



## AWT2-3910

**Common Name** 18 Port (2P/4P x 3) 1.9M Low Band, Mid Band Modular Tri-Sector, T2 Series

|              |       |      |      |           |
|--------------|-------|------|------|-----------|
| 698-960MHz   | 6     | eRET | 15.0 | 69°       |
| 1695-2690MHz | 12    | eRET | 17.8 | 65°       |
| Frequency    | Ports | Tilt | Gain | Beamwidth |

## PRODUCT INFORMATION

| Stack | Part Name       | Description   |
|-------|-----------------|---|
| B1    | Base Stack      | This is the antenna stack supplied with the AWT2-3910. There is a Mount Plate located on the bottom of the Base Stack to attach to the Monopole.                |
| X2    | Extension Stack | This antenna stack is not supplied with the AWT2-3910. It can be bought at a later date and mounted on top of the Base Stack if additional capacity is required |

The Modular Tri-Sector T2 Series is a flexible antenna platform designed for Streetwork deployments. The AWT2 Platform is made up using discrete parts. The AWT2-3910 consists of two modular antenna stacks which are detailed in the table below:

| Stack Type | Frequency Bands | Ports per Stack |
|------------|-----------------|-----------------|
| Base Stack | 698-960MHz      | 6               |
|            | 1695-2690MHz    | 12              |

Each stack is made up of three panels that are positioned at 0°, 120° and 240° in the Azimuth plane. These individual panels are replaceable in the field for upgrade or maintenance purposes.

**Note #1:** The Alpha Wireless AWT2 series can only support a single Base Stack and a single Extension Stack. The Alpha Wireless AWT4 series can support a single Base Stack and up to three Extension Stacks.

**Note #2:** Both the AWT2 and AWT4 have a mounting plate to enable mounting number of Active Antenna units on top, weight permitting.

## APPLICATION

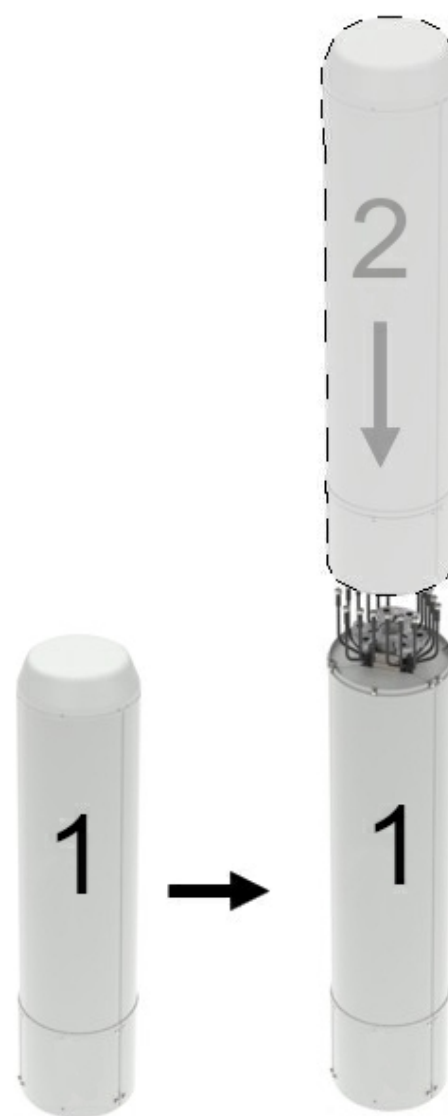
Sector antennas support multiple antennas into one attractive package. These canisters deliver an elegant macro solution for pole-top, rooftop and streetworks applications. Alpha Wireless produces one of the smallest diameter canisters in the marketplace.

## STANDARD &amp; CERTIFICATIONS

|               |                     |
|---------------|---------------------|
| Certification | BS EN ISO 9001:2015 |
|---------------|---------------------|



The parameters in this specification follow the definitions and recommendations per NGMN P-Basta, Release 9.6.



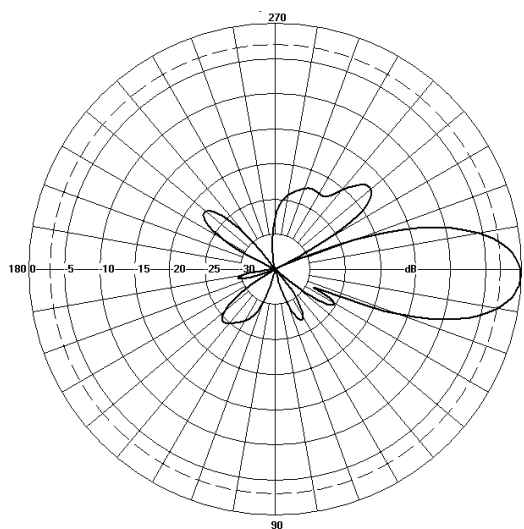
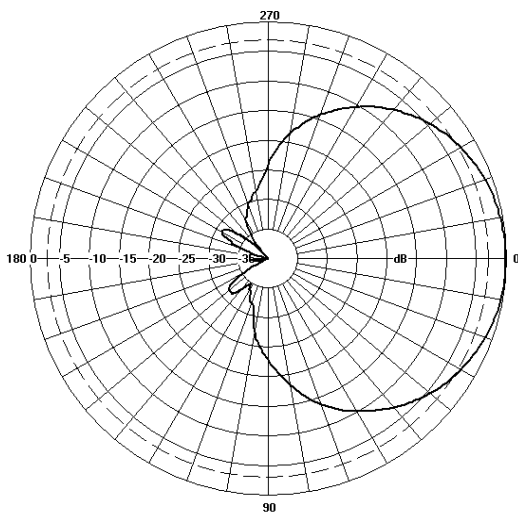
## FEATURES

- The AWT2 Series supports up to two modular stacks.
- Field upgradable sectors without decommissioning the other sectors.
- Three sector canister with sectors orientated at 0°, 120° and 240° in the Azimuth Plane
- 698-960MHz x 2 Ports per sector
- 1695-2690MHz x 4 Ports per sector
- 698-960MHz tilt range T2° - T12°.
- 1695-2690MHz tilt range T2° - T12°.
- Low PIM performance to reduce interference.

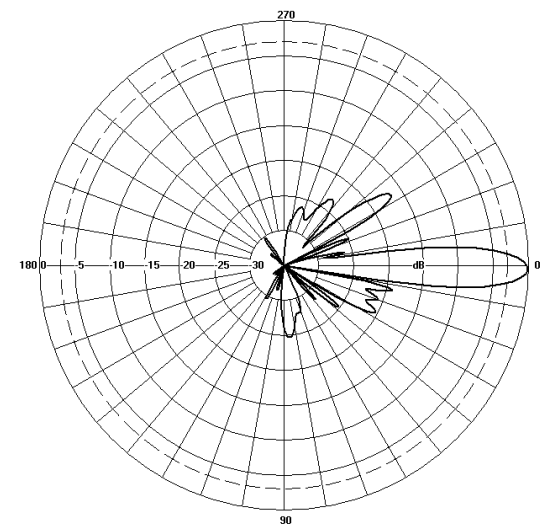
## TECHNICAL SPECIFICATION

| Electrical Specifications               |         | Low Band             |           |          | Mid Band   |           |           |           |
|---|---------|----------------------|-----------|----------|------------|-----------|-----------|-----------|
| Frequency Range                         | MHz     | 698-790              | 790-890   | 890-960  | 1710-1920  | 1920-2170 | 2300-2690 |           |
| Polarisation                            | Degree  | +/- 45° Slant Linear |           |          |            |           |           |           |
| Gain                                    | Basta   | dB                   | 13.8 ±0.5 | 14.5±0.5 | 14.5±0.5   | 16.8 ±0.5 | 17.1 ±0.5 | 17.3 ±0.5 |
|   | Max     | dB                   | 14.3      | 15.0     | 15.0       | 17.3      | 17.6      | 17.8      |
| Azimuth Beamwidth                       | Degree  | 72°                  | 69°       | 67°      | 63°        | 62°       | 66°       |           |
| Azimuth Beam Squint                     | Degree< | 5°                   |           |          | 5°         |           |           |           |
| Elevation Beamwidth                     | Degree  | 16.2°                | 14.6°     | 13.4°    | 7.2°       | 6.5°      | 5.5°      |           |
| Electrical Downtilt                     | Degree  | T2° - T12°           |           |          | T2° - T12° |           |           |           |
| Electrical Downtilt Deviation           | Degree< | 1°                   | 1°        | 1°       | 1°         | 1°        | 1°        |           |
| Impedance                               | Ohms    | 50                   |           |          |            |           |           |           |
| VSWR                                    | <       | 1.5                  |           |          |            |           |           |           |
| Return Loss                             | dB>     | 14                   |           |          |            |           |           |           |
| Isolation                               | dB>     | 25                   | 25        | 25       | 25         | 25        | 25        |           |
| Passive Intermodulation                 | dBc<    | -150                 | -150      | -150     | -150       | -150      | -150      |           |
| Upper Sidelobe Suppression, Peak to 20° | dB>     | 15                   | 15        | 15       | 15         | 15        | 15        |           |
| Cross-Polar Discrimination              | dB>     | 15                   | 15        | 15       | 15         | 15        | 15        |           |
| Max Power Per Port                      | W       | 300                  |           |          | 250        |           |           |           |

## Radiation Pattern Files



Low Band



Mid Band

Azimuth

Elevation

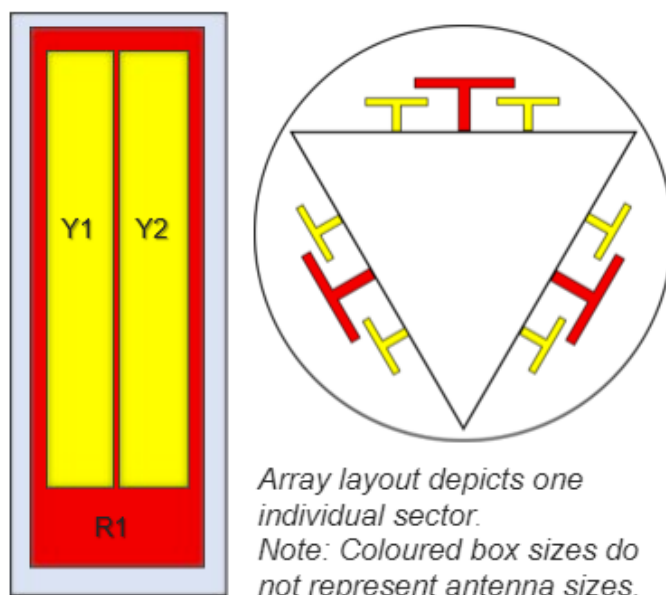
For radiation pattern files, please login at [www.alphawireless.com](http://www.alphawireless.com)

## TECHNICAL SPECIFICATION

## Mechanical Specifications

|  |            |                                       |
|--|------------|---------------------------------------|
| Dimensions Base (Length x Diameter)                | mm (in)    | 1911 (75.2)                           |
| Dimensions Extension (Length x Diameter)           | mm (in)    | 1704 (67.0)                           |
| Weight of Base Stack                               | kg (lb)    | 96.5 (212.3)                          |
| Weight of Extension Stack                          | kg (lb)    | 74.5 (163.9)                          |
| Total Tri-Sector Weight                            | kg (lb)    | 96.5 (212.3)                          |
| Connector Type (Female)                            | -          | 4.3-10                                |
| Connector Position                                 | -          | Bottom                                |
| Connector Quantity                                 | -          | 18 (6P Low Band, 12P Mid Band)        |
| Windload Frontal (at Rated Wind Speed: 150km/h)    | N (lbf)    | 640 (144)                             |
| Windload Lateral (at Rated Wind Speed: 150km/h)    | N (lbf)    | 640 (144)                             |
| Survival Wind Speed                                | km/h (mph) | 200 (125)                             |
| Radome Material                                    | -          | UV Stabilised ASA capped ABS          |
| Radome Colour                                      | RAL        | 7035 (light grey)                     |
| Product Compliance Environmental                   | -          | RoHS                                  |
| Lightning Protection                               | -          | DC Grounded                           |
| Cold Temperature Survival                          | °C (°F)    | -40 (-40)                             |
| Hot Temperature Survival                           | °C (°F)    | 70 (158)                              |
| <b>Shipping Information</b>                        | -          | -                                     |
| Size of Crate 1 - Base Stack and Interface (LxWxD) | mm (in)    | 2100 (82.6) x 570 (22.4) x 628 (24.7) |
| Size of Crate 2 - Extension Stack (LxWxD)          | mm (in)    | 2100 (82.6) x 570 (22.4) x 628 (24.7) |
| Shipping Weight of Crate 1 - Base Stack            | kg (lb)    | 149 (327.8)                           |
| Shipping Weight of Crate 2 - Extension Stack       | kg (lb)    | 127 (280.0)                           |

## Array Layout and RET Information

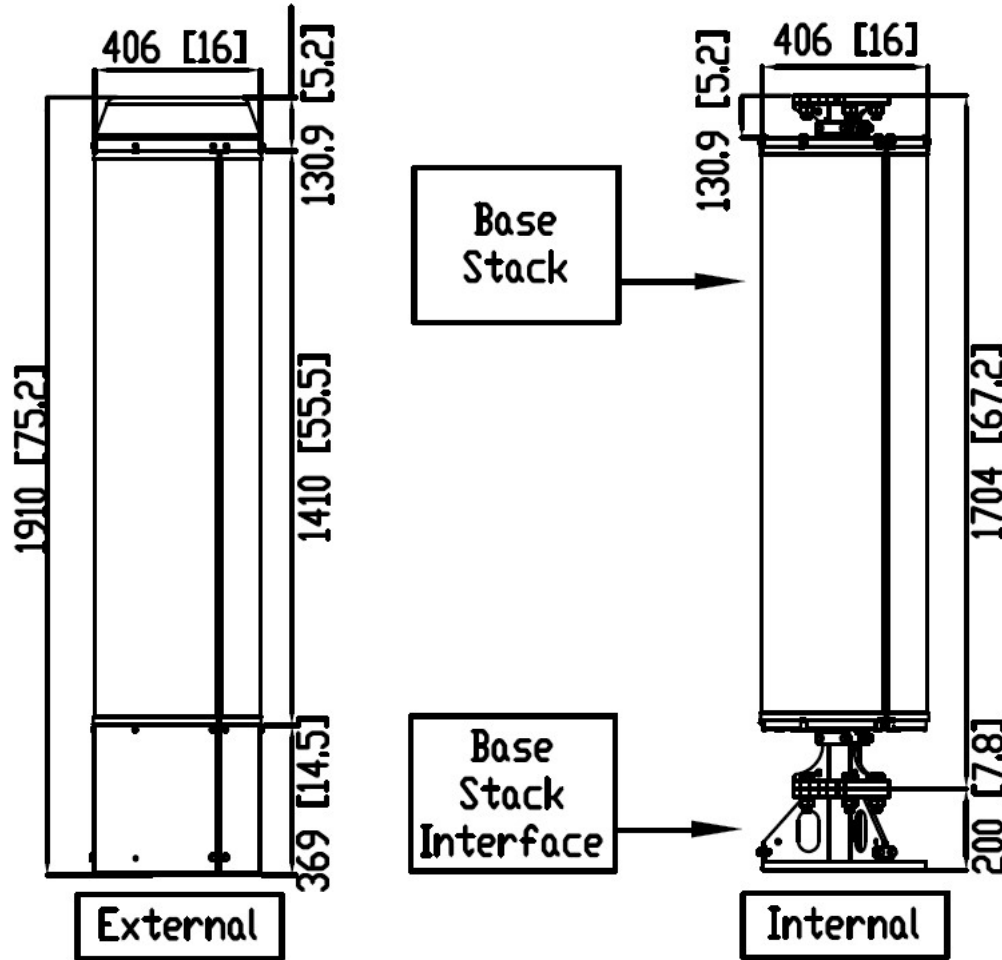


| Array | Frequency MHz | Ports | RET |
|-------|---------------|-------|-----|
| R1    | 698 - 960     | 1 - 2 | 1   |
| Y1    | 1710 - 2690   | 3 - 4 | 2   |
| Y2    |               | 5 - 6 | 3   |

| Configuration           |  |
|-------------------------|--|
| 698-960 MHz             | One RET per array: R1 x 3 Sectors                        |
| 1710-2690 MHz           | One RET per array: Y1, Y2 x 3 Sectors                    |
| Total Quantity          | Nine RET Motor Controllers                               |
| Location and Interface  |  |
| RET Controller Location | Inside antenna radome housing                            |
| RET Interface           | Pair of AISG 8 Pin DIN connectors, one male, one female  |
| RET Interface Quantity  | Three pairs of AISG 8 Pin DIN connectors, one per sector |
| RET Interface Location  | On connector plate located at bottom of antenna          |
| Electrical              |  |
| Input Voltage           | 10 - 30V   |
| Power Idle Mode         | < 1W   |
| Power Active Mode       | < 10W  |
| Protocol                | 3GPP / AISG 2.0  |

TECHNICAL SPECIFICATION

Mechanical Illustration

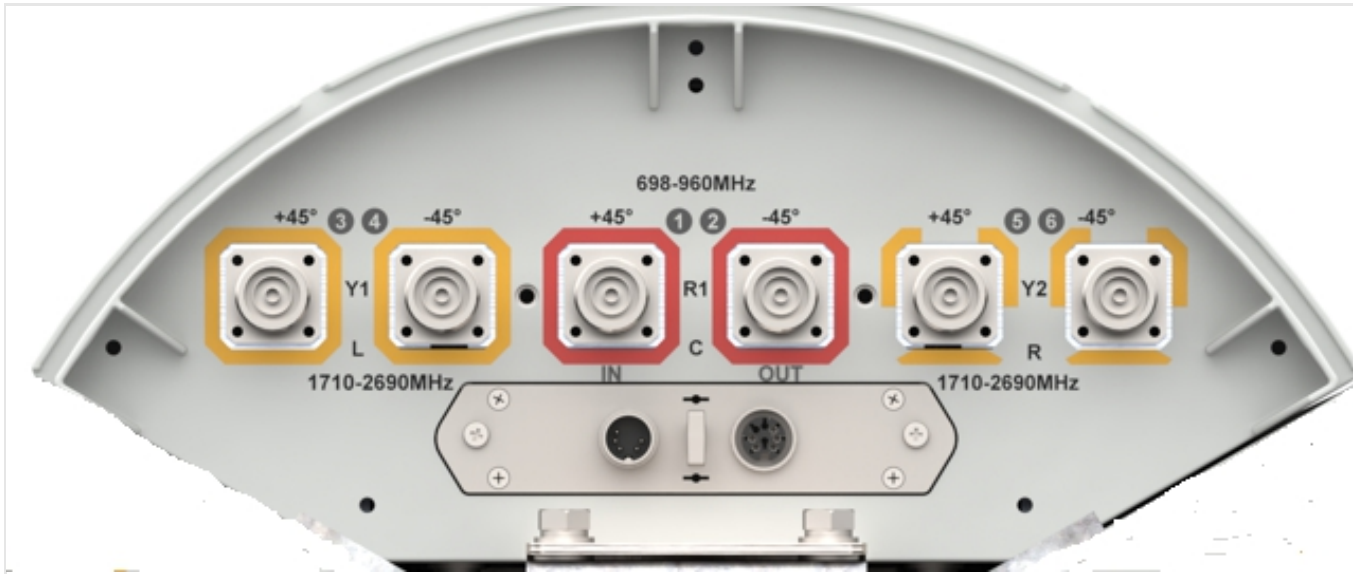


Description of Parts

|                            |   |
|----------------------------|---|
| Base Stack                 | This contains the Antenna Sectors. Mounted onto the Base Stack Interface. The top of the Base Stack has a mounting flange onto which the Extension Stack is mounted.  |
| Extension Stack            | <b>Note:</b> The Extension Stack is not supplied with the AWT2-3910. It can be ordered separately. At the top of the Extension Stack there is a mounting flange onto which an Active Antenna unit (AAU) can be mounted. |
| RF Jumpers Base Stack      | Feeders from the Radio Cabinet feed directly into the connectors located at the bottom of the Base Stack.   |
| RF Jumpers Extension Stack | RF Jumpers are routed behind the Base Stack Radomes.  |

TECHNICAL SPECIFICATION

Connector Plate Images



Showing Low Band / Mid Band Connector Plate located at bottom of Base Stack.



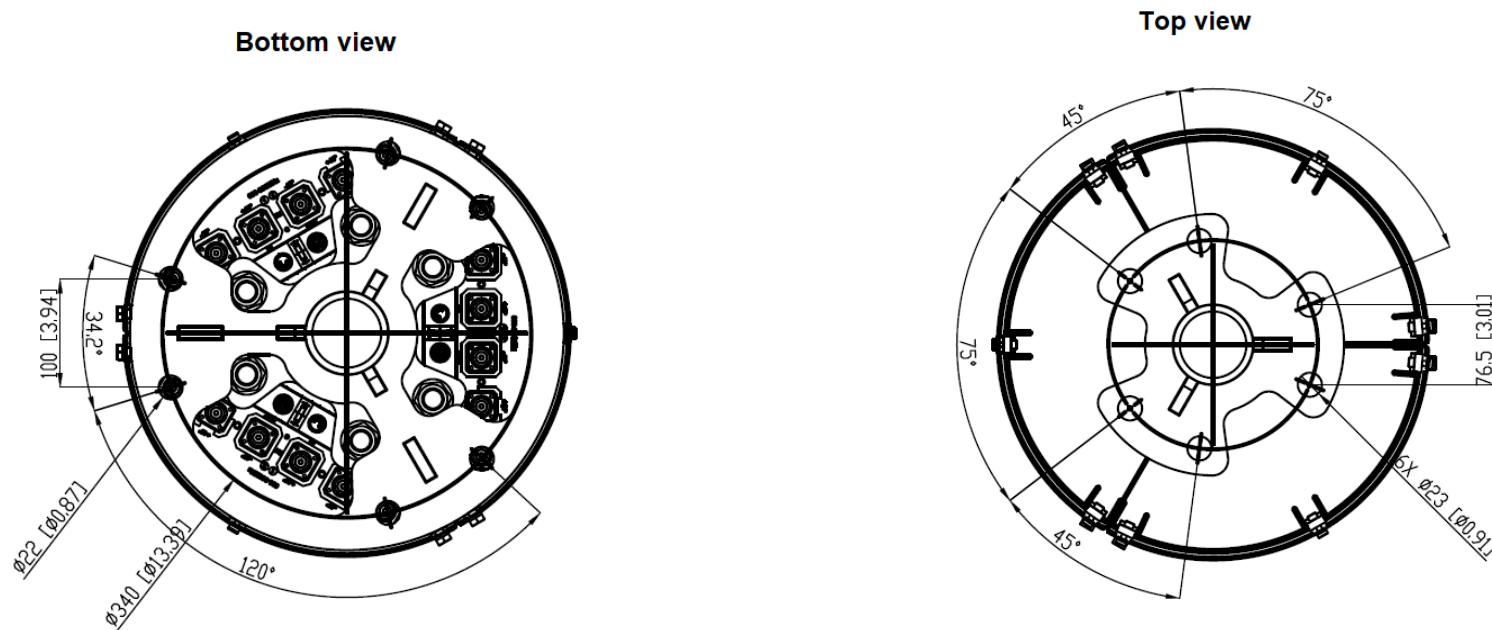
Each RET Motor is located at the bottom of each antenna sector as part of the Connector Plate. Each RET motor can be accessed individually and if necessary replaced individually by releasing two screws and sliding out the RET Motor Cartridge. A new RET Motor Cartridge can be slid back in as replacement.



## TECHNICAL SPECIFICATION

### Mounting Bracket Kit

3 inch Bracket description



| Mounting Kit Tilt Range | Mounting Kit Material | Mounting Kit Pole Diameter |
|-------------------------|-----------------------|----------------------------|
| 0                       | Galvanized Steel      | N/A                        |

### Ordering Info

| Order Code - Antenna     | Description  |
|--------------------------|--|
| AWT2-3910                | Enclosed Remote Electrical Tilt (eRET) with 4.3-10 Connectors.                   |
| Order Code - Accessories | Description  |
| AW1012-2-FM-FM           | RF Jumper Cable, connector types 4.3-10 (m) / 4.3-10 (m), length 2 metres (6'6") |
| AW1012-2-FM-NM           | RF Jumper Cable, connector types 4.3-10 (m) / N-Type (m), length 2 metres (6'6") |
| AW1014-2-FM-TM           | RF Jumper Cable, connector types 4.3-10 (m) / Nex10 (m), length 2 metres (6'6")  |
| PADC 1000                | Portable AISG Controller   |
| AW0326-3-PM-PF           | AISG Jumper Cable Lengths 3 metres (9' 10")                                      |
| AW0326-10-PM-PF          | AISG Jumper Cable Lengths 10 metres (32' 9")                                     |
| AW0326-25-PM-PF          | AISG Jumper Cable Lengths 25 metres (82')  |
| AW0326-50-PM-PF          | AISG Jumper Cable Lengths 50 metres (164')                                       |

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