825		3.4
QF560N	100-560	10	5600QF	10-56	1	5600QF-A	50-400		950	19.0	4.3
QF700N	100-700		7000QF	10-70		7000QF-A	50-500	10	1170		6.5
QF850N	100-850		8500QF	10-85		8500QF-A	60-600		1400		8.5
QFR1050N	100-1050	20	10500QFR	10-105	2	10500QFR-A	100-750	20	845	25.4	8.5
QFR1400N	200-1400		14000QFR	20-140		14000QFR-A	100-1000		992		12.5
QFR2100N	300-2100		21000QFR	30-210		21000QFR-A	200-1500		1158		15.5
QFR2800N	300-2800	50	28000QFR	30-280	5	28000QFR-A	200-2000	50	1305		21
QFR4200N	400-4200		42000QFR	40-420		42000QFR-A	300-3000		1473	38.1	30
QFR6000N	600-6000	100	60000QFR	60-600	10	60000QFR-A	400-4300		1624		32

Note

1. QFR models are supplied upon request.
2. QFR models require winch or mechanical loading device.
3. For models having over 25.4mm square drive, use with a through-hole socket.

Interchangeable Socket

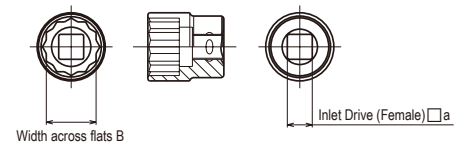
SOCKET FOR HAND TOOL

	Inlet Drive (Female)	From Torque Tool			
		6.35	9.5	12.7	19.0
From Bolt	Width Across Flats (B)	2H	3H	4H	6H
	8	201			
	10	202	210		
	12	203	211		
	13	204	212		
	14		213	220	
	16		216	227	
	17		214	221	
	18		217	228	
	19		215	222	
	21			229	237
	22			223	230
	24			224	231
	27			225	232
	30			226	233
	32				234
	34				236
	36				235
	41				
	46				
	50				
	55				



SOCKET

SOCKET FOR HAND TOOL



How to Order (Hand Tools)

SOCKET

Indicate model name and Part #

[Ex.] SOCKET **2H-10** **202**
 Socket Inlet sign Purpose sign Width across flats Part #

ADAPTER

Indicate model name and Part #

[Ex.] ADAPTER **2H-3** **270**
 Inlet Sign (Female) Purpose sign Inlet sign (Male) Part #

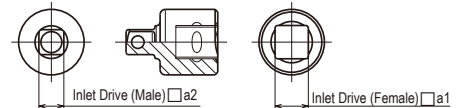
ADAPTER FOR HAND TOOL

	Inlet Drive (Female)	From Torque Tool			
		6.35	9.5	12.7	19.0
To Socket	Inlet Drive (Male)	2H	3H	4H	6H
	6.3 (2)		271		
	9.5 (3)	270		273	
	12.7 (4)	277	272		275
	19 (6)			274	
	25.4 (8)				276



ADAPTER

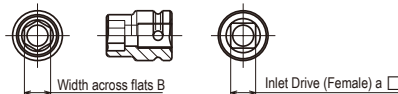
ADAPTER FOR HAND TOOL



SOCKET FOR PNEUMATIC TOOL

	Inlet Drive (Female)	From Torque Tool		
		9.5	12.7	25.4
From Bolt	Width Across Flats (B)	3P	4P	8P
	10	250		
	12	251		
	13	252		
	14	253	260	
	16	255	264	
	17	254	261	
	18		265	
	19		262	
	21		266	
	22		263	
	32			303
	34			304
	36			305
	41			306
	46			307
	50			308
	55			309

SOCKET FOR PNEUMATIC TOOL



SOCKET

How to Order (Air Tools)

SOCKET

Indicate model name and Part #

[Ex.] SOCKET **3P-10** **250**
 Socket Inlet sign Purpose sign Width across flats Part #

ADAPTER

Indicate model name and Part #

[Ex.] ADAPTER **3P-4** **290**
 Inlet Sign (Female) Purpose sign Inlet sign (Male) Part #

Note O-ring and pin are included.

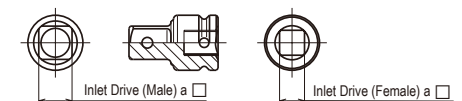
ADAPTER FOR PNEUMATIC TOOL

	Inlet Drive (Female)	From Torque Tool			
		9.5	12.7	19.0	25.4
To Socket	Inlet Drive (Male)	3P	4P	6P	8P
	9.5 (3)		291		
	12.7 (4)	290		293	
	19 (6)		292		295
	25.4 (8)			294	



ADAPTER

ADAPTER FOR PNEUMATIC TOOL

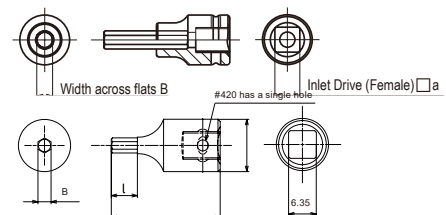


SOCKET FOR POWER AND HAND TOOL

	Inlet Drive (Female)	From Torque Tool				
		6.35	6.35	9.5	12.7	19.0
From Bolt	Width Across Flats (B)	2CS	2C	3C	4C	6C
	2.5	420	430			
	3	421	431	440		
	4	422	432	441		
	5			442		
	6			443	450	
	8				451	
	10				452	
	12				453	
	14				454	460
	17					461
	19					462



SOCKET FOR HEX HEAD CAP SCREWS



Parts Name	Catalog No.	B	L	l
Socket 2CS-2.5	420	2.5	25	5.5
Socket 2CS-3	421	3		6
Socket 2CS-4	422	4		6.5
Socket 2C-2.5	430	2.5	40	18
Socket 2C-3	431	3		
Socket 2C-4	432	4		20

Note 1. O-ring and pin are included in the inlet drive 9.5 to 19.0 socket.
 2. 430, 431, 432 are not through hole type.

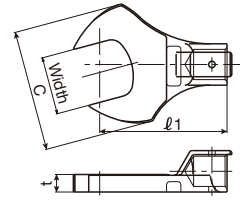
Interchangeable Head

SH

Open Spanner Head

RoHS

The SH type spanner heads suit for the place where sockets can not be used, for flare nuts in piping and for work in narrow places.



SH15D×19

Tohnichi Head Size	Model (Body Size × Width)	Allowable Torque		Outside Width C [mm]	Thickness t [mm]
		[N·m]	[kgf·cm]		
6D	NEW SH6D×5.5	1.5	15	13	3
	NEW SH6D×6	2.5	25	15	
	NEW SH6D×7	3.5	35	17	
	NEW SH6D×8			18	4.5
	NEW SH6D×10			20	
	NEW SH6D×11			21	
	NEW SH6D×12			22	
	NEW SH6D×13	5	50	23	5
	NEW SH6D×14			24	
	NEW SH6D×16			26	
8D	NEW SH6D×17			27	5
	NEW SH6D×19			29	
	SH8D×5.5	1.5	15	13	3
	SH8D×6	2.5	25	15	3.5
	SH8D×7	3.5	35	17	4
	SH8D×8	7	70	20	4.5
	SH8D×10	14	140	25	5.5
	SH8D×11			27	
	SH8D×12			29	
	SH8D×13			31	6.5
10D	SH8D×14			32	
	SH8D×16	15	150	32	
	SH8D×17			35	
	SH8D×19			36	
	SH8D×21			37	
	SH8D×22			38	
	SH8D×24			38	6.5
	SH10D×7				
	SH10D×8				
	SH10D×10	20	200	28	
12D	SH10D×11				
	SH10D×12				
	SH10D×13			32	
	SH10D×14				
	SH10D×16				
	SH10D×17				
	SH10D×18	25	250	39	
	SH10D×19				
	SH10D×21				
	SH10D×22				
15D	SH10D×24			43	5
	SH12D×8	7	70	20	
	SH12D×10	12	120	24	
	SH12D×11	20.5	205	28	
	SH12D×12			31	6.5
	SH12D×13	29.5	295	32	
	SH12D×14			38	8
	SH12D×16	59	590	40	
	SH12D×17			41	11
	SH12D×18			43	
19D	SH12D×19			48	13
	SH12D×21	70	700	52	
	SH12D×22				13
	SH12D×24				
	SH12D×27				
	SH15D×12				
	SH15D×13				
	SH15D×14				
	SH15D×16				
	SH15D×17				
22D	SH15D×18				13
	SH15D×19				
	SH15D×21				12
	SH15D×22				
	SH15D×24	140	1400		12
	SH15D×26				
	SH15D×27				12
	SH15D×30				
	SH15D×32				13
	SH15D×36				
27D	SH19D×17				13
	SH19D×18	200	2000		
	SH19D×19				15
	SH19D×21	180	1800		
	SH19D×22				11
	SH19D×24	200	2000		
	SH19D×27	180	1800		11
	SH19D×30				
	SH19D×32				15
	SH19D×34	200	2000		
32D	SH19D×36				15
	SH19D×41	180	1800		
	SH22D×19				15
	SH22D×22	280	2800		
	SH22D×24				15
	SH22D×27	500	5000		
	SH22D×30	420	4200		15
	SH22D×32				
	SH22D×34	500	5000		15
	SH22D×36	420	4200		
36D	SH22D×41				15
	SH22D×46	280	2800		
	SH22D×50				15
	SH22D×55	500	5000		
	SH27D×22	255	2550		15
	SH27D×24	350	3500		
	SH27D×27	490	4900		15
	SH27D×30	670	6700		
	SH27D×32	750	7500		15
	SH27D×34	670	6700		
42D	SH27D×36				15
	SH27D×41				
	SH27D×46	750	7500		15
	SH27D×50				
	SH32D×27				15
	SH32D×30				
	SH32D×32	850	8500		15
	SH32D×34				
	SH32D×36				15
	SH32D×41				
48D	SH32D×46				15
	SH32D×50	1200	12000		
	SH32D×55				15
	SH32D×60				
	SH32D×60				15
	SH32D×60				
	SH32D×60				15
	SH32D×60				
	SH32D×60				15
	SH32D×60				

Tohnichi Head Size	Model (Body Size × Width)	Allowable Torque		Outside Width C [mm]	Thickness t [mm]
		[N·m]	[kgf·cm]		
15D	SH15D×12				8
	SH15D×13	59	590	38	
	SH15D×14				
	SH15D×16				13
	SH15D×17				
	SH15D×18			51	
	SH15D×19				
	SH15D×21				12
	SH15D×22				
	SH15D×24	140	1400		
	SH15D×26				
19D	SH15D×27			60	
	SH15D×30				12
	SH15D×32				
	SH15D×36			68	13
	SH19D×17				
	SH19D×18	200	2000		15
	SH19D×19			54	
	SH19D×21	180	1800		11
	SH19D×22				
	SH19D×24	200	2000	60	11
22D	SH19D×27	180	1800		
	SH19D×30				15
	SH19D×32				
	SH19D×34	200	2000	76	11
	SH19D×36				
	SH19D×41	180	1800		15
	SH22D×19				
	SH22D×22	280	2800	63	15
	SH22D×24				
	SH22D×27	500	5000		15
27D	SH22D×30	420	4200	78	
	SH22D×32				15
	SH22D×34	500	5000		
	SH22D×36	420	4200		15
	SH22D×41			85	
	SH22D×46	280	2800		15
	SH22D×50			103	
	SH22D×55	500	5000	108	15
	SH27D×22	255	2550	65	
	SH27D×24	350	3500	72	15
32D	SH27D×27	490	4900	82	
	SH27D×30	670	6700	88	15
	SH27D×32	750	7500	92	
	SH27D×34	670	6700	90	15
	SH27D×36			94	
	SH27D×41			98	15
	SH27D×46	750	7500	100	
	SH27D×50			103	15
	SH32D×27				
	SH32D×30				15
36D	SH32D×32	850	8500	105	
	SH32D×34				15
	SH32D×36				
	SH32D×41				15
	SH32D×46				
	SH32D×50	1200	12000		15
	SH32D×55			120	
	SH32D×60				15
	SH32D×60				
	SH32D×60				15
	SH32D×60				

Inch Size Models

Commonly used in the airline industry and for specific American product installation and maintenance.

Tohnichi Head Size	Model (Body Size × Inner Width [in])	Inner Width [mm]	Allowable Torque N·m [lbf·in]	Outside Width C mm [in]	Thickness t mm [in]
8D	SH8D×1/4	6.35	2.5 [22]	15 [0.59]	3.5 [0.14]
	SH8D×5/16	7.94	7 [61]	20 [0.79]	4.5 [0.18]
	SH8D×3/8	9.53	14 [123]	25 [0.98]	
	SH8D×7/16	11.11		27 [1.06]	5.5 [0.22]
	SH8D×1/2	12.7	15 [132]	29 [1.14]	
	SH8D×9/16	14.29			6.5 [0.26]
10D	SH10D×1/4	6.35			
	SH10D×5/16	7.94	20 [177]	28 [1.10]	
	SH10D×3/8	9.53			6.5 [0.26]
	SH10D×7/16	11.11			
	SH10D×1/2	12.7	25 [221]	32 [1.26]	
	SH10D×9/16	14.29		39 [1.54]	
12D	SH12D×3/8	9.53	12 [106]	24 [0.94]	5 [0.20]
	SH12D×7/16	11.11	20.5 [181]	31 [1.22]	
	SH12D×1/2	12.7	29.5 [261]	32 [1.26]	6.5 [0.26]
	SH12D×9/16	14.29			
	SH12D×5/8	15.88	59 [522]	40 [1.57]	10 [0.39]
	SH12D×11/16	17.46	70 [620]	41 [1.61]	11 [0.43]
15D	SH15D×1/2	12.7		38 [1.50]	8 [0.31]
	SH15D×9/16	14.29	59 [522]		
	SH15D×5/8	15.88			
	SH15D×11/16	17.46	140 [1239]	51 [2.01]	13 [0.51]
	SH15D×3/4	19.05			

The Relationship between Interchangeable Heads and Torque Wrenches

Tohnichi's interchangeable head wrenches have specific diameter round ends that fit into corresponding head base openings. Head and wrench model names include the diameter sizes so heads can be matched to wrenches that will accept those heads.

For example: SH15D×17 will fit on CL100N×15D

A variety of different head types (SH, RH, QH, RQH, FH, DH, AH and SH-N) can be used on one wrench or different types of wrenches such as CL (for tightening) and CEM3-G (for inspection) can use the same head that has the corresponding diameter size.



RH

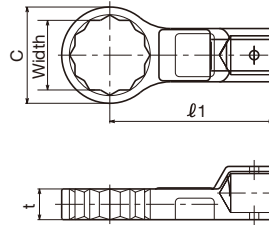
Ring Head

RoHS

The RH type ring heads guarantee the safe work as the axes of bolt and RH ring head are always aligned and prevent the heads will drop.

Note: RH8D×5.5 to RH8D×7 are single hex shape.

Tohnichi Head Size	Model (Body Size × Width)	Allowable Torque		Outside Width C [mm]	Thickness t [mm]
		[N·m]	[kgf·cm]		
8D	RH8D×5.5	1.5	15	10.5	5
	RH8D×6	2.4	24	11	
	RH8D×7	3.6	36	12	6
	RH8D×8	7.2	72	13.5	
	RH8D×10	12.2	122	15.5	
	RH8D×11			17	7
10D	RH10D×12	15	140	18	
	RH10D×13			19	
	RH10D×8	7.2	72	12.5	6
	RH10D×10	12.2	122	15.5	7
	RH10D×11	20	200	17	
	RH10D×12			18	
12D	RH12D×13			19	
	RH12D×14			20	
	RH12D×16			22	
	RH12D×17	25	250	24	8
	RH12D×18			25	
	RH12D×19			26	
15D	RH15D×21			28	
	RH15D×22			29	
	RH12D×8	7.2	72	15	5
	RH12D×10	12.2	122	16	
	RH12D×11	20	200	18	5.5
	RH12D×12	29.5	295	20	6.5
12D	RH12D×13			21	
	RH12D×14			20	
	RH12D×16	59	590	24	10
	RH12D×17			25	
	RH12D×18			26	12
	RH12D×19	70	700	29	
15D	RH15D×21			30	13
	RH15D×12	29.5	295	19	7
	RH15D×13			22	
	RH15D×14	59	590	25	8
	RH15D×17	100	1000	26	10
	RH15D×19			28	
15D	RH15D×21			31	
	RH15D×22	140	1400	34	13
	RH15D×24			37	
	RH15D×27			41	
	RH15D×30				
	RH15D×30				



RH15D×17

Tohnichi Head Size	Model (Body Size × Width)	Allowable Torque		Outside Width C [mm]	Thickness t [mm]
		[N·m]	[kgf·cm]		
19D	RH19D×14	59	590	22.5	8
	RH19D×17			27	10
	RH19D×18	100	1000	28	11
	RH19D×19			29	
	RH19D×21	166	1660	32	13
	RH19D×22			35	
19D	RH19D×24			39	
	RH19D×27			41	
	RH19D×30	200	2000	44	15
	RH19D×32			47	
	RH19D×34			49	
	RH19D×41			55	
22D	RH22D×19	166	1660	30	14
	RH22D×22	255	2550	34	
	RH22D×24	490	4900	37	15
	RH22D×27			41	
	RH22D×30			44	
	RH22D×32			45	
22D	RH22D×34	500	5000	49	17
	RH22D×36			51	
	RH22D×41			57	
	RH22D×46			62	
	RH27D×22	255	2550	38	14
	RH27D×24	350	3500	42	15
27D	RH27D×27	490	4900	46	16
	RH27D×30	670	6700	48	19
	RH27D×32	750	7500	51	20
	RH27D×34	670	6700	52	21
	RH27D×36			58	22
	RH27D×41	750	7500	64	24
32D	RH32D×46			69	26
	RH32D×27	490	4900	43	16
	RH32D×30	670	6700	46.5	
	RH32D×32	860	8600	49	18
	RH32D×34			52	
	RH32D×36			53	
32D	RH32D×41			59	24
	RH32D×46	1200	12000	65	
	RH32D×50			69	27
	RH32D×55			75	
	RH32D×60			80	29
	RH32D×60				

Inch Size Models

Commonly used in the airline industry and for specific American product installation and maintenance.

Tohnichi Head Size	Model (Body Size × Inner Width [in])	Inner Width [mm]	Allowable Torque		Outside Width C mm [in]	Thickness t mm [in]
			N·m [lbf·in]			
8D	RH8D×1/4	6.35	3.6 [31]		11 [0.43]	5 [0.20]
	RH8D×5/16	7.94	7.2 [63]		13.5 [0.53]	6 [0.24]
	RH8D×3/8	9.53	12.2 [108]		15 [0.59]	7 [0.28]
	RH8D×7/16	11.11	15 [132]		17 [0.67]	
10D	RH10D×1/4	6.35			11 [0.43]	
	RH10D×5/16	7.94	7.2 [64]		12.5 [0.49]	6 [0.24]
	RH10D×3/8	9.53	12.2 [108]		15.5 [0.61]	7 [0.28]
	RH10D×7/16	11.11			17 [0.67]	
12D	RH12D×1/2	12.7	25 [221]		19 [0.75]	8 [0.31]
	RH12D×9/16	14.29			20 [0.79]	
	RH12D×3/8	9.53	12.2 [108]		16 [0.63]	5 [0.20]
	RH12D×7/16	11.11	20 [177]		18 [0.71]	5.5 [0.22]
12D	RH12D×1/2	12.7	29.5 [261]		21 [0.83]	6.5 [0.26]
	RH12D×9/16	14.29			20 [0.79]	
12D	RH12D×5/8	15.88	59 [522]		24 [0.94]	10 [0.39]

Tohnichi Head Size	Model (Body Size × Inner Width [in])	Inner Width [mm]	Allowable Torque		Outside Width C mm [in]	Thickness t mm [in]
			N·m [lbf·in]			
15D	RH15D×1/2	12.7	29.5 [261]		19 [0.81]	7 [0.28]
	RH15D×9/16	14.29			22 [0.87]	
	RH15D×5/8	15.88	59 [522]		25 [0.98]	8 [0.31]
	RH15D×11/16	17.46	100 [885]		26 [1.06]	10 [0.39]
15D	RH15D×3/4	19.05	140 [1239]		28 [1.10]	13 [0.51]



The Relationship between Interchangeable Heads and Torque Wrenches

Tohnichi's interchangeable head wrenches have specific diameter round ends that fit into corresponding head base openings. Head and wrench model names include the diameter sizes so heads can be matched to wrenches that will accept those heads.

For example: SH15D×17 will fit on CL100N×15D

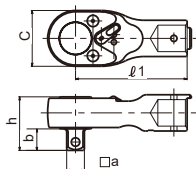
A variety of different head types (SH, RH, QH, RQH, FH, DH, AH and SH-N) can be used on one wrench or different types of wrenches such as CL (for tightening) and CEM3-G (for inspection) can use the same head that has the corresponding diameter size.



QH

Ratchet Head

RoHS



QH15D

As the QH type ratchet heads need only small swing for tightening, they suit for operations in narrow spaces.

Head Size	Model	Dimensions			
		Sq. Drive a [mm]	Outside Width c [mm]	h [mm]	b [mm]
NEW 6D	QH6D		15	15.5	
8D	QH8D	6.35	23	17.5	7.5
10D	QH10D-1/4		26	18.5	
	QH10D			22	
12D	QH12D	9.53	32	25.6	11
15D	QH15D-3/8		37.5	30.5	
	QH15D			33.5	14
19D	QH19D	12.7	40	38.4	15.4
22D	QH22D-1/2		51	41.5	15.5
	QH22D			46.5	20.5
27D	QH27D	19.05	70	49.7	21.5
32D	QH32D	25.4	74	55.7	26.5

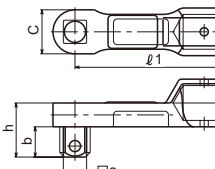
Note

- For the model having 25.4mm square drive, use a through-hole socket. QH15D-3/8 Tmax 100N·m
QH22D-1/2 Tmax 280N·m
- Ratchet protective cover is available. Refer to page 49.

DH

Square Drive Head

RoHS



DH15D

The DH square drive heads are the standard interchangeable head. They are useful when tightening a large number of matching screws with a common torque wrench. It is recommended to keep one set. They are used with sockets.

Head Size	Model	Dimensions			
		Sq. Drive a [mm]	Outside Width c [mm]	h [mm]	b [mm]
10D	DH10D	9.53	18	22.5	13
12D	DH12D			23	
15D	DH15D		22		
19D	DH19D	12.7	24	29.5	16.5
22D	DH22D		34	43.3	
27D	DH27D	19.05	42	44.5	23.5
32D	DH32D	25.4	50	58.5	30.25

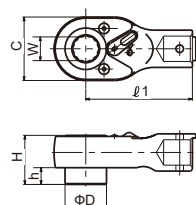
Note

DH32D is a through hole type.

RQH

Female Ratchet Head

RoHS



RQH15D×17

As the RQH type ratchet heads need only small swing for tightening, they suit for operations in narrow and low ceiling spaces.

Head Size	Model (Body Size × Width)	Dimensions			
		D [mm]	Outside Width C [mm]	H [mm]	h [mm]
12D	RQH12D×12				
	RQH12D×14	20.5	32	24.1	
15D	RQH15D×14				
	RQH15D×17	24.5	37.5	29	
	RQH19D×17				10
19D	RQH19D×19	31	45	28	
	RQH19D×22				
22D	RQH22D×22	35.2	51	35	
	RQH22D×24				

Ratchet Protective Cover for QH/RQH

Fit on your Tohnichi Ratchet Head to protect your work



872 with QH12D

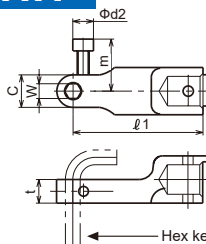
870

Part #	Applicable Interchangeable Head
870	QH8D
871	QH10D
872	QH12D/RQH12D
874	QH15D/RQH15D
875	QH19D
876	RQH19D
878	QH22D/RQH22D

HH

Hex Head

RoHS



HH10D×6

HH hex-head is for hexagon socket head bolts. A hex key can be inserted.

The HH hex-head is for hex. socket head cap screws.

Head Size	Model (Body Size × Width)	Dimensions			
		Outside Width C [mm]	t [mm]	m [mm]	φd2 b [mm]
8D	HH8D	12	14.5	-	-
	HH10D×5	11			
10D	HH10D×6	12	8		
	HH10D×8	15			
	HH12D×5	11		19	7
12D	HH12D×6	14	10		
	HH12D×8	15			
	HH12D×10	17			
	HH15D×8	14			
15D	HH15D×10	17		21	
	HH15D×12	20			
	HH15D×14	21.5			
	HH19D×10	17	13		8.5
	HH19D×12	21.5			
19D	HH19D×14	23		23	
	HH19D×17	27			
	HH19D×19	29			
	HH22D×12	19.5			
	HH22D×14	27			
22D	HH22D×17	30	17	26	10
	HH22D×19	32			
	HH22D×22	35			

Note

- To be used with hex. key inserted.
- HH8D is not used with hex. key but interchangeable bit.
- Insertion of HH10D×5 and HH10D×6 are hexagon. Others are double hexagon.



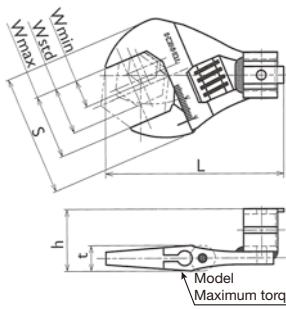
HH8D

Bits are sold separately. Refer to page 10.

AH/AH2

Adjustable Open End Head

RoHS



AH15D2x30

AH is easy and convenient to use for applications that require different size bolt heads. Available currently only for the 15mm diameter root shaped Tohnichi torque wrenches.

Head Size	Model (Body Size × Width)	Allowable Torque		Inner Width Min.-Standard- Max.[mm]	Dimensions			
		[N·m]	[kgf·cm]		S [mm]	L [mm]	t [mm]	h [mm]
10D	AH10D×13	25	250	3-8-13	36	57	9	23
	AH10D×26			7-17-26	49	62	11	25
12D	AH12D×13	30	300	3-8-13	36	66	9	23
	AH12D×26			7-17-26	49	71	11	26
15D	AH15D2×30	100	1000	13-22-30	60	84	12	32
	AH15D2×36	140	1400	13-24-36	65	87	13	33

Note Use with a click type torque wrench.

PH

Pipe Wrench Head

RoHS



PH15D×350

The PH heads suit for use with pipes and plumbing applications.

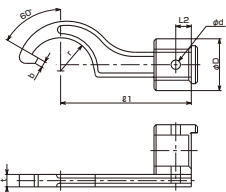
Head Size	Model (Body Size × Width)	Pipe Wrench Head Max. Length [mm]	Applicable Pipe Diameter [mm]	Standard Pipe Diameter [mm]	Recommendable Torque Wrench
15D	PH15D×350				
19D	PH19D×350	350	13-38	25.5	CSP
22D	PH22D×350				
	PH22D×450	450	26-52	39	

Note 1. PH can be used with CSP model (P.18) only.
2. PH head will not be provided individually, order it together with a CSP model. The PH head and the wrench are shipped in a fixed.
3. For graduated style, PHL models are available.

FH

Hook Head

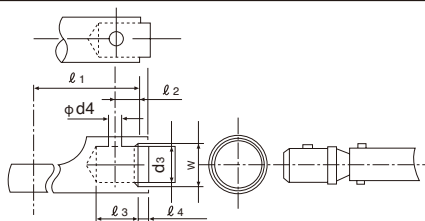
RoHS



FH

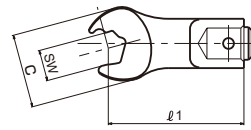
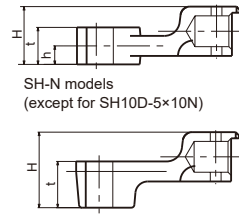
The FH hook heads are ideal for use with bearing locknut applications.

Head Size	Model (Body Size × Width)	Applicable Size of Nut Outside Diameter [mm]	Nominal Size of Screw	Dimensions							
				r [mm]	Ø [mm]	b [mm]	t [mm]	H [mm]	D [mm]	L2 [mm]	d [mm]
15D	FH15D×30	30-38	M20	16							
	FH15D×38	38-45	M25	20		3	6	30			
	FH15D×45	45-52	M30	24					25	7.5	4.5
	FH15D×52	52-58	M35	27	60	3.5	7	30.5			
19D	FH15D×58	58-65	M40	31		4.5		31			
	FH19D×65	65-75	M45, M50	35.5			8	35.5	29	9.5	
22D	FH22D×75	75-85	M60, M65	39				38.5	32	11	5.5
	FH22D×85	85-98	M70, M75	45.5	45	5	10	40			

**SH-N**

Open End Head with Notch

RoHS

SH-N models
(except for SH10D-5×10N)

SH10D-5×10N



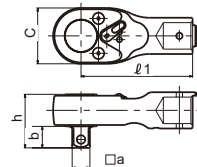
SH10D-1×10N

The notch creates speed in the tightening process by grasping the side of the fastener without removing the wrench. Ideal for brake line assembly.

Head Size	Model (Body Size × Width)	Allowable Torque		Outside Width C [mm]	Dimensions			
		[N·m]	[kgf·cm]		H [mm]	t [mm]	h [mm]	
10D	SH10D-1×10N				18.75	12	6	
	SH10D-3×10N	22.5	225		20.25		7.5	
	SH10D-5×10N	19	190		24.5	15	-	
	SH10D-4×10N			24	17.75		5	
	SH10D-9×10N	22.5	225		18.75	10		
	SH10D×11N				18.8	12	6	
	SH10D×12N	25	250	32	16	6.5	3.25	
	SH12D×11N			30	19	7.5	-	
	SH12D-1×12N				21	12	6	
	SH12D-3×12N	30	300	32	22.5	15	7.5	
12D	SH12D-5×12N				26		-	
	SH12D-4×12N				20	10	5	
	SH12D-1×14N				21	12	6	
	SH12D-3×14N	40	400	35	22.5	15	7.5	
	SH12D-5×14N				26		-	
	SH12D-4×14N				20	10	5	
	SH12D-1×17N				21	12	6	
	SH12D-3×17N	50	500	38	22.5	15	7.5	
	SH12D-5×17N				26		-	
	SH12D-4×17N				20	10	5	

CPQH

Corrosion-Resistant Ratchet Head



CPQH12D

QH type ratchet head with anticorrosion coating is ideal for wet conditions and features ratcheting action for narrow spaces.

Head Size	Model	Dimensions			
		Sq. Drive a [mm]	Outside Width c [mm]	h [mm]	b [mm]
10D	CPQH10D		26	22	11
12D	CPQH12D	9.53	32	25.6	
15D	CPQH15D		37.5	33.5	14
19D	CPQH19D	12.7	40	38.4	15.4

Common Dimensions for Interchangeable Head

Model	Dimensions [mm]						
	l1	l2	l3	l4	d3	d4	W
SH8D, RH, QH, HH	35	4	10	2	8	3.0	9
SH10D, RH, QH, HH, DH, SH-N	44	5	12	2.5	10	3.5	12
SH12D, RH, QH, HH, DH, RQH	53	6	14	3	12	3.5	14
SH15D, RH, QH, HH, DH, RQH, FH	63	7.5	17	3	15	4.5	17
SH19D, RH, QH, HH, DH, RQH, FH	80	9.5	21	3	19	4.5	21
SH22D, RH, QH, HH, DH, RQH, FH	100	11	24	3.5	22	5.5	24
SH27D, RH, QH, DH	125	13.5	29	5	27	6.5	30
SH32D, RH, QH, DH	160	16	34	7	32	6.5	35

Note When requesting a special head that is used with various types of torque wrench, it is strictly required to follow the "l1" dimension to keep torque accuracy. Any deviation from the "l1" dimension affects torque accuracy.



Auxiliary Equipment

To facilitate effective and convenient use of Tohnichi products, a number of auxiliary parts and special tools are available (Some torque tools are provided with the necessary auxiliary parts). We are ready to manufacture custom-made parts and tools to meet your requirements.

For Torque Wrench

QH/QL/PQL/QSP PROTECTIVE HEAD COVER

Fit on your Tohnichi Ratchet Head to protect your work



Part #	Applicable Interchangeable Head & Model	
870	QH8D	QL-PQL2N-15N/-MH, QSP1.5N4-12N4
871	QH10D	QL-PQL-QSP25N/-MH
872	QH12D/RQH12D	QL-PQL-QSP50N/-MH
873	-	QL-PQL-QSP100N4/-MH
874	QH15D/RQH15D	QL-PQL-QSP140N/-MH
875	QH19D	QL-PQL-QSP200N4/-MH
876	RQH19D	-
877	-	QL-PQL-QSP280N4/-MH
878	QH22D/RQH22D	QL-PQL-QSP420N

TIQLE ADJUSTING TOOL FOR TIQLE

For previous large QLE and current TIQLE models



Part #	Applicable Model
301	TIEQLE750N-TIEQLE1400N

SP THRUSTING TOOL FOR SP

This tool is used to set the torque of preset types SP, RSP, QSP and CSP torque wrenches.



Part #	Tool #	Applicable Model
310	A-1	QSP/CSP1.5N-6N
311	A-2	SP2N-SP19N, QSP/CSP12N, QSP/CSP25N
312	A-3	SP38N, SP67N, QSP/CSP50N-140N
313	A-4	SP120N-SP310N, QSP200N-QSP280N
314	A-5	QSP/CSP420N, BQSP/BCSP400N
315	A-6	SP420N, SP560N

QSP3 ADJUSTING TOOLS FOR QSP3



Part #	Dimensions [mm]	Applicable Model
931	2.5 × 1.5 × 6	QSP/CSP25N3, QSP1.5N4-12N4 SP2N2-19N2, SP19N2-N BQSP/BCSP10N-20N CSP1.5N4-CSP12N4 QSPCA6N, 12N
930	4 × 2.5 × 8	QSP/CSP50N3-QSP/CSP280N3 SP38N2-N, SP/RSP38N2-310N2 BQSP/BCSP40N-300N MQSP50N-200N, MCSP50N-140N QSPCA30N, 70N
932		

DB TOOL SET FOR DB

This set of pliers is used to adjust the torque for dial type torque wrenches and torque checkers.



Part #	Applicable Model
316	DB, DBE, CDB-S, T-S, DOT

CARRYING CASE



842



846

Part #	Dimensions [mm]	Weight [kg]
842	QL50N/-MH, MTQL40N/70N, QL100N4-MH, CL50N×12D/-MH, CL50N×15D/-MH, CL100N×15D-MH H60 × W400 × D70	0.25
843	QL140N/-MH, MTQL140N, QL200N4/-MH, CL140N×15D/-MH, CL200N×19D/-MH H60 × W520 × D80	0.36
846	QL140N/-MH and below, MTQL and below, CL200N×19D/-MH and below H170 × W500 × D100	1.0
847	QL280N/-MH and below, CL280N×22D/-MH and below H170 × W740 × D100	1.6

For Torque Screwdriver

LTD, RTD ADJUSTING TOOL FOR LTD/RTD

This tool is used to adjust the torque of LTD and RTD torque screwdrivers.



Part #	Applicable Model
51	LTD/RTD15CN, LTD/RTD30CN
46	LTD/RTD60CN
47	LTD/RTD260CN
48	LTD/RTD500CN
49	LTD/RTD1000CN
1046	LTD/RTD120CN
1050	LTD2000CN2

LTD TIGHTENING TOOL FOR LTD

This tool makes tightening with large LTD much easier.



Part #	Applicable Model
31	LTD/RTD/NTD/RNTD500CN FTD400CN
32	LTD/NTD1000CN FTD8N, FTD16N
40	LTD2000CN, LTD2000CN2

LTD/RTD/MNTD HOOK SPANNER

This tool makes it easier to set the torque for mid. to large capacity torque screwdrivers.



Part #	Applicable Model
52	LTD/RTD260CN, MNTD120CN
53	LTD/RTD500CN, MNTD260CN
54	LTD1000CN, MNTD500CN
55	LTD2000CN, LTD2000CN2

NTD/RNTD ADJUSTING BAR FOR NTD/RNTD

This tool is used to set the torque of preset types NTD and RNTD screwdrivers.



Part #	Applicable Model
42	NTD/RNTD15CN-120CN
43	NTD/RNTD260CN, RNTDZ260CN
44	NTD/RNTD500CN-1000CN, RNTDZ500CN

TORQUE SCREWDRIVER ADAPTER

This accessory is used with TME2 and TM torque meters to check UNITORK and torque screwdrivers.



Part #	Applicable Model
30	LTD/RTD/NTD/RNTD FTD50CN-FTD400CN

Lubricant for repairing torque products EVERTORQUE

Model	Part #
EVERTORQUE	830



RoHS

Applicable Models and Parts

	Applicable Model	Applicable Part
Click Type Torque Wrench	QL, QLE2, CL, CLE2, PQL, PCL, YCL etc.	Thrusting; Steel Ball Scale Piece, Adjusting Screw; Thread
	WQL	Thrusting; Steel Ball Scale Piece, Adjusting Screw; Thread Screw Knob, Protector; Joint
	MPQL	Thrusting; Steel Ball Scale Piece, Adjusting Screw; Thread Ratchet, Marker Pipe; Joint
Click Type Torque Screwdriver	RTD, RNTD	Main Shaft, Toggle Sheet; Serration
	RTD, LTD, BMLD	Case, Adjusting Piece; Thread

Connecting Cable

* The cable length is 2m.

■ EPP16M3 Printer Connecting Cable

Part #	Applicable Model	Figure		Plug
383	DOT4-G (P.55), TDT3-G (P.57), LC3-G (P.58), TME2 (P.61), CD5 (P.69)			D-SUB 9 Pin Female
575	CTA2-G (P.23), CEM3-G/CEM3-P (P.35), CTB2-G (P.36), R-DT999 (P.69)			D-SUB 9 Pin Female

■ PC Connecting Cable

Part #	Applicable Model	Figure		Plug
575	CTA2-G (P.23), CEM3-G/CEM3-P (P.39), CTB2-G (P.40), R-DT999 (P.69)			D-SUB 9 Pin Female
584	CTA2-G (P.23), CEM3-G/CEM3-P (P.39), CTB2-G (P.40), R-DT999 (P.69)			USB A type
585	CPT-G (P.22)			D-SUB 9 Pin Female
383	DOT4-G (P.55), TDT3-G (P.57), LC3-G (P.58), TME2 (P.61), CD5 (P.69)			D-SUB 9 Pin Female
384	STC2-G (P.9), ST3-G (P.58), ATGE-G (P.59), BTGE-G (P.60)			USB A type
385	DOT4-G (P.55), TDT3-G (P.57), LC3-G (P.58)			USB A type
387	R-CM(P.29), SB-FH2(P.29)			RS232C Straight Female-Female

Quick Charger, Battery Pack, AC Adapter

■ Quick Charger

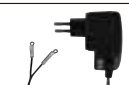
Model	Applicable Model	Figure
RoHS BC-3-G	CEM3-G/CEM3-P (P.39), CTA2-G (P.23) CTB2-G (P.40) (100-240V)	
RoHS BC-4-2	ST3-G (P.58)	

■ Battery Pack

Model	Applicable Model	Figure
RoHS BP-5	CTA2-G (P.23), CEM3-G/CEM3-P (P.39), CTB2-G (P.40)	
RoHS BP-7	STC2-G (P.9)	

■ AC Adapter

Model	Applicable Model	Figure
RoHS BA-6	DOT4-G (P.55), TDT3-G (P.57), LC3-G (P.58), CD5 (P.67)	
RoHS BA-7	STC2-G (P.9), ATGE-G (P.59), BTGE-G (P.60)	
RoHS BA-8W	TPC/TPC2 (P.68)	

Model	Applicable Model	Figure
RoHS BA-4	TME2 (P.61)	
RoHS BA-8R	R-CM (P.29), R-FMA (P.32.), R-BT (P.52)	



A3/AC3Semi-Automatic
Airtork

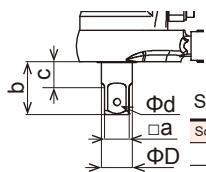
Direction RoHS



A50N3 Low provisional type



AC50N3 High provisional type



Sq. drive dimensions [mm]

Sq. style	a	b	c	ΦD	Φd
A	9.53	20.9	11	12	3.1
B	9.53	24.9	11	12	3.1
C	12.7	24.9	11	16	4.1
D	12.7	26.4	12.2	16	4.1



ACLS50N3 High provisional with limit switch type

Assembly

Angle

Pneumatic

Graduation

Push button

ISO6789:2017

- High speed and high precision bolt tightening by an integrated air motor and torque wrench
- New square drive head accommodates anti-vibration sockets
- A3: Low provisional torque type, AC3: High provisional torque type

Accuracy ±3%

S.I. Model	Torque Range [N·m]		Metric Model	Torque Range [kgf·cm]		American Model	Torque Range [lbf·in/lbf·ft]		Provisional Tightening Torque [N·m]	Free Speed [r.p.m.]	Air Pressure [MPa]	Hose Dia. [mm]	Overall Length [mm]	Sq. Drive [mm]	Sq. Style	Weight [kg]
	Min.-Max.	Grad.		Min.-Max.	Grad.		Min.-Max.	Grad.								
A10N3	3-10	0.1	A100M3	30-100	1	A90I3-3/8	30-90	1								1.0
A25N3	5-25	0.25	A250M3	50-250	2.5	A200I3-3/8	50-200	2.5	1.8	750		φ5	277		A	
A50N3	10-50	0.5	A500M3	100-500	5	A400I3-3/8	100-400	5						9.5	B	
-	-	-	-	-	-	A800I3-3/8	200-800	10							C	
-	-	-	-	-	-	A75F3-3/8	15-75	1	2.5	800		φ6	338		D	1.4
A100N3	20-100	1	A1000M3	200-1000	10	-	-	-			0.6			12.7		
A180N3	40-180	2	A1800M3	400-1800	20	A130F3-1/2	30-130	2	5				487			2.6
AC25N3	5-25	0.25	AC250M3	50-250	2.5	AC200I3-3/8	50-200	2.5							A	
AC50N3	10-50	0.5	AC500M3	100-500	5	AC400I3-3/8	100-400	5	11	1000		φ5	293			1.5
-	-	-	-	-	-	AC800I3-3/8	200-800	10						9.5	B	
-	-	-	-	-	-	AC75F3-3/8	15-75	1	17.5	900		φ6	334		C	2.0
AC100N3	20-100	1	AC1000M3	200-1000	10	-	-	-						12.7	D	
AC180N3	40-180	2	AC1800M3	400-1800	20	AC130F3-1/2	30-130	2	19	800			489			3.3

Note

1. Provisional tightening torque is not warranty the accuracy.
2. Use pneumatic sockets only.
3. Through hole type square drive.

A3LS/AC3LS

- A3/AC3 style with limit switch output
- Wired Error-Proofing, Pokayoke, system for assembly processes

Accuracy ±3%

S.I. Model	Torque Range [N·m]		Metric Model	Torque Range [kgf·cm]		American Model	Torque Range [lbf·in/lbf·ft]		Provisional Tightening Torque [N·m]	Free Speed [r.p.m.]	Overall Length [mm]	Square Drive [mm]	Weight [kg]
	Min.-Max.	Grad.		Min.-Max.	Grad.		Min.-Max.	Grad.					
ALS10N3	3-10	0.1	ALS100M3	30-100	1	ALS90I-3/8	30-90	1					
ALS25N3	5-25	0.25	ALS250M3	50-225	2.5	ALS200I3-3/8	50-200	2.5	1.8	750	277		1.2
ALS50N3	10-50	0.5	ALS500M3	100-500	5	ALS400I3-3/8	100-400	5					
ACLS25N3	5-25	0.25	ACLS250M3	50-250	2.5	ACLS200I3-3/8	50-200	2.5				9.5	1.5
ACLS50N3	10-50	0.5	ACLS500M3	100-500	5	ACLS400I3-3/8	100-400	5	11	1000	293		
-	-	-	-	-	-	ACLS800I3-3/8	200-800	10					
-	-	-	-	-	-	ACLS75F3-3/8	15-75	1	17.5	900	334		2.2
ACLS100N3	20-100	1	ACLS1000M3	200-1000	10	-	-	-				12.7	
ACLS180N3	40-180	2	ACLS1800M3	400-1800	20	ACLS130F3-1/2	30-130	2	19	800	488		3.5

AURUNITORK/Pistol Type
Pneumatic Torque
Screwdriver

Direction



RoHS



AUR12.5N

Assembly

Pistol

Pneumatic

Graduation

Trigger

- High speed and high accuracy tightening
- Easy torque adjustment by scale with key

Accuracy ±5%

S.I. Model	Torque Range [N·m]		Metric Model	Torque Range [kgf·cm]		American Model	Torque Range [lbf·in]		Free Speed [r.p.m.]	Air Pressure [MPa]	Hose in Dia. [mm]	Standard Accessory Bit Ⓢ	Weight [kg]
	Min.-Max.	Grad.		Min.-Max.	Grad.		Min.-Max.	Grad.					
AUR5N	2-5	0.1	AU50R	20-50	1	AU50R-A	15-45	1	2100			#3	1.5
AUR12.5N	5-12.5	0.25	AU125R	50-125	2.5	AU125R-A	37.5-112.5	2.5	800	0.5	φ10	-	1.7
AUR25N	10-25	0.5	AU250R	100-250	5	AU250R-A	75-225	5	400			-	

Note

1. AUR5N has #3 bit, 6.35 HEX, with a double bit. Any other bits are available in the local market.
2. AUR12.5N and AUR25N have a fixed 9.53mm square drive. Use pneumatic sockets only.

Standard Accessories

1. Torque adjusting key
2. Supportive Handle for AUR25N/AURLS25N
3. W12 Open ended spanner for AUR25N/AURLS25N
4. Counter clockwise rotation has no torque control and it is loosening purpose only.

AURLS

- AUR style with limit switch output
- Wired Error-Proofing, Pokayoke, system for assembly processes

Accuracy ±5%

S.I. Model	Torque Range [N·m]		Metric Model	Torque Range [kgf·cm]		American Model	Torque Range [lbf·in]		Free Speed [r.p.m.]	Air Pressure [MPa]	Hose in Dia. [mm]	Standard Accessory Bit Ⓢ	Weight [kg]
	Min.-Max.	Grad.		Min.-Max.	Grad.		Min.-Max.	Grad.					
AURLS5N	2-5	0.1	AU50RLS	20-50	1	AU50RLS-A	15-45	1	2100			#3	1.5
AURLS12.5N	5-12.5	0.25	AU125RLS	50-125	2.5	AU125RLS-A	37.5-112.5	2.5	800	0.5	φ10	-	1.7
AURLS25N	10-25	0.5	AU250RLS	100-250	5	AU250RLS-A	75-225	5	400			-	

POKA Patrol, Count Checker
CNA-4mk3

Refer to page 27.

* Sold Separately

HACBattery Operated
Semi-Automatic
Torque Wrench

Direction

RoHS



HAC50N

Battery Reference

For battery and charger, Hitachi Koki UC18 series are available commercially.

Battery Charger

BC18YSL3



Battery

BP1830C

BP1860

**Note**

1. Guideline tightening No. is 1500 operations for BP1830C and 3000 operation for BP1860.
2. The guideline is in case of middle joint. It is subject to change due to joint coefficient.

* Bluetooth is a registered trademark of Bluetooth SIG, Inc.

Assembly

Electric

Re-Chargeable

Graduation

Trigger

ISO6789:2017

- More reasonable and accurate than electric hand nutrunner
- Provisional tightening by electric motor and final tightening by hand. Two in one function.
- Pokayoke function is equipped as standard.
- Capable of calibrating by torque wrench tester

Accuracy ±3%

S.I. Model	Torque Range [N·m]		Max. Provisional Tightening torque	Free Speed [r.p.m.]	Overall Length [mm]	Square Drive [mm]	Weight [kg]
	Min.-Max.	Grad.					
HA25N	5~25	0.25	4	1000	406	9.53	1.5
HAC25N							1.9
HAC50N	10~50	0.5	11	1100	445	12.7	2.4
HAC100N	20~100	1	17.5	1000	491		2.8
HAC140N	30~140				557		3.6
HAC200N	40~200	2	30	580	670		

Note

1. Provisional torque is easily changed in 3 levels.
2. Battery charger, Battery, Balancer, Receiver/R-BT, and Adapter/BA-8 are optional.
3. Contact to Tohnichi for condition of wireless equipment in each country.

Standard Accessories

Hex bit W=4/Adjusting tool



HAC with balancer



R-BT

Balancer

Model	Applicable model
343	HAC25N, 50N
344	HAC100N, 140N, 200N

Bluetooth® Receiver

Model	Version
R-BT	V3.0

Note

1. It is receivable up to 4 pcs of HAC.
2. Supplied with DC24V input terminal
3. Communication distance is 10m.

R-BT AC Adapter

Model
BA-8R

Note

AC100-240V is applicable.



BA-8R

HATHANDYTORK/
Battery Operated
Torque Screwdriver

Direction



HAT

HATR



HAT25N

HAT Optional Accessories

Battery

BP-12



Model	Description
BP-12	DC 12V

Battery Charger

BC-1



Part #	Model
820	BC-1 (AC100V)

Assembly

Pistol

Re-Chargeable

Graduation

Trigger

- Easy calibration check with standard torque wrench tester
- Available with reverse and as FH version

Accuracy ±5%

S.I. Model	Torque Range [N·m]		Free Speed [r.p.m.]	Voltage DC [V]	Square Drive [mm]	Weight [kg]
	Min.-Max.	Grad.				
HAT25N	10-25	0.5	700	12	9.5	1.8
HATR25N			140			

Note

1. Torque accuracy is based upon static torque measured by torque wrench tester.
2. HATR/HATRFH has a reverse mode function.
3. HATFH/HATRFH is error-proofing (Pokayoke) type, and it can be used only with R-CM receiver with M-FH radio module (sold separately) as count verification system.
4. Use pneumatic sockets only.
5. HAT battery and battery charger are optional.
6. It is designed for 100V usage only.

Standard Accessories

1. W4 hex key
2. Supportive handle for HAT25N, HATR25N, HATFH25N, HATRFH25N

HATFH

- Wireless error-proofing, Pokayoke, system for HAT
- Tightening completion signal output to eliminate missed tightening

Accuracy ±5%

S.I. Model	Torque Range [N·m]		Free Speed [r.p.m.]	Voltage DC [V]	Square Drive [mm]	Weight [kg]
	Min.-Max.	Grad.				
HATFH25N	10-25	0.5	700	12	9.5	1.8
HATRFH25N			140			

Receiver
R-CM

Refer to page 28 for wireless Pokayoke system configuration.

*Sold separately

POKA Patrol, Count Checker
CNA-4mk3

Refer to page 27.



* Sold Separately



PTA-G-BT

Direction Fully-Automatic Electric Torque Screwdriver



PTA10N-G-BT
with optional battery



PTA-G-BT Setting software

* Bluetooth is a registered trademark of Bluetooth SIG, Inc.

Assembly Electric Pistol Trigger Bluetooth®

RoHS

- Torque & angle monitoring function provides double tightening prevention
- No controller necessary, data transmission by Bluetooth® communication
- Torque checking with a standard torque wrench tester.

Torque Accuracy ±5%, Angle Accuracy ±5%

Model	Torque Range [N·m]		Torque Range [kgf·cm]		Torque Range [lbf·in]		Free Rotation Speed [r.p.m]		Overall Length	Overall Height	Weight
	Min.-Max.	Grad.	Min.-Max.	Grad.	Min.-Max.	Grad.	Standard joint	Hard joint	[mm]	[mm]	[kg]
PTA5N-G-BTA	2-5	0.01	20-50	0.1	20-45	0.1	1000	500	240	229	1.0 (1.7)
PTA510N-G-BTA	4-10	0.02	40-100	0.2	40-90	0.2	500	450	259	(297)	1.1 (1.8)

Note

1. The value with in () includes a battery pack.
2. Counterclockwise rotation has no torque control. It is loosening purpose only.
3. Battery and battery charger are not included. Purchase them at local store.
4. Contact Tohnichi for status of wireless certification acquisition for each country.

Bluetooth® Receiver

Model	Version
R-BT	V3.0

Note

1. It is available up to 4 pcs of PTA-G-BT at relay output mode, or one by one at data transfer mode
2. Supplied with DC24V input terminal
3. Communication distance is 10m.



R-BT

Battery & Battery Charger

Model	Version
EYFB50B	Panasonic, 18V battery
EY0L82B	Panasonic, 120V, 220-240V

Note

1. Battery pack and Battery charger will not be provided from Tohnichi, purchase them from local supplier.
2. Approximate 3500 spindle of tightening by a battery pack



EYFB50B

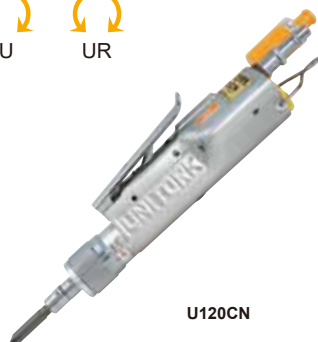


EY0L82B

U/UR

UNITORK/Straight & Pistol Type Pneumatic Torque Screwdriver

Direction



U120CN

Assembly Straight/Pistol Pneumatic Graduation Trigger/Lever

RoHS

- Accurate and stable tightening for small size screws
- Lever activated

Accuracy ±5%

S.I. Model	Torque Range [cN·m]		Metric Model	Torque Range [kgf·cm]		American Model	Torque Range [lbf·in]		Free Speed	Air Pressure	Hose in Dia.	Weight	Standard Accessory
	Min.-Max.	Grad.		Min.-Max.	Grad.		Min.-Max.	Grad.	[r.p.m]	[MPa]	[mm]	[kg]	Bit ④
U30CN	cN·m 10-30	0.5	U3	kgf·cm 1-3	0.05	U3-A	lbf·in 1-3	0.05	1600	0.4		0.32	#0
U60CN	20-60	1	U6	2-6	0.1	U6-A	2-5	0.1	1700	0.5	φ5	0.42	#1
U120CN	40-120	2	U12	4-12	0.2	U12-A	4-10	0.2	1400			0.48	
U250CN	100-250	5	U25	10-25	0.5	U25-A	8-22	0.5	1200	0.6		0.75	#2
U500CN	200-500	10	U50-2	20-50	1.0	U50-2-A	15-45	1.0	950	0.5	φ6	1.35	#3
U1000CN	400-1000		U100	40-100		U100-A	30-90		700	0.6		2.0	
ULR120CN	40-120	2	U12LR	4-12	0.2	U12LR-A	4-10	0.2	1300	0.5	φ5	0.56	#2
ULR250CN	100-250	5	U25LR	10-25	0.5	U25LR-A	8-22	0.5	1000	0.6	φ6	0.95	
UR500CN	200-500	10	U50R	20-50	1.0	U50R-A	15-45	1.0	950			1.45	#3

Note

1. U1000CN has a fixed square drive (9.53mm). Use socket bits or bit holders for this model.
2. UR has revers function, the counterclockwise rotation has no torque control, it is loosening purpose only.
3. U500CN, U1000CN, and UR500CN are pistol type with trigger mechanism.
4. U30CN is required Tohnichi dedicated bit, others are available a local market one.

Standard Accessories

1. One touch coupler for U30CN-U250CN, ULR120CN, and ULR250CN.
2. Bit holder for U1000CN

U/UR Optional Accessories

One Touch Joint (Female)

Part #	Applicable Model	Size
133	U30CN-U250CN	PF 1/4 Female
134		PF 1/4 Male
135		φ8 Hose Joint

Note

- # 133, # 134, # 135 one-touch joints cannot be attached to U / URs purchased before March 2020. Please consult with Tohnichi or the store where you purchased the product.

Tool Kit for disassembly/assembly for UNITORK

Part #	Applicable Model
162	U500CN, UR500CN
163	U1000CN

MG/MF

Multiple Unit/ Pneumatic Straight Style

Direction



MF12N

Automatic Straight Pneumatic Graduation Master Valve Operation RoHS

- Several units used simultaneously with loader
- Fully automatic tightening for complex bolt configurations

Accuracy ±5%

S.I. Model	Torque Range [cN·m/N·m]		Metric Model	Torque Range [kgf·cm]		American Model	Torque Range [lbf·in]		Free Speed	Air Pressure	Hose Dia.	Overall Length	Bit Holder	Weight
	Min.-Max.	Grad.		Min.-Max.	Grad.		Min.-Max.	Grad.	[r.p.m]	[MPa]	[mm]	[mm]	[mm]	[kg]
MG120CN	40-120	1	M12G	4-12	0.1	M12G-A	4-10	0.2	720		φ5	287-279		0.68
MG250CN	100-250	2.5	M25G	10-25	0.25	M25G-A	8-22	0.5	350				6.35 Hex	
MF6N	3-6	0.1	M60F	30-60	1	M60F-A	25-50	1	1000	0.4	φ6	411-		2.0
MF12N	6-12	0.2	M120F	60-120	2	M120F-A	50-100	2	500			403		

Note

1. MG/MF is 6.35 HEX bit holder type.
2. For designing a multi-spindle system, check the PCD, minimum distance between the spindles.
3. For first-time user, consult Tohnichi for assistance.

Standard Accessories

1. Torque adjusting key

AP2

Fully-Automatic Airtork

Direction



AP400N2



AP2200N2

Assembly

Pistol

Pneumatic

Graduation

Trigger

RoHS

- For large bolt tightening
- Automatic shut off at final torque set

Accuracy ±5%

S.I. Model	Torque Range [N·m]		Metric Model	Torque Range [kgf·m]		American Model	Torque Range [lbf·ft]		Free Speed [r.p.m.]	Air Pressure [MPa]	Hose Dia. [mm]	Overall Length [mm]	Sq. Drive [mm]	Reaction Arm (Sold Separately)	Weight [kg]
	Min.-Max.	Grad.		Min.-Max.	Grad.		Min.-Max.	Grad.							
AP220N2	100-220		AP22M2	10-22		AP160F2	80-160	5	277			275	19.0	SA400N/UA450N	4.7
AP400N2	200-400	10	AP40M2	20-40	1	AP300F2	150-300	10	175			364	25.4	SA700N/UA900N	6.7
AP700N2	300-700	20	AP70M2	30-70	2	AP500F2	220-500	10	79	0.5	φ12	375	31.75	SA1200N/UA1800N	8.1
AP1200N2	600-1200	50	AP120M2	60-120	5	AP900F2	450-900	25	46			508	31.75	UA3000N	15
AP2200N2	1000-2200		AP220M2	110-220		AP1600F2	800-1600	50	19.2			541	38.1	UA4500N	22
AP4000N2	2000-4000	100	AP400M2	200-400	10	AP3000F2	1500-3000	100	12						

Note

1. Reaction arm, such as UA or SA, must be used when operating AP models in order to absorb reaction force.
2. Use pneumatic sockets only.
3. Through hole type S.q drive.

Standard Accessories W5 hex key

Optional Accessories

SAShell Arm
Light Weight Reaction Arm

RoHS

Refer to page 68.



AP1200N2 with SA, Skolet

UAUniversal Arm
Heavy Duty Reaction Arm

RoHS

Refer to page 68.



AP700N2 with UA, Skolet

**ME/MC2**Multiple Unit/
Pneumatic
Straight Style

Direction



ME126N



MC400N2-TC

Automatic

Straight

Pneumatic

Graduation

Master Valve Operation

RoHS

- Several units used simultaneously with loader
- Fully automatic tightening for complex bolt configurations

Accuracy ±5%

S.I. Model	Torque Range [N·m]		Metric Model	Torque Range [kgf·cm/kgf·m]		American Model	Torque Range [lbf·in/lbf·ft]		Free Speed [r.p.m.]	Air Pressure [MPa]	Hose Dia. [mm]	Overall Length [mm]	Square Drive [mm]	Weight [kg]
	Min.-Max.	Grad.		Min.-Max.	Grad.		Min.-Max.	Grad.						
ME25N	10-25		M250E2	100-250		M250E2-A	90-220		1050			420.6 (457.6)	9.5	4.7
ME45N	20-45	0.5	M450E2	200-450	5	M450E2-A	200-400	5	540					5.3
ME80N	35-80	1	M800E2	350-800	10	M800E2-A	310-700	10	310	0.4	φ7.5	424 (461)	12.7	5.7
ME126N	50-126	2	M1260E2	500-1260	20	M1260E2-A	35-90	2	200					5.7
MC220N2	100-220		MC22M2	10-22		MC160F2	80-160		277			287.5	19.0	4.6
MC400N2	200-400	10	MC40M2	20-40	1	MC300F2	150-300	10	175					
MC700N2	300-700	20	MC70M2	30-70	2	MC500F2	220-500	20	79	0.5	φ8	376	25.4	6.7
MC1200N2	600-1200	50	MC120M2	60-120	5	MC900F2	450-900	50	46			388	31.75	8.1
MC2200N2	1000-2200		MC220M2	100-220		MC1600F2	700-1600	100	19.2			491	31.75	17
MC4000N2	2000-4000	100	MC400M2	200-400	10	MC3000F2	1500-3000	100	12			522	38.1	24

Note

1. Overall length in () is the length with TC sensor.
2. Auto-reverse/auto-reset functions.
3. For designing a multi-spindle system, check the PCD, minimum distance between the spindles.
4. Add "TC" for sensor-equipped version.
5. For first-time user, consult Tohnichi for assistance.

Standard Accessories Torque adjusting bar

Optional Accessories for Multiple Unit

Handle Valve, Supportive Handle



Part #	Type	Air Outlet	Overall Length [mm]	Application
188	Handle Valve	3/8	135	For Direct Connection
189	Handle Valve	1/8		Master Valve
187	Handle Assist	-	125	-

Switch Handle, Switch



Part #	Type	Application
331	Start Switch Handle	Multiple Unit Start Switch
332	Reset Switch Handle	Reset Switch
333	Quick Reverse Handle	Emergency Reset Switch

Slide Drive for ME, DCME



Model
FDME25N
FDME80N
FDME126N
FDME400N
FDME1200N



Master Valve

Part #	Application	Air Outlet × Air Supply × Number of Branch (ΦD) × (φd) × (n)
195	MF	1/2 × 1/4 × 4
196	ME	1/2 × 1/4 × 6
197		3/4 × 3/8 × 2
198	MC	1 × 3/8 × 4
199		1 × 3/8 × 6

Torque Sensor

Model	Applicable Model
TC-ME2	ME
TC-MCA	MC220N2, MC400N2
TC-MCB-2	MC700N2
TC-MCB	MC1200N2

Slide Drive for MC2



Model
FDMC400N
FDMC1200N



DOT E4-GDigital Torque
Wrench Tester

Calibration

Digital

Manual Handle

Direct Reading

RoHS

Direction



- Multiple units of measure through keypad setup
- "Loading system" stabilizes wrench during calibration procedure for optimal results.
- RS232C and USB output
- Max. 1000 measured data can be stored.



DOTE10N4-G



DOTE100N4-G



DOTE1000N4-G

CE

Accuracy ±1%+1digit																		
Model	Torque Range												Torque Wrench Max. Effective Length [mm]	Inlet Drive [mm]	Weight [kg]	Down Adapter		Hex Adapter
	cN·m		N·m		kgf·cm		kgf·m		lbf·in		lbf·ft					Part #	[mm]	[mm]
	Min.-Max.	1 digit	Min.-Max.	1 digit	Min.-Max.	1 digit	Min.-Max.	1 digit	Min.-Max.	1 digit	Min.-Max.	1 digit						
NEW																		
DOTE10N4-G	20.0-1000.0	0.1	0.2000-10.000	0.001	2.00-100.00	0.01	-	-	2.00-88.00	0.01	-	-	255	6.35	7	-	-	
DOTE20N4-G	200.0-2000.0	0.2	2.000-20.000	0.002	20.00-200.00	0.02	-	-	18.00-180.00	0.02	-	-		9.5		296 (P.68)	6.35	
DOTE50N4-G	-	-	5.00-50.00	0.005	50.0-500.0	0.05	-	-	44.0-440.0	0.05	3.60-36.00	0.005	410		12		10, 13, 19	
DOTE100N4-G	-	-	10.00-100.00	0.01	100.0-1000.0	0.1	-	-	88.0-880.0	0.1	7.30-73.00	0.01		12.7		277 (P.44) 6.35 297 (P.68) 9.5	12, 14, 17	
DOTE200N4-G	-	-	20.00-200.00	0.02	200.0-2000.0	0.2	-	-	170.0-1700.0	0.2	15.00-150.00	0.02	660		13	-	17, 22, 27 19, 24, 30	
DOTE500N4-G	-	-	50.0-500.0	0.05	-	-	5.00-50.00	0.005	440-4400	0.5	36.0-360.0	0.05	1020	19.0	47	-	22, 27, 29 30, 32, 36	
DOTE1000N4-G	-	-	100.0-1000.0	0.1	-	-	10.00-100.00	0.01	880-8800	1	73.0-730.0	0.1	1750	25.4	49	299 (P.68) 19.0	36, 46 41, 50	

Note

1. Auto-zero adjustment function.
2. Statistical function includes the number of sampling, max/min/mean values.
3. AC Adapter BA-6 (AC100-240V+/-10%) comes with

DOT E4-G Optional Accessories

Hex Adapter

Part #	Size [mm]
285	3/8-7-8-9
286	1/2-16-18-21
287	1/2-17-22-27
288	1/2-19-24-30

Connecting Cable (P.50)

Part #	Applicable Model
383	DOTE4-G - PC, EPP16M3 (D-SUB 9 Pin Female)
385	DOTE4-G - PC (USB A-Type)

Note

1. () shows pin shape of the connecting cables.
2. Contact Tohnichi for other types of connecting cables.

Printer (P.69)

Model
EPP16M3

Data Filing System (P.69)

Model
DFS

DOTAnalog Torque Wrench
Tester

Direction



Calibration

Dial Indicating

Manual Handle

Direct Reading

RoHS

- Dial indicating
- For clockwise testing
- Mechanical loading device



DOT100N

S.I. Model	Torque Range [N·m]		Metric Model	Torque Range [kgf·cm]		American Model	Torque Range [lbf·in/lbf·ft]		Torque Wrench Max. Effective Length [mm]	Inlet Drive [mm]	Weight [kg]	Standard Accessory	
	Min.-Max.	Grad.		Min.-Max.	Grad.		Min.-Max.	Grad.				Down Adapter (Female) [mm]	Hex Adapter (Male) [mm]
							lbf·in	lbf·ft					
DOT35N	5-35.0	0.1	350DOT	50-350	1	DOT300I	50-300	1		9.5	8	#296 (6.35)	10, 13, 19
DOT50N	5-50.0	0.2	500DOT	50-500	2	DOT430I	50-430	2	410			#277 (6.35), #297 (9.5)	12, 14, 17
DOT100N	10-100.0	0.5	1000DOT	100-1000	5	DOT1000I	100-1000	5		12.7			
							lbf·ft	lbf·ft					
DOT300N	30-300	1	3000DOT	300-3000	10	DOT200F	20-200	1	660	19	10	-	17, 22, 27 19, 24, 30
DOT700N	70-700	2	7000DOT	700-7000	20	DOT500F	50-500	2	1260		25	-	22, 27, 29 30, 32, 36

Note

Measurement for clockwise direction only.

◆ Calibration Kit for DOTE4-G/DOT

* Sold separately.
Refer to page 63.



Direction

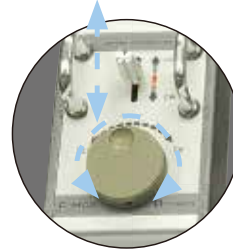


Digital Torque Wrench Tester
with Motor Driven Loader

- Suitable for large volume of calibrations
- Control loader with motor drive
- Motor drive can be retrofitted to DOTE4-G tester



DOTE500N4-G-MD2



Controller unit with speed adjusting and inching function



DOTE4-G-MD2

Complete Tester with Motor Drive Set

Model
DOTE20N4-G-MD2
DOTE50N4-G-MD2
DOTE100N4-G-MD2
DOTE200N4-G-MD2
DOTE500N4-G-MD2
DOTE1000N4-G-MD2

Note

Select the plug shape A or C type when ordering.

MD2-SET

Retrofit Motor Driven Unit

Model	Construction unit				Applicable Model
	Motor Unit w/Limiter	Controller Unit	Power Unit	Power Cord	
MD2-SET-SA	M-MD2-S	C-MD2	DR-MD2-S	PC-MD2A	DOTE20N4-G to 200N4-G
MD2-SET-SC				PC-MD2C	
MD2-SET-LA	M-MD2-L		DR-MD2-L	PC-MD2A	DOTE500N4-G, 1000N4-G
MD2-SET-LC				PC-MD2C	

Note

1. PC-MD2A come with A type plug for 100 - 125V.
PC-MD2C come with C type plug for 100 - 240V.



M-MD2-S
Motor and Limit Switch



C-MD2
Controller



DR-MD2-S
Motor power unit



PC-MD2A
Power cord

◆ Calibration Kit for DOTE4-G

* Sold separately.
Refer to page 63-64.

TCC2-G

Digital Torque
Wrench Tester

Direction



TCC2-G Standard Accessories

Model	Hex Adapter	Down Adapter	Others
TCC100N2-G	□12.7-W10, 13, 19 □12.7-W12, 14, 17	DA3-2 DA4-3	(1) Cradle for PC display (2) AC adapter for PC display (3) Power cable
TCC100N2-D-G		DA4-3	
TCC500N2-G	□12.7-W10, 13, 19 □12.7-W12, 14, 17 □19.05-W17, 22, 27 □19.05-W19, 24, 30	DA4-3 DA6-4	
TCC1000N2-G	□19.05-W17, 22, 27 □19.05-W19, 24, 30 □25.4-W36, 46 □25.4-W41, 50	DA6-4 DA8-6	

Note

Refer to page 64.

Calibration

Digital

Manual Handle

Direct Reading

- Torque calibrator with data management software with wide torque range
- Calibration, adjustment, and data management for torque wrenches
- Multiple measuring unit
- Controlled by Tablet PC

Accuracy $\pm 1\% + 1 \text{ digit}$

Model	CH	Torque Range [N·m]		Torque Range [kgf·cm]		Torque Range [lbf·in]		Torque Wrench Max. Effective Length [mm]	Inlet Drive [mm]	Dimensions [mm]			Weight [kg]
		Min.-Max.	1 digit	Min.-Max.	1 digit	Min.-Max.	1 digit			Overall Length	Width	Height	
TCC100N2-G	1	4-100	0.01	40-1000	0.1	35.5-885	0.1	575	12.7	714	388	375	35
	2	1-25	0.002	10-250	0.02	9-220	0.02	482	9.53				
TCC100N2-D-G	1	4-100	0.01	40-1000	0.1	35.5-885	0.1	575	12.7	714	388	375	35
	2	20-600 cN·m	0.05 cN·m	2-60	0.005	2-50	0.005	482	6.35				
TCC500N2-G	1	20-500	0.05	200-5000	0.5	180-4400	0.5	1035	19.05	1206	502	430	75
	2	4-100	0.01	40-1000	0.1	36-880	0.1	769	12.7				
TCC1000N2-G	1	50-1000	0.1	500-10000	1	445-8800	1	1700	25.4	1906	574	526	115
	2	20-500	0.05	200-5000	0.5	180-4400	0.5	1212	19.05				

TCC2-G Specifications

Display	10 inch Tablet PC
Tool Management Function	Torque wrench/driver registration date, measurement date memory (model, serial number, measurement point, measurement count, accuracy level, channel, measurer, past record) Maximum data amount (1000pcs worth) is based on testing torque wrenches of single force direction. When testing bi-direction torque wrenches such as BQSP, it will be less than 1000pcs)
Measurement Mode	Click mode / direct reading mode / manual mode
Zero Adjustment	Automatic (press C key)
Operating Temperature	0 ~ 40 °C
Power	100 ~ 240V 50/60Hz

◆ Calibration Kit for TCC2-G

* Sold separately. Refer to page 63.



TF Fully Automatic Digital Torque Wrench Tester

Direction



TF2000N

Calibration Digital Electric Power Direct Reading Fully Automatic

- Tool Management System with computer
- Ideal for Calibration Labs
- Fully automatic testing, judging, and data processing

Accuracy $\pm 1\% + 1\text{digit}$

Model	CH	Inlet Drive	Torque Range										Dimensions			Weight [kg]	Adapter		
			[N·m]		[kgf·cm]		[kgf·m]		[lbf·in]		[lbf·ft]		[mm]				[mm]		
			Min.-Max.	1 digit	Min.-Max.	1 digit	Min.-Max.	1 digit	Min.-Max.	1 digit	Min.-Max.	1 digit	Min.-Max.	1 digit	L		W	H	Hex
TF200N	1	12.7	5-200	0.05	50-2000	0.5	0.5-20	0.005	50-1700	0.5	5-140	0.05	1860			240	□12.7-17-22-27 □12.7-19-24-30 □9.53-10-13-19 □9.53-12-14-17	RA3mk2 RA4mk2	DA3-2 DA4-3
	2	9.53	0.5-20	0.005	5-200	0.05	0.05-2	0.0005	5-170	0.05	0.5-14	0.005							
TF500N	1	19.05	20-500	0.2	200-5000	2	2-50	0.02	200-4500	2	20-370	0.2				315	□19.05-22-27-29 □19.05-30-32-36 □9.53-10-13-19 □9.53-12-14-17	RA3mk2 RA4mk2	DA3-2 DA6-4
	2	9.53	2-50	0.02	20-500	0.2	0.2-5	0.002	20-450	0.2	2-37	0.02							
TF1000N	1	25.4	25-1000	0.25	250-10000	2.5	2.5-100	0.025	250-8500	2.5	25-700	0.25	2160	550	930	380	□25.4-36-46 □25.4-41-50 □12.7-17-22-27 □12.7-19-24-30 □9.53-10-13-19 □9.53-12-14-17	RA3mk2 RA4mk2 RA8mk2	DA3-2 DA4-3 DA8-6
	2	12.7	5-200	0.05	50-2000	0.5	0.5-20	0.005	50-1700	0.5	5-140	0.05							
	3	9.53	0.5-20	0.005	5-200	0.05	0.05-2	0.0005	5-170	0.05	0.5-14	0.005							
TF2000N	1	25.4	100-2100	1	1000-21000	10	10-210	0.1	1000-18000	10	100-1500	1	2660			415	□25.4-36-46 □25.4-41-50 □19.05-22-27-29 □19.05-30-32-36 □9.53-10-13-19 □9.53-12-14-17	RA3mk2 RA6mk2 RA8mk2	
	2	19.05	20-500	0.2	200-5000	2	2-50	0.02	200-4500	2	20-370	0.2							
	3	9.53	2-50	0.02	20-500	0.2	0.2-5	0.002	20-450	0.2	2-37	0.02							
TF3000N	1	38.1	200-3000	1	2000-30000	10	20-300	0.1	2000-25000	10	200-2000	1	3160			450	□38.1-36-46 □38.1-41-50 □25.4-36-46 □25.4-41-50 □19.05-22-27-29 □19.05-30-32-36	RA6mk2 RA8mk2 RA12	DA6-4 DA8-6 DA12-8
	2	25.4	100-2100	1	1000-21000	10	10-210	0.1	1000-18000	10	100-1500	1							
	3	19.05	20-500	0.2	200-5000	2	2-50	0.02	200-4500	2	20-370	0.2							

Note Refer to page 68 for adapters.

◆ Calibration Kit for TF

* Sold separately. Refer to page 63.

TDT3-G Digital Torque Screwdriver Tester

Direction



TDT600CN3-G with loading device (Model: STA)



CE

TDT600CN3-G with loading device (Model: TDTLA3)
* Sold separatelyTDT600CN3-G with loading device (Model: LTA)
* Sold separately

Calibration Digital Manual Rotary Direct Reading Loading Device

RoHS

- Ideal for testing click and indicating type torque screwdrivers
- Newly added judgment function and USB output
- Multiple units of measure through keypad setup
- Optional TDTLA3 for testing small torque wrenches and LTA for indicating type torque screwdrivers

Accuracy $\pm 1\% + 1\text{digit}$

Model	Torque Range								Inlet Drive	Dimensions [mm]			Weight
	cN·m		kgf·cm		ozf·in		lbf·in			Overall Length	Width	Height	
	Min.-Max.	1digit	Min.-Max.	1digit	Min.-Max.	1digit	Min.-Max.	1digit					
	[mm]												
TDT60CN3-G	2-60	0.005	0.2-6	0.0005	3-80	0.005	0.2-5	0.0005	6.35 Hex (Male) with a groove (0.7mm)	230	220	225	11
TDT600CN3-G	20-600	0.05	2-60	0.005	30-800	0.05	2-50	0.005					

Note 1. Loading device keeps stable measuring conditions to avoid reading errors.
2. Max 1,000 measured data can be stored.

Standard Accessories 1. AC Adapter/BA-6, 2. Loading Device/STA

■ TDT3-G Optional Accessories

Connecting Cable (P.50)

Part #	Applicable Model
383	TDT3-G - PC, EPP16M3
385	TDT3-G - PC

Loading Device

Model
TDTLA3
LTA
STA

As for TDTLA3, TDT600CN3-G measures 2-60 cN·m and TDT600CN3-G measures 20-600cN·m range of torque wrenches. LTA is for direct reading torque drivers such as FTD and STC. STA is for tightening torque driver such as RTD and LTD.

Printer (P.69)

Model
EPP16M3

Data Filing System (P.69)

Model	Media
DFS	CD-ROM

Hex Adapter

Part #	Description
480	1/4-5.5-8-12
481	1/4-6-10-13
482	1/4-7-11-14
483	1/4-16-19-22
484	1/4-17-21-24

Loading Device Adapter for TDT/TDT2-G

Part #	Description
485	TDTLA3 to TDT, TDT2-G
486	STA, LTA to TDT, TDT2-G

◆ Calibration Kit for TDT3-G

* Sold separately.
Refer to page 63.

LC3-G Torque Wrench Line Checker

Direction



CE

LC3-G Standard Accessories

Hexagon Head Adapter

Part #	Applicable Model	Square Drive [mm]	Hex Size (Male) [mm]
282	LC20N3-G	9.5	8, 10, 12, 13, 14, 17
280	LC200N3-G	12.7	8, 10, 12, 13, 14, 17, 19, 22

Socket Adapter (P.44)

Part #	Applicable Model	Inlet Drive [mm]	Hex Size (Male) [mm]
1282	LC20N3-G	6.35	9.5
1280	LC200N3-G	9.5	12.7
274	LC1000N3-G	12.7	19.0
276	LC1400N3-G	19.0	25.4

Calibration Kit for LC3-G/ST3-G

* Sold separately. Refer to page 63.

Checking Digital Manual Loading Direct Reading

RoHS

- For daily inspections of torque wrenches
- Newly added judgment function and USB output
- Multiple units of measure through keypad setup

Accuracy ±1%±1digit

Model	Mode	Torque Range												Inlet Drive (mm)	Weight (kg)
		cN·m		N·m		kgf·cm		kgf·m		lbf·in		lbf·ft			
		Min.-Max.	1 digit	Min.-Max.	1 digit	Min.-Max.	1 digit	Min.-Max.	1 digit	Min.-Max.	1 digit	Min.-Max.	1 digit		
LC20N3-G	Run	50.0-2000.0	0.2	0.500-20.000	0.002	5.00-200.00	0.02	-	-	5.00-174.00	0.02	-	-	9.53	10.5
		50.0-99.8		0.500-9.98		5.00-9.98		-	-	5.00-9.98		-	-		
	Peak	100-999	1	1.00-9.99	0.01	10.0-99.9	0.1	-	-	10.0-99.9	0.1	-	-		
		1000-2000	10	10.0-20.0	0.1	100-200	1	-	-	100-174	1	-	-		
LC200N3-G	Run	-	-	5.00-200.00	0.02	50.0-2000.0	0.2	-	-	50.0-1740.0	0.2	4.00-140.00	0.02	12.7	10.5
		-	-	5.00-9.98		50.0-99.8		-	-	50.0-99.8		4.00-9.98			
	Peak	-	-	10.0-99.9	0.1	100-999	1	-	-	100-999	1	10.0-99.9	0.1		
		-	-	100-200	1	1000-2000	10	-	-	1000-1740	10	100-140	1		
LC1000N3-G	Run	-	-	50.0-1000.0	0.1	-	-	5.00-100.00	0.01	500-8800	1	36.8-735.0	0.1	34	25.4
		-	-	50.0-99.9		-	-	5.00-9.99		500-999		36.8-99.9			
	Peak	-	-	100-1000	1	-	-	10.0-100.0	0.1	1000-8800	10	100-735	1		
		-	-	100.0-1400.0	0.2	-	-	10.0-140.00	0.02	900-12000	2	75.0-1000.0	0.2		
LC1400N3-G	Run	-	-	100-999	1	-	-	10.0-99.9	0.1	900-998	1	75.0-99.8	0.1	39	39
		-	-	1000-1400	10	-	-	100-140	1	1000-9990	10	100-1000	1		
	Peak	-	-	-	-	-	-	-	-	10000-12000	100	-	-		
		-	-	-	-	-	-	-	-	-	-	-	-		

- Note**
1. Dimensions: L278mm × W160mm × H167mm (LC20N3-G, LC200N3-G)
L500mm × W290mm × H186mm (LC1000N3-G)
L500mm × W313mm × H186mm (LC1400N3-G)
 2. TCL, calibration kit is optional, refer to page 63.
 3. Max. 1000 measured data can be stored.

Standard Accessories AC Adapter/BA-6, AC100-240V±10%

LC3-G Optional Accessories

Connecting Cable (P.50)

Part #	Applicable Model
383	LC3-G - PC, EPP16M3
385	LC3-G - PC

Note Contact Tohnichi for other connector shapes.

Printer (P.68)

Model
EPP16M3

Data Filing System (P.67)

Model	Media
DFS	CD-ROM

ST3-G SPINTORK/Rotary Peak Torque Meter

ST3-G-BT

Direction



ST3-G/ST3-G-BT Optional Accessories

Extension Bar

Part #	Applicable Model
283	ST10N3-G-BT
281	ST20N3-G-BT, ST50N3-3/8-G-BT
247	ST50N3-1/2-G-BT, ST100N3-G-BT, ST200N3-G-BT
248	ST500N3-G-BT
249	ST1000N3-G-BT

* Bluetooth is a registered trademark of Bluetooth SIG, Inc.

Checking Digital Re-Chargeable Direct Reading

RoHS

- Ideal for checking nutrunner torque output and angle
- Data output through USB (ST3-G) and Bluetooth® (ST3-G-BT)
- Tightening torque value can be detected by every 1° degree in Bluetooth® version.

ST3-G/ST3-G-BT Specifications

Torque Accuracy	+/- 1% ±1digit
Angle Range	0 to 999°
Angle 1 digit	1°
Angle Accuracy	+/- 2° ±1digit
Measuring Direction	Bi-direction
Display	7 segment LCD; Unit, Battery life, Direction Counter value: 3 digits (3mm height) Torque and angle value: 3 digits (7mm height)
Measuring Mode	PEAK/RUN
Data Memory	999
Data Output	USB / Bluetooth® -BT models
Continuous Duty	10 hours / 5 to 8 hours -BT models
Power	Built-in Ni-MH (Nickel hydrogen) battery pack
Operating Temperature	0~40 °C
BT Communication Distance	10m
Other Functions	Auto Memory/Reset (0.5-5 seconds variable), Auto Power Off (3/10/30 mins, Non), Display of remaining battery level (4 levels)

Accuracy ±1%±1digit

Model		Torque Range														Overall Length [mm]	Inlet/Outlet Drive [mm]	Weight [kg]
		N.m		cN.m		kgf.cm		kgf.m		ozf.in		lbf.in		lbf.ft				
Standard Version	Bluetooth® Version	Min.-Max.	1digit	Min.-Max.	1digit	Min.-Max.	1digit	Min.-Max.	1digit	Min.-Max.	1digit	Min.-Max.	1digit	Min.-Max.	1digit			
ST10N3-G	ST10N3-G-BT	(0.50)2-10	0.01	200-1000	1	20-100	0.1	0.2-1	0.001	285-1400	1	18-88	0.1	1.5-7.3	0.01	75	6.35	
ST15N3-6.35-G	ST15N3-6.35-G-BT	(1.00)4-15		400-1500		40-150		0.4-1.5		570-2100		36-131		3-11		106.5	Hex 6.35	
ST20N3-G	ST20N3-G-BT	(1.00)4-20	0.02	400-2000	2	40-200	0.2	0.4-2	0.002	570-2800	2	36-175	0.2	3-14.5	0.02			
ST50N3-3/8-G	ST50N3-3/8-G-BT	(2.50)10-50	0.05	1000-5000	5	100-500	0.5	1-5	0.005	1420-7000	5	90-440	0.5	7.5-36.5	0.05	75	9.53	0.25
ST50N3-1/2-G	ST50N3-1/2-G-BT																	
ST100N3-G	ST100N3-G-BT	(5.0)20-100	0.1	-	-	200-1000	1	2-10	0.01	-	-	180-880	1	15-73	0.1		12.7	
ST200N3-G	ST200N3-G-BT	(10.0)40-200	0.2	-	-	400-2000	2	4-20	0.02	-	-	360-1750	2	30-145	0.2			
ST500N3-G	ST500N3-G-BT	(25.0)100-500	0.5	-	-	1000-5000	5	10-50	0.05	-	-	900-4400	5	75-365	0.5	120	19.05	1.3
ST1000N3-G	ST1000N3-G-BT	(50)200-1000	1	-	-	-	-	20-100	0.1	-	-	-	-	150-735	1	135	25.4	

- Note**
1. Not for use with impact wrenches or pulse type tools.
 2. Graph of angle and torque can be created in Bluetooth® version.
 3. Data output of Bluetooth® version is through Bluetooth® only.
 4. As for your local condition of wireless equipment certification acquisition, contact to Tohnichi or distributor.
 5. The values in () indicate minimum snug torque values. Accuracy cannot be guaranteed for snug torque set beyond the operative torque range.

Standard Accessories 1. Quick Battery Charger/BC-4-2 2. CD-ROM (USB Driver) 3. USB Connecting Cable/384 4. Carrying Case



ATG/BTG

Analog Torque Gauge

Dial Indicating

3-jaw Chuck

Direct Reading

RoHS

Direction



ATG6CN



BTG36CN

ATG Optional Accessories

Part #	Description
322	Plastic Case and Chuck

- Compact portable handheld design
- Top and side scales for easy reading
- Three fingered keyless chuck

Accuracy $\pm 2\%$

S.I. Model	Torque Range [cN·m]		Metric Model	Torque Range [gf·cm/kgf·cm]		American Model	Torque Range [ozf·in/lbf·in]		Chuck Grip [mm]	Dimensions [mm]		Weight [kg]
	Min.-Max.	Grad.		Min.-Max.	Grad.		Min.-Max.	Grad.		Overall Length	Outside Diameter	
ATG045CN	0.05-0.45	0.01	45ATG	5-45	1	ATG06Z	0.06-0.6	0.01	φ1-φ6.5	89	43.5	0.18
ATG09CN-S	0.1-0.9	0.02	90ATG-S	10-90	2	ATG1.5Z-S	0.2-1.5	0.02				
ATG1.5CN-S	0.2-1.5		150ATG-S	20-150		ATG2.4Z-S	0.3-2.4	0.05				
ATG3CN-S	0.3-3	0.05	300ATG-S	30-300	5	ATG4.5Z-S	0.5-4.5	0.1				
ATG6CN-S	0.6-6	0.1	600ATG-S	60-600	10	ATG9Z-S	1-9	0.2				
ATG12CN-S	1-12	0.2	1200ATG-S	100-1200	20	ATG18Z-S	2-18	0.5				
ATG24CN-S	3-24	0.5	2400ATG-S	300-2400	50	ATG36Z-S	4-36	0.5	φ1-φ8.5	119	64.2	0.52
-	-	-	-	-	-	BTG60Z-S	6-60	1				
-	-	-	-	-	-	BTG120Z-S	10-120	2				
BTG15CN-S	2-15	0.2	1.5BTG-S	0.2-1.5	0.02	1.5BTG-A-S	0.1-1.5	0.02				
BTG24CN-S	3-24	0.5	2.4BTG-S	0.3-2.4	0.05	2.4BTG-A-S	0.3-2.4	0.02				
BTG36CN-S	4-36		3.6BTG-S	0.4-3.6		3.6BTG-A-S	0.4-3.6	0.05				
BTG60CN-S	6-60	1	6BTG-S	0.6-6	0.1	6BTG-A-S	0.6-6	0.1				
BTG90CN-S	10-90		9BTG-S	1-9		9BTG-A-S	1-9	0.1				
BTG150CN-S	20-150	2	15BTG-S	2-15	0.2	15BTG-A-S	2-15	0.2				

Note

1. ATG045CN, 45ATG and ATG06Z are provided without side or top memory pointer.
2. "Without memory pointer" models are available. Remove "-S" from the model name when ordering.
Ex. ATG09CN, BTG15CN
3. Aluminum case and steel chuck are standard for ATG models. Plastic case and chuck can be ordered separately.
4. Continuously repeating a back and forth CW and CCW movement may cause damage to the internal spring.

ATGE-G

Digital Torque Gauge

Digital

3-jaw Chuck

Direct Reading

Battery

RoHS

Direction



CE



ATGE5CN-G



- Digital torque gauge with pull out display
- For measurement, inspection and tightening of low torque range
- 3 way configuration; hand-held, table top or as a torque meter with testing fixture

Accuracy $\pm 2\% + 1 \text{ digit}$

Model	Torque Range								Chuck Grip [mm]	Dimensions [mm]		Weight [kg]
	[cN·m]		[mN·m]		[gf·cm]		[ozf·in]			Overall Length	Outside Diameter	
	Min.-Max.	1 digit	Min.-Max.	1 digit	Min.-Max.	1 digit	Min.-Max.	1 digit				
ATGE05CN-G	0.1-0.5	0.001	1-5	0.01	10-50	0.1	0.15-0.7	0.001	φ1-6.5	120	67	0.305
ATGE1CN-G	0.2-1	0.001	2-10	0.01	20-100	0.1	0.3-1.4	0.001				
ATGE2CN-G	0.4-2	0.002	4-20	0.02	40-200	0.2	0.6-2.8	0.002				
ATGE5CN-G	1-5	0.005	10-50	0.05	100-500	0.5	1.5-7	0.005				
ATGE10CN-G	2-10	0.01	20-100	0.1	200-1000	1	3-14	0.01				
ATGE20CN-G	4-20	0.02	40-200	0.2	400-2000	2	6-28	0.02				

Note

Aluminum case and steel chuck are standard for ATGE-G models. Plastic case and chuck/322 (page 60) is sold separately.

Standard Accessories

Carrying case

ATGE-G Common Specifications

Direction	CW/CCW
Display	7 segment LCD display, Counter 3 digits (character height 3mm), Torque value: 4 digits (character height 7mm) Torque unit, Battery indicator, Direction
Mode	PEAK/RUN
Data Memory	999 readings
Statistic Processing	Sample size, Max. value, Min. value, Mean value
Data Output	USB output (USB mini B connector)
Power	Coin-type lithium battery (CR2450)
Continuous in Use	approx. 10 hours when using coin battery
Other Functions	Auto power off (3 min.), Auto memory reset (0.5-5) seconds variable, Auto zero adjustment, Residual battery indicator (4 steps), Buzzer ON/OFF, Unit Conversion
Operating Temperature	0-40 °C
Standard Options	Carrying case

Calibration Kit for ATG/BTG/ATGE-G/BTGE-G



* Sold separately.
Refer to page 63.

Data Receiver Software

The Data Receiver software allows for the transfer of collected torque data from various Tohnichi digital torque equipment into a Microsoft® Excel® worksheet or CSV file. Tohnichi also provides customized software upon request.



Data Receiver

BTGE-G

Digital Torque Gauge

Direction



CE



BTGE200CN-G

Digital 3-jaw Chuck Direct Reading Battery

RoHS

- Multiple units of measure through keypad setup
- For measurement, inspection and tightening of low torque ranges
- Flip-up display can be adjusted for optimal reading

Accuracy $\pm 2\% + 1$ digit

Model	Torque Range								Chuck Grip [mm]	Dimensions [mm]		Weight [kg]
	[cN·m]		[kgf·cm]		[ozf·in]		[lbf·in]			Overall Length	Outside Diameter	
	Min.-Max.	1 digit	Min.-Max.	1 digit	Min.-Max.	1 digit	Min.-Max.	1 digit				
BTGE10CN-G	2-10	0.01	0.2-1	0.001	3-14	0.01	0.2-0.88	0.001	φ1-φ8.5	130	75	0.65
BTGE20CN-G	4-20	0.02	0.4-2	0.002	6-28	0.02	0.4-1.7	0.002				
BTGE50CN-G	10-50	0.05	1-5	0.005	15-70	0.05	1-4.4	0.005				
BTGE100CN-G	20-100	0.1	2-10	0.01	30-140	0.1	2-8.8	0.01				
BTGE200CN-G	40-200	0.2	4-20	0.02	60-280	0.2	4-17	0.02				

Note

1. Can be used for checking accuracy of torque screwdrivers.
2. Max 999 readings can be saved with statistical function max/min/mean values.

BTGE-G Optional Accessories**Connecting Cable (P.50)**

Part #	Applicable Model
384	BTGE-G (USB mini B) - PC (USB A)

Measurement Board

Model
809

ATG/BTG/ATGE-G/BTGE-G Optional Accessories

No.808

ATGE-G/BTGE-G Measurement stand

To firmly fix ATGE-G/BTGE-G to use as table top configuration

Part #	Applicable Model
808	ATGE-G
809	BTGE-G



No.800

Table attachment

4 poles are designed to clamp objects of any shape (Chucking diameter φ10-φ58)

Part #	Applicable Model
800	ATGE-G/BTGE-G



No.806

Calibration adapter for ATGE-G/BTGE-G

Adapter for calibration devices, ATGTCL/BTGTCL, to mount on ATGE-G/BTGE-G

Part #	Applicable Model
806	ATGE-G
807	BTGE-G



BA-7

Adapter for USB connector

External power supply adapter for ATGE-G/BTGE-G with using USB connecting cable.

Part #	Applicable Model
BA-7	ATGE-G/BTGE-G



No.384

USB connecting cable

Cable for external USB data output or connecting BA-5

Part #	Applicable Model
384	ATGE-G/BTGE-G



No.322

Plastic chuck

Plastic chuck for fragile objects

Part #	Applicable Model
322	ATG/ATGE-G



ATGE-G with table attachment and measurement stand



AMRD torque checking with ATGE-G and measurement stand, #808.



BMRD torque checking with BTGE-G.



BTGE-G with table attachment and measurement stand



TME2

Digital Torque Meter

Direction



2TME500CN2



Digital

Pole Clamping

Direct Reading

RoHS

- Ideal for testing torque on bottle caps
- Up to 99 measured data can be stored.

Accuracy $\pm 1\% + 1 \text{ digit}$

S.I. Model	Torque Range [cN·m]		Metric Model	Torque Range [gf·cm/kgf·cm]		American Model	Torque Range [ozf·in/lbf·in]		Chuck Size [mm]	Dimensions [mm]			Weight [kg]
	Min.-Max.	1 digit		Min.-Max.	1 digit		Min.-Max.	1 digit		Overall Length	Width	Height	
3TME10CN2	2.00-10.00	0.01	3TME10CN2-M	200-1000	1	3TME10CN2-Z	2.80-14.00	0.01	φ14-φ110	252	158	185	3.5
3TME20CN2	4.00-20.00	0.02	3TME20CN2-M	400-2000	2	3TME20CN2-Z	5.60-28.00	0.02					
3TME50CN2	10.00-50.00	0.05	3TME50CN2-M	1000-5000	5	3TME50CN2-Z	14.00-70.00	0.05					
3TME100CN2	20.0-100.0	0.1	3TME100CN2-M	2.00-10.00	0.01	3TME100CN2-Z	28.00-140.0	0.1	φ18-φ190	331	223	283	12
2TME200CN2	40.0-200.0	0.2	2TME200CN2-M	4.00-20.00	0.02	2TME200CN2-I	3.50-17.00	0.02					
2TME500CN2	100.0-500.0	0.5	2TME500CN2-M	10.00-50.00	0.05	2TME500CN2-I	8.80-44.00	0.05					
2TME1000CN2	200-1000	1	2TME1000CN2-M	20.0-100.0	0.1	2TME1000CN2-I	17.6-88.00	0.1					
2TME2000CN2	400-2000	2	2TME2000CN2-M	40.0-200.0	0.2	2TME2000CN2-I	35.0-175.0	0.2					

Note

1. Can be used for checking accuracy of torque screwdrivers.
2. Max. 99 measured data can be stored.
3. TMTCL, calibration kit is optional.
4. Statistical Data: Hi, Lo, Sample, Ave., Range Variation, and Standard Deviation

Standard Accessories

1. AC Adapter/BA-4
2. Rubber Nail
3. Supportive Plate for 2TME2

TME2 Optional Accessories

Connecting Cable (P.50)

Part #	Applicable Model
383	TME2 - PC, EPP16M3

Printer (P.69)

Model
EPP16M3

Data Filing System (P.69)

Model	Media
DFS	CD-ROM

TM

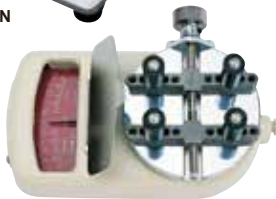
Analog Torque Meter

Direction



2TM400CN

5TM2.5MN



Pole Clamping

Direct Reading

RoHS

- Dial indicating
- Wide variety of torque testing ranges

Accuracy $\pm 2\%$

S.I. Model		Torque Range [mN·m/cN·m]		American/Metric Model	American Torque Range [lbf·in]		Metric Torque Range [kgf·cm/gf·cm]		Dimensions [mm]				Weight
Standard	With Memory Pointer	Min.-Max.	Grad.		Min.-Max.	Grad.	Min.-Max.	Grad.	Overall Length	Width	Height	Chuck Size	
4TM10MN	4TM10MN-S	1-10	0.2	4-TM100-A-S	0.01-0.086	0.002	10-100	2	252	158	109.5	φ14- φ110	3
4TM15MN	4TM15MN-S	1.5-15	0.5	4-TM150-A-S	0.02-0.13	0.005	15-150	5					
4TM25MN	4TM25MN-S	2.5-25		4-TM250-A-S	0.025-0.215		25-250						
4TM50MN	4TM50MN-S	5-50	1	4-TM500-A-S	0.05-0.43	0.01	50-500	10					
4TM75MN	4TM75MN-S	8-75	2	4-TM750-A-S	0.08-0.65	0.02	80-750	20	331	223	133.5	φ18- φ190	10.5
		cN·m	cN·m				kgf·cm	kgf·cm					
3TM10CN	3TM10CN-S	1-10	0.2	3-TM1-A-S	0.1-0.86	0.02	0.1-1	0.02					
3TM15CN	3TM15CN-S	1.5-15	0.5	3-TM1.5-A-S	0.15-1.3	0.05	0.15-1.5	0.05					
3TM25CN	3TM25CN-S	2.5-25		3-TM2.5-A-S	0.25-2.15		0.25-2.5						
3TM50CN	3TM50CN-S	5-50	1	3-TM5-A-S	0.5-4.3	0.1	0.5-5	0.1	331	223	133.5	φ18- φ190	10.5
3TM75CN	3TM75CN-S	8-75		3-TM7.5-A-S	0.8-6.5	0.2	0.8-7.5	0.2					
2TM100CN	2TM100CN-S	10-100	2	2-TM10-A-S	1-8.6	0.2	1-10	0.2					
2TM150CN	2TM150CN-S	20-150		2-TM15-A-S	2-13		2-15						
2TM200CN	2TM200CN-S	30-200	5	2-TM20-A-S	3-17	0.5	3-20	0.5	331	223	133.5	φ18- φ190	10.5
2TM300CN	2TM300CN-S	30-300		2-TM30-A-S	3-26		3-30						
2TM400CN	2TM400CN-S	40-400		2-TM40-A-S	3.5-35	4-40	1						
2TM500CN	2TM500CN-S	50-500		2-TM50-A-S	4-43	5-50							
2TM600CN	2TM600CN-S	60-600	10	2-TM60-A-S	5-50		6-60		331	223	133.5	φ18- φ190	10.5
2TM750CN	2TM750CN-S	80-750		2-TM75-A-S	7-65		8-75						

Note

1. "-S" models are provided with a memory pointer.
2. Continuously repeating a back and forth CW and CCW movement may cause damage to the internal spring.

Low Capacity, below 7.5 mN·m, Torque Meter

Accuracy $\pm 2\%$

S.I. Model	Torque Range [mN·m]		Metric Model	Torque Range [gf·cm]		American Model	Torque Range [ozf·in]		Dimensions [mm]				Weight [kg]
	Min.-Max.	Grad.		Min.-Max.	Grad.		Min.-Max.	Grad.	Overall Length	Width	Height	Chuck Size	
5TM1MN	0.2-1	0.05	5-TM10	2-10	0.5	5-TM015Z	0.02-0.15	0.005	122	76.5	59	φ6-φ58	0.3
5TM1.5MN	0.2-1.5		5-TM15	2-15		5-TM020Z	0.04-0.2	0.01					
5TM2.5MN	0.5-2.5		0.1	5-TM25		5-25	1	5-TM035Z					
5TM5MN	1-5	0.2	5-TM50	10-50	2	5-TM070Z	0.3-0.7	0.02					
5TM7.5MN	1-7.5		5-TM75	10-75		5-TM1Z	0.2-1	0.05					

Note

1. 5TM models are supplied without memory pointer.
2. When calibrating the 5TM models, ask Tohnichi for assistance.

Calibration Kit for TME2/TM



* Sold separately.
Refer to page 63.

TCF**Fixed Type Torque Sensor****Voltage Output****Fixed****RoHS**

- Requires CD5 to display torque reading

**CD5**

*Display is sold separately.

**TCF20N**

S.I. Model	Torque Range [N·m]	Metric Model	Torque Range [kgf·cm]	American Model	Torque Range [lbf·in/lbf·ft]	Inlet Drive [mm]	Dimensions		Weight [kg]
	Min.-Max.		Min.-Max.		Min.-Max.		Height [mm]	Diameter [mm]	
TCF02N	0.02-0.2	TCF1.8	0.18-1.8	TCF1.8I	lbf·in 0.18-1.8	6.35	56	45	0.45
TCF04N	0.04-0.4				TCF3.5I				
TCF1N	0.1-1	-	-	TCF9I	0.9-9.0		62.5	0.5	
TCF2N	0.2-2	TCF18	1.8-18	TCF18I	1.8-18				
TCF4N	0.4-4	-	-	TCF35I	3.5-35				
TCF10N	1-10	-	-	TCF90I	9.0-90				
TCF20N	2-20	TCF180	18-180	TCF180I	18-180	9.5	66	70	0.6
TCF40N	4-40				TCF350I				
		-	-		lbf·ft	12.7	100	105	2.5
TCF100N	10-100			TCF75F	7.5-75				
TCF200N	20-200	TCF1800	180-1800	TCF150F	15-150	19.0	135	140	6
TCF400N	40-400				TCF300F				
TCF1000N	100-1000	-	-	TCF750F	75-750	25.4	180	178	12
TCF2000N	200-2000	TCF18000	1800-18000	TCF1500F	150-1500				

Note

1. TCL, calibration kit is optional.
2. Display, CD5, is sold separately.

Standard Accessories

Connecting Cable

TCF Optional Accessories**TP, Test Piece: Torque measurement for power torque tools**

Model	Torque Range			Applicable TCF Model	Inlet		Dimensions		Weight
	S.I. [N·m]	Metric [kgf·cm]	American [lbf·in/lf·ft]		Width Across Flats	Nominal Size of Screw	Diameter	Height	
	Min.-Max.	Min.-Max.	Min.-Max.		[mm]	[mm]	[mm]	[mm]	
			lbf·in						
TP2.5N	0.25-2.5	2.5-25	2-22	TCF02N-TCF4N	8	M4	18	58	0.08
TP18N	1.8-18	18-180	16-160	TCF10N, TCF20N	13	M6	35	83.5	0.27
			lbf·ft						
TP180N	18-180	180-1800	30-130	TCF40N-TCF200N	24	-	65	148	1.9
TP1800N	180-1800	1800-18000	130-1300	TCF400N-TCF2000N	50	-	140	297.5	16.8

Note

1. Adapter 4H-3 (#273) is necessary for TCF40N.
2. Adapter 8P-6 (#295) is necessary for TCF400N.

DTF, Drill Chuck: Torque measurement for axial work pieces

Model	Applicable TCF Models	Chuck Size [mm]	Square Drive [mm]	Dimensions	
				Diameter [mm]	Height [mm]
DTF5-3	TCF02N-TCF4N	Max. φ5	6.35	33	65
DTF5-2	TCF10N-TCF40N		9.5		61

TTF/ATF, Table and fixture: Ideal for testing torque on bottle caps

Model		Applicable TCF	Chuck Size [mm]	Table Dia. [mm]
TTF	ATF			
TTF7	ATF18-2	TCF02N-TCF4N	φ10-70	φ70
TTF11				
TTF19	ATF18	TCF10N-TCF20N	φ14-110	φ110
	ATF18-2	TCF2N-TCF4N		
	ATF18	TCF10N-TCF20N	φ18-190	φ180

Note

ATF attachment is required to fix TTF table.

TCR**Rotary Type Torque Sensor****Voltage Output****Rotary****RoHS**

- Captures directly applied torque
- Requires CD5 to display torque reading

**CD5**

*Display is sold separately.

**TCR18N**

S.I. Model	Torque Range [N·m]	Metric Model	Torque Range [kgf·cm]	American Model	Torque Range [lbf·in/lbf·ft]	Allowable Rotation [r.p.m.]	Square Drive [mm]	Height [mm]	Width [mm]	Weight [kg]
	Min.-Max.		Min.-Max.		Min.-Max.					
TCR18N	1.8-18	TCR180	18-180	TCR180-A	16-160	2000	9.5	91	76	0.9
					lbf.ft					
TCR180N	18-180	TCR1800	180-1800	TCR1800-A	13-130	1000	12.7	104	83	1.3
TCR700N	70-700				50-500					
TCR1800N	180-1800	TCR18000	1800-18000	TCR18000-A	130-1300		25.4	138.5	110	3.6

Note

1. TCL, calibration kit is optional.
2. Display, CD5, is sold separately.

Standard Accessories

Connecting Cable

◆ **Calibration Kit for TCF/TCR**

* Sold separately.
Refer to page 63.



Calibration Kit

◆ Calibration Kit for DOT/DOTE Series

RoHS

Model	Description					
	Calibration Lever	Stand	Reaction Unit	Scale Holder	Wire	Applicable Model
DOTCL-S1	KL-DOTCL36N	KS-DOTCL-S	RU-DOTCL100N	WT0.5	Wire × 2	DOT35N, DOT50N DOTE20N, DOTE36N DOTE20N3-G, DOTE50N3-G DOTE20N4-G, DOTE50N4-G
DOTCL-S2	KL-DOTCL100N			WT1		DOT100N DOTE100N DOTE100N3-G DOTE100N4-G
DOTCL-S3	KL-DOTCL200N		RU-DOTCL360N			
DOTCL-S4	KL-DOTCL360N			KS-DOTCL-L		RU-DOTCL700N
DOTCL-L1	KL-DOTCL700N	DOT700N DOTE700N DOTE500N3-G				
DOTCL-L2	KL-DOTCL1000N		DOT1000N DOTE1000N3-G			
DOTCL-L3	KL-DOTCL700N	RU-DOTCL1000N4				DOTE500N4-G
DOTCL-L4	KL-DOTCL1000N		DOTE1000N4-G			



DOTCL-S2



DOTCL10N



TFTCL2000N



TCCTCL-S2

◆ Calibration Kit for TCC2-G

RoHS

Model	Description					Applicable Model
	Calibration Lever	Stand	Reaction Unit	Scale Holder	Wire	
TCCTCL-S1	KL-DOTCL36N KL-DOTCL100N	KS-DOTCL-S	RU-TCC100N2	WT0.1	Wire × 2	TCC100N2-G
TCCTCL-S2	KL-TDCL600CN KL-DOTCL100N			WT1	Wire × 3	TCC100N2-D-G
TCCTCL-L1	KL-TCTCL100N-7 KL-DOTCL700N	KS-DOTCL-L	RU-TCC500N2	WT0.5, WT1 WT5	Wire × 4	TCC500N2-G
TCCTCL-L2	KL-DOTCL700N KL-TCCTCL1000N		RU-TCC1000N2	WT1 WT5	Wire × 2	TCC1000N2-G



TCL200N



TDTCL600CN

◆ Calibration Kit for TF

RoHS

Model	Description					Applicable Model
	Calibration Lever	Stand	Reaction Unit	Scale Holder	Wire	
TFTCL200N	KL-DOTCL200N KL-DOTCL36N	KS-TFTCL		WT0.1 WT1	Wire × 4	TF200N
TFTCL500N	KL-DOTCL36N KL-DOTCL360N			WT0.5, WT1 WT5-TF		TF500N
TFTCL1000N	KL-DOTCL200N KL-DOTCL36N KL-DOTCL1000N			WT0.1 WT1 WT5-TF		TF1000N
TFTCL2000N	KL-DOTCL36N KL-DOTCL360N KL-DOTCL2100N			WT0.5 WT1 WT5-TF		TF2000N
TFTCL3000N	KL-DOTCL360N KL-TCL2100N KL-TCL3000N			WT1 WT5-TF		TF3000N



2TMTCL



ATGTCL24CN

◆ Calibration Kit for DOTE10N-G

Model	Description	Applicable Model
DOTCL10N	Calibration Lever × 1, Wire × 1, Base plate × 1, Scale Pan (100g) × 1, Scale Holder (1kg) × 1, Fixing bolt (M5) × 2, Fixing bolt for lever (M3) × 1, Fixing bolt (M8) × 4	DOTE10N4-G

◆ Calibration Kit for TDT3-G

RoHS

Model	Description	Applicable Model
TDTCL60CN	Calibration Lever × 1, Wire × 1, Calibration Roller × 1, Scale Pan (100g) × 1, Scale Holder (1kg) × 1,	TDT60CN3-G
TDTCL600CN	Calibration Lever × 1, Wire × 1, Calibration Roller × 1, Scale Pan (100g) × 1, Scale Holder (1kg) × 1	TDT600CN3-G

◆ Calibration Kit for LC3-G/ST3-G/TCF/TCR

RoHS

Model	Description	Applicable Model
TCL50N	Calibration Lever, Wire, Scale Holder (1kg), Scale Pan (100g)	TCF10N-TCF40N, TCR18N LC20N3-G, ST10N3-G-ST50N3-1/2-G
TCL200N	Calibration Lever, Wire, Scale Holder (1kg)	TCF100N-TCF200N, TCR180N LC200N3-G, ST100N3-G-ST200N3-G
TCL800N	Calibration Lever, Wire, Scale Holder (10kg)	TCF400N, TCR700N, ST500N3-G
TCL1000N	Calibration Lever, Wire, Scale Holder (5kg)	TCF1000N, ST1000N3-G, LC1000N3-G
TCL2000N	Calibration Lever, Wire, Scale Holder (10kg)	TCF2000N, TCR1800N, LC1400N3-G

Note 1. TCL1000N and TCL2000N are supplied upon request.
2. #271 is required when calibrating ST10N2-G.

◆ Calibration Kit for TME2/TM

RoHS

Model	Description	Applicable Model
2TMTCL	Wire × 1, Roller × 1, Frame × 1, Bolt × 2, Scale Holder (1kg) × 1, Scale Pan (100g) × 1	2TM/2TME2
3TMTCL	Wire × 1, Roller × 1, Frame × 1, Bolt × 2, Scale Pan (5g × 1, 100g × 1)	3TM/3TME2
4TMTCL	Wire × 1, Roller × 1, Frame × 1, Bolt × 2, Scale Pan (3g × 1, 5g × 1, 100g × 1)	4TM

◆ Calibration Kit for ATG(E)/BTG(E)

RoHS

Model	Description	Applicable Model
ATGTCL24CN	Main Unit, Calibration Pulley × 2, Wire × 2, Scale Pan (5g, 100g)	ATG/ATGE-G
BTGTCL150CN	Main Unit, Calibration Pulley × 2, Wire × 3, Scale Pan (5g, 100g)	BTG/BTGE-G

Note 1. Adapter (#807) is required when calibrating BTGE-G models.
2. Adapter (#806) is required when calibrating ATGE-G models.

◆ Weight

RoHS

Model	Weight
WP-TCL5	5kg
WP-TCL2	2kg
WP-TCL1	1kg
WS-TCL2	Weight Set (2kg)

Note 1. Calibration certificates for weights are available upon request for a fee.
2. If there is no request for calibration, serial number will not be stamped.

Calibration Kit

◆ Comparison Table of Calibration Stands Component Units.

From the newly released Calibration kit, reviewed the product composition to make it easy to select only necessary parts. Consult to Tohnichi for selection of Calibration Kit.

Group		Applicable Model		Calibration Stand														Special Attachment		
Calibration Kit	Calibration Stand	S.I. model	Metric, Multi Unit Model	Spirit Level	Clamp Knob	Adjust Nut	Calibration Frame	Stand Weight	Nut	Adjustment Foot	Adjustment Tool A AD-DOTCL-A	Adjustment Tool B 10mm AD-DOTCL-B	Adjustment Tool C 40mm AD-DOTCL-C	Adjusting Tool D 113mm AD-TCCTCL2	Joint Rod A 380mm JR-DOTCL-A	Joint Rod B 480mm JR-DOTCL-B	Joint Rod C 180mm JR-DOTCL-C	Calibration Adapter KA-TCCTCL2	Calibration Parts P-TCCTCL100N-D	Joint Rod for TCC JR-TCCTCL2
DOTCL-S1	KS-DOTCL-S	DOT35N	350DOT																	
		DOT50N	500DOT																	
		DOTE20N	200DOTE2																	
		DOTE36N	360DOTE2																	
		DOTE20N3	DOTE20N3-G																	
		DOTE50N3	DOTE50N3-G																	
DOTE20N4		DOTE20N4-G																		
DOTE50N4		DOTE50N4-G																		
DOTCL-S2		DOT100N	1000DOT																	
		DOTE100N	1000DOTE2																	
		DOTE100N3	DOTE100N3-G																	
DOTCL-S3		DOTE100N4	DOTE100N4-G																	
		DOTE200N	2000DOTE2																	
		DOTE200N3	DOTE200N3-G																	
DOTCL-S4		DOTE200N4	DOTE200N4-G																	
		DOT300N	3000DOT																	
		DOT360N	3600DOT2																	
TCCTCL-S1	TCC100N2	TCC100N2-G																		
TCCTCL-S2	TCC100N2-D	TCC100N2-D-G																		
DOTCL-L1	KS-DOTCL-L	DOT700N	7000DOT																	
		DOTE700N	7000DOTE2																	
DOTE500N3		DOTE500N3-G																		
DOTE1000N		10000DOTE2																		
DOTE1000N3		DOTE1000N3-G																		
DOTCL-L2		DOTE500N4	DOTE500N4-G																	
DOTCL-L3		DOTE1000N4	DOTE1000N4-G																	
DOTCL-L4																				
TCCTCL-L1	TCC500N2	TCC500N2-G																		
TCCTCL-L2	TCC1000N2	TCC1000N2-G																		
Previous KS-DOTCL Component																				

Note

- Refer to above table and page 59 for required units when additionally purchase a calibration unit.
- Confirm the component of your DOTCL/TCCTCL and if you need, purchase the parts of Calibration Stand, Special Attachment, Lever and Reaction Unit for Calibrating tester.
- The previous "KS-DOTCL" is one of the components of the previous calibration kits model DOTCL36N/100N/200N/360N/700N/1000N.
- For TCC previous models, contact to Tohnichi.

Example of Combination

Calibrate DOTE1000N4-G with previous KS-DOTCL : Required an Adjusting Rod D 113mm "AD-TCCTCL2", and Calibration Lever and Reaction Unit of DOTE1000N4-G and weights.

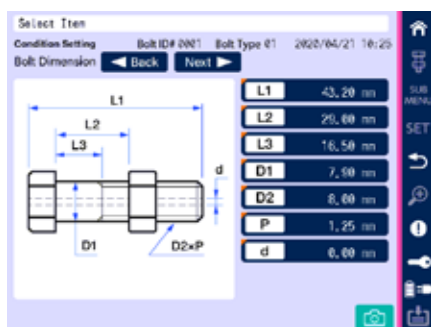
Calibrate DOTE500N4-G with DOTCL-S2 : Required an Adjusting Rod 113mm "AD-TCCTCL2", Joint Rod C 180mm "JR-DOTCL-C", and Calibration Lever and Reaction Unit of DOTE500N4-G and weights.



TT3000

Ultrasonic Tension
Meter

TT3000



Bolt dimension input



B1 Echo confirmation



Waveform before & after giving loading



Measurement result data inquiry

Digital

Direct Reading

- Non-destructive axial bolt tension tester
- Updated version of TT2000 model
- Enhanced the communication function, usability by touch panel

Model
TT3000

TT3000 Specifications

Measuring method	Ultrasonic pulse propagation time difference	
Measurement	Bolt axial tension	
Components	Main unit / Ultrasonic sensor / Thermocouple	
Applicable bolt length	5.00~25000.00 mm	
Applicable bolt diameter	More than M5 size	
Ultrasonic wave frequency	1~20 MHz	
Range of speed	500~20,000m/s	
Measuring items #1	Bolt Axial Tension / Bolt Initial Length / Elongation / Stress / Traveling Time	
Measuring items #2	Travelling Time, Length, Wave, Temperature	
Measuring resolution	Axial tension	0.1 kN / 0.01 kN
	Time	0.1 ns
	Elongation	0.0001 mm
Data updating	Measurement	0.04 sec
	Screen	0.2 sec
Capacity of data memory	2000 bolts	
Bolt temperature correction	Upto 50 different type of bolts	
	Key Input System, -100 to +500 C degree	
Detection method	Auto, Thermocouple Unit	
	Full Wave, Positive half wave, Negative half wave, RF Wave	
Display	Color TFT 7.5, 640 x 480 dots	
	Touch panel in a resistance film system	
External interface	Type K thermocouple Input - 1ch	
	USB - 1ch for serial communication	
	SD Card, SD/SDHC/SDXC, up to 64GB - 1ch	
	LAN, TCP/IP 1ch	
	VGA single monitor output - 1ch	
	Photo coupler inlet 4ch/outlet 4ch	
	Analog output 4-20mA 1ch, Max. load resistance 500Ω	
Power supply	Encoder input - 1ch	
	AC Adapter 100 - 240V, Output DC12V 60W	
Operating temperature	Built-in battery 11h usage, 4h battery charge	
	Enable to charge by AC adapter during use.	
Dimension	-10 to +60 C degree under AC adapter operation	
Weight	0 to +40 C degree under battery operation	
Body	H168 x W250 x D63.5mm	
Waterproof/dust proof	1.2 kg, w/o Battery	
Regulation	ABS	
	IP 20 when closing battery lid	
Language	CE Marking	
	Low voltage directive : 2014/35/EU	
Standard accessories	EMC directive 2014/30/EU	
	EU RoHS 2 directive 2011/65/EU	
Standard accessories	English / Japanese	
	Operation manual, Calibration test result, Traceability chart,	
	AC Adapter, ADT-060A12AAB-A, compliance with CE, AC power cable JP	
	Li-Ion battery, RRC2057, compliance with CE	
	USB cable, SD card, Power cable, sensor probe cable, sensor probe	
Standard accessories	Carring handle, Aluminum case	

Note 1. Sensor probe is compatible with TT2000.

TT3000 Optional Accessories

Model Name
AC Power Cable US
AC Power Cable 220V
Thermo Sensor
Handle Plate
Aluminum Case
Sensor probe cable SCA-TT2000

TT2000

Ultrasonic Tension Meter



TT2000

Digital Direct Reading

- Non-destructive axial bolt tension tester
- Input information regarding fastener & materials
- Sound wave lengths are measured and compared.

Model
TT2000
TT2000C

TT2000 Specifications

Measuring Range	5-10,000mm (Steel material)
Applicable Length of Bolt	50-9,000mm
Applicable Nominal Diameter of Bolt	φ6mm dia or more (Applicable for less than φ6mm dia. with an optional sensor)
Ultrasonic Wave Frequency	0.5-15 MHz
Time Axis Resolution	5ns
Result of Measurement	Bolt initial length (mm), Stress (Mpa), Elongation (mm), Propagation rate (μs)
Measuring Resolution	Depends on bolt diameter and length [Ex.] Based on the first echo measurement (steel material) Bolt diameter φ10, Bolt tightening length 50mm ± approx. 1.47kN Bolt diameter φ20, Bolt tightening length 100mm ± approx. 2.94kN
Memory Capacity of Data	2,000pcs. or time pass measurement 300 items (Max. 50 kinds of different bolts can be registered)
Bolt Temperature Correction	Manual input by key, Auto temperature input *1
Display	Color TFT6.4 type (640 × 480dots)
External Output	8 bits serial interface (RS232C) *2 Composite output (NTSC), Alarm output (photo coupler), Encoder input *3
Power Supply	AC85-130V, AC185-265V (50/60Hz) or DC12V *4
Optional Battery	Portable: 2.5h use for 1.5h Charge Built-in case: 8h use for 4.5h charge
Operating Temperature	0-45 °C
Dimensions	Body: H160 × W246 × D60mm Body + Built-in battery: H160 × W246 × D246mm
Weight	Body: 1.2kg Body + built-in battery: 4.9kg

- Note**
1. Optional thermometer can be connected to TT2000C for auto temperature adjustment Input temperature range is from -40°C to 200°C. Measurement over 60°C requires a sensor specially designed for high temperature.
 2. RS232C connector is available only with TT2000C.
 3. DC12V can be used only when using the optional portable battery or the built-in battery case.

TT2000 Optional Accessories

Model Name
RS232C Junction Cable A
Portable Battery Cable
RS232C Junction Cable B

Ultrasonic Sensor

Part #	Name	Applicable Bolts
607	5C6.4N	More than M8, L1<approx.50mm
608	5C12.7N	More than M14, L1<approx.2m

- Note**
1. L1 is standard bolt length with material in SCM, S-C, SS for ultrasonic wave reflection measurement n=1.
 2. Ultrasonic wave sensor is consisting of 3 parts, Sensor, Magnet Holder and Bolt Holder.
 3. Standard 5C6.4N does not include bolt holder.
 4. 5C6.4N=[5: Frequency (MHZ)]
[C: Oscillator Material (C: piezoelectric ceramics)]
[6.4: Oscillator Diameter, mm]
[N: Perpendicular (Normal)]

Features of ultrasonic wave sensor

1. The magnetic holder provides stabilized force through the sensor, which provides high repeatability measurement.
2. The bolt holder gives same position of the sensor to support more accurate measurement.

Axial Tension Calibrator

Model
AFC-20G2

Accuracy ±2%+1digit

Axial Tension	Min. - Max.	20 to 200
Measurement Range [kN]	1 digit	0.01
Available Bolt Size (Reference) [mm]		Less than φ20mm, Bolt nominal length 45 to 300
	M10	45 to 80
	Standard accessory	(A nut with the same strength as the measurement bolt is required)
	M16	50 to 85
Dimensions [mm]	Standard accessory	(A nut with the same strength as the measurement bolt is required)
	M20	70, 87, 170, 187, Max.300
	Standard accessory	(A nut with the same strength as the measurement bolt is required)
Weight Approx. [kg]	Overall Length	451
	Width	438 (Body300)
	Depth	409
Power		AC100 to 240V ±10% 50 / 60Hz
Temperature in Use		0 to 40°C Less than 85%RH (No condensation)



AFC-20G2

BTM/ B-BTM

Bolt Tension Meter

Dial Indicating

Hydraulic

Bourdon Type

- Bourdon type hydraulic bolt tension meter
- Measure bolt tension to determine optimal torque

Accuracy ±3%



BTM400K

B-BTM13K

S.I. Model	Axial Tension Range [kN]		Metric Model	Axial Tension Range [ton]		American Model	Axial Tension Range [lbf]		Applicable Nominal Diameter of Bolts (Minimum Length) [mm]	Dimensions			Weight [kg]
	Min.-Max.	Grad.		Min.-Max.	Grad.		Min.-Max.	Grad.		Overall Length [mm]	Overall Thickness [mm]	Overall Height [mm]	
BTM400K	100-400	5	40BTM-2	10-40	0.5	40BTM-2-A	23000-90000	1000	Hexagon Bolt M16 (70), M20 (75) M22 (80), M24 (85) Torsia Bolt M16 (65), M20 (70) M22 (75), M24 (80)	260	64	280	12.6
B-BTM13K	1.2-13	0.2	1.3B-BTM	0.12-1.3	0.02	1.3B-BTM-A	300-2800	50	Standard Bolt M5 (20), M6 (21) M7 (22), M8 (23)	106	78	217	7.7
B-BTM40K	4-40	0.5	4B-BTM	0.4-4	0.05	4B-BTM-A	1000-9000	100	Standard Bolt M10 (29), M12 (31) M14 (32)	134	82	241	9.8
B-BTM130K	12-130	2	13B-BTM	1.2-13	0.2	13B-BTM-A	3000-28000	500	Standard Bolt M16 (41), M18 (43) M20 (44), M24 (47)	186	106	287	17.5
B-BTM400K	40-400	5	40B-BTM	4-40	0.5	40B-BTM-A	10000-90000	1000	Standard Bolt M27 (72), M30 (74) M36 (79), M42 (84)	280	126	369	31.0

Note 1. BTM400K comes with a plate and bushing for torsia bolt M20 and M22. Other size are optional.
2. "Hexagon Bolt" in the above list stands for the high-tensile hexagon bolt for friction bonding.

Standard Accessories Plate, Bushing, Spanner for plate, Bolt for plate, Storage Case, Calibration Certificate

BTM Optional Accessories

Bushing for Hexagon Bolt

Part #	Applicable Nominal Diameter of Bolts
650	M16
651	M20
652	M22
653	M24

Bushing for Torsia Bolt

Part #	Applicable Nominal Diameter of Bolts
665	M16
666	M20
667	M22
668	M24

Plate for Torsia Bolt/Hexagon Bolt

Part #	Applicable Nominal Diameter of Bolts
669	M16
670	M20
671	M22
672	M24

Fcon Bolt Tension Stabilization

RoHS

- Creates consistent bolt tension
- Applied to fasteners and nuts
- Acquisition of patent in EU.

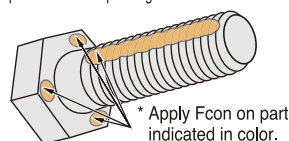


Fcon

Model
Fcon

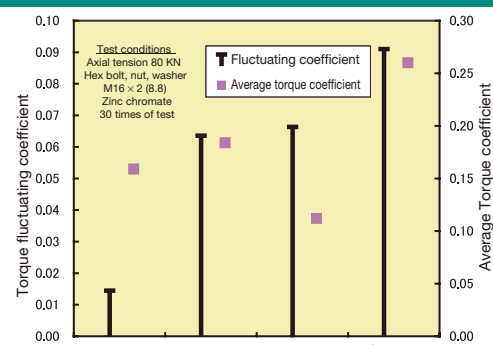
Sales Unit: 10pcs/case
Content: 90g/bottle

How to apply Fcon on the bolt (in case of M10 bolt)
Follow the illustration below. Apply some along the screw thread (2 mm width more or less), and on the bearing surface at 3 different spots evenly. Use appropriate amount depending on the size of the bolt.



* Apply Fcon on part indicated in color.

Axial Tension Stability Characteristics

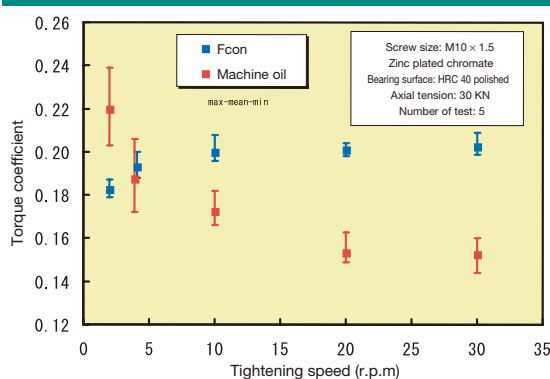


Characteristic of axial tension stabilization

Torque coefficient calculated by formula $K = t/(d \times f)$
T = tightening torque, d = nominal size of screw,
F = axial tension

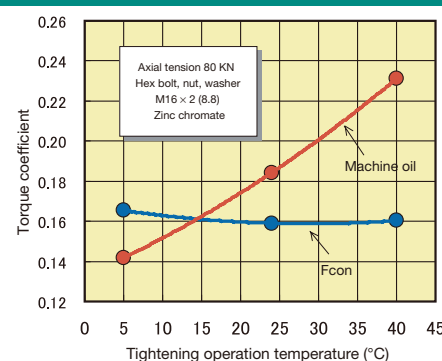
Torque fluctuating coefficient =
torque coefficient standard deviation/average torque coefficient

Influence of Tightening Speed



Influence of tightening speed on torque coefficient

Influence of Temperature



Influence of temperature on torque coefficient

TPC/TPC2

Protocol
Converter

Auxiliary

RS232C/LAN Data Output

- Convert Tohnichi interface device format to other protocols
- Incorporate time and VIN data with tightening record by the internal clock and an optional barcode reader



TPC



TPC2

Note

To use custom made protocol function, required prior consult

Optional Accessories

AC Adapter

Model	Power Supply
BA-8W	AC100V-240V

Input/Output	LAN x 1, RS232C x 2
Display	Power Status LED x 1, Communication status LED x 1
Applicable Tohnichi Interface	R-CM+M-FH/M-FD/M-BLA/M-BLE R-FH256, R-BLA, R-BLE, R-BT, CD5, R-FHD256 CEM3-BTA, PTA-G-BT
TPC Available protocols	ATLAS COPCO® ACOP Serial connection, ATLAS COPCO® ACOP Socket connection, STANLEY® Custom made Protocol*
TPC2 Available protocols	ATLAS COPCO® ACOP Serial connection, ATLAS COPCO® ACOP Socket connection, ATLAS ToolsNet® Custom made Protocol*
Power	DC24V 18V-38V / AC 100V-240 with optional AC adapter
Dimensions	W82 × D33 × H80mm
Operating Temperature	0-40 °C
Weight	146g

ATLAS COPCO, ToolsNet is registered trademark of Atlas Copco Aktiebolag
STANLEY is registered trademark of Stanley Logistics, LLC

Setting software



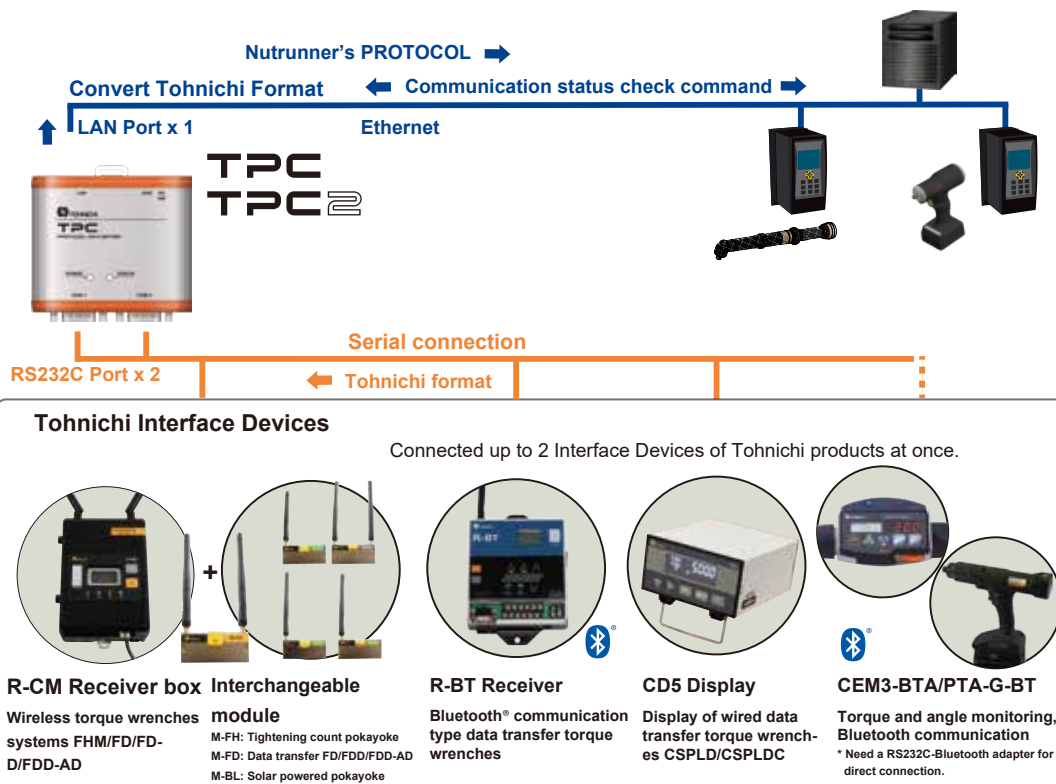
Protocol setting



IP address setting

• Convert Tohnichi Input/Output Format into a Variety of Protocols

Use as Protocol Converter and Serial to Ethernet device



CD5

Compact Display



CD5



Digital Sensor Contacts Direct Reading Comparator Judgment

- Digital display for Tohnichi's torque sensor, strain gauge, products
- OK or NG judgment capability with upper or lower limit setting function
- Easy to confirm judgment with blue and red digits displayed

Model
CD5

Display	Negative type liquid crystal
Resolution	±1/5000 (±1.0 to ±3.0mV/V) ±1/2000 (±0.5 to ±1.0mV/V) 1/2000 (+0.1 to +3.0mV/V)

CD5 Optional Accessories

Printer

Model
EPP16M3

Input Voltage	±3.0mV/V
Accuracy	Nonlinearity ±0.05% F.S. Zero point drift ±0.1μV/°C (TYP.) Gain drift ±0.01%/°C (TYP.)

Data Filing System

Model	Media
DFS	CD-ROM

Calibration Methods	Equivalent input calibration Calibration by actual weight Calibration using sensor-equipped torque wrench
---------------------	---

Data Memory	1000 readings
-------------	---------------

External Input	RESET/COMP/CLEAR/CHSW
----------------	-----------------------

Communication	RS232C compliant, Analog output, HI, OK, LO relay output
---------------	--

Power	AC100-240V±10%
-------	----------------

Operating Temperature	0-40 °C
-----------------------	---------

Dimension	150W × 190D × 94H
-----------	-------------------

Weight	approx. 1.8 kg
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Connecting Cable (P.50)

Part #	Applicable Model	Plug
383	CD5 - PC, EPP16M3	D-SUB 9 Pin Female

EPP16M3

Printer



EPP16M3

Auxiliary RS232C Data Input

- Printer for digital torque equipment
- Terminal Line Dot printing

Model
EPP16M3

EPP16M3 Optional Accessories

Roll Paper

Part #	Description
1408	Roll Paper

EPP16M3 Specifications

Printed Method	Thermal Line Dot
Total Dot	384 dots
Dots per inch	203 dpi (8dot/mm)
Printing Capacity	32
Number of Dots for Character	12 × 24
Character Size	1.5 × 3.0 mm
Paper Width/Print Span	58 / 48 mm
Thermal Paper Outer Diameter	φ50 mm
Max Printing Speed	80 mm/sec.
Power AC	100 - 240V ± 10% 50/60Hz
Operating Temperature	0 ~ 40 °C
Humidity [%RH]	Under 85 (No condensation)
Weight	approx. 0.27 kg

Connecting Cable

Part #	Applicable Model	Plug
383	DOT4-G/LC2/LC3-G/CD5/TDT2/TDT3-G/TME2	D-SUB 9 Pin Female
561	LC/TDT/CD42/TCC	
575	CEM2/CEM3-G/CEM3-P/CTA2-G/CTB2-G/R-DT999	
579	CTA/CTB	

Note

Roll paper for the previous products, EPP16M and EPP16M2 printers, part No.401 and No.408 has been discontinued.

RoHS

R-DT999

Data Tank



R-DT999

Auxiliary Infrared Input RS232C/ Data Output

- Infrared data collector for torque equipment
- 999 data storage
- External keypad setup functions

Model
R-DT999

R-DT999 Optional Accessories

Printer

Model
EPP16M3

Data Input	Infrared data input (Tohnichi format only)
Display	6 digits, 14segments LCD 4 digits, 7segments LCD 4 digits, 7segments LED

Applicable Model	CEM3-G, CEM2, ST, ST2, STC, CTA, CTB
------------------	--------------------------------------

Data Output	RS232C compliance, USB connector serial output (*USB 1.1)
-------------	--

Power	DC5V 2A
-------	---------

Dimensions	W80 × D125 × H32mm
------------	--------------------

Standard Accessories	AC adapter (100-240V±10%)
----------------------	---------------------------

Operating Temperature	0-40 °C
-----------------------	---------

Weight	205g (body only)
--------	------------------

Data Filing System

Model	Media
DFS	CD-ROM

Connecting Cable (P.50)

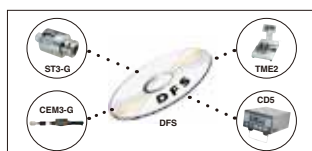
Part #	Applicable Model	Plug
575	R-DT999 - PC, EPP16M3	D-SUB 9 Pin Female
584	R-DT999 - PC	USB A Type

Note

Contact Tohnichi for other types of connector shapes.

DFS

Data Filing System



Auxiliary CD

- Data processing software
- Statistics, Standard deviation, Cp values, Charts

Model	Maximum value, minimum value, data range, mean value, standard deviation and Cp value are calculated to make a histogram on the display.
DFS	

DECA/DECA2

10:1 Ratio Torque
Multiplier

Auxiliary

Straight

Rotary

- Multiplied torque output increases by 10 times
- Ideal for applying high torque values with less force
- DECA2 is improved usability by ratchet function and compact body

RoHS

Accuracy ±5%



DECA4500N



DECA1800N2

Model	Output Torque			Torque Ratio	Dimension [mm]				Weight [kg]	Applicable Universal Arm
	[N·m]	[kgf·m]	[lbf·ft]		Overall Length	Dia.	Output Sq. Drive	Input Sq. Drive		
	Min.-Max.	Min.-Max.	Min.-Max.							
DECA450N2	90-450	9-45	65-325	10:1	151	52	19.07	9.53	1.4	UA450N
DECA900N2	180-900	18-90	130-650		190	63			2.5	UA900N
DECA1800N2	360-1800	36-180	260-1300		228	77.5	25.4	12.7	4.5	UA1800N
DECA3000N2	600-3000	60-300	434-2170		270	95	31.75		8.2	UA3000N
DECA4500N	900-4500	90-450	650-3250		367	110	38.1	19.05	12.5	UA4500N
DECA9000N	1800-9000	180-900	1300-6500		464	140	50.8		34	UA9000N
DECA18000N	3600-18000	360-1800	2600-13000		540	172	63.5	25.4	60	UA18000N

Note

1. Universal Arm is optional.
2. DECA9000N and DECA18000N are supplied on request.

Standard Accessories

1. Metal Case (for DECA450N-DECA900N only)
2. Portable Handle (for DECA4500N-DECA9000N only)
3. Metal Case Caster (for DECA18000N only)

DECA450N2 with
Universal arm & Torque wrench

AP2/DECA/DECA2 Optional Accessories



SA



UA

SA Shell Arm

- Light weight reaction arm

RoHS

Model	Standard Socket Length [mm]	Max. Torque [N·m]	Weight [kg]
SA400N	50	400	0.7
SA700N	62	700	1.2
SA1200N	62	1200	1.6

Note Cannot receive reaction force from counterclockwise direction, in this case use UA as the alternative.

UA Universal Arm

- Heavy duty reaction arm

RoHS

Model	Max. Torque [N·m]	Weight [kg]
UA450N	450	1.2
UA900N	900	2.6
UA1800N	1800	4
UA3000N	3000	7.2
UA4500N	4500	10.9
UA9000N	9000	18
UA18000N	18000	30

Note UA4500N/9000N/18000N are supplied on request.

Adapter for Torque Wrench Tester



Down Adapter



Ratchet Adapter

DA Down Adapter for Torque Wrench Testers

- Compact adapter to reduce the size of square drive

RoHS

Model	Part #	Dimensions [mm]				Capacity [N·m]	Weight [g]
		Square Drive (Male)	Square Drive (Female)	Height	Outside Dia.		
DA3-2	296	9.5	6.35	12	13	14	5
DA4-3	297	12.7	9.5	15	18	70	11
DA6-4	298	19.0	12.7	19	28	220	34
DA8-6	299	25.4	19.0	26	35	750	66
DA12-8	300	38.1	25.4	44	55	2100	320

RA2 Ratchet Adapter for Torque Wrench Testers

- Rotates wrench to proper testing position on tester
- Gear action 3.75

RoHS

Model	Dimensions [mm]				Capacity [N·m]	Weight [kg]
	Sq. Drive (Male)	Sq. Drive (Female)	Height	Outside Dia.		
RA3mk2	9.5	9.5	37.3	55	70	0.28
RA4mk2	12.7	12.7	52.5	70	220	0.6
RA6mk2	19	19	69.3	115	850	2.3
RA8mk2	25.4	25.4	92.8	161	2100	6.3
RA12	38.1	38.1	111	234	3000	12.6

EVERTORQUE

Lubricant for repair



- For repairs of torque wrenches and torque screwdrivers

Model	Part #
EVERTORQUE	830

Evertorque Application List

RoHS

	Applicable Model	Applicable Part
Click Type Torque Wrench	QU/QLE/PQL/PCL/YCL	Thrusting; Steel Ball, Scale Piece, Adjusting Screw; Thread
	WQL	Thrusting; Steel Ball, Scale Piece, Adjusting Screw; Thread, Knob, Protector; Joint
Click Type Torque Screwdriver	MPQL	Thrusting; Steel Ball, Scale Piece, Adjusting Screw; Thread, Ratchet, Marker Pipe; Joint
	RTD, RNTD	Main Shaft, Toggle Sheet; Serration
Semi-Automatic Airtork	RTD, LTD, BMLD	Case, Adjusting Piece; Serration
Fully-Automatic Airtork	A/AC	Thrusting; Steel Ball, Scale Piece, Adjusting Screw; Thread
Multiple Unit	AP, AS	Reduction Clutch; Clutch
	MC, ME, DCME	



Tohnichi ISO6789:2017 compliance status

■ About ISO6789:2017 standard

To meet needs of manufacturers and calibration services, currently, the 2017 version of ISO6789 has been published, and its operation has started in Europe.

■ Main points of Changes

- The standard has been divided into two parts.
Part 1: defines design and manufacturing requirements, including the content of the Declaration of Conformity.
Part 2: sets out requirements, including how to calculate uncertainty for traceable calibration certificates.
- The contents and terms of the calibration certificate will change.
- The allowable range of posture during calibration has been changed. In addition, the calibration conditions have changed.
- The content related to resolution has been added.
- There are restrictions on the measurement error, measurement method, and environment of the measuring instrument used for calibration.

■ Tohnichi Actions

This ISO 6789-2017 standard applies from Tohnichi torque wrenches. Not applicable for some models, such as F series and small torque range wrenches. Tohnichi torque screwdriver series and digital torque wrench series will continue to apply the current ISO 6789-2003. Torque gauges and torque meters are not subject to ISO6789. Some Tohnichi dial indicating torque wrenches change their torque range according to the ISO6789-2017 standard requirements. Calibration certificate of the new standard is attached from the applicable model produced after January 2022.

- Some of DB, DBE, DB-S, DBE-S, CDB-S and T-S models in Nm and Metric units will be changed the minimum torque range in accordance with meeting the requirement of less than 5% of the resolution.

e.g.

Previous model

DB6N4

Torque range: 0.6-6Nm

Graduation : 0.1Nm

Accuracy : +/-3%



New model

DB6N5

Torque range: 0.7-6Nm

Graduation : 0.1Nm

Accuracy : +/-3%

- Requirement of ISO 6789:2017 specifies the resolution 1/5 of increment width*

* In the case the pointer tip width should be less than 1/5 of the scale or dial increment.

- Reading Accuracy should be 0.02Nm in ISO6789-2017 ($0.1\text{Nm} \times 1/5 = 0.02\text{Nm}$).

- 3% of the minimum torque 0.6Nm is 0.018Nm (Shortage of resolution).

- Change the minimum torque to 0.7Nm for the update model DB6N5 (3% of the minimum torque 0.7Nm, 0.021Nm is available with the resolution 0.02Nm).

■ Contents of calibration certificate changes

ISO6789:2017 Calibration certificate

Your Torque Partner		校正証明書		Calibration Certificate		Date of First Used: / /	
品名 Tool 型式 Model 最小 / 最大トルク Min / Max Torque 単位 Units 検査日 Date of calibration (Day/Month/year)	トルクレンチ Torque Wrench QL100N4 20 / 100 N·m 29/10/2020	製造番号 Serial No. 相対測定誤差 ± (%) Relative Measurement Error 検査時温度 (°C) Temperature 検査時湿度 (%) Humidity 交換ヘッド使用時の有効長 Effective Length with Interchangeable Head 検査担当者 Inspector	088705J 3 25 50 -	相澤 栄治 E. Aizawa			
検査ポイント Set Torque	方向 Direction	単位 Units	実測値 Actual Readings	相対測定誤差 Relative Measurement Error	平均 Average	相対誤差 不確かさ W W Relative Expanded MSL	相対測定 不確かさ W W Relative MSL Interval
20 N·m	CW	N·m	20.6 20.5 20.5 20.4 20.4	-2.91 -2.44 -2.44 -1.96 -1.96	20.5	2.105%	4.465%
	CCW	N·m	-	-	-	-	-
60 N·m	CW	N·m	60.0 60.0 59.9 59.8 59.8	0.00 0.00 0.17 0.33 0.17	0.17	0.735%	1.225%
	CCW	N·m	-	-	-	-	-
100 N·m	CW	N·m	101.7 101.6 101.6 101.9 101.7	-1.67 -1.58 -1.58 -1.87 -1.77	101.7	0.490%	2.200%
	CCW	N·m	-	-	-	-	-
				相対測定誤差の合格判定 Judgment of Relative Measurement Error	合格 Pass		

この校正成績書はISO6789:2017の要求事項に準拠した適合宣言であり、本製品は、国家標準にトレースされた参照標準を基準とした標準器を用い、上記規格に準拠した作業標準に従って校正が行われ、校正作業における検査または試験結果が製品仕様を満たしていることを証明します。
なお、トルク測定機器の最大測定誤差はトルクツールの最大許容相対偏差の1/4以下です。
We declare that this document complies with the requirements of ISO6789:2017.
We certify that product identified above was calibrated using reference standard.
That is traceable to the national standards specifications and according to TOHNICHI standards.
We have verified that these test results comply with product specifications.
The measurement error of the torque measurement device is less than 1/4 of the maximum permissible relative deviation of the torque tool.
(※「相対測定不確かさ区間 W」とは、製品の相対測定誤差平均に相対比標準不確かさと測定機器の相対測定誤差を足した数値です)
(※Rel. MU interval W is the sum of the values, "Mean value of the relative measurement error", "Relative expanded measurement uncertainty" and "Stated relative measurement error")

標準器 Standard Equipment	型式 Model	製造番号 Serial No.	最大測定誤差/測定の不確かさ区間 Max. Measurement Error/ Measurement Uncertainty Interval	検査場所 Inspection Location
トルクレンチテスト Torque Wrench Tester	TISK400N-2	705239A	0.02%/0.30%	甲府工場 KOFU PLANT

参照標準 Reference Standard	公的機関 Official Facility	製造番号 Serial No.
参照用トルクレンチ RTW200 Reference Torque Wrench	(株)東日製作所 TOHNICHI MFG.CO.,LTD	701570Y
トルク基準機 DWTGM25 Torque Calibration Machine	(株)ミヅノ(株)大正天びん製作所 MITUTOYO CORPORATION TAISHO BALANCE MFG.	706752B

株式会社 東日製作所
TOHNICHI MFG. CO., LTD

TOHNICHI MFG. CO., LTD KOFU PLANT
ISO9001 JQA-1536
発行責任者
Head of Calibration
H. Tsuneyoshi

ISO6789:2003 Calibration certificate

TOHNICHI		Certificate of Calibration		校正証明書	
Name:	TORQUE WRENCH	Date of First Used:	/ /	Serial No.:	145490J
Model:	QL100N4	Accuracy ± (%):	3	Temperature (°C):	26
Max. Capacity:	100	Units:	N·m	Inspector:	E. AIZAWA
Date of Calibration: (Day/Month/Year)	05/09/2018				
Set Torque	Lower	Upper	Actual Readings		
20	19.5	20.6	CW	20.6	20.5
			CCW	60.3	20.4
60	58.3	61.8	CW	60.3	60.2
			CCW	60.1	60.0
100	97.1	103.0	CW	101.5	101.4
			CCW	101.3	101.2

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We certify that product identified above was calibrated using reference standard.
That is traceable to the national standards specifications and according to TOHNICHI STANDARDS.
We have verified that these test results comply with product specifications.
Measured values are within tolerance according to ISO6789.
The uncertainty of measurement of the reference standard used is ±1%.

標準器 Standard Equipment	型式 Model	製造番号 Serial No.
トルクレンチ TORQUE WRENCH TESTER	TISK1000N-2	706249F

参照標準 Reference Standard	公的機関 Official Facility	製造番号 Serial No.
参照用トルクレンチ RTW200 REFERENCE TORQUE WRENCH	(株)東日製作所 TOHNICHI MFG CO., LTD	701570Y
トルク基準機 DWTGM25 TORQUE CALIBRATION MACHINE	(株)ミヅノ(株)大正天びん製作所 MITUTOYO CORPORATION TAISHO BALANCE MFG.	706752B

株式会社 東日製作所
TOHNICHI MFG. CO., LTD

TOHNICHI MFG. CO., LTD. KOFU PLANT
ISO9001 JQA-1536
Head of Calibration
H. Tsuneyoshi

2-12, Omori-kita 2-Chome, Ota-ku, Tokyo 143-0016, Japan
TEL:03-3762-2452 FAX:03-3761-3852
00512

- Indicate minimum Torque value
- Change measurement points. Minimum - 60% - 100%
- Substitute "Maximum Permissible Relative Deviation" for "Accuracy"
- Indicate Humidity at the Inspection
- Indicate "Effective length" when using a replacement head
- Show "Actual Reading Value" and "Relative Measurement Error %" of each results
- Show the mean value of "Actual Reading" and "Relative Measurement Error %" of each points
- Show "Relative expanded measurement uncertainty" and "Relative measurement uncertainty interval"
- Indicate OK/Fail judgment whether the relative measurement error is within the permissible value
- Indicate the "Maximum Measurement Error" and "Measurement Uncertainty Interval of the standard Equipment".
- Indicate the inspection Location

The new calibration certificate will be applied to ISO6789:2017 compatible products starting from January 2022, and the previous models will end in 2021

The current models, such as torque screwdrivers, digital torque wrenches and some single torque wrenches keep the current standard JIS B4652 complies with ISO6789:2003.



Torque Settings for Torque Screwdrivers

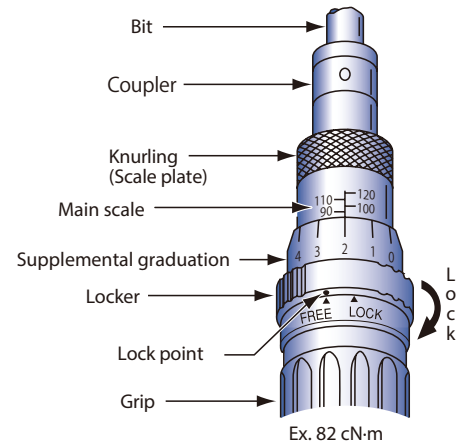
■ LTD, RTD, MLD

Method of setting torque, Adjustable type:

1. Turn the locker of the main unit clockwise to release the lock.
2. Holding the main scale knurling part with the fingers of your right hand, turn the grip with the fingers of your left hand to set the torque value.

* Setting the torque set values:

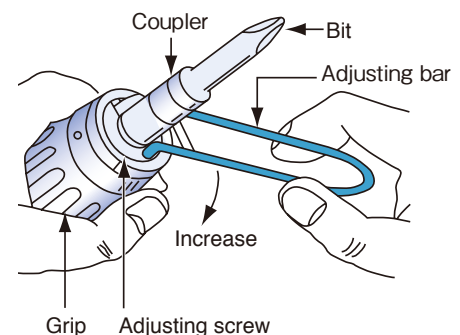
- (1) Turn the grip to match the top end of the supplemental graduation with the main scale.
- (2) Match the supplemental graduation line with the main scale vertical line (See the figure below).
3. After setting the torque, turn the main unit locker counterclockwise to lock it.



■ NTD, RNTD

Method of setting torque, Preset type:

1. Holding the grip with your left hand, insert the adjusting tool bar into the grooves of the adjustment screw and turn to adjust. Turn clockwise to increase the torque value.
2. Insert with the exclusive bit into the loading device of the Torque Driver Tester (TDT) and fix it.
3. Turn the loading device clockwise to measure the torque value.
4. Continue to repeat procedures 1-3 until the torque is matched.



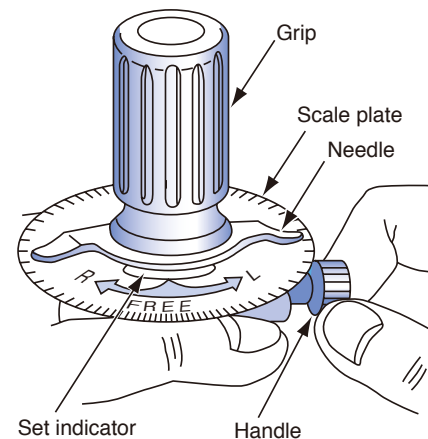
■ FTD50-400CN

Method of preloading the FTD

The preload function is a function that uses the handle to apply a preloading torque close to that of the measuring point to minimize the twisting angle during measurement.

In the FTD series torque screwdrivers, a preload function is provided to prevent your wrist from becoming strained and the torque scale from becoming difficult to read when operating close to the maximum torque.

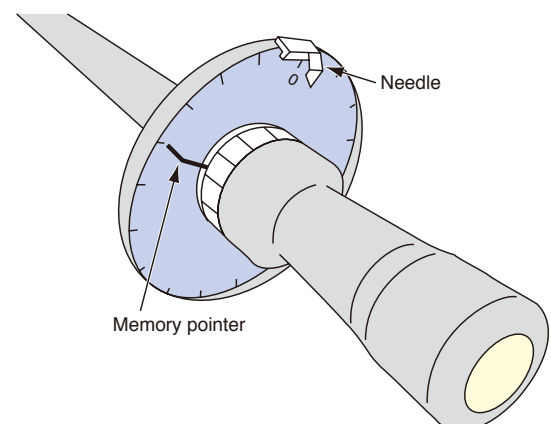
1. Holding the FTD screwdriver with your left hand, turn the preload handle in the counterclockwise direction using the fingers of your right hand (in case of clockwise measuring).
2. After some slipping turns, the needle will begin to move, and it will be easy to set an optional torque value.
3. If you do not wish to use the preload function, turn the preload handle until there is no tension and the central set indicator (red mark) points to the FREE mark.



■ FTD-S

Method of setting the FTD-S indicator and memory pointer

1. Make sure the indicator is pointing to zero by matching the scale. If not, adjust to zero by lightly pushing down on the scale and rotating it.
2. Turn the memory pointer in the direction opposite to the measuring direction until it matches the main indicator.
3. Carry out torque measurement or torque tightening.

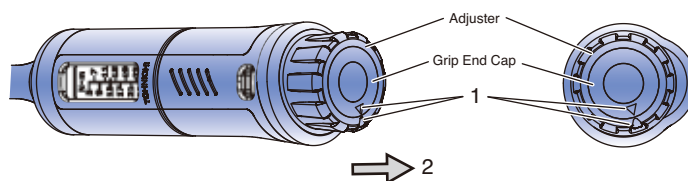


Torque Settings for Torque Wrenches

■ Adjustable type

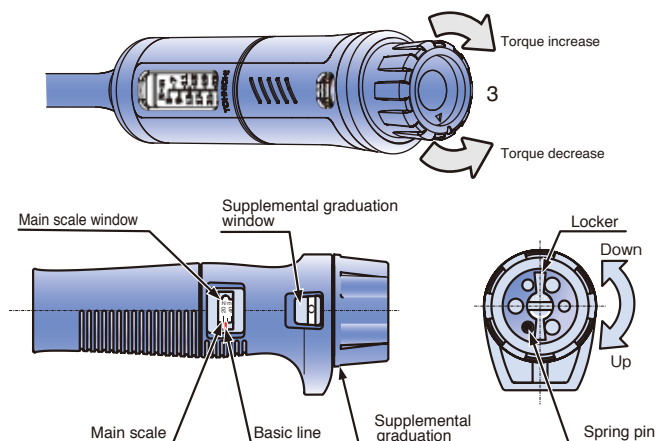
● QL, QL5/CL, CL5

1. Turn the adjuster and match up the ▲mark of the adjuster and ▼mark of grip-end cap.
2. Pull the adjuster.
3. Pull the adjuster and turn it to set a torque.



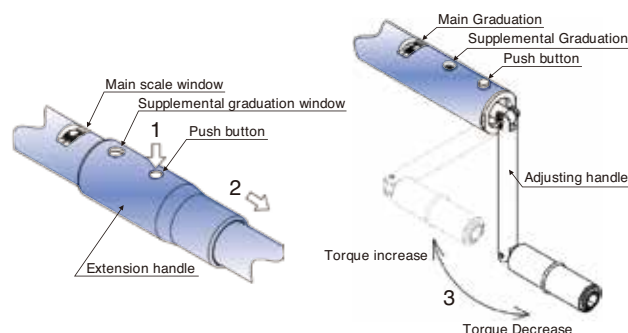
● QL, CL, YCL, A, etc.

1. Release the locker and turn it counterclockwise.
2. Set the torque by turning the supplemental graduation, confirming the value of the main scale.
3. Turn the locker clockwise to lock it. Change the locker pin location if the pin is contacted when locking.



● QLE2, CLE2, DQLE2, and PHLE2

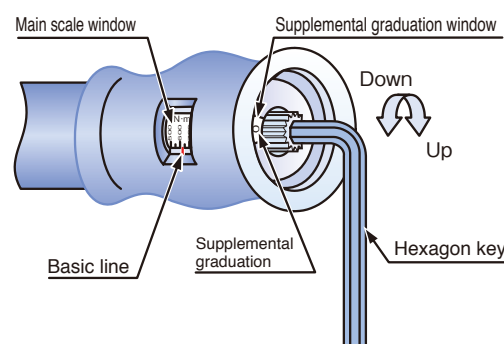
1. Press the push button
2. Remove the extension handle
3. Turning the adjusting handle clockwise to increase the set torque and counterclockwise to reduce it.



■ Pre-lock and preset types

● PQL, PCL, MPCL, AC2, QSP3, etc.

1. Insert the provided hexagon key into the adjusting hexagonal hole.
2. Turn the hexagon key to set the torque, confirming the value on the main scale and supplemental graduation.
3. No locking mechanism is needed for PQL models (An adjusting tool for QSP3 is optional).

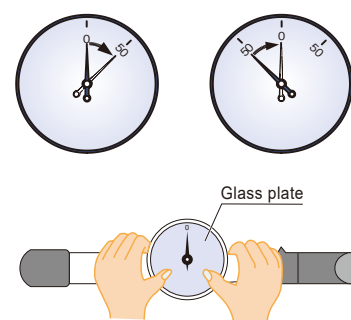


Model	Adjusting hexagon hole mm size across flats
PQL10N-PQL25N	2.5
PQL50N-200N4	4
AC25N3-100N3	

■ Dial Indication types

● DB, CDB, T

1. For measurement
The scale on the dial gauge can be rotated. Press the dial case from above and turn the pointer to correctly match "0".
2. Presetting exclusively for tightening
Alternatively, the desired torque can be preset on the dial beforehand and then the bolt can be tightened until the pointer shows "0".



Torque Conversion List

kgf·cm
kgf·m



N·m

1 kgf·cm = 0.0980665 N·m
1 kgf·m = 9.80665 N·m

N·m



kgf·cm
kgf·m

1 N·m = 10.1972 kgf·cm
1 N·m = 0.101972 kgf·m

	N·m									
kgf·cm	0	1	2	3	4	5	6	7	8	9
10	0.981	1.08	1.18	1.27	1.37	1.47	1.57	1.67	1.77	1.86
20	1.96	2.06	2.16	2.26	2.35	2.45	2.55	2.65	2.75	2.84
30	2.94	3.04	3.14	3.24	3.33	3.43	3.53	3.63	3.73	3.82
40	3.92	4.02	4.12	4.22	4.31	4.41	4.51	4.61	4.71	4.81
50	4.90	5.00	5.10	5.20	5.30	5.39	5.49	5.59	5.69	5.79
60	5.88	5.98	6.08	6.18	6.28	6.37	6.47	6.57	6.67	6.77
70	6.86	6.96	7.06	7.16	7.26	7.35	7.45	7.55	7.65	7.75
80	7.85	7.94	8.04	8.14	8.24	8.34	8.43	8.53	8.63	8.73
90	8.83	8.92	9.02	9.12	9.22	9.32	9.41	9.51	9.61	9.71
100	9.81	9.90	10.0	10.1	10.2	10.3	10.4	10.5	10.6	10.7

	kgf·cm									
N·m	0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9
1	10.2	11.2	12.2	13.3	14.3	15.3	16.3	17.3	18.4	19.4
2	20.4	21.4	22.4	23.5	24.5	25.5	26.5	27.5	28.6	29.6
3	30.6	31.6	32.6	33.7	34.7	35.7	36.7	37.7	38.7	39.8
4	40.8	41.8	42.8	43.8	44.9	45.9	46.9	47.9	48.9	50.0
5	51.0	52.0	53.0	54.0	55.1	56.1	57.1	58.1	59.1	60.2
6	61.2	62.2	63.2	64.2	65.3	66.3	67.3	68.3	69.3	70.4
7	71.4	72.4	73.4	74.4	75.5	76.5	77.5	78.5	79.5	80.6
8	81.6	82.6	83.6	84.6	85.7	86.7	87.7	88.7	89.7	90.8
9	91.8	92.8	93.8	94.8	95.9	96.9	97.9	98.9	99.9	101
10	102	103	104	105	106	107	108	109	110	111

	N·m									
kgf·cm	0	10	20	30	40	50	60	70	80	90
100	9.81	10.8	11.8	12.7	13.7	14.7	15.7	16.7	17.7	18.6
200	19.6	20.6	21.6	22.6	23.5	24.5	25.5	26.5	27.5	28.4
300	29.4	30.4	31.4	32.4	33.3	34.3	35.3	36.3	37.3	38.2
400	39.2	40.2	41.2	42.2	43.1	44.1	45.1	46.1	47.1	48.1
500	49.0	50.0	51.0	52.0	53.0	53.9	54.9	55.9	56.9	57.9
600	58.8	59.8	60.8	61.8	62.8	63.7	64.7	65.7	66.7	67.7
700	68.6	69.6	70.6	71.6	72.6	73.5	74.5	75.5	76.5	77.5
800	78.5	79.4	80.4	81.4	82.4	83.4	84.3	85.3	86.3	87.3
900	88.3	89.2	90.2	91.2	92.2	93.2	94.1	95.1	96.1	97.1
1000	98.1	99.0	100	101	102	103	104	105	106	107

	kgf·m									
N·m	0	1	2	3	4	5	6	7	8	9
10	1.02	1.12	1.22	1.33	1.43	1.53	1.63	1.73	1.84	1.94
20	2.04	2.14	2.24	2.35	2.45	2.55	2.65	2.75	2.86	2.96
30	3.06	3.16	3.26	3.37	3.47	3.57	3.67	3.77	3.87	3.98
40	4.08	4.18	4.28	4.38	4.49	4.59	4.69	4.79	4.89	5.00
50	5.10	5.20	5.30	5.40	5.51	5.61	5.71	5.81	5.91	6.02
60	6.12	6.22	6.32	6.42	6.53	6.63	6.73	6.83	6.93	7.04
70	7.14	7.24	7.34	7.44	7.55	7.65	7.75	7.85	7.95	8.06
80	8.16	8.26	8.36	8.46	8.57	8.67	8.77	8.87	8.97	9.08
90	9.18	9.28	9.38	9.48	9.59	9.69	9.79	9.89	9.99	10.1
100	10.2	10.3	10.4	10.5	10.6	10.7	10.8	10.9	11.0	11.1

	N·m									
kgf·m	0	1	2	3	4	5	6	7	8	9
10	98.1	108	118	127	137	147	157	167	177	186
20	196	206	216	226	235	245	255	265	275	284
30	294	304	314	324	333	343	353	363	373	382
40	392	402	412	422	431	441	451	461	471	481
50	490	500	510	520	530	539	549	559	569	579
60	588	598	608	618	628	637	647	657	667	677
70	686	696	706	716	726	735	745	755	765	775
80	785	794	804	814	824	834	843	853	863	873
90	883	892	902	912	922	932	941	951	961	971
100	981	990	1000	1010	1020	1030	1040	1050	1060	1070

	kgf·m									
N·m	0	10	20	30	40	50	60	70	80	90
100	10.2	11.2	12.2	13.3	14.3	15.3	16.3	17.3	18.4	19.4
200	20.4	21.4	22.4	23.5	24.5	25.5	26.5	27.5	28.6	29.6
300	30.6	31.6	32.6	33.7	34.7	35.7	36.7	37.7	38.7	39.8
400	40.8	41.8	42.8	43.8	44.9	45.9	46.9	47.9	48.9	50.0
500	51.0	52.0	53.0	54.0	55.1	56.1	57.1	58.1	59.1	60.2
600	61.2	62.2	63.2	64.2	65.3	66.3	67.3	68.3	69.3	70.4
700	71.4	72.4	73.4	74.4	75.5	76.5	77.5	78.5	79.5	80.6
800	81.6	82.6	83.6	84.6	85.7	86.7	87.7	88.7	89.7	90.8
900	91.8	92.8	93.8	94.8	95.9	96.9	97.9	98.9	99.9	101
1000	102	103	104	105	106	107	108	109	110	111

■ Unit of Torque and Conversion Values

	S.I. unit system			Metric unit system			American unit system		
	mN·m	cN·m	N·m	gf·cm	kgf·cm	kgf·m	ozf·in	lbf·in	lbf·ft
1 mN·m =	1	0.10	0.001	10.2	0.0102	0.000102	0.142	0.00885	0.000738
1 cN·m =	10	1	0.01	102	0.102	0.00102	1.42	0.0885	0.00738
1 N·m =	1000	100	1	10200	10.2	0.102	142	8.85	0.738
1 gf·cm =	0.0981	0.00981	0.0000981	1	0.001	0.00001	0.0139	0.000868	0.0000723
1 kgf·cm =	98.1	9.81	0.0981	1000	1	0.01	13.9	0.868	0.0723
1 kgf·m =	9810	981	9.81	100000	100	1	1390	86.8	7.23
1 ozf·in =	7.06	0.706	0.00706	72.0	0.072	0.00072	1	0.0625	0.00521
1 lbf·in =	113	11.3	0.113	1150	1.15	0.0115	16	1	0.0833
1 lbf·ft =	1360	136	1.36	13800	13.8	0.138	192	12	1
Country/Region	Japan, China, Europe			Asia			U.S.A., Aircraft industry		

1 [N·m] = 10.1972 [kgf·cm] ≈ 10.20 [kgf·cm] 1 [kgf·cm] = 0.0980665 [N·m] ≈ 0.0981 [N·m]

Conversion example: T = 25.0 [kgf·cm] = 25.0 × 0.0980665 = 2.4516625 [N·m] ≈ 2.45 [N·m]

■ JCSS/Japan Calibration Service System

Tohnichi Mfg. Co. Ltd's torque standards calibration laboratory is now an authorized calibration service provider of JCSS/Japan Calibration Service System under Japanese measurement law. Registration number: JCSS0281
Based on this, Tohnichi has launched a JCSS calibration service for DOTE4-G torque wrench testers from 10 N·m to 1000 N·m and CEM3 digital torque wrenches as a validated JCSS system and an uncertainty certificate service for outside of the above stated torque range.

Tohnichi issued JCSS calibration certificate is recognized internationally based on MRA/Mutual Recognition Arrangement of ILAC/International Laboratory Accreditation Cooperation and APLAC/Asia Pacific Laboratory Accreditation Cooperation by IAJapan/International Accreditation Japan.

Standard Tightening Torque

Standard Tightening Torque [N·m]

Reference value

Nominal diameter	T [N·m]	0.5T series [N·m]	1.8T series [N·m]	2.4T series [N·m]
M1	0.0195	0.0098	0.035	0.047
(M1.1)	0.027	0.0135	0.049	0.065
M1.2	0.037	0.0185	0.066	0.088
(M1.4)	0.058	0.029	0.104	0.140
M1.6	0.086	0.043	0.156	0.206
(M1.8)	0.128	0.064	0.23	0.305
M2	0.176	0.088	0.315	0.42
(M2.2)	0.23	0.116	0.41	0.55
M2.5	0.36	0.18	0.65	0.86
M3	0.63	0.315	1.14	1.50
(M3.5)	1	0.5	1.8	2.40
M4	1.5	0.75	2.7	3.6
(M4.5)	2.15	1.08	3.9	5.2
M5	3	1.5	5.4	7.2
M6	5.2	2.6	9.2	12.2
(M7)	8.4	4.2	15	20.0
M8	12.5	6.2	22	29.5
M10	24.5	12.5	44	59
M12	42	21	76	100
(M14)	68	34	122	166
M16	106	53	190	255
M18	146	73	270	350
M20	204	102	370	490
(M22)	282	140	500	670
M24	360	180	650	860
(M27)	520	260	940	1240
M30	700	350	1260	1700
(M33)	960	480	1750	2300
M36	1240	620	2250	3000
(M39)	1600	800	2900	3800
M42	2000	1000	3600	4800
(M45)	2500	1260	4500	6000
M48	2950	1500	5300	7000
(M52)	3800	1900	6800	9200
M56	4800	2400	8600	11600
(M60)	5900	2950	10600	14000
M64	7200	3600	13000	17500
(M68)	8800	4400	16000	21000

Standard bolt stress: 210 [N/mm²] Stress of bolt (JIS B1082)

Standard Tightening Torque [kgf·cm]

Reference value

Nominal diameter	T [kgf·cm]	0.5T series [kgf·cm]	1.8T series [kgf·cm]	2.4T series [kgf·cm]
M1	0.199	0.100	0.357	0.479
(M1.1)	0.275	0.138	0.500	0.663
M1.2	0.377	0.189	0.673	0.897
(M1.4)	0.591	0.296	1.06	1.43
M1.6	0.877	0.438	1.59	2.10
(M1.8)	1.31	0.653	2.35	3.11
M2	1.79	0.897	3.21	4.28
(M2.2)	2.35	1.17	4.18	5.61
M2.5	3.67	1.84	6.63	8.77
M3	6.42	3.21	11.6	15.3
(M3.5)	10.2	5.1	18.4	24.5
M4	15.3	7.6	27.5	36.7
(M4.5)	21.9	11.0	39.8	53.0
M5	29.4	14.7	53.0	70.6
M6	53.0	26.5	93.8	124
(M7)	85.7	42.8	153	204
M8	127	63.2	224	301
M10	250	127	449	602
M12	428	214	775	1020
(M14)	693	347	1240	1690
M16	1080	540	1940	2600
M18	1490	744	2750	3570
M20	2080	1040	3770	5000
(M22)	2880	1430	5100	6830
M24	3670	1840	6630	8770
(M27)	5300	2650	9590	12600
M30	7140	3570	12800	17300
(M33)	9790	4890	17800	23500
M36	12600	6320	22900	30600
(M39)	16300	8160	29600	38700
M42	20400	10200	36700	48900
(M45)	25500	12800	45900	61200
M48	30100	15300	54000	71400
(M52)	38700	19400	69300	93800
M56	48900	24500	87700	118000
(M60)	60200	30100	108000	143000
M64	73400	36700	133000	178000
(M68)	89700	44900	163000	214000

Notes: Conversion values rolled up to effective 3-digits.

■ Screws and Applicable "T" Series

	Standard T series	0.5T series	1.8T series	2.4T series
Applicable screws (Strengths) (Material)	4.6-6.8 SS, SC, SUS	- Brass, Copper, Aluminum	8.8-12.9 SCr, SNC, SCM	10.9-12.9 SCr, SNC, SCM, SNCM
Axial tension standard value [N/mm ²] Min - Max	210 300-160	105 150-80	380 540-290	500 710-380
Application	To be applied to ordinary screws, unless otherwise specified	Male and female screws with copper, aluminum or plastic, for die-cast plastic products	Durable screw joints made of special steel including those affected by additional dynamic loads (Friction clamping)	
Applicable products	Ordinary products	Electronic products	Vehicles, Engines	Construction products

* The maximum to the minimum of the axial stress is considered as the dispersion of the torque coefficient.

Example: max = 210 × (0.2/0.14) = 300 [N/mm²]

Torque coefficient: 0.14/Min. - 0.2/Avg. - 0.26/Max.

■ Calibration Certificate ■

- Torque wrenches are measuring instruments. The calibration certificate is the document which certifies the accuracy of the torque products, which are traceable to Japanese national standards. Please keep the calibration certificate for future use.
- Accuracy % is calculated on each indicated value. Accuracy stated as "+/- a percentage + 1 digit" indicates that digital display will round up to next digit in resolution if value falls between digits.
- Tohnichi's torque products provided with a calibration certificate can be used immediately at ISO9000 facilities without the need for further acceptance inspection or any additional certifications.
- The calibration certificate is effective for 1 year from the date of first use within 3 years from the date of inspection. Please fill in the date in the calibration certificate when first used.
- Tohnichi's manual torque tools are normally guaranteed to 100,000 tightening cycles or 1 year. For click type torque wrenches, it can be also used up to 1,000,000 tightening cycles if the function is properly maintained and adjusted at every 100,000 cycles.

■ RoHS/Restriction of Hazardous Substances Directive ■

Following RoHS, which restricts the use of certain hazardous materials in product manufacturing, Tohnichi has expanded its efforts in environmentally friendly procurement. Starting with our Product Catalog 2011 edition, the **RoHS** mark is shown on all applicable models conforming to the RoHS directive. For details, please contact Tohnichi.



Foreign Exchange and Foreign Trade Law

In Japan, when exporting products outside of Japan, an export license must be obtained as necessary in accordance with the Foreign Exchange and Foreign Trade Act.

The Appended Table 1 of Export Trade Control Order lists "arms" or "highly technical general-purpose products that are likely to be used for military applications as agreed upon between major international security trade control regime. Tohnichi's products do not fall under this list (non-applicable).

However, even products that do not fall under Appended Table 1 of the Export Order must be checked for Catch-All Controls.

The Catch-All Controls cover all general technology, excluding foodstuffs, and covers products that may be used in the development of weapons of mass destruction, etc.

Tohnichi products are classified in (row 16 of appended Table 1) Part 15, Class 82 (tools made of base metals...etc.) and Part 18, Class 90 (measuring instruments...etc.). therefore, confirm the following points when exporting.

1. Group A countries listed on Appended Table 3 or not.
2. Is there no inform condition from Ministry of Economy, Trade and Industry (METI).
3. Confirm the end user of the product being exported?
Refer to the latest foreign user list issued by METI.
4. Confirm the usage purpose of the product.
Refer to the list "Example of products with a strong possibility of being used for the development of weapons of mass destruction, etc." from METI.

Under the Catch-All Controls, if there is no concern that the goods or technology will be used for the development of weapons of mass destruction, etc., in view of the consumer or use of the goods or technology, no export license is required and exports to Group A countries also do not require a permit.

In addition, prior export permission is required when METI has given a specific notice (Inform) that permission should be applied for.

Your Torque Partner

Through advances in torque technology, Tohnichi contributes to the creation of a safer world by helping to obtain the highest level of product safety in transportation, information technology, and many other fields that affect our daily lives.

TORQUE CENTER

A wide variety of services available including: theoretical information, application assistance, training seminars, and testing facilities.



Tohnichi Torque Center in Tokyo

Laboratory

Visitors can use this space. Actual work piece is carried in and proper tightening torque can be measured.



Showroom

Tohnichi torque products are set-up and displayed so that visitor can have a clear look on what is available on the torque market and what will be coming up soon.



Lecture room

Various courses of torque engineering seminars are available.



Training room

Our customers can attend workshops, covering a global training, general repair and adjustment on torque products.



The above facilities and services are available at Tokyo, Osaka, Nagoya in Japan, Tohnichi Shanghai in China, Tohnichi Europe in Belgium, and Tohnichi America in Chicago.

2023

Reference Guide



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& Ergonomic Handling Systems

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The latest informatoin is available on
global Tohnichi site.

<https://www.global-tohnichi.com>



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