

48 years

Since 1976

SAS' uninterrupted focus in assembly industry is now serving the global market

SAS

The brand will continue to be a trailblazer in reaching out to the global market delivering win-win solutions to the customers



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REVA

Founded in 1976

SAS

Half a Century's Dedication to
Precision Tightening and Cost-effective Assembly Solutions



SAS POWER TOOLS INC October, 2023

From Assembly Tools to Accessories & Supporting Services, SAS continues to Focus on Developing High Quality & Cost-Efficient Solutions for Customers Until Today

High Quality Brand

Professional Assembly Tool Manufacturer with High Quality Standard
Nearly Half a Century Dedication & Focus to Ensure High Quality

Leading Technology

Uninterrupted New Technology & Product Development in Assembly Tools
Always Focus on Solving Production Line Issues & Creating Values

Safety First

Safe, Environmentally Conscious & Ergonomic Design to Ensure Product Safety
Vibration, Noise, Moisture, EMI, ESD and Fool Proof Designs

Environmental Consciousness

Environment Friendly Manufacturing Starting From Design
RoHS Compliant and Recyclable Materials

Target Designs

Cost, Quality, Repeatability, Life, Ergonomics, and Data to Satisfy & Lead Industry

Always Innovative

Continuous Improvement to Win More and More User Acceptance
Listen & Understand to Solve Issues or Create More Needed Features & Functions

Marching Forward

Always Challenge & Be Challenged to Improve and Create Higher Values Marching Forward



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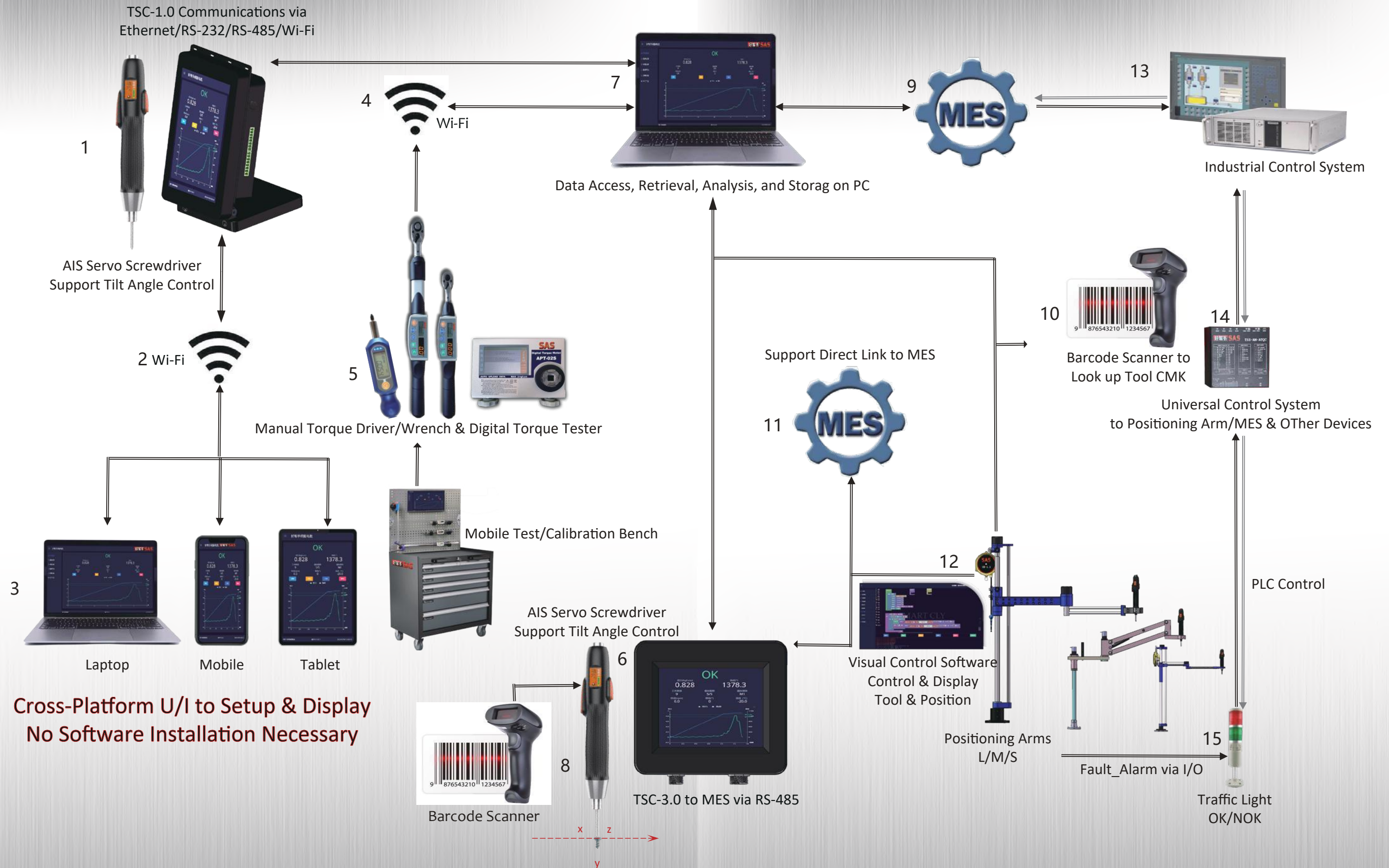
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Fully Integrated Smart Assembly Solution



Superior Smart Servo Screwdrivers AIS

- 1  Compact w/ Highest Torque in Market
0.15-25 kgf·cm @ Ø28 x 216 mm
Durable/Efficient/HighYield
Market Leader in Precision Assembly
- 2  Multinational Safety Certificates
- 3  ESD Compliant
+
Adjustable LED Lighting
- 4  Ergonomics Designs for Long-time
Operations w/ Less Stress



8 Serial Number & Warning Label for
Product Warranty and Copy Right
Protection




9 Compact AC to DC Switching Power
and Choices of Touch Panel Controller



- Support up to 8 TASK (SCREW) Settings
- Each TASK (SCREW) Supports up to 8 STEPS
- 3.2" Capacitive Touch Panel
- Real-Time Display & Store Peak Torque,
Torque Curve, and Tightening Result
- Support SD Card Data Storage 4-32 GB
- Connect to Upstream/Downstream Devices
(MES) via RS-485
- Support DC Input 20-48V
- Cut-off Frequency 1000Hz (1 data per 1ms)
- The Most Cost-Effective Modular Design

- Support single to multi-step, repeated tightening program
settings and independent or integrated judgment
- Precision torque and angle monitor and control
- Real-time display of: OK/NG/FL/SS/Workpiece_Count/
Screw_Count/RPM/Motor_Temperature
- Tightening angle detects, monitors, controls, and judges
- Peak torque and curve stored for each tightening
- Up to 5 million sets of tightening data on the peak torque,
Torque curve, and tightening process with real-time display
- Production data for traceability and analysis
- Uploadable data of Result/Count/Peak Torque/Time/Turns/
FL/SS/Serial Number
- Digital Input/Output signals, open protocols, barcode
scanner, and other upstream/downstream devices

- 5  ESD Compliant Design Especially for
Dedicated Electronics & Dust-free
Assembly
- 6  Pull-out Type Bit Socket for Impact
Protection & Better Concentricity
- 7  Tight Tolerances Parts Design for High
Precision Tightening, Especially for
Micro-Torque Applications



Elite Version 3" Touch Panel Controller
[TSC-3.0]



Pro Version 7" Touch Panel Controller
[TSC-1.0]

Technical Specifications of AIS

Technical Specifications 4-Pole Slotless Motor (Pro) w/ 7" Touch Panel

Item	Unit	Item Description				
Tool Model		AIS-S1.7Pro	AIS-S5.0Pro	AIS-S10Pro	AIS-S20Pro	AIS-S25Pro
Torque Range	kgf-cm	0.2-1.7	1.0-5.0	2.0-10	4.0-20	5.0-25
	lbf-in	0.17-1.48	0.86-4.34	1.7-8.7	3.4-17.4	4.3-21.7
No Load Speed	rpm	50-1500	20-1000	20-1000	20-800	20-500
Applicable Thread	mm	0.7-1.8	1.0-2.6	1.4-3.0	2.0-4.0	2.8-4.5
Available Bit Socket		Ø4•SH¼•½Moon	Ø4•SH¼•½Moon	Ø4•SH¼	Ø5•SH¼	Ø5•SH¼
Actuation		Lever Start				
Motor Control		FOC				
Variation/Repeatability		< ±5%				
Gyro Sensor		Standard or Optional for Tilt Angle Management & Control				
Dimensions	mm	Ø28.6 x 216				
Tool Weight	g	320				
Touch Panel Controller Model		TSC-1.0				
Dimensions	mm	221 (L) x 113 (W) x 51 (D)				
Weight	g	Hanging Type: 365 / Automation Fixing Type: 365 / Desktop Type: 1190				
Communications		Wi-Fi / EtherNET / RS-232 / RS-485				
I/O		16 Points (Input: 7 & output: 5)				
Inputs		FORWARD/REVERSE/RESET/CONNECT_POWER/JOB_SELECT				
Outputs		OK/NG/FL/SS/WORKPIECE_COMPLETE/TASK_COMPLETE(SCREW_COMPLETE)				
Programmability		8 STEPS / 16 TASKS (SCREWS) / 8 JOBS				
Power Adapter Model		APM-403A @ 200W				
Vac In		100-240V @ 50/60 Hz				
Dimensions	mm	170 x 80 x 60				
Weight	g	620				

Technical Specifications of AIS

Technical Specifications 4-Pole Slotless Motor (Pro) w/ 3.2" Touch Panel

Item	Unit	Item Description				
Tool Model		AIS-S1.7Pro	AIS-S5.0Pro	AIS-S10Pro	AIS-S20Pro	AIS-S25Pro
Torque Range	kgf-cm	0.2-1.7	1.0-5.0	2.0-10	4.0-20	5.0-25
	lbf-in	0.17-1.48	0.86-4.34	1.7-8.7	3.4-17.4	4.3-21.7
No Load Speed	rpm	50-1500	20-1000	20-1000	20-800	20-500
Applicable Thread	mm	0.7-1.8	1.0-2.6	1.4-3.0	2.0-4.0	2.8-4.5
Available Bit Socket		Ø4•SH¼•½Moon	Ø4•SH¼•½Moon	Ø4•SH¼	Ø5•SH¼	Ø5•SH¼
Actuation		Lever Start				
Motor Control		FOC				
Repeatability		> ±5%				
Gyro Sensor		Standard or Optional for Tilt Angle Control				
Dimensions	mm	Ø28.6 x 216				
Tool Weight	g	320				
Touch Panel Controller Model		TSC-3.0				
Dimensions	mm	98 (L) x 86 (W) x 30 (D)				
Weight	g	200				
Communications		RS-485				
I/O		Optional (External)				
Inputs		FORWARD/REVERSE/RESET/CONNECT_POWER/JOB_SELECT				
Outputs		OK/NG/FL/SS/WORKPIECE_COMPLETE/TASK_COMPLETE(SCREW_COMPLETE)				
Programmability		8 STEPS / 8 TASKS (SCREWS) / 8 JOBS				
Power Adapter Model		APM-403A @ 200W				
Vac In		100-240V @ 50/60 Hz				
Dimensions	mm	170 x 80 x 60				
Weight	g	620				



Smart Servo Screwdrivers AIS [AIS-S1.7/5.0/10/20/25Pro]

- Support single to multi-step, repeated tightening program settings and independent or integrated judgment
- Precision torque and angle monitor and control
- Real-time display of: OK/NG/FL/SS/Workpiece_Count/Screw_Count/RPM/Motor_Temperature
- Tightening angle detects, monitors, controls, and judges
- Peak torque and curve stored for each tightening
- Up to 5 million sets of tightening data on the peak torque, Torque curve, and tightening process with real-time display
- Production data for traceability and analysis
- Uploadable data of Result/Count/Peak Torque/Time/Turns/FL/SS/Serial Number
- Digital Input/Output signals, open protocols, barcode scanner, and other upstream/downstream devices



Smart Servo Screwdrivers AIS [AIS-S1.7/5.0/10/20/25Pro] 3.2" Touch Panel Controller [TSC-3.0]

- Support up to 8 TASK (SCREW) Settings
- Each TASK (SCREW) Supports up to 8 STEPS
- 3.2" Capacitive Touch Panel
- Real-Time Display & Store Peak Torque, Torque Curve, and Tightening Result
- Support SD Card Data Storage 4-32 GB
- Connect to Upstream/Downstream Devices (MES) via RS-485
- Support DC Input 20-48V
- Cut-off Frequency 1000Hz (1 data per 1ms)
- The Most Cost-Effective Modular Design

Technical Specifications of AIST



Technical Specifications 4-Pole Slotless Motor (Pro) w/ 7" Touch Panel

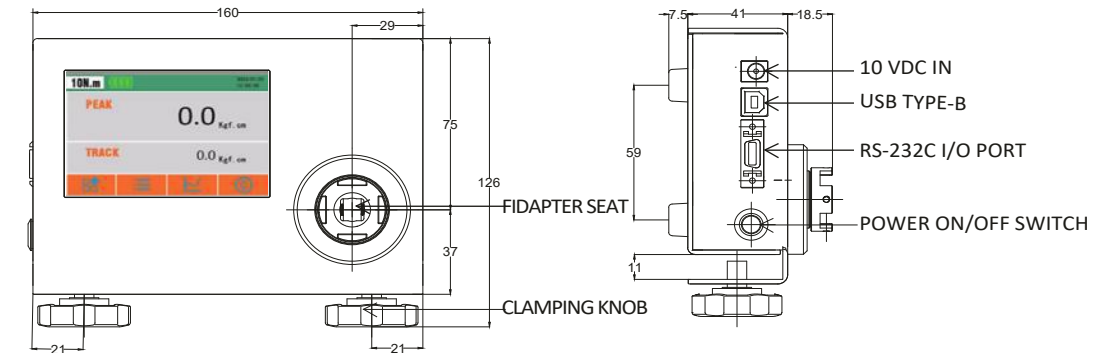
Item	Unit	Item Description				
Tool Model		AIST-S1.7Pro/Z	AIST-S5.0Pro	AIST-S10Pro	AIST-S20Pro	AIST-S25Pro
Torque Range	kgf-cm	0.2-1.7	1.0-5.0	2.0-10	4.0-20	5.0-25
	lbf-in	0.17-1.48	0.86-4.34	1.7-8.7	3.4-17.4	4.3-21.7
No Load Speed	rpm	50-1500	20-1000	20-1000	20-800	20-500
Applicable Thread	mm	0.7-1.8	1.0-2.6	1.4-3.0	2.0-4.0	2.8-4.5
Available Bit Socket		Ø4•SH¼•½Moon	Ø4•SH¼•½Moon	Ø4•SH¼	Ø5•SH¼	Ø5•SH¼
Actuation		Signal Trigger				
Motor Control		FOC				
Variation/Repeatability		< ±5%				
Gyro Sensor		Standard or Optional for Tilt Angle Management & Control				
Dimensions	mm	Ø28.6 x 216				
Tool Weight	g	320				
Touch Panel Controller Model		TSC-1.0				
Dimensions	mm	221 (L) x 113 (W) x 51 (D)				
Weight	g	Hanging Type: 365 / Automation Fixing Type: 365				
Communications		Wi-Fi / EtherNET / RS-232 / RS-485				
I/O		16 Points (Input: 7 & output: 5)				
Inputs		FORWARD/REVERSE/RESET/CONNECT_POWER/JOB_SELECT				
Outputs		OK/NG/FL/SS/WORKPIECE_COMPLETE/TASK_COMPLETE(SCREW_COMPLETE)				
Programmability		8 STEPS / 16 TASKS (SCREWS) / 8 JOBS				
Power Adapter Model		APM-403A @ 200W				
Vac In		100-240V @ 50/60 Hz				
Dimensions	mm	170 x 80 x 60				
Weight	g	620				

Dynamic Wireless Digital Torque Tester

3 Decimal Points



- High (1K Hz) / Low (500 Hz) cut-off frequency for high and low-speed application torque testing/calibration, especially for high precision domain.
- Capable of displaying torque curve on the tester screen
- TRACK, +/-PEAK, F.PEAK modes of torque testing
- Store up to 1000 data and statistics of maximum, minimum, average, OK count, and total count
- Automatic reset (clear) of measurement data
- Password protection on settings and data
- USB or Wi-Fi download data from the tester



Technical Specification

Feature/Function	APT-02S	APT-10S	APT-20S	APT-50S	APT-100S	APT-300S	APT-500S
Torque Range	kgf-cm	0.001-2.000	0.01-10.00	0.02-20.00	0.05-50.00	0.1-100.0	0.3-300.0
	N-m	0.001-0.200	0.001-1.000	0.002-2.000	0.005-5.000	0.01-10.00	0.30-30.00
	lbf-in	0.001-1.800	0.01-9.00	0.02-18.00	0.05-45.00	0.1-90.0	0.3-270.0
Precision	< ±0.5%						
Display	3.5" Color Touch Screen with Torque Value & Torque Curve						
Direction	CW & CCW						
Mode	+/-PEAK	Peak Torque: Store the Peak Torque Value					
	TRACK	Track: Display Process Mostly for Calibration Purposes					
	F.PEAK	Display & Store First Peak					
HIGH/LOW	Set Up Acceptable Upper and Lower Limit of Torque Values						
Result	OK / NG / HI						
Statistics	Display Maximum, Minimum, Average, and Count of Torque Tested						
Storage	Up to 1,000 Data						
Real-Time Output	Instant Display and Store of Tested Torque						
A.ZERO	Can Set Up Automatic Reset to Zero After Each Torque Measurement 0.5/1/2/3/5/8/10 Seconds						
ZERO	Manual Reset to Zero Button After Each Torque Measurement						
Data Output	USB / Wi-Fi						
Battery	Ni-MH 1.2Vx6 @ 2500 mAH / Rechargeable 500+ Times						
Charging/Use Time	< 5 Hours / 10 Hour Continuous Use After Fully Charged						
Power Adapter & USB	Switching Power Adapter 100-240Vac (50/60Hz) to 10Vdc & USB Type B Cable						
Fidapter Seat	mm	20 x 20					
Dimensions	mm	160 x 126 x 41					
Weight	g	1000					



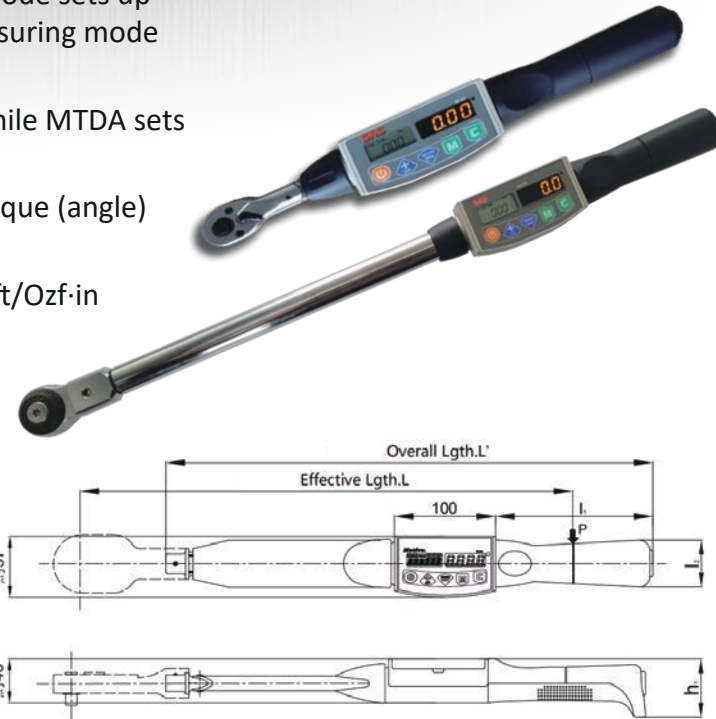
AIST-S1.7Pro/Z
Smart Servo Screwdrivers AIST [AIST-S1.7/5.0/10/20/25Pro]
7" Touch Panel Controller [TSC-1.0]

- Support single to multi-step, repeated tightening program settings and independent or integrated judgment
- Precision torque and angle monitor and control
- Real-time display of OK/NG/FL/SS/Workpiece_Count /Screw_Count/RPM/Motor_Temperature
- Tightening angle detects, monitors, controls, and judges
- Peak torque and curve stored for each tightening
- Up to 5 million sets of tightening data on the peak torque, Torque curve, and tightening process with real-time display
- Production data for traceability and analysis
- Uploadable data of Result/Count/Peak Torque/Time/Turns /FL/SS/Serial Number
- Digital Input/Output signals, open protocols, barcode scanner, and other upstream/downstream devices

Transducerized Dual-Display Torque Wrench

MTD/MTDA (-W) Series (Optional Wi-Fi)

- Two modes of MTD operation: tightening mode sets up acceptable tightening conditions while measuring mode checks tightened quality
- LED & LCD dual display, MTD sets torque while MTDA sets angle for OK/NOK criteria
- Automated or manual recording of peak torque (angle) and count with date stamp
- Unit options: N·m/kgf·cm/kgf·m/Lbf·in/Lbf·ft/Ozf·in
- Tightening result displayed via LED/LCD and alarmed by buzzer
- Suitable for production needs Angle control bolt fastening, residual torque testing, etc.
- Tightening data can be uploaded in real-time via USB Type-C cable or Wi-Fi to a PC in a spreadsheet
- PC software can display tightening result, the process, and torque/angle curve



Technical Specifications

Precision	MTD	±2% or ±1Digit
	MTDA	±2% +1Digit (angular speed is 30°/s-180°/s when the bolt turned 90°)
Automatic Power-Off	Idle after 10 minutes	
Type-C USB	For charging Ni-MH battery and uploading data	
Data Storage	Up to 999 data set	
Battery / Power	800 mAh Ni-MH battery pack with USB Type-C cable & adapter	
Use Time	30 hours of continuous use under LCD mode / 20 hours under LCD+LED mode after fully	
Charging Time	3 hours	
Operating Temperature	0-40 °C	

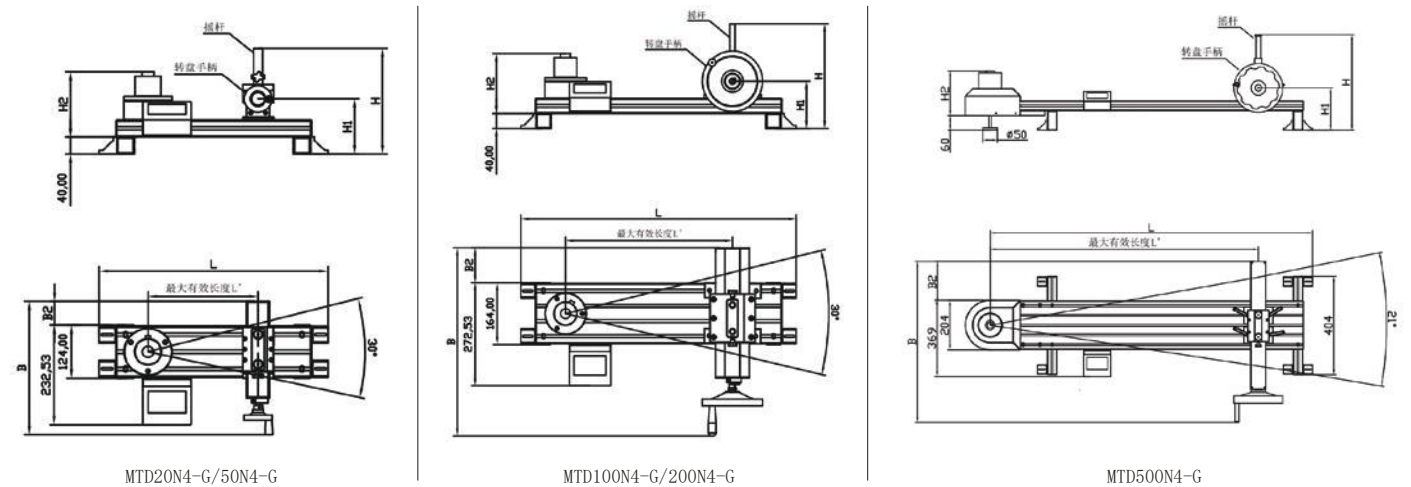
Model Specifications

Model		Torque Range		Resolution	Ratchet Head Size		Effective Length	Total Length	Handle Length	Weight	Ratchet Head Type
Standard	Wi-Fi	N·m	Lbf·ft	N·m/Lbf·ft	in	mm	mm	mm	mm	kg	
MTD(A)10N8D	MTD(A)10N8D-W	1-10	0.9-8.7	0.01	¼	6.3	254	282	130	0.49	QH8D
MTD(A)20N10D	MTD(A)20N10D-W	2-20	1.7-17	0.02	⅜	9.5	254	282	130	0.51	QH10D
MTD(A)50N12D	MTD(A)50N12D-W	5-50	4.3-43	0.05	⅜	9.5	254	282	130	0.58	QH12D
MTD(A)100N15D	MTD(A)100N15D-W	10-100	8.7-87	0.1	½	13	363	384	130	0.63	14*18 ½
MTD(A)200N19D	MTD(A)200N19D-W	20-200	17-170	0.2	½	13	467	475	130	0.78	14*18 ½
MTD(A)360N22D	MTD(A)360N22D-W	36-360	31-310	0.4	¾	19	722	713	130	1.45	14*18 ½
MTD(A)500N22D	MTD(A)500N22D-W	50-500	43-430	0.5	¾	19	910	949	230	3.75	14*18 ¾

Digital Torque Wrench Calibration Bench

MTD4 Series

- Uniform loading mechanism ensuring consistent high accuracy and repeatability results. Suitable for all types of torque wrench calibration.
- Available in a variety of models that cover torque range from 2N·m to 1000N·m
- Units available: N·m/kgf·cm/kgf·m/Lbf·in/Lbf·ft
- Easy to operate even at a high torque condition with the center display to view the readings of the read-only torque wrench
- Internal battery allows mobile operation and uploading and storing data on a PC via USB connection



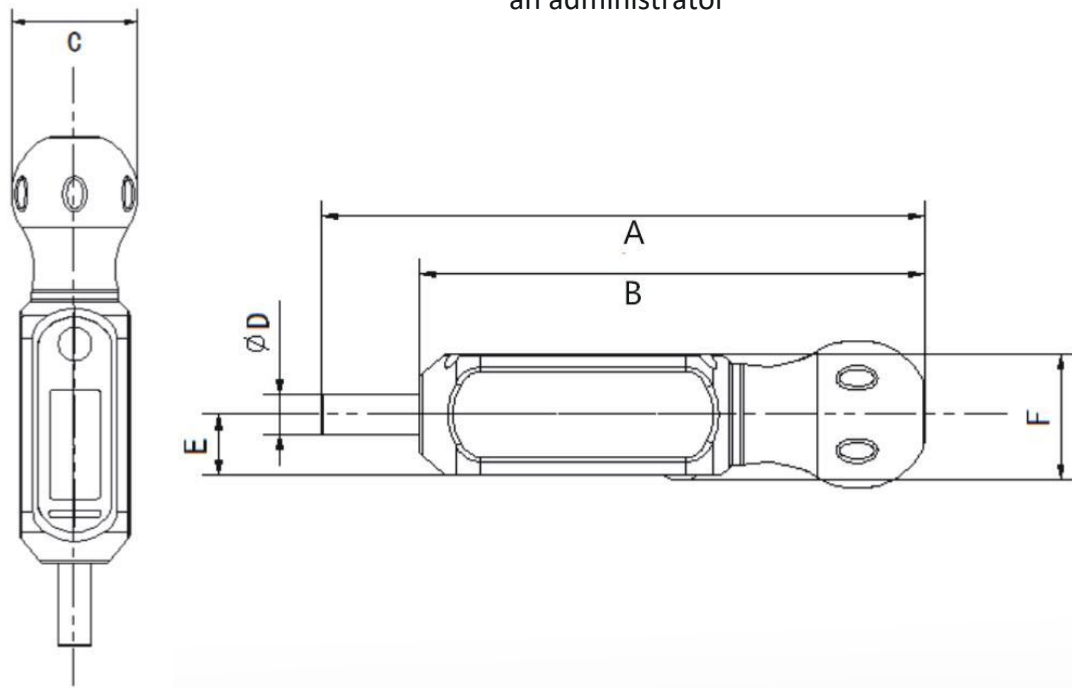
Technical Specifications

Model	MTD20N4-G		MTD50N4-G		MTD100N4-G		MTD200N4-G		MTD500N4-G		MTD 1000N4-G		MTD2000N4-G	
Torque	Range	Resolution	Range	Resolution	Range	Resolution	Range	Resolution	Range	Resolution	Range	Resolution	Range	Resolution
N.m	2-20	0.002	5-50	0.005	10-100	0.01	20-200	0.02	50-500	0.05	100-1000	0.1	200-2000	0.2
kgf.cm	20-200	0.02	50-500	0.05	100-1000	0.1	200-2000	0.2	-	-	-	-	-	-
lbf.in	18-180	0.02	44-440	0.05	88-880	0.1	170-1700	0.2	440-4400	0.5	880-8800	1	1700-17000	2
lbf.ft	-	-	3.6-36	0.005	7.3-73	0.01	15-150	0.02	36-360	0.05	73-730	0.1	150-1500	0.2
Precision	±1%													
Display	3.5" Color Touch Screen													
Max Effective Length	334		443		880		1355		2355					
Drive Size	mm		9.5		12.7		19		25.4		25.4			
Weight	kg		18		20		60		80		84			
Dimensions (mm)	L		520		730		1100		1557		2557			
	B		312		500		660		660		660			
	H		248		277		391		391		391			
	L1		-		-		-		-		-			
	B1		-		-		-		-		-			
	B2		56		92		160		160		160			
	H1		129		125		174		174		174			
H2		152		158		183		183		183				

Transducerized HT Series Screwdriver



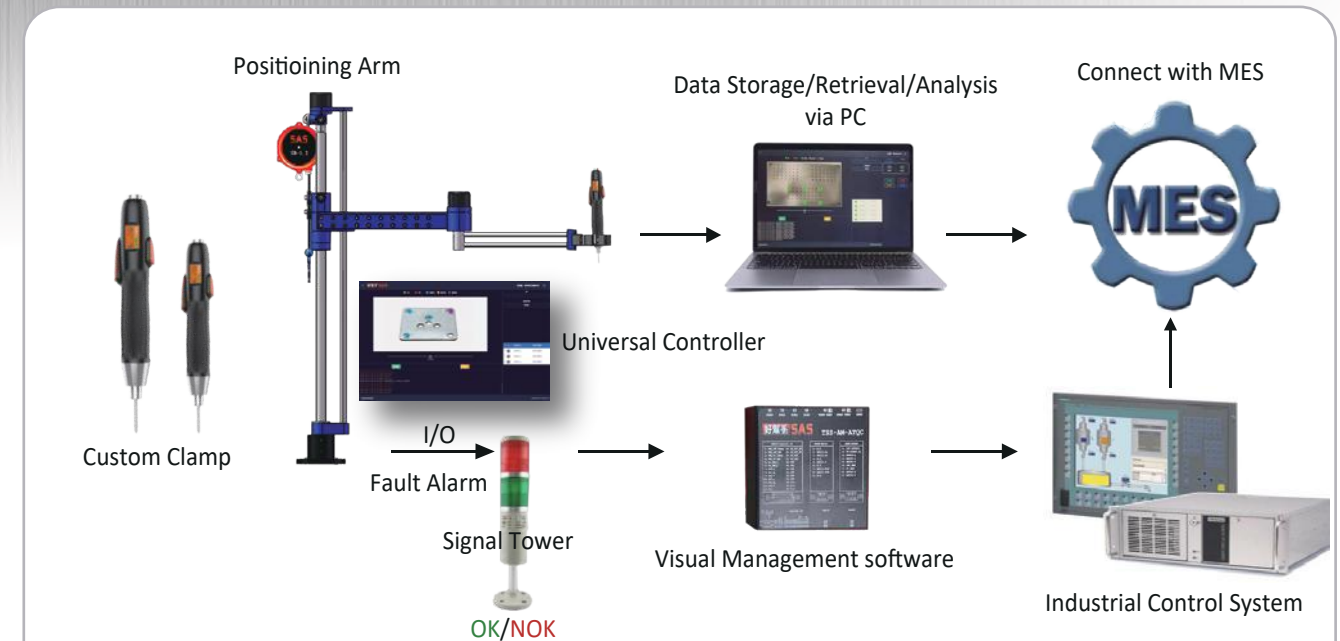
- Tightening and untightening peak torque check, display, and alarm via LED & buzzer
- Compact, light, and easy to hold aluminum alloy housing
- Connect to a PC software via USB Type-C cable to set up upper limit (Hi) and lower limit (Lo)
- Unit options: N·m/kgf·cm/kgf·m/Lbf·in/Lbf·ft/Ozf·in
- Up to 999 data set can be saved, including tightening count
- **Optional Wi-Fi to upload data automatically**
- Automatically shut down on idle
- Password protection, changes can only be made by an administrator



Product Specifications

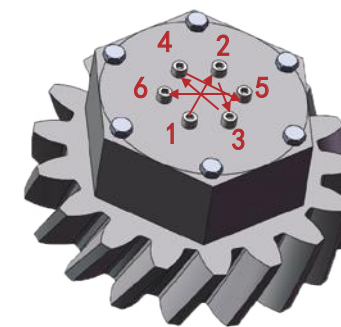
Item	Unit	Model					
		HT-2.0	HT-5.0	HT-10	HT-20	HT-50	HT-100
Torque Range	KgfcM	0.2-2.0	0.5-5.0	1.0-10	2.0-20	5.0-50	10-100
	lbf·in	0.17-1.7	0.43-4.3	0.9-8.7	1.7-17	4.3-43	8.7-87
Applicable Threads	mm	1.0-2.2	1.4-2.6	2.0-3.0	2.4-4.0	3.0-7.0	4.1-10.0
Bit Socket	SH $\frac{1}{4}$						
Unit Available	N·m/kgf·cm/kgf·m/Lbf·in/Lbf·ft/Ozf·in						
Precision	$\pm 2\%$						
Battery	Li-Ion						
Dimension S A/B/ ϕ D/E/F (mm)	154/129/38/10/15/25						

Positioning Arm Solution



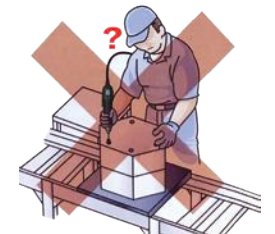
Both assembly and positioning data can be displayed on a PC via visual management software

- Less User Error
- Less Reaction Torque
- Higher Efficiency
- Simple Visual Setup



Incomplete, wrong position, incorrect order of tightening, and mobility of the tool are currently the biggest issues operators are experiencing in the assembly line.

Positioning arm can be set up and track each fastener whether the tightening was completed, accurate position, and correct order solving these issues.



When a transducerized tool is used in parallel with the positioning arm, this "Integrated Control System" not only can ensure the tightening processes are done correctly but also can connect to the screw presenter/feeder, bit holder, and other equipment to expand the well-defined and guided assembly solution along with the important production data for process improvement, traceability, and quality control purposes. This is a "process quality control" solution to help manufacturers quickly set up digital production systems to increase productivity and lower quality costs.

Positioning Arm and Related Products

Technical Specifications

Item	Unit	Model			
		TSS-360BZ-SQ	PARA-80110-SQ	TSS-CF500-SQ	TSS-LS-CF20N*
Mounting Type		Desktop			Wall Mount
Applicable Tool Type		L/M/S	L/M/S	M/S	L/M/S
Vertical Maximum Travel	mm	460	430	400	116
Horizontal Maximum Travel		740	720	500	116
Maximum Swing	°	360	360	360	180
Torque Limit	kgf-cm	200	200	80	200
	lbf-in	170	170	70	170
Maximum Load	kg	5			
	lb	11			
Dimensions	mm	723 x 130 x 992	733 x 44 x 722	570 x 130 x 850	80 x 80 x 610

*LS positioning arm model graphite arm and all tool holder (clamp) can be custom made according to requirement



TSS-360BZ-SQ
Applicable to tools up to 5kg and under 200 kgf-cm



PARA-80110-SQ
Applicable to tools up to 5kg and under 200 kgf-cm



TSS-CF500-SQ
Applicable to tools up to 5kg and under 80 kgf-cm



TSS-LS-CF20N
Applicable to tools up to 5kg and under 200 kgf-cm



TSS-AM-ATQC
Positioning Arm Manager

TSS-DT1616

APS-243A
24V Power Adapter

- This shallow learning curve “Low-Code” Positioning Arm Manager can save a tremendous amount of engineering resources and coding time.
- A modular platform allows easy integration of automation equipment or software and takes only minimal time to learn and connect all components.

Parallel Torque Reaction Arm

Technical Specifications

Item	Unit	Model				
		TSS-CF10N	TSS-CF20N	TSS-TCF900-20N	TSS-TCF1000-20N	TSS-300B
Mounting Type		Wall Mount		Desktop		
Applicable Tool Type		S/M/L				
Vertical Maximum Travel	cm	105	116	100	100	60
Horizontal Maximum Travel		105	116	118	128	30
Maximum Swing	°	180	180	210	210	360
Torque Limit	kgf-cm	100	200			
	lbf-in	87	170			
Maximum Load	kg	5				
	lb	11				
Dimensions	mm	60 x 50 x 550	80 x 80 x 610	130 x 130 x 1010	130 x 230 x 1010	450 x 180 x 1060

Note: Tool holder (clamp) can be custom made according to requirement



TSS-CF20N



TSS-CF10N



TSS-300B

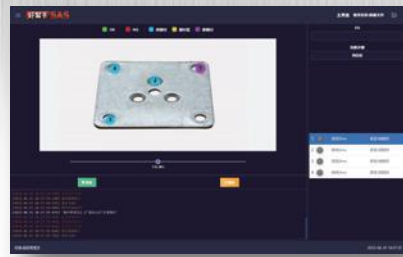


TSS-TCF900-20N



TSS-TCF1000-20N

Positioning Arm Visualizing Controller



- Structure Stable & Safe
- Safe Process Flow
- Flexible Function adding & Removing
- Connect to PLC/MES
- Support Quick Update
- Smart Fool-Proof
- Support Multi-tool @ the Same Location
- Support Multiple Equipment Connection
- Support Extended Development

Positioning Arm Visualizing Controller

Traceability

Real-time Tightening Data
Real-time Tightening Curve
Historical Data Retrievable
Workpiece Data Traceable

Digital SOP Process Guide
Automatic Steps Switching
Automatic On/Of Equipment
Jump-over Options Available

Multi-level Access
Fault Alarm During Process
Return to Process on Error
System Lock on Errors

Integrated Control

Optical Sensor & Lighting

The optical sensor control material pick and feed, light comes on @ correct material bin, light goes off when correct material is picked, and light comes on when the

Automatic Material Supply

Integrated screw and nut presenter or feeder supplying the process defined material with the correct quantity at the correct location.

Smart Waste Material Bin

Smart integrated waste material bin allowing faulty tightening to be re-done upon collecting the faulty tightened material.

Electronic Assembly Tool

Electronically control tools to perform start, stop, change process, and tightening data & curve display, upload, and save.

Integrated Bit Manager

Integrated bit socket: light comes on when the correct bit is selected, light goes off when the correct bit is picked up, and locks the tool when an incorrect bit is picked up.

Access Control Equipment

Multi-level and multi-accounts management that monitors each step and results whether it's OK or NOK to give correspondence.

Positioning Equipment

The positioning arm allows the tool to operate only when the position and the procedure are both correct.

Barcode Scanner

The integrated barcode scanner allows a quick automatic setup and switch when the pre-defined barcode is scanned and recognized.



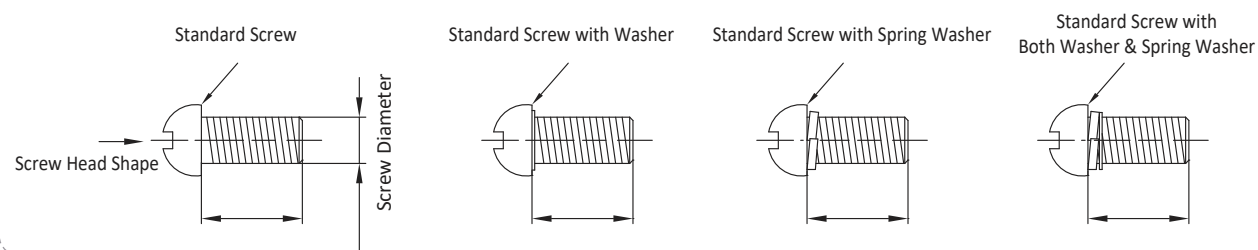
Screw Presenter

These cost-effective screw presenters over a wide range screw sizes (M1.0-M5.0) by simply adjusting sorting track for continuous & steady screw sorting and feeding.

- Patented detachable track design for easy adjustment and smooth screw feeding (sorting)
- Independent feeding and vibrating (sorting) mechanism. Can setup proper delayed stop time and alarm when abnormal operation occurs
- Adjustable supply and feeding screw speed
- AT-1030 Fix Rail or Fixed Plate Type can manage any shape of screws sizes M1.0-M3.5
- Comes with standard type, counter type, mini-screw type, and automation type to choose for satisfying various production requirements



Technical Specifications



Model	Unit	AT-1050 AT-1050C	AT-1030TC	AT-1017 AT-1017A
Thread Diameter	mm	1.0/1.2/1.4/1.7/2.0/2.3/2.6/3.0/3.5/4.0/5.0	1.0-3.5	1.0-1.7
Applicable Screws	Head Type	JIS: Pan/Button/Truss/Round/Countersink Washer/Spring Washer/Washer+Spring Washer JIS: 1, 2 3 & Pan	JIS: Countersunk Flat/Countersink with or without Washer JIS: 1, 2, 3, 4 Countersunk Flat	
	Material	Iron or Magnetic Material Base		
	Maximum Length	mm	20	10
	Minimum Length	mm	Standard: diameter x 1.0 Standard with spring washer: diameter x 1.5 Standard with washer and spring washer: diameter x 2.1	
Output Speed		2 unit/sec	1/sec ± 0.3 sec	1.2 sec/unit ± 0.3sec
Protection		Overload Protection / Reverse Power Prevention Circuit		
AC Input		100-240Vac @ 50/60Hz		
DC Output		12V / 550mA	15V / 1.5A	15V / 1.2A
Dimensions	mm	180 x 125 x 150	202.5 x 126 x 149	160 x 76.4 x 124
Weight	kg	2.5	3.0	1.7
Accessories		User Manual / Power Adapter / Allen Key		

Accessories



Bits

Mid to High Load Balancer

SAS-EW1.5
SAS-EW3.0
SAS-EW5.0
SAS-EW9.0

Less Stress on Operator
Less Benctop Space Used
Up to 9kg

Small Load Balancer

SB-1.2
SB-2.0
SB-3.0

Less Stress on Operator
Less Benctop Space Used
Up to 3kg

Flexible Anti-EMI DC Cable

3P: P2W120
5P: P2W092
6P: P2W099

Flexible High Strength
Suitable for All Models
Standard 2M Length
Can Customize Different Length Per Requirement

Retractable DC Cables

5P: 2W2210
6P: P2W053

Highly Flexible and Anti-EMI
Best for Automation Use

C14 AC Power Cord

0.5m: P2W097
2.0m: 2W1142

Tool Holder

Vertical Mounting
P4H067

Multi-Functional Screw Sorter

Holder for Z-Axis
P4H071

Patented Design
Fast Pick
For M1.0-M2.4
(Double Sides)

Samarium-Cobalt Ring Magnet

Easy to Pick and Hold Screw, Applicable to All Bits

Size	Unit	SH¼	φ5	φ4
Inner Diameter	mm	7	5	4
Outside Diameter	mm	17.5		
Thickness	mm	10		

Customers Who Use Our Products



Minimum Break Torque

To Calculate Minimum Break Torque

$$M_{Bmin} = \tau_{Bmin} \cdot W_{Pmin}$$

Where, $W_{Pmin} = \pi/16 \cdot d^3 l_{min}$

$$\tau_{Bmin} = X \cdot \sigma_{bmin}$$

and, M_{Bmin} — Minimum Break Torque [see Table 2]

τ_B — Torsional Strength

W_P — Torsional Section Modulus

d_{min} — External Thread Diameter

σ_b — Tensile Strength

X — Strength Ratio τ/σ_b [see Table 1]

Table 1: Strength Ratio X

Performance Class	8.8	9.8	10.9	12.9
Ratio X	0.84	0.815	0.79	0.75

Table 2: Minimum Break Torque

Thread Specifications	Pitch mm	Minimum Break Torque ^{1>}				Thread Specifications	Pitch mm	Minimum Break Torque ^{1>}			
		MBmin, N·m						MBmin, N·m			
		Performance Class						Performance Class			
		8.8	9.8	10.9	12.9			8.8	9.8	10.9	12.9
M1	0.25	0.033	0.036	0.040	0.045	M5	0.8	7.6	8.3	9.3	10
M1.2	0.25	0.075	0.082	0.092	0.10	M6	1	13	14	16	17
M1.4	0.3	0.12	0.13	0.14	0.16	M7	1	23	25	28	31
M1.6	0.35	0.16	0.18	0.20	0.22	M8	1.25	33	36	40	44
M2	0.4	0.37	0.40	0.45	0.50	M8	1	38	42	46	52
M2.5	0.45	0.82	0.90	1.0	1.1	M10	1.5	66	72	81	90
M3	0.5	1.5	1.7	1.9	2.1	M10	1	84	92	102	114
M3.5	0.6	2.4	2.7	3.0	3.3	M10	1.25	75	82	91	102
M4	0.7	3.6	3.9	4.4	4.9						

^{1>} Minimum Break Torque Applicable to 6g, 6f, and 6e Thread

Elite BLDC Shut-off BLEF

Medium Torque Elite S-BLEF-M Series (4-45 kgfcm / 3.5-39 lbf-in)

- When costs and simplicity are the dominant factors, BLEF is what one may want to consider
- It's a traditional BLDC shut-off that removes unwanted electronics but keeps the high-quality mechanical shut-off functions and covers the most commonly used torque range
- No fancy stuff, just simple on & off to make it quick and easy and reliable of course
- Emphasizing simple set torque and stable shut-off without any I/O communication or speed adjustment to save costs
- But it can be upgraded to full electronic features & functions when needed, including screw counts

Technical Specifications

Model		Power Adapter	Vdc	Torque Range		No Load Speed	Weight	Diameter	Length	Bit Type	Applicable Thread	
LEVER START	PUSH START			kgf·cm	lbf·in						rpm±10%	g
S-BLEF-M181LF	S-BLEF-M181PF	S-AEM-301A	30	4-18	3.5-16	2000	1070	Ø36	264	Ø5 SH5 SH¼	2.4-4.0	2.0-3.0
S-BLEF-M201L	S-BLEF-M201P			5-20	4-18	1100					3.5-5.0	3.0-4.0
S-BLEF-M301L	S-BLEF-M301P			10-35	8-30	1100				4.0-6.0	3.0-5.0	
S-BLEF-M451L	S-BLEF-M451P			15-45	13-39	320						



MicroTorque PRO BFG-X Series

Ultimate Micro-Torque (0.15-1.0 kgfcm) Shut-off Tool w/ Tilt Angle Control / Offset / LED Lighting



MicroTorque PRO SPECIFICATIONS

Item	Unit	Item Description					
Tool Model		S-BFG-X1.0LG	S-BFG-X1.0LGL	S-BFG-X1.0LGZ	S-BFG-X1.0LGZ-1	S-BFG-X1.0LGZL	S-BFG-X1.0LGZL-1
Torque Range	kgf-cm	0.15-1.0					
	lbf-in	0.13-0.87					
No Load Speed	rpm	50-1500					
Applicable Thread	Machine	0.7-1.8					
	Tapping	0.6-1.4					
Available Bit Socket		Ø4					
Actuation		Lever Start / Reverse Button					
Gyro Sensor (Tilt Angle Control)		Standard Built-in					
Dimensions	mm	Ø29 x 246					
Tool Weight	g	290	320	350	365	360	375
Power Adapter Model		APS-191BG	APS-191BGL	APS-191BG		APS-191BGL	
Dimensions	mm	170 (L) x 63 (W) x 42 (H)					
Weight	g	300					
I/O		Motor Start / Motor Stop					

More About MicroTorque PRO BFG-X

The center distance of the Z-axis electric screwdriver head is the minimum spacing from the front end.

Designed for electric screwdriver head to go deep into the narrow spaces to easily align the LED with the screw hole position.



Small Torque BLF-S Series



S-BLF-S Small Torque Series Brushless Shut-off

Small Brushless Electric Screwdriver Standard In-Line

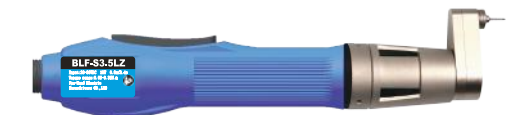
INDUSTRY USED: Mobile phone, iWatch, iPad, Wearable products, 5C and related industries, suitable for dust-free operation.



Model	Power Adapter	Vdc	Torque Range		No Load Speed rpm±10%	Weight g	Diameter mm	Length mm	Bit Type Ø4*SH%	Applicable Thread	
			kgf-cm	lbf-in						MACHINE	TAPPING
S-BLF-S1.0LD	S-APS-201A	9-19	0.15-1.0	0.13-0.87	100-200	304	Ø30	202	Ø4*SH%	0.7-1.8	0.6-1.4
S-BLF-S1.0L	S-APS-301A	20-30	0.15-1.0	0.13-0.87	350-500					1.0-2.2	1.0-2.0
S-BLF-S2.0L		20-30	0.3-2.0	0.26-1.74	650-1000					1.0-2.6	1.0-2.3
S-BLF-S3.0L		20-30	0.4-3.0	0.35-2.6	450-700					1.4-2.6	1.4-2.3
S-BLF-S5.0L		20-30	0.5-5.0	0.43-4.3	650-1000					2.0-3.0	2.0-2.6
S-BLF-S6.0L		20-30	1.0-6.0	0.87-5.2	650-1000						
S-BLF-S10L		20-30	1.5-10	1.3-8.7	650-1000						

Small Brushless Electric Screwdriver + Z-Axis

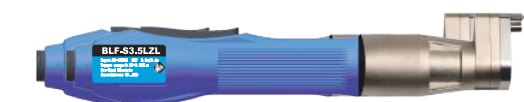
INDUSTRY USED: Mobile phone, iWatch, iPad, Wearable products, 5C and related industries, suitable for dust-free operation.



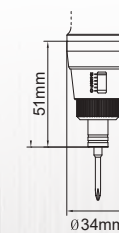
Model	Power Adapter	Vdc	Torque Range		No Load Speed rpm±10%	Weight g	Diameter mm	Length mm	Bit Type Ø4	Applicable Thread		
			kgf-cm	lbf-in						MACHINE	TAPPING	
S-BLF-S2.0LZ	S-APS-301A	20-30	0.3-2.0	0.13-0.87	650-1000	380	Ø30	235	Ø4	1.0-2.2	1.0-2.0	
S-BLF-S2.0LZ-1						400				1.0-2.6	1.0-2.3	
S-BLF-S3.5LZ			380	0.5-3.5		0.26-1.74				380	1.0-2.6	1.0-2.3
S-BLF-S3.5LZ-1			400									

Small Brushless Electric Screwdriver + Z-Axis + LED

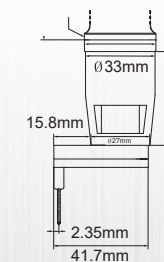
INDUSTRY USED: Mobile phone, iWatch, iPad, Wearable products, 5C and related industries, suitable for dust-free operation.



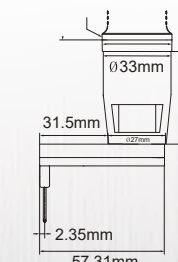
Model	Power Adapter	Vdc	Torque Range		No Load Speed rpm±10%	Weight g	Diameter mm	Length mm	Bit Type Ø4	Applicable Thread		
			kgf-cm	lbf-in						MACHINE	TAPPING	
S-BLF-S2.0LZL	S-APS-301A	20-30	0.3-2.0	0.13-0.87	650-1000	380	Ø30	235	Ø4	1.0-2.2	1.0-2.0	
S-BLF-S2.0LZL-1						400				1.0-2.6	1.0-2.3	
S-BLF-S3.5LZL			380	0.5-3.5		0.26-1.74				380	1.0-2.6	1.0-2.3
S-BLF-S3.5LZL-1			400									



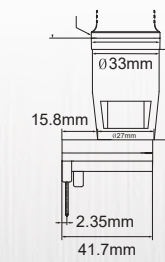
IN-LINE



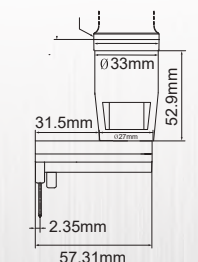
Z-AXIS SHORT



Z-AXIS EXTENDED



Z-AXIS SHORT W/LED



Z-AXIS EXTENDED W/LED

- Only lever start model
- Z-1 is extended length model compared to standard Z-axis
- Standard power adapter can communicate with external via I/O, start-up; output of motor break. Foolproof power adapter can output single screw completion; workpiece completion; connection to upstream device
- Foolproof power adapter can alarm via buzzer to signal fastening result

Medium Torque BLF-M Series



BLF-M Medium Torque Series Brushless Shut-off

Medium Brushless Electric Screwdriver Standard BLF-M

INDUSTRY USED: Large and small household appliances, Auto parts, Electric power Machinery, High-end medical equipment, Aviation and Automated



Model		Power Adapter	Vdc	Torque Range		No Load Speed rpm±10%	Weight g	Diameter mm	Length mm	Bit Type	Applicable Thread	
LEVER START	PUSH START			kgf-cm	lbf-in						MACHINE	TAPPING
S-BLF-M20LF	S-BLF-M20PF	S-APM-302A	20-30	5.0-20	4.3-17.4	1400-2000	546	Ø35	272	Ø5 SH5 SH¼	2.4-4.0	2.0-3.0
S-BLF-M20L	S-BLF-M20P					650-1100					3.0-4.0	2.0-3.5
S-BLF-M30L	S-BLF-M30P					650-1100					3.0-4.0	2.0-3.5
S-BLF-M40L	S-BLF-M40P	S-APL-301A	20-30	10-40	8.7-34.7	650-1100	546	Ø35	272	Ø5 SH5 SH¼	3.5-5.0	3.0-4.0
S-BLF-M50L	S-BLF-M50P					280-500					4.0-6.0	3.0-5.0

Medium Brushless Electric Screwdriver Foolproof BLC-M

INDUSTRY USED: Large and small household appliances, Auto parts, Electric power Machinery, High-end medical equipment, Aviation and Automated assembly.



Model		Power Adapter	Vdc	Torque Range		No Load Speed rpm±10%
LEVER START	PUSH START			kgf-cm	lbf-in	
S-BLC-M20LF	S-BLC-M20PF	S-APM-302A S-AMM-301A	20-30	5.0-20	4.3-17.4	1400-2000
S-BLC-M20L	S-BLC-M20P					650-1100
S-BLC-M30L	S-BLC-M30P	S-APL-301A S-AML-301A	20-30	8.0-30	6.9-26	650-1100
S-BLC-M40L	S-BLC-M40P					650-1100
S-BLC-M50L	S-BLC-M50P			20-50	17.4-43.4	280-500

Medium Brushless Electric Screwdriver Foolproof

INDUSTRY USED: Large and small household appliances, Auto parts, Electric power Machinery, High-end medical equipment, Aviation and Automated assembly.



Model		Power Adapter	Vdc	Torque Range		No Load Speed rpm±10%
PISTOL	RIGHT ANGLE			kgf-cm	lbf-in	
S-BLF-M20LPG	S-BLF-M20LRA	S-APM-302A S-AMM-301A	20-30	5.0-20	4.3-17.4	1400-2000
S-BLF-M30LPG	S-BLF-M30LRA					650-1100
S-BLF-M40LPG	S-BLF-M40LRA	S-APL-301A S-AML-301A	20-30	10-40	8.7-34.7	650-1100
S-BLF-M50LPG	S-BLF-M50LRA					650-1100
				20-50	17.4-43.4	280-500

- ✓ BLC+AP & BLF+AM are both considered foolproof with screw count and OK/NG set up except that BLC+AP doesn't provide OK/NG signal output through I/O
- ✓ Pistol model is standard lever start model + adapter housing, not uni-body pistol housing
- ✓ BLC model can set up tightening time and the screw fastening OK/NG can be judged (floating lock, stripped thread) but only on-tool display, cannot output via power adapter I/O
- ✓ Neither pistol nor right angle models has the push start option, only lever start

Large Torque BLF Specifications

BLF-L Large Torque Series Brushless Shut-off

Large Brushless Electric Screwdriver Standard

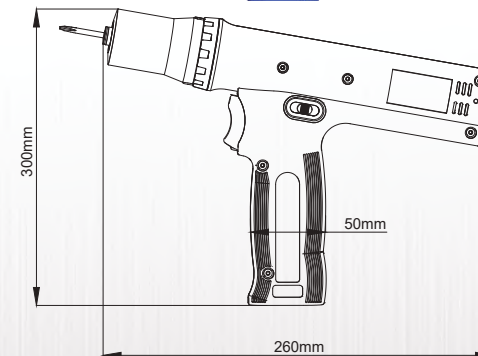
INDUSTRY USED: Auto parts, Electrical equipment, Electric vehicle batteries, Car lights, Energy batteries, Office equipment, Air conditioners, Power tools, Gas appliances, Communication equipment, An alternative to oil pressure pneumatic screwdrivers (high RPM, large torque, low heat) Automated



Model		Power Adapter	Vdc	Torque Range		No Load Speed rpm±10%	Weight g	Diameter mm	Length mm	Bit Type	Applicable Thread		
LEVER START	PUSH START			kgf-cm	lbf-in						MACHINE	TAPPING	
S-BLF-L35LF	S-BLF-L35PF	S-APL-401A S-AML-401A	30-40	15-35	13-30	3600	1070	Ø50	30	SH5 SH¼	3.0-4.0	2.0-3.5	
S-BLF-L50LF	S-BLF-L50PF			20-50	17-44	2400					4.0-6.0	3.0-5.0	
S-BLF-L60LF	S-BLF-L60PF			25-60	22-52	2000					4.1-7.0	3.3-6.0	
S-BLF-L60L	S-BLF-L60P			40-90	35-78	700-1000							
S-BLF-L90L	S-BLF-L90P			60-110	52-96	650-850					SH¼	5.0-8.0	4.0-7.0
S-BLF-L110L	S-BLF-L110P			80-150	69-130	350							

Large Brushless Electric Screwdriver Pistol (PG)/Right Angle(RA)

INDUSTRY USED: Auto parts, Electrical equipment, Electric vehicle batteries, Car lights, Energy batteries, Office equipment, Air conditioners, Power tools, Gas appliances, Communication equipment, An alternative to oil pressure pneumatic screwdrivers (high RPM, large torque, low heat) Automated assembly.



Model		Power Adapter	Vdc	Torque Range		No Load Speed rpm±10%
PISTOL	RIGHT ANGLE			kgf-cm	lbf-in	
S-BLF-L35LPG	S-BLF-L35LFRA	S-APL-401A S-AML-401A	30-40	15-35	13-30	3600
S-BLF-L50LPG	S-BLF-L50LFRA			20-50	17-44	2400
S-BLF-L60LPG	S-BLF-L60LFRA			25-60	22-52	2000
S-BLF-L60LPG	S-BLF-L60LRA			25-60	22-52	1300
S-BLF-L90LPG	S-BLF-L90LRA			40-90	35-78	700-1000
S-BLF-L110LPG	S-BLF-L110LRA			60-110	52-96	650-850
S-BLF-L150LPG	S-BLF-L150LRA	80-150	69-130	350		

- ✓ No on-tool display BLC model for large torque the only option is BLF+AML for foolproof option
- ✓ Right angle model -RA does not come with push start option, all the other models are available
- ✓ Pistol model is uni-body pistol housing, not adapter type
- ✓ BLF+AML model can set up tightening time and the screw fastening OK/NG can be judged (floating lock, stripped thread) and output result via I/O





Standard Power Adapter (AP/AEM)

Standard switching power adapters come with two platforms, one with I/O (AP) and one without (AEM). Regardless of different platforms, all SAS power adapters are proven to be the most stable and durable power adapters in the market no matter where they are in the world.

- APS Series [DC Type] For Small Torque ($\leq 1\text{Nm}$)Screwdriver
- APM Series [DC Type] For Medium Torque ($\leq 3\text{Nm}$)Screwdriver
- APL Series [DC Type] For Large Torque ($\leq 15\text{Nm}$)Screwdriver

- ✓ Universal power supply: Universal power source for 100-240VAC 50/60Hz, global voltage source, variable frequency, stable regulation function, more stable torque, temperature and speed.
- ✓ Output stepless control (AP): Output stepless control and constant voltage function, most suitable for the electronics technology industry. Light, thin, short and small assembly operation. The smaller the screw, the higher the requirements for screw fastening. Either longer or shorter screws, we can meet the requirements of high precision and low penetration.
- ✓ Equipped with an output terminal signal (AP) which can be connected with an external controller to achieve remote control integration function.





Technical Specifications

Model	S-APS-301A	S-AEM-301A	S-APM-302A	S-APL-301A	S-AEM-401A	S-APL-401A
Appearance						
Power In Vac	100-240 50/60Hz					
Power Out Vdc	20-30	30	20-30		30	30-40
Rated Power (W)	60	75		150		
Connector	6P					
Dimensions (mm)	164 x 64 x 42	110 x 63 x 32	172 x 84 x 46	172 x 84 x 61	172 x 70 x 42	225 x 112 x 70
Weight (g)	300	300	380	570	600	600
Load Current (Amp)	< 2A					
Applicable Tool	BLF-S	BLEF BLF-M20/30	BLF-M20/30	BLF-M40/50	BLF-M40/50 BLF-L	BLF-L
I/O	Motor Start Motor Break	N/A	Motor Start Motor Break 		N/A	Motor Start Motor Break

Foolproof Power Adapter (AM)



Technical Specifications

Model	S-AMM-301A	S-AML-301A	S-AML-401A
Appearance			
Workpiece Count Range	1-60000		
Screw Count (on a Workpiece)	1-99		
Fastening Time & Workpieces	1-99		
Storable Programs (Settings)	10-10		
Fastening Time Test Range (second)	0.01-9.99		
Upper/Lower Time Limit ($\pm\%$)	1-99		
I/O (Terminal Block Shorted Signal)	Motor Start / Motor Break Screw Tightening Complete / Workpiece Complete Fastening Time OK (Within of upper/lower limits) Fastening Time NG (Outside of upper/lower limits) 		
Power In Vac	100-240 50/60Hz		
Power Out Vdc	20-30	30-40	
Rated Power (W)	60	150	
Connector	6P		
Dimensions (mm)	172 x 84 x 61	225 x 112 x 70	
Weight (g)	450	570	600
Load Current (Amp)	< 2A		
Applicable Tool	BLF-S BLF-M20/M30 BLEF	BLF-M40/50	BLF-L