

# BRAVO

BRAVO Smart Wireless Digital Torque Wrench  
With Two-Way Communication

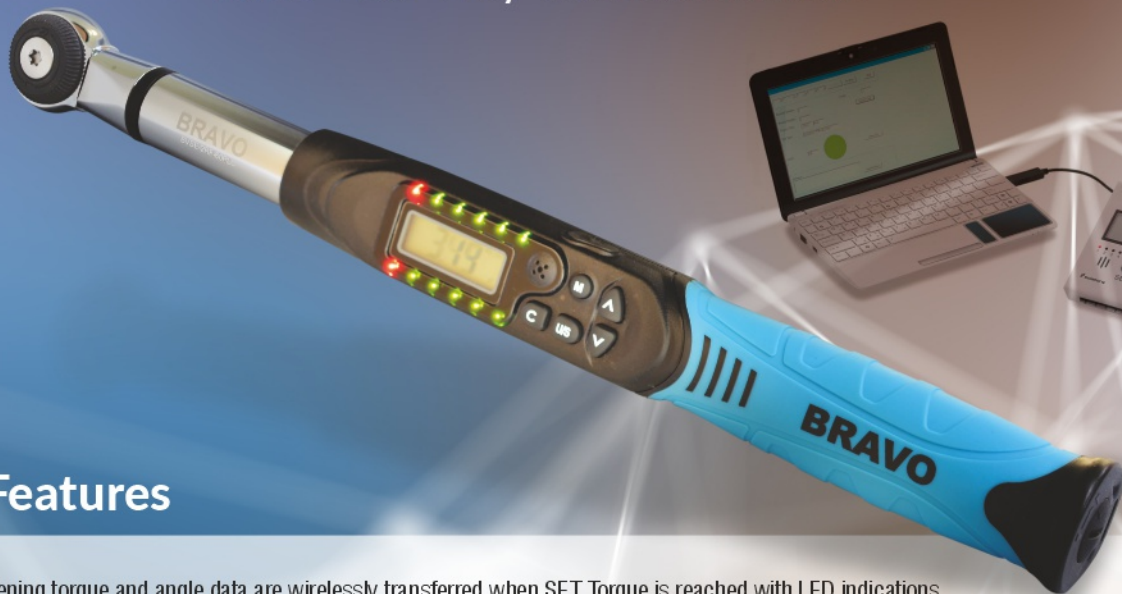


- Model : BVSE-2RF-30PLC ~ BVSE-2RF-2000PLC
- Range : 1.5~ 2000 N-m
- Head : 1/4", 3/8", 1/2", 3/4", 1"
- Torque Accuracy : CW  $\pm 1\%$  ~  $\pm 2.5\%$



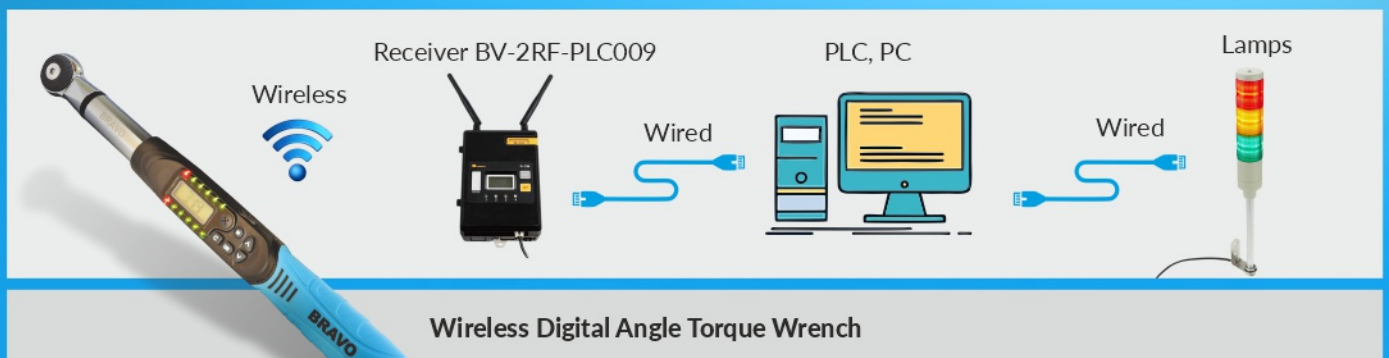
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## BRAVO Smart Wireless Digital Torque Wrench With Two-Way Communication



### Main Features

1. Tightening torque and angle data are wirelessly transferred when SET Torque is reached with LED indications.
2. Tightening torque data and angle data are monitored on a Real Time basis & judged by the receiver BV-2RF-PLC009, and the judgment result is displayed in Programmable PC software as pass / fail judgment output.
3. 100% Pokayoke, Decreasing tightening defects & controls human errors.
4. Dual communication Receiver unit works on Radio Frequency. Each receiver unit can be connected with ten torque wrenches & transmit real time torque values into the computer software. Settings can be made easily from a computer or Directly On the torque wrench.
5. The setting software can SET UP TIGHTENING Programmes, sequence setting, Job Templates can be created, Target torque with Tolerance setting can be set to ensure accurate production.
6. Wireless transmission range is upto 300meters from any centralized location for maximum of 10 Tools with One Receiver. For PLC 24V input / output for Good / Not Good signal can be drawn for a maximum of four torque wrenches on one receiver.
7. Easy accessibility with the new interchangeable head type SE Version2.0 which can be used with all types of rectangular end fittings or customized fittings.
8. In-built data memory of 250 readings helps to cross check the torque values on torque wrench without travelling to the centralized PC every time. Each tool offers nine preset torque settings which helps operators to set up frequently used torque values.
9. Interface With PLC to draw 24V Pass (Good) / Judgement Fail (Not Good) Signal For four wrenches on one receiver. Job interlocking & sequence setting can be obtained using this feature. Data communication using a special protocol can be transmitted into PLC using a serial cable RS232. Each receiver has an adjustable baud rate suitable for all modern day PLC.
10. Each tool has a unique identification code & supplied with an original manufacturer's traceable calibration certificate. High accuracy of +/- 1% ensures tightening precision. Easy online calibration can be done using software at an additional cost.





Model	BVSE-2RF-30PLC	BVSE-2RF-60PLC	BVSE-2RF-135PLC	BVSE-2RF-135PLC
Torque Accuracy *2	CW : $\pm 1\%$ CCW : $\pm 2\%$	CW : $\pm 1\%$ CCW : $\pm 2\%$	CW : $\pm 1\%$ CCW : $\pm 2\%$	CW : $\pm 1\%$ CCW : $\pm 2\%$
Angle Accuracy	$\pm 2^\circ$ (rotating $90^\circ$ at a speed of $30^\circ/\text{sec}$ )			
Square Drive (inches)	1/4 Interchangeable drive 9*12	3/8 Interchangeable drive 9*12	3/8 Interchangeable drive 9*12	1/2 Interchangeable drive 14*18
Max. Torque & Angle	30 N-m / 22.12 ft-lb 265.5 in-lb / 306.1 kg-cm / 999°	60 N-m / 44.24 ft-lb 1195 in-lb / 612.2 kg-cm / 999°	135 N-m / 99.5 ft-lb 1195 in-lb / 1378 kg-cm / 999°	135 N-m / 99.5 ft-lb 1195 in-lb / 1378 kg-cm / 999°
Torque & Angle Measuring Range	1.5~30 N-m / 1.11~22.12 ft-lb 13.3~265.5 in-lb / 15.3~306.1 kg-cm / 1~360°	3~60 N-m / 2.21~44.24 ft-lb 26.5~530.9 in-lb / 30.6~612.2 kg-cm / 1~360°	6~135 N-m / 5~99.5 ft-lb 60~1195 in-lb / 69~1378 kg-cm / 1~360°	6~135 N-m / 5~99.5 ft-lb 60~1195 in-lb / 69~1378 kg-cm / 1~360°
Accuracy Guraranteed Range	6~30 N-m / 4.4~22.12 ft-lb 53~265.5 in-lb / 61~306.1 kg-cm	12~60 N-m / 8.8~44.24 ft-lb 106~530.9 in-lb / 122~612.2 kg-cm	27~135 N-m / 19.9~99.5 ft-lb 239~1195 in-lb / 276~1378 kg-cm	27~135 N-m / 19.9~99.5 ft-lb 239~1195 in-lb / 276~1378 kg-cm
Resolution	0.01 N-m / 0.01 ft-lb 0.1 in-lb / 0.1 kg-cm / $1^\circ$	0.01 N-m / 0.01 ft-lb 0.1 in-lb / 0.1 kg-cm / $1^\circ$	0.1 N-m / 0.1 ft-lb 1 in-lb / 1 kg-cm / $1^\circ$	0.1 N-m / 0.1 ft-lb 1 in-lb / 1 kg-cm / $1^\circ$
Bright LED	12 LED/2 Reds+10 Greens			
Data transmission *3	2- Way Wireless			
Transmission distance *4	300 m			
Pre-setting No.	9 Sets			
Data Memory	250			
Unit Selection	N-m, in-lb, ft-lb, kg-cm, Angle			
Operation Mode	Peak hold / Track			
Gear Teeth	36			
Length (mm)	390	415	415	415
Weight (Kg)	1.44	1.53	1.53	1.53
Battery *5	AA X 2			

Model	BVSE-2RF-200PLC	BVSE-2RF-340PLC	BVSE-2RF-500PLC	BVSE-2RF-850PLC
Torque Accuracy *2	CW : $\pm 1\%$ CCW : $\pm 2\%$	CW : $\pm 1\%$ CCW : $\pm 2\%$	CW : $\pm 2.5\%$ CCW : $\pm 3.5\%$	CW : $\pm 2.5\%$ CCW : $\pm 3.5\%$
Angle Accuracy	$\pm 2^\circ$ (rotating $90^\circ$ at a speed of $30^\circ/\text{sec}$ )			
Square Drive (inches)	1/2 with Interchangeable drive 14*18	1/2 with Interchangeable drive	3/4 with Interchangeable drive	3/4 with Interchangeable drive
Max. Torque & Angle	200 N-m / 147.5 ft-lb 1770 in-lb / 2041 kg-cm / 999°	340 N-m / 250.7 ft-lb 3009 in-lb / 3469 kg-cm / 999°	500 N-m / 4424 in-lb 368.7 ft-lb / 5102 kg-cm / 999°	850 N-m / 7521 in-lb 626.8 ft-lb / 8674 kg-cm
Torque & Angle Measuring Range	10~200 N-m / 7.4~147.5 ft-lb 88~1770 in-lb / 102~2041 kg-cm / 1~360°	17~340 N-m / 12.5~250.7 ft-lb 150~3009 in-lb / 173~3469 kg-cm / 1~360°	25~500 N-m / 221~4424 in-lb 18.4~368.7 ft-lb / 255~5102 kg-cm / 1~360°	42.5~850 N-m / 376~7521 in-lb 31.3~626.8 ft-lb / 434~8674 kg-cm
Accuracy Guraranteed Range	40~200 N-m / 29.5~147.5 ft-lb 354~1770 in-lb / 408~2041 kg-cm	68~340 N-m / 50.1~250.7 ft-lb 602~3009 in-lb / 694~3469 kg-cm	100~500 N-m / 885~4424 in-lb 73.7~368.7 ft-lb / 1020~5102 kg-cm	170~850 N-m / 1504~7521 in-lb 125.4~626.8 ft-lb / 1735~8674 kg-cm
Resolution	0.1 N-m / 0.1 ft-lb 1 in-lb / 1 kg-cm / $1^\circ$	0.1 N-m / 0.1 ft-lb 1 in-lb / 1 kg-cm / $1^\circ$	0.1 N-m / 0.1 ft-lb 1 in-lb / 1 kg-cm / $1^\circ$	0.1 N-m / 0.1 ft-lb 1 in-lb / 1 kg-cm
Bright LED	12 LED/2 Reds+10 Greens			
Data transmission *3	Wireless			
Transmission distance *4	300 m			
Pre-setting No.	9 Sets			
Unit Selection	N-m, in-lb, ft-lb, kg-cm, Angle			
Operation Mode	Peak hold / Track			
Gear Teeth	36	36	48	48
Length (mm)	530	650	950	1220
Weight (Kg)	2.16	2.34	4.5	5.4
Battery *5	AA X 2	AA X 2	AA X 2	AA X 2



# BRAVO

## 2-Way Wireless “High Torque” Digital Angle Torque Wrench



### Main Features

1. Tightening torque and angle data are wirelessly transferred when SET Torque is reached with LED indications.
2. Tightening torque data and angle data are monitored on a Real Time basis & judged by the receiver BV-2RF-PLC009, and the judgment result is displayed in Programmable PC software as pass / fail judgment output.
3. 100% Pokayoke, Decreasing tightening defects & controls human errors.
4. Dual communication Receiver unit works on Radio Frequency. Each receiver unit can be connected with ten torque wrenches & transmit real time torque values into the computer software. Settings can be made easily from a computer or Directly On the torque wrench.
5. The setting software can SET UP TIGHTENING Programmes, sequence setting, Job Templates can be created, Target torque with Tolerance setting can be set to ensure accurate production.
6. Wireless transmission range is upto 300meters from any centralized location for maximum of 10 Tools with One Receiver. For PLC 24V input / output for Good / Not Good signal can be drawn for a maximum of four torque wrenches on one receiver.
7. Easy accessibility with the new interchangeable head type SE Version2.0 which can be used with all types of rectangular end fittings or customized fittings.
8. In-built data memory of 250 readings helps to cross check the torque values on torque wrench without travelling to the centralized PC every time. Each tool offers nine preset torque settings which helps operators to set up frequently used torque values.
9. Interface With PLC to draw 24V Pass (Good) / Judgement Fail (Not Good) Signal For four wrenches on one receiver. Job interlocking & sequence setting can be obtained using this feature. Data communication using a special protocol can be transmitted into PLC using a serial cable RS232. Each receiver has an adjustable baud rate suitable for all modern day PLC.
10. Each tool has a unique identification code & supplied with an original manufacturer's traceable calibration certificate. High accuracy of +/- 1% ensures tightening precision. Easy online calibration can be done using software at an additional cost.



Wireless High Torque Digital Angle Torque Wrench



Model	BVSE-2RF-1200PLC	BVSE-2RF-1500PLC	BVSE-R2F-2000PLC
Accuracy *2	CW : $\pm 2.5\%$ CCW : $\pm 3.5\%$	CW : $\pm 2.5\%$ CCW : $\pm 3.5\%$	CW : $\pm 2.5\%$ CCW : $\pm 3.5\%$
Max. Torque	1200 N-m / 885 ft-lb	1500 N-m / 1106 ft-lb	2000 N-m / 1475 ft-lb
Torque Measuring Range	60~1200 N-m 44~885 ft-lb	75~1500 N-m 55~1106 ft-lb	100~2000 N-m 74~1475 ft-lb
Accuracy Guaranteed Range	240~1200 N-m 177~885 ft-lb	300~1500 N-m 221~1106 ft-lb	400~2000 N-m 295~1475 ft-lb
Resolution	1 N-m / 1 ft-lb	1 N-m / 1 ft-lb	1 N-m / 1 ft-lb
Pre-setting No.	9 Sets	9 Sets	9 Sets
Data Memory	250	250	250
Bright LED	12 LED (2Red + 10Green)	12 LED (2Red + 10Green)	12 LED (2Red + 10Green)
Data transmission *3	2- Way Wireless		
Transmission distance *4	300 m		
Length (mm)	1800	1800	1800
Weight (Kg)	9	9	9
Operation Mode	Peak hold / Track	Peak hold / Track	Peak hold / Track
Unit Selection	N-m, ft-lb	N-m, ft-lb	N-m, ft-lb
Square Drive (inches)	1" Ratchet Head	1" Ratchet Head	1" Ratchet Head
Head Type	Lever Type Ratchet	Lever type Ratchet	Lever type Ratchet
Gear Teeth	48	48	48
Button	5	5	5
Battery *5	AA X 2	AA X 2	AA X 2

## ● Receiver

Model No.	BV-2RF-PLC009
AC/DC power supply adaptor included	
1 receiver works with 10 wrenches	
1 Receiver suitable for connecting 4 Torque Wrenches for 24V Output To PLC	

