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Sure Cross® Accessories List

Instruction Manual

Original Instructions
b_3147091 Rev. F
23 April 2018
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1 Accessories

The accessories list includes FCC approved antennas, antenna cabling, surge suppressors, power supplies, replacement batteries, enclosures, cables, and other hardware.

1.1 Selecting an Enclosure

Select the enclosure size based on what you intend to mount inside it. Always select the largest enclosure you can to allow for future expansion.



6 × 6 inch: Fits a single DX80.



10 × 8 inch: Fits a power supply, surge suppressor, a single DX80, and a few relays. This is a popular size but can get cramped.



12 × 10 inch: This is the recommended size; provides ample room for multiple radios and accessories.

1.1.1 Polycarbonate Enclosures

Polycarbonate Enclosures with Opaque Covers	
Models	Description
BWA-AH664	Enclosure, Polycarbonate, with Opaque Cover, 6 × 6 × 4
BWA-AH864	Enclosure, Polycarbonate, with Opaque Cover, 8 × 6 × 4
BWA-AH1084	Enclosure, Polycarbonate, with Opaque Cover, 10 × 8 × 4
BWA-AH12106	Enclosure, Polycarbonate, with Opaque Cover, 12 × 10 × 6
BWA-AH14126	Enclosure, Polycarbonate, with Opaque Cover, 14 × 12 × 6
BWA-AH16148	Enclosure, Polycarbonate, with Opaque Cover, 16 × 14 × 8
BWA-AH181610	Enclosure, Polycarbonate, with Opaque Cover, 18 × 16 × 10

Polycarbonate Enclosures with Clear Covers	
Models	Description
BWA-AH664C	Enclosure, Polycarbonate, with Clear Cover, 6 × 6 × 4
BWA-AH864C	Enclosure, Polycarbonate, with Clear Cover, 8 × 6 × 4
BWA-AH1084C	Enclosure, Polycarbonate, with Clear Cover, 10 × 8 × 4
BWA-AH12106C	Enclosure, Polycarbonate, with Clear Cover, 12 × 10 × 6
BWA-AH14126C	Enclosure, Polycarbonate, with Clear Cover, 14 × 12 × 6
BWA-AH16148C	Enclosure, Polycarbonate, with Clear Cover, 16 × 14 × 8
BWA-AH181610C	Enclosure, Polycarbonate, with Clear Cover, 18 × 16 × 10

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Swing Panel Kits	
Models	Description
BWA-AH66SPK	Swing Panel Kit, 6 × 6, includes mounts and screws
BWA-AH86SPK	Swing Panel Kit, 8 × 6, includes mounts and screws
BWA-AH108SPK	Swing Panel Kit, 8 × 10, includes mounts and screws
BWA-AH1210SPK	Swing Panel Kit, 12 × 10, includes mounts and screws
BWA-AH1412SPK	Swing Panel Kit, 14 × 12, includes mounts and screws
BWA-AH1614SPK	Swing Panel Kit, 16 × 14, includes mounts and screws
BWA-AH1816SPK	Swing Panel Kit, 18 × 16, includes mounts and screws

Back Panel Kits	
Models	Description
BWA-BP66A	Back Panel, Aluminum, 6 × 6
BWA-BP86A	Back Panel, Aluminum, 8 × 6
BWA-BP108A	Back Panel, Aluminum, 10 × 8
BWA-BP1210A	Back Panel, Aluminum, 12 × 10
BWA-BP1412A	Back Panel, Aluminum, 14 × 12
BWA-BP1614A	Back Panel, Aluminum, 16 × 14
BWA-BP1816A	Back Panel, Aluminum, 18 × 16

DIN Rail Kits (with Self-Threading Screws)	
Models	Description
BWA-AH6DR	DIN Rail Kit, 6", 2 trilobular/self-threading screws
BWA-AH8DR	DIN Rail Kit, 8", 2 trilobular/self-threading screws
BWA-AH10DR	DIN Rail Kit, 10", 2 trilobular/self-threading screws
BWA-AH12DR	DIN Rail Kit, 12", 2 trilobular/self-threading screws
BWA-AH14DR	DIN Rail Kit, 14", 2 trilobular/self-threading screws
BWA-AH16DR	DIN Rail Kit, 16", 2 trilobular/self-threading screws
BWA-AH18DR	DIN Rail Kit, 18", 2 trilobular/self-threading screws
BWA-AHTBS	Trilobular/self-threading screws, #10-32 × 0.375 PHL PH ZINC, 10 pack

Enclosure Accessories	
Models	Description
BWA-AHAK	Accessory Kit, includes all screws, inserts, and mounting feet, for replacement only

1.1.2 Fiberglass Enclosures

Models	Description	
BWA-EF1086	Hinged fiberglass enclosure, 10" × 8" × 6"	
BWA-EF866	Hinged fiberglass enclosure, 8" × 6" × 6"	
BWA-PANEL-108	Panel, 10 × 8	
BWA-PANEL-86	Panel, 8 × 6	

1.2 Selecting an Antenna

Select your antenna based on your specific application needs. There are three basic antenna solutions:

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- **Use the supplied rubber duck antenna inside the enclosure**. DX80 products come with a 2 dBi rubber duck antenna. Often simply attaching the supplied antenna to the radio provides enough radio range to meet your needs.
- **Mount a dome antenna to the enclosure**. The -D antennas can be mounted directly on the enclosure.
- **Use an N-type pole-mounted antenna, with surge suppressor**. The -A and -AS antennas can be mounted remotely from the enclosure and require the BWC-LFNBMN-DC surge suppressor.

1.2.1 Antennas: Rubber RP-SMA

The following rubber, or rubber duck, antennas have an RP-SMA male connection.

Omni-Directional Antennas with RP-SMA Male Connections

BWA-9O2-C
- 2 dBi, Rubber swivel, 900 MHz (ships with 900 MHz radios)
- Datasheet: *b_3145120*

BWA-9O5-C
- 5 dBi, Rubber swivel, 900 MHz
- Datasheet: *b_3145123*

BWA-2O2-C
- 2 dBi, Rubber swivel, 3 1/4 inches, 2.4 GHz (ships with 2.4 GHz radios)
- Datasheet: *b_3145114*

BWA-2O5-C
- 5 dBi, Rubber swivel, 6 1/2 inches, 2.4 GHz
- Datasheet: *b_3145116*

BWA-2O7-C
- 7 dBi, Rubber swivel, 9 1/4 inches, 2.4 GHz
- Datasheet: *b_3145118*



BWA-9O2-RA
- 2 dBi, Rubber fixed right angle
- 900 MHz
- Datasheet: *b_4162828*



BWA-9O2-RA2
- 2 dBi 1/2-wave, Rubber fixed right angle
- 900 MHz
- 160 mm tall

BWA-2O1-001
- 1 dBi, Rubber, 1 inch tall
- 2.4 GHz



1.2.2 Antennas: Dome

BWA-9O2-D
- Dome antenna, 2 dBi, 18-inch cable, 900 MHz
- RP-SMA Box Mount
- Datasheet: *b_314512*

BWA-2O2-D
- Dome antenna, 2 dBi, 18-inch cable, 2.4 GHz
- RP-SMA Box Mount
- Datasheet: *b_3145115*



For remote mounting options, use bracket SMBAMS18RA listed in the *Brackets and Mounting Options* on page 12 section.

1.2.3 Antennas: Other

BWA-2O5-M
- Magnetic whip antenna, 5 dBi, 12 ft cable, 2.4 GHz
- RP-SMA Male connection



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1.2.4 Antennas: Fiberglass N-Type

The following fiberglass antennas are typically used outdoors.

Omni-Directional Fiberglass Antennas with N-Type Female Connections

BWA-9O6-A
- 6 dBd, Fiberglass, Full wave, 71.5 inches, 900 MHz
- Datasheet: *b_314512*

BWA-2O8-A
- 8.5 dBi, Fiberglass, 24 inches, 2.4 GHz
- Datasheet: *b_3145131*

BWA-2O6-A
- 6 dBi, Fiberglass, 16 inches (shown), 2.4 GHz
- Datasheet: *b_3145117*



BWA-9O6-AS
- 6 dBi, Fiberglass, 1/4 Wave, 23.6 inches (1.3 inch dia.), 900 MHz
- Datasheet: *b_3145125*

BWA-9O8-AS
- 8 dBi, Fiberglass, 3/4 Wave, 63 inches (1.5 inch dia.), 900 MHz
- Datasheet: *b_3145126*

1.2.5 Antennas: Yagi N-Type

Directional (Yagi) Antennas with an N-Type Female Connection

BWA-9Y6-A
- 6.5 dBd, 6.8 × 13 inches Outdoor, 900 MHz
- Datasheet: *b_3145127*



BWA-9Y10-A
- 10 dBd, 6.8 × 24 inches Outdoor, 900 MHz
- Datasheet: *b_3145130*

1.2.6 Antennas: Cellular

BWA-CELLA-002
- Cellular multiband
- 2 dBi
- RP-SMA male connection
- 6.3 inch blade style
- Datasheet: *b_4475176*

1.2.7 Antenna Cables: RP-SMA to RP-SMA

Use these cables to connect a radio to a bulkhead surge suppressor or a bulkhead surge suppressor to an RP-SMA antenna. These cables may be used inside an enclosure or without an enclosure.

RP-SMA to RP-SMA Antenna Cables—RG58 Type			
Model	**Length (m)**	**Description**	
BWC-1MRSFRSB0.2	0.2	RG58, RP-SMA Male to RP-SMA Female Bulkhead	
BWC-1MRSFRSB1	1		
BWC-1MRSFRSB2	2		
BWC-1MRSFRSB4	4		

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RP-SMA to RP-SMA Antenna Cables—LMR200 Type			
Model	Length (m)	Description	
BWC-2MRSFRS3	3	LMR200, RP-SMA Male to RP-SMA Female	
BWC-2MRSFRS6	6		
BWC-2MRSFRS9	9		
BWC-2MRSFRS12	12		

1.2.8 Antenna Cables: RP-SMA to N-Type

Use an LMR100 cable to connect a radio to an N-type antenna, N-type antenna extension cable, or N-type surge suppressor. These cables may be used inside or outside the enclosure or without an enclosure.

RP-SMA to N-Type Cables—LMR100 Type			
Model	Length (m)	Description	
BWC-1MRSMN05	0.5	LMR100 RP-SMA to N-Type Male	
BWC-1MRSMN2	2		

1.2.9 Antenna Cables: N-Type

These LMR400 cables are antenna extension cables, connecting an N-type antenna to another N-type antenna cable. These cables are usually used outside the enclosure.

N-Type to N-Type Cables—LMR400 Type			
Model	Length (m)	Description	
BWC-4MNFN3	3	LMR400 N-Type Male to N-Type Female	
BWC-4MNFN6	6		
BWC-4MNFN15	15		
BWC-4MNFN30	30		

1.2.10 Surge Suppressors

Always install and properly ground a qualified surge suppressor when installing a remote antenna system (antenna not directly connected to the Sure Cross radio). Remote antenna configurations installed without a surge suppressor invalidate the manufacturer's warranty.

BWC-LMRSFRPB

- Surge Suppressor, Bulkhead, RP-SMA Type
- RP-SMA to RP-SMA



BWC-LFNBMN-DC

- Surge Suppressor, bulkhead, N-Type, dc Blocking
- N-Type Female, N-Type Male



1.3 Power Supplies

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1.3.1 DC Power Supplies

Models	Description	
PSW-24-1	DC Power Supply, 100-240 V ac 50/60 Hz input, 24 V dc 1 A output, UL Listed Class 2	
PSD-24-4	DC Power Supply, 90-264 V ac 50/60 Hz input, 24 V dc output, US-style wall plug input, 4-pin M12/Euro-style output; 2 m (6 ft) cable, UL Listed Class 2	
PSDINP-24-06	DC Power Supply, 0.63 Amps, 24 V dc, with DIN Rail Mount, Class I Division 2 (Groups A, B, C, D) Rated	
PSDINP-24-13	DC Power Supply, 1.3 Amps, 24 V dc, with DIN Rail Mount, Class I Division 2 (Groups A, B, C, D) Rated	
PSDINP-24-25	DC Power Supply, 2.5 Amps, 24 V dc, with DIN Rail Mount, Class I Division 2 (Groups A, B, C, D) Rated	

1.3.2 FlexPower Supplies and Replacement Batteries

Power Supplies		
Models	**Description**	
DX81-LITH	Battery Supply Module with mounting hardware	
DX81H	Battery Supply Module with mounting hardware, for DX99 polycarbonate housing devices	
DX81P6	Battery Supply Module, six “D” cells, with mounting hardware	
BWA-SOLAR PANEL 3W	Solar Panel, 12 V, 3 W, Multicrystalline, 188 × 195 × 15, Wall/Pole clamp style mounting bracket included (does not include controller)	
BWA-SOLAR PANEL 5W	Solar Panel, 12 V, 5 W, Multicrystalline, 270 × 222 × 17, Wall/Pole clamp style mounting bracket included (does not include controller)	
BWA-SOLAR PANEL 20W	Solar Panel, 12 V, 20 W, Multicrystalline, 573 × 357 × 30, "L" style mounting bracket included (does not include controller)	
BWA-SOLAR CNTRL-12V	Solar Controller, 6 A Load Current, 12 V System Voltage, recommended for 20 W or less solar panel and a Sealed Lead Acid Battery (sold separately)	

Replacement Batteries	
Model	**Description**
BWA-BATT-001	Lithium “D” cell for DX81-LITH and DX81H Battery Supply Module, 1 battery
BWA-BATT-006	Lithium “AA” cell for Wireless Q45 Sensors, 2 batteries

1.4 Relays

Models	Description	
IB6RP	Interface Relay Box, 18 to 26 V dc inputs, isolated relay outputs (not shown)	

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Models	Description	
BWA-RELAY-12V	Relay, Blade Style with Base, 12 V	
BWA-RELAY-24V	Relay, Blade Style with Base, 24 V	
BWA-RH1B-UDC12V	Relay, Blade Style, No Base, 12 V (replacement part)	
BWA-RH1B-UDC24V	Relay, Blade Style, No Base, 24 V (replacement part)	
BWA-SH1B-05	Relay Base Only (replacement part)	

1.5 Sensors

1.5.1 Sensors with a Serial Interface

The following sensors are designed to be used with any of the 1-Wire Serial Interface Nodes.

K50UX1RA

- U-GAGE Ultrasonic Sensor with 1-wire serial interface
- Datasheet: *191599*



M12FTH4Q

- Temperature and Humidity Sensor, ±2% Accuracy, 1-wire serial interface
- (Requires a 5-pin threaded M12/ Euro-style double-ended cordset less than 3 meters long, such as model DEE2R-5*x*D.)
- Datasheet: *162669*

M12FT4Q

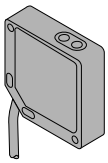
- Temperature Sensor with 1-wire serial interface
- (Requires a 5-pin threaded M12/ Euro-style double-ended cordset less than 3 meters long, such as model DEE2R-5*x*D.)
- Datasheet: *162669*



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QM42VT1

- Vibration and temperature sensor with 1-wire serial interface
- Detects dual-axis vibration
- Zinc alloy housing
- 3 m cable with a 5-pin M12/ Euro-style male quick disconnect (QD)
- Datasheet: *186209*



QM42VT1QP

- Vibration and temperature sensor with 1-wire serial interface
- Detects dual-axis vibration
- Zinc alloy housing
- 150 mm (6 in) PVC cable with a 5-pin M12/Euro-style male quick disconnect (QD)
- Datasheet: *186209*

QS30WEQ

- WORLD-BEAM Photoelectric Emitter, QS30 (Max Range: 100 feet, 10x excess gain at 50 feet), 1-wire serial interface
- Datasheet: *140987*

QS30WRQ

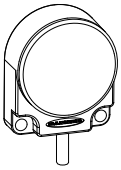
- WORLD-BEAM Photoelectric Receiver, QS30 (Max Range: 100 feet, 10x excess gain at 50 feet), 1-wire serial interface
- Datasheet: *140987*



1.5.2 Sensors with a Modbus Interface

GPS50M

- Global Positioning System using Modbus RTU to communicate data
- 2 meter integral cable
- Datasheet:



K50UX2RA

- U-GAGE K50U Ultrasonic, RS-485 Modbus interface
- Datasheet: *195214*



M12FTH3Q

- Temperature and Humidity Sensor, RS-485 Modbus interface
- Datasheet: *163751*

M12FT3Q

- Temperature Sensor, RS-485 Modbus interface
- Datasheet: *163751*

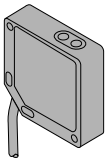


QM42VT2

- Vibration and temperature sensor, RS-485 Modbus interface
- Detects dual-axis vibration
- Zinc alloy housing
- 3 m cable with a 5-pin M12/Euro-style male quick disconnect (QD)
- Datasheet: *193182*

QM42VT2QP

- Vibration and temperature sensor, RS-485 Modbus interface
- Detects dual-axis vibration
- Zinc alloy housing
- 150 mm (6 in) PVC cable with a 5-pin M12/Euro-style male quick disconnect (QD)
- Datasheet: *193182*



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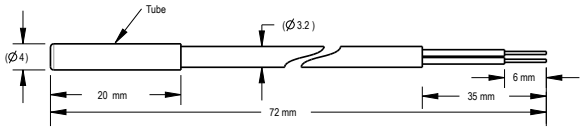
1.5.3 Sensors - Other

Temperature Sensors - Thermistors

BWA-THERMISTOR-001
- NTC Thermistor, 2.2 KOhms, +/-0.2%C, blue bead
- For models: DX80N9X2S2N2T/C, DX99N9X2S2N0T4X0A0, and DX99N9X1S2N0T4X0D0

BWA-THERMISTOR-002
- NTC Thermistor, 10 KOhms, +/-0.2%C, black bead
- For Performance models -P1/C/E, and MultiHop models M-H1/C/E
- 2 pack

BWA-THERMISTOR-PROBE-001
- Temperature sensor with thermistor PS103G2
- Beta Value(K) 0 ~50°C: 3575
- Base thermistor accuracy of 0.2%
- Operating Temperature Range: –20 °C to +105 °C
- Maximum Power Rating: 30 mW at 25 °C; derated to 1 mW at 125 °C
- Dissipation Constant: 1 mW/°C
- Plated nickel finish; PVC insulation



Pressure Sensors

BWA-S612-15-100
- NoShok Series 612 Submersible Level Transmitter, model 612-15-1-1-N-100, 0 to 15 psig
- 100 ft cable

BWA-625-5000-1-1-8-25
- NoShok Series 625 Intrinsically Safe Pressure Transmitter, model 625-5000-1-1-8-25, 0 to 5000 psig, 4–20 mA
- 1/2" NPT, M12 QD

BWA-625-10000-1-1-8-25
- NoShok Series 625 Intrinsically Safe Pressure Transmitter, model 625-10000-1-1-8-25, 0 to 10000 psig, 4–20 mA
- 1/2" NPT, M12 QD

BWA-P-RKGV 5.33T-1727-2.0
- Cable, female M12 4-pin, blue PVC, SS connector
- For NoShok Series 625 IS Pressure Transmitter

Moisture Sensors

BWA-ACC-SEN-SDI
- Acclima SDI-12 Soil Moisture Transducer

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1.5.4 Sensors for FlexPower Devices

The following sensors are power-optimized for use with Sure Cross FlexPower devices.

SM312LPQD-78447

- MINI-BEAM, Low Power, 5V, Polarized Retroreflective, 3 m
- Datasheet: *134420*



SM312DQD-78419

- MINI-BEAM, Low Power, 5V, Diffuse, 38 cm
- Datasheet: *134420*

QT50ULBQ6-75390

- U-GAGE QT50U Ultrasonic, 200 mm to 8 m Range



1.6 Brackets and Mounting Options

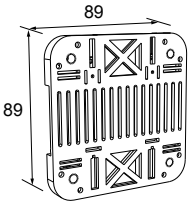
BWA-HW-001 Mounting Hardware Kit

Screw, M5-0.8 x 25 mm, SS (4)
Screw, M5-0.8 x 16 mm, SS (4)
Hex nut, M5-0.8 mm, SS (4)
Bolt, #8-32 x 3/4”, SS (4)

Brackets

SMBDX80DIN

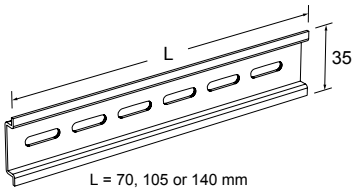
- Black reinforced thermoplastic
- Bracket for mounting on a 35 mm DIN rail



DIN-35-..

35 mm DIN Rail

Model	Length
DIN-35-70	70
DIN-35-105	105
DIN-35-140	140



Hole center spacing: 35.1
Hole size: 25.4 x 5.3

Use to mount DX80 board-level devices, such as DX80Nx-PBx or DX80DRx-HBx models.

BWA-HW-034

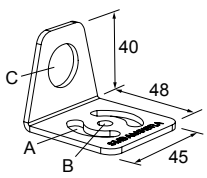
- DIN rail clip, black plastic



This standard Banner bracket can also be used to remotely mount dome antennas.

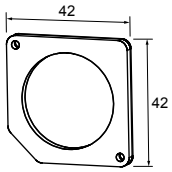
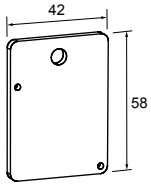
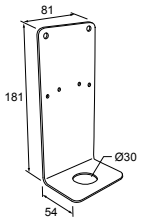
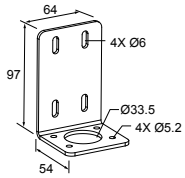
SMBAMS18RA

- Right-angle SMBAMS series bracket with 18 mm hole
- Articulation slots for 90+° rotation
- 12-ga. (2.6 mm) cold-rolled steel



Hole center spacing: A = 26.0, A to B = 13.0
Hole size: A = 26.8 × 7.0, B = ø 6.5, C = ø 19.0

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Brackets	
Use to mount vibration sensor models QM42VT1 and VT2. **BWA-BK-001** • Includes magnetic mounting bracket **SMB42FLM12** and 2 mounting screws 	Use to mount vibration sensor models QM42VT1 and VT2. **BWA-BK-002** • Includes **SMB42FL** stainless steel bracket, 1/4"-28 screw mount, and 1 piece of 3M™ thermally conductive adhesive transfer tape 
BWA-BK-004 • Mounts both the K50U Ultrasonic sensor and a Wireless Q45U Node or DX80 Node 	**BWA-BK-006** • Mounts both the K50U Ultrasonic sensor and a Wireless Q45U Node 

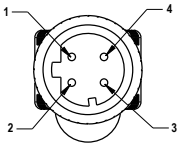
Adhesive Mounts	
BWA-HW-057 • 3M™ Thermally Conductive Adhesive Transfer Tape 8820 • Provides a heat-transfer path between heat-generating components and heat sinks or other cooling devices • 3 pieces per pack • Tape is 20 mils (0.50 mm) thick; liner is 1.5-2 mil (37.5-50 µm) thick • Thermally conductive ceramic filler • Dual liner using silicone-treated polyester: easy-release PET liner is clear, tight side PET liner is blue	

1.7 Cables

1.7.1 Ethernet Cables

Use a crossover cable to connect the GatewayPro or DX83 Ethernet Bridge to a host system without using an Ethernet switchbox or hub. When using a switchbox or hub, use a straight cable.

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RSCD RJ45 Ethernet to 4-Pin M12/Euro-Style Cordsets				
Model	Length	Style	Dimensions	Pinout
BWA-E2M	2 m (6.6 ft)	Straight RSCD RJ45 440		 1 = White/orange (+Tx) 2 = Orange (-Tx) 3 = White/blue (+Rx) 4 = N/C 5 = N/C 6 = Blue (-Rx) 7 = N/C 8 = N/C
BWA-E8M	8 m (26.2 ft)			 1 = White/Orange (+Tx) 2 = White/Blue (+Rx) 3 = Orange (-Tx) 4 = Blue (-Rx)
BWA-EX2M	2 m (6.6 ft)	Crossover RSCD RJ45CR 440		

1.7.2 Adapter Cables

BWA-HW-006

- Adapter cable, USB to RS-485
- For use with the User Configuration Tool software (UCT)
- Datasheet: *140377*

BWA-UCT-900 (shown)

- Adapter cable with power, USB to RS-485
- For use with the User Configuration Tool software (UCT)
- Supplies power to 1 Watt radios
- Datasheet: *140377*



BWA-USB1WIRE-001

- PC USB to 1-wire serial interface converter
- Use with the Sensor Configuration Tool software to communicate directly with 1-wire serial interface sensors
- Datasheet: *170020*

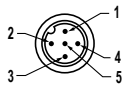
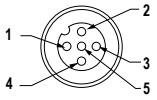
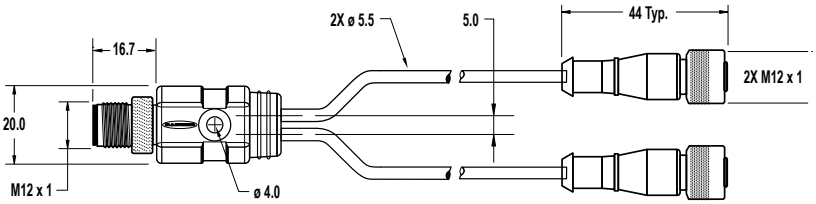


1.7.3 Splitter Cables

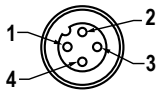
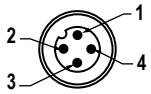
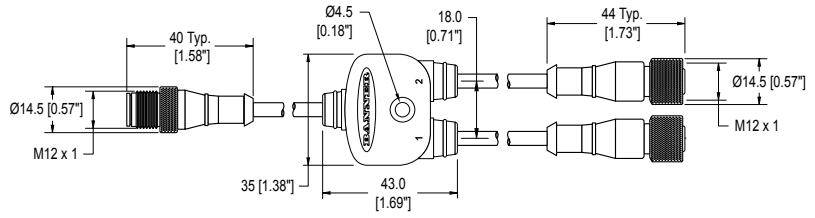
Use **CSRB-M1250M125.47M125.73** to split power between two *Flex*Power or solar powered devices. DO NOT use this cable to connect a FlexPower devices to a 10 to 30 V dc powered device.

Use **CSRB-M1253.28M1253.28M1253.28** to connect one *Flex*Power device (data radio, *Flex*Power Gateway, etc) to two power sources, such as the *Flex*Power Solar Supply and DX81P6 Battery Pack.

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5-Pin Threaded M12/Euro-Style Splitter Cordsets—Rounded Junction			
Model	**Length**	**Style**	**Pinout**
CSRB-M1250M125.47M125.73	Trunk: 0 m (male) Branches: 0.14 m and 0.22 m (female)	Straight	Male 
CSRB-M1253.28M1253.28M1253.28	Trunk: 1 m (female) Branches: 1 m (male)		Female 
 			1 = Brown 2 = White 3 = Blue 4 = Black 5 = Gray

Use the following 4-pin splitter cables to split power between two 10 to 30 V dc powered devices, such as a data radio and Gateway, or between a DX85 and Gateway.

4-Pin Threaded M12/Euro-Style Splitter Cordsets—Flat Junction			
Model	**Branches (Female)**	**Trunk (Male)**	**Pinout**
CSB-M1240M1240	No branch	No trunk	Female 
CSB-M1240M1241	2 x 0.30 m (1 ft)	No trunk	
CSB-M1241M1241		0.30 m (1 ft)	
CSB-M1248M1241		2.50 m (8 ft)	
CSB-M12415M1241		4.57 m (15 ft)	
CSB-M12425M1241		7.60 m (25 ft)	
CSB-UNT425M1241		7.60 m (25 ft) Unterminated	Male 
 			1 = Brown 2 = White 3 = Blue 4 = Black

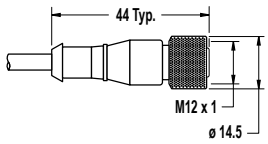
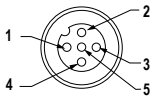
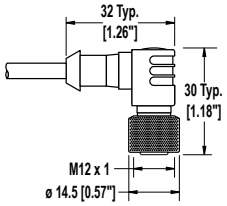
BWA-DRSPLITTER • Splitter cable, DB9 Female (RS232) trunk to 5-pin M12/Euro-style male and female • Datasheet: *155284*	

1.7.4 Euro-Style Cordsets - Single Ended

When facing the Node or Gateway toward you and the quick disconnect connection is facing down, the right-angle cables exit to the right.

Right-angle cordsets are not compatible with the DX70 devices. When using the FlexPower Node with integrated battery, use a double ended cordset. For a FlexPower Node with external power supply, use a single ended cordset. **If using the communication lines, the cable length cannot exceed 3 meters, or 10 feet.**

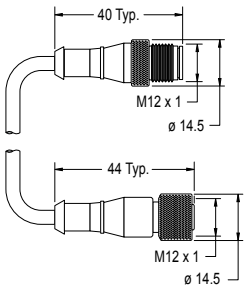
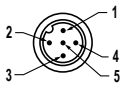
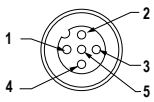
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5-Pin Threaded M12/Euro-Style Cordsets—Single Ended				
Model	Length	Style	Dimensions	Pinout (Female)
MQDC1-501.5	0.50 m (1.5 ft)	Straight		 1 = Brown 2 = White 3 = Blue 4 = Black 5 = Gray
MQDC1-506	1.83 m (6 ft)			
MQDC1-515	4.57 m (15 ft)			
MQDC1-530	9.14 m (30 ft)			
MQDC1-506RA	1.83 m (6 ft)	Right-Angle		
MQDC1-515RA	4.57 m (15 ft)			
MQDC1-530RA	9.14 m (30 ft)			

Models	Description
BWA-QD5.5	Prewired 5-pin M12/Euro-style quick disconnect (QD), 1/2-14 NBSM
BWA-QD8.5	Prewired, 8-pin M12/Euro-style quick disconnect (QD), 1/2-14 NBSM
BWA-QD12.5	Prewired 12-pin M12/Euro-style quick disconnect (QD), 1/2-14 NBSM
FIC-M12F4	4-pin M12/Euro-style straight female field-wireable connector
MQDMC-401	300 mm (12 in) cordset with a 4-pin M12/Euro-style straight male quick disconnect (QD), single ended, longer for DX80…C models

1.7.5 Euro-Style Cordsets - Double Ended

When using the FlexPower Node with integrated battery, use a double ended cordset. When using a FlexPower Node with external power supply, use a single ended cordset. **If using the communication lines, the cable length cannot exceed 3 meters (10 ft).**

5-Pin Threaded M12/Euro-Style Cordsets—Double Ended and Less Than 3 m Long				
Model	Length	Style	Dimensions	Pinout
DEE2R-51D	0.31 m (1 ft)	Female Straight/ Male Straight		Male  Female  1 = Brown 2 = White 3 = Blue 4 = Black 5 = Green/Yellow
DEE2R-53D	0.91 m (3 ft)			
DEE2R-58D	2.44 m (8 ft)			

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1.7.6 Other Cables

BWA-RIBBON-001
- Ribbon cable, 20-pin DBL socket

BWA-HW-010
- Cable, FlexPower Current Monitoring

1.8 Other Accessories

1.8.1 DX85 Modbus RTU Remote I/O Devices

These remote I/O devices have a Modbus interface and are used to expand the I/O of the Gateway or the Modbus host.

Models	Description	
DX85M6P6	DX85 Modbus RTU Remote I/O, 6 Discrete IN, 6 Discrete OUT	 IP67 Housing  IP20 Housing
DX85M4P4M2M2	DX85 Modbus RTU Remote I/O, 4 Discrete IN, 4 Discrete OUT, 2 Analog IN, 2 Analog OUT (0 to 20 mA)	
DX85M4P8	DX85 Modbus RTU Remote I/O, 4 Discrete IN, 8 Discrete OUT	
DX85M8P4	DX85 Modbus RTU Remote I/O, 8 Discrete IN, 4 Discrete OUT	
DX85M0P0M4M4	DX85 Modbus RTU Remote I/O, 4 Analog IN, 4 Analog OUT (0 to 20 mA)	
DX85M-P7	DX85 Modbus RTU Remote I/O, Up to 12 sinking inputs or up to 12 NMOS sinking outputs (for a total of 12 I/O)	
DX85M-P8	DX85 Modbus RTU Remote I/O, Up to 12 sourcing inputs or up to 12 sourcing outputs (for a total of 12 I/O)	

Note: Add a “C” to the end of any DX85 model to order that I/O mix with an IP20 housing. The IP20 models are Class I, Division 2 certified when installed in a suitable enclosure.

1.8.2 Cable Glands and Plugs

Models	Description	
BWA-HP.5-10	Dummy Hole Plug Pack: 1/2-inch NPT, qty 10	
BWA-HW-031	Vent Plug, 1/2-inch NPT, IP67	
BWA-HW-059	Vent Plug Pack (Plastic): Includes one 1/2-inch NPT vent plug and one strain-relief fitting and o-ring for 0.2 to 0.35 dia cable	
BWA-HW-053	Vent Plug Pack (Plastic): Includes one 1/2-inch NPT vent plug and one cordgrip for 1.2 to 2.5 mm dia cable	
BWA-HW-052	Cable Gland and Vent Plug Pack: includes 1/2-inch NPT gland, 1/2-inch NPT multi-cable gland, and 1/2-inch NPT vent plug, qty 1 each	

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Models	Description	
BWA-CG.5-10	Cable Gland Pack: 1/2-inch NPT, Cordgrips for cable diameters 0.17 to 0.45 inch, qty 10	 [1]
BWA-CG.5-3X5.6-10	Cable Gland Pack: 1/2-inch NPT, Cordgrip for 3 holes of 2.8 to 5.6 mm diam, qty 10	
BWA-CG.5-2X2.5-10	Cable Gland Pack: 1/2-inch NPT, Cordgrip for 2 holes of 1.2 to 2.5 mm diam, qty 10	
BWA-CG.5-6X4.0-10	Cable Gland Pack: 1/2-inch NPT, Cordgrip for 6 holes of 2 to 4 mm diam, qty 10	
BWA-CG.5-6X3.0-10	Cable Gland Pack: 1/2-inch NPT, Cordgrip for 6 holes of 1.5 to 3 mm diam, qty 10	

1.8.3 Hardware and Replacement Parts

Models	Description
BWA-HW-002	DX80 Access Hardware Kit Plastic threaded plugs, PG-7 (4) Nylon gland fittings, PG-7 (4) Hex nuts, PG-7 (4) Plug, 1/2-inch NPT Nylon gland fitting, 1/2-inch NPT
BWA-HW-003	PTFE Tape, 1/4 inches wide, 600 inches long
BWA-HW-004	Replacement Seals O-ring, rotary access cover, PG21 (2) O-ring, body gasket (2) Access cover, rotary dials, clear plastic (2)
BWA-HW-009	Solar assembly hardware pack, includes brackets, bolts, and set screws
BWA-HW-007	Housing Kit, DX80, top and bottom, 10 pieces
BWA-HW-008	Housing Kit, DX81, top and bottom, 10 pieces
BWA-HW-044	Terminal header for the MultiHop Ethernet Data Radio
BWA-HW-011	Terminal Block Headers, IP20, 2 pack
BWA-HW-012	DX99 Antenna Extension Pack Screw, M4-0.7 x 20, pan head, black steel Flexible Antenna Cable, 12 inches, SMA male to SMA female
BWA-HW-032	Access hardware for the E housing, one 1/2-inch plug, one 1/2-inch gland
BWA-HW-037	Clear plastic retaining ring for DX99 metal housings, 10 pack

1.8.4 Metal Housing Accessories

BWA-9O2-001

- Dome antenna
- 2 dBi, 18-inch cable, 1/2" SS NPT Port, 900 MHz
- Datasheet: *b_4475175*

BWA-9O2-002

- Dome antenna
- 2 dBi, 18-inch cable, 3/4" SS NPT Port, 900 MHz
- Datasheet: *b_4475175*



BWA-2O2-001

- Dome antenna
- 2 dBi, 18-inch cable, 1/2" SS NPT Port, 2.4 GHz
- Datasheet: *b_4475174*

BWA-2O2-002

- Dome antenna
- 2 dBi, 18-inch cable, 3/4" SS NPT Port, 2.4 GHz
- Datasheet: *b_4475174*



[1] Shown with PTFE tape wrapping

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BWA-HW-016

- Antenna Feedthrough, Stainless Steel
- 1/2" NPT

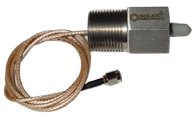


BWA-HW-017

- Antenna Feedthrough, Stainless Steel
- 3/4" NPT

BWA-AXFS0130

- AXF™ Explosion-Proof Antenna Coupler



BWA-HW-012

- DX99 Antenna Extension Pack
- M4-0.7 × 20 black steel pan head screw
- Flexible antenna cable 12" SMA male to SMA female

BWA-HW-037

- Clear plastic retaining ring for DX99 metal housings
- Qty: 10

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