



AW3893-E-C

Common Name 45 Port (2P/2P/2P/8P+1P x 3) Multiband Tri-Sector with 3.5GHz Beamforming

Frequency	Ports	Tilt	Gain	Beamwidth
698-960MHz	6	eRET	14.9	75°
1452-2400MHz	6	eRET	16.9	70°
1710-2690MHz	6	eRET	17.8	65°
3400-3800MHz	24 +3	eRET	15.5	90°

PRODUCT INFORMATION

This antenna solution is being deployed on rooftops and macro pole applications globally. It is a multi-frequency solution that provides 2 ports per sector across 698-960MHz, 2 ports per sector across 1452-2400MHz(L-Band), 2 ports per sector across 1710-2690MHz (Mid-Band) and 8 ports per sector across 3400-3800MHz. Each 3.5GHz sector is capable of Beamforming and has one additional Calibration Port per sector. The three sectors for each of the three bands fit in a 14.2 inch diameter canister to deliver a compact and aesthetically pleasing design.

APPLICATION

Canisters 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. This canister is now 5G capable with the addition of 3.5GHz Beamforming sectors.



STANDARD & CERTIFICATIONS

Certification	BS EN ISO 9001:2015
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FEATURES

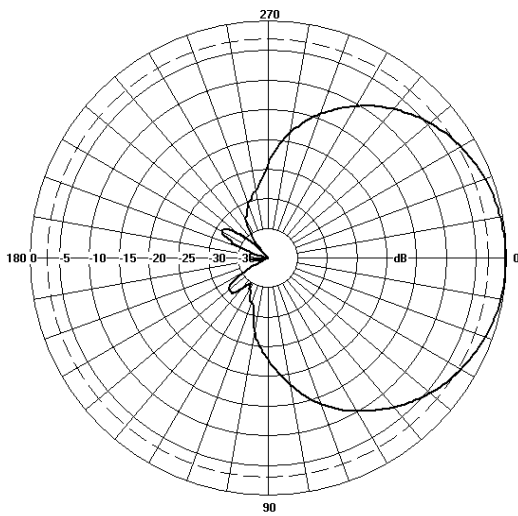
- Three sector canister with sectors orientated at 0°, 120° and 240° in the Azimuth Plane.
- 698-960MHz x 2 Ports per sector.
- 1452-2400MHz x 2 Ports per sector.
- 1710-2690MHz x 2 Ports per sector.
- 3400-3800MHz x 8 Ports per sector with Beamforming capability.
- Beamforming sectors have half lambda spacing between Radiator Columns.
- 698-960MHz tilt range T2° - T12°.
- 1452-2400MHz tilt range T2° - T12°.
- 1710-2690MHz tilt range T2° - T12°.
- 3400-3800MHz tilt range T0° - T10°.
- Low PIM performance to reduce interference.
- Flange mount design.

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

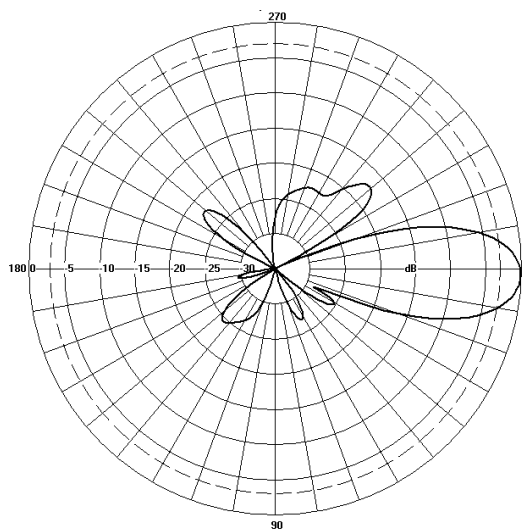
TECHNICAL SPECIFICATION

Electrical Specifications			Low Band			L- Band			Mid Band		
Frequency Range	MHz		698-790	790-890	890-960	1452-1492	1710-2170	2300-2400	1710-1920	1920-2170	2300-2690
Polarisation	Degree		+/- 45° Slant Linear								
Gain	Basta	dBi	14.2 ±0.5	14.3 ±0.5	14.4 ±0.5	15.7 ±0.5	16.4 ±0.5	16.2 ±0.5	16.8±0.5	17.1±0.5	17.3±0.5
	Max	dBi	14.7	14.8	14.9	16.2	16.9	16.7	17.3	17.6	17.8
Azimuth Beamwidth	Degree		78°	76°	73°	75°	70°	68°	69°	64°	60°
Azimuth Beam Squint	Degree<		3°			3°			3°		
Elevation Beamwidth	Degree		18.1°	16.4°	14.6°	7.0°	6.3°	6.2°	6.5°	6.2°	6.0°
Electrical Downtilt	Degree		T2° - T12°			T2° - T12°			T2° - T12°		
Electrical Downtilt Deviation	Degree<		1°								
Impedance	Ohms		50								
VSWR	<		1.5								
Return Loss	dB>		14								
Isolation	dB>		25								
Passive Intermodulation	dBc<		-150								
Upper Sidelobe Suppression, Peak to 20°	dB>		16								
Cross-Polar Discrimination	dB>		15			15			15		
Max Power Per Port	W		500			250			250		

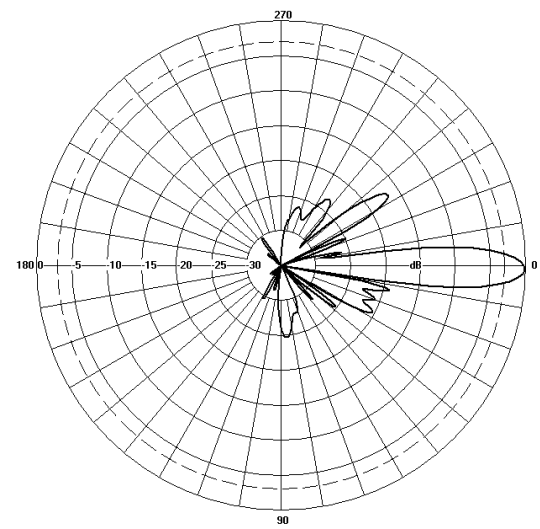
Representative Pattern Files



Azimuth



Low Band



L- Band / Mid Band

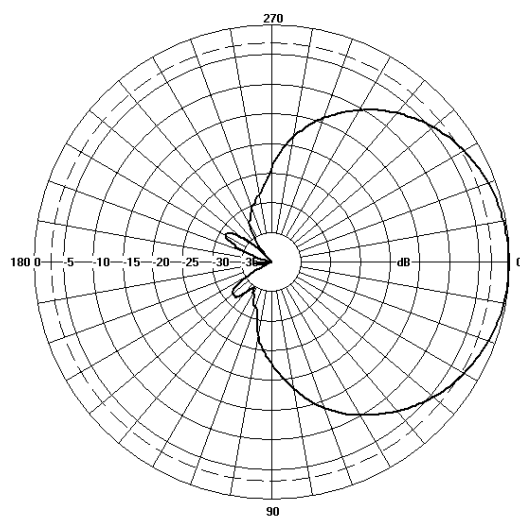
Elevation

For radiation pattern files, please login at www.alphawireless.com

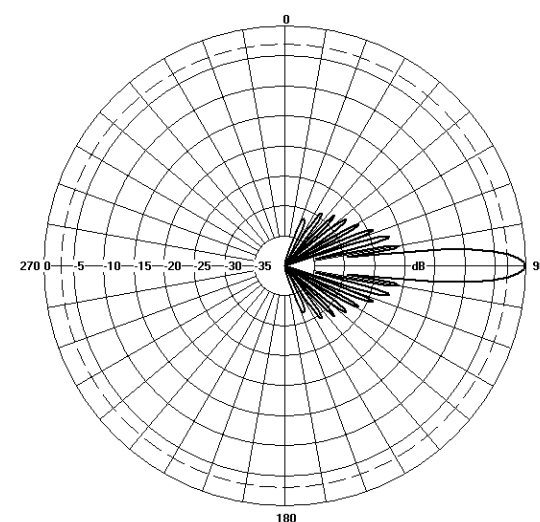
TECHNICAL SPECIFICATION

Electrical Specifications		3400 - 3800MHz Beamforming
Frequency Range	MHz	3400 - 3800MHz
Polarisation	Degree	+/- 45° Slant Linear
Gain		
Single Column	dBi	15.5 +/- 1
Broadcast Beam	dBi	16.5 +/- 1
Service Beam	dBi	20 +/- 1
Calibration Network		
Coupling Factor	dB	26 +/- 1
Max Amp Deviation	dB	0.7
Max Phase Deviation	dB <	5
Azimuth Beamwidth		
Single Column	3dB BW	90° +/- 15
Broadcast Beam	3dB BW	16.7
Service Beam	3dB BW	±30° ±1.5°
Azimuth Beam Squint	Degree <	5°
Elevation Beamwidth	Degree	6.5° ±1
Electrical Downtilt	Degree	T0° - T10°
Electrical Downtilt Deviation	Degree <	1°
Impedance	Ohms	50
VSWR	<	1.5
Return Loss	dB >	14
Isolation	dB >	25
Upper Sidelobe Suppression, Peak to 20°	dB >	16
Cross-Polar Discrimination	dB >	14
Maximum Effective Power Per Port	W	150

Radiation Pattern Files



Azimuth

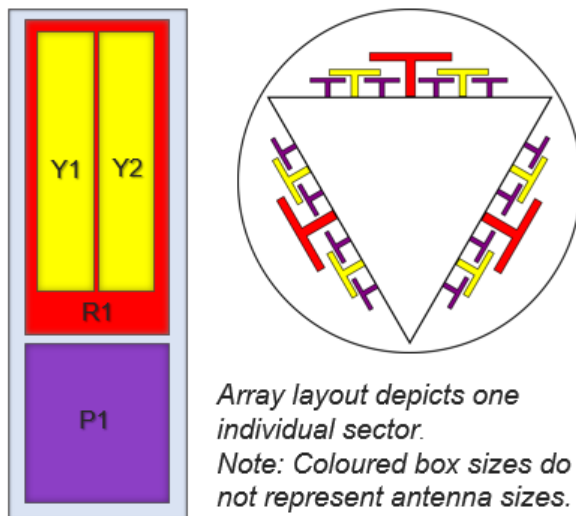
3.5GHz
Elevation

For radiation pattern files, please login at www.alphawireless.com

TECHNICAL SPECIFICATION

Mechanical Specifications		
Dimensions	mm (in)	2753 (108.3) x 360 (14.2) - (L x Ø)
Packing Size (LxWxD)	mm (in)	2910 (114) x 500 (20) x 590 (23)
Net Weight (antenna)	kg (lb)	105 (231.4)
Shipping Weight	kg (lb)	170(374.7)
Connector Type (Female)	-	698-960MHz / 1452-2690MHz uses 4.3-10 3.5GHz uses M-LOC Cluster Connector
Connector Position	-	Bottom
Connector Quantity	-	45 (6P Low band, 6P L Band,6P Mid band & 24 3.5GHz)+ 3 CAL ports
Windload Frontal (at Rated Wind Speed: 150km/h)	N (lbf)	885 (200)
Windload Lateral (at Rated Wind Speed: 150km/h)	N (lbf)	885 (200)
Survival Wind Speed	km/h (mph)	200 (125)
Radome Material	-	UV Stabilised ABS capped ASA
Radome Colour	RAL	7035 (light grey)
Product Compliance Environmental	-	RoHS
Lightning Protection	-	DC Grounded
Cold Temperature Survival	Celsius (Fahrenheit)	-40 (-40)
Hot Temperature Survival	Celsius (Fahrenheit)	70 (158)

Array Layout & RET Information

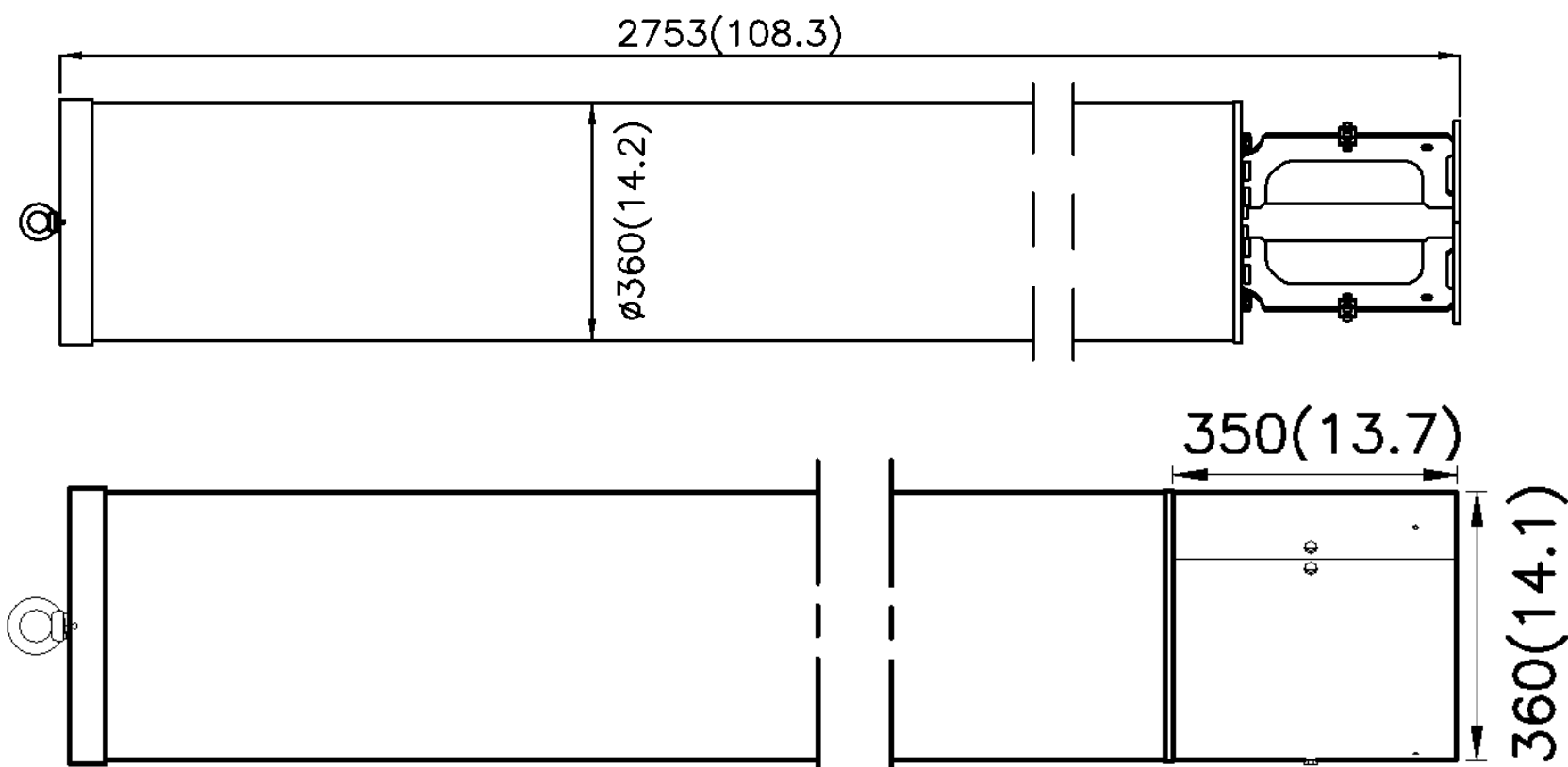
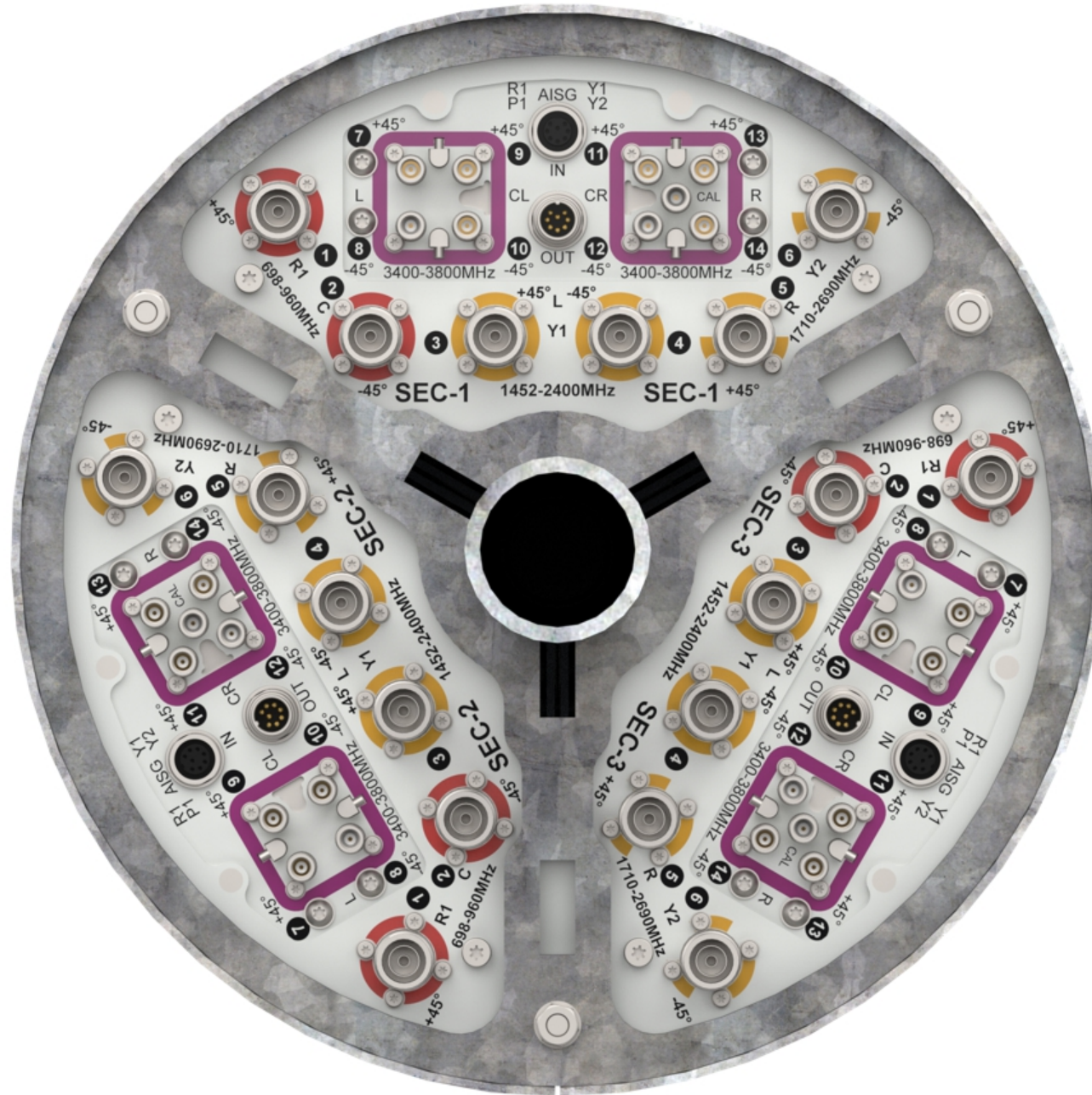


Array	Frequency MHz	Ports	RET ID
R1	698 - 960	1 - 2	1
Y1	1452 - 2400	3 - 4	2
Y2	1710 - 2690	5 - 6	3
P1	3400 - 3800	7 - 14	4

Configuration	
698-960 MHz	One RET per array: R1 x 3 Sectors
1452-2400 MHz	One RET per array: Y1 x 3 Sectors
1710-2690 MHz	One RET per array: Y2 x 3 Sectors
3400-3800 MHz	One RET per array: P1 x 3 Sectors
Total Quantity	Twelve 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

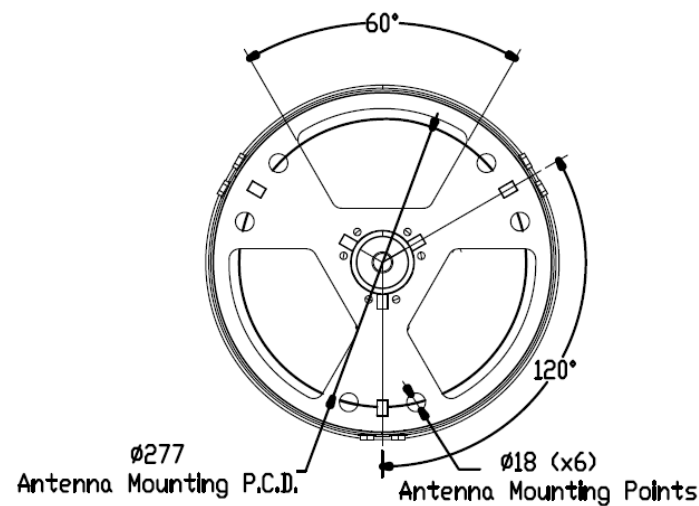
Mechanical Illustration



TECHNICAL SPECIFICATION

Mounting Bracket Kit

360mm Canister Flange Mount (Note: M18 Mounting Holes fit both 330mm and 360mm diameter canisters)



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

Ordering Info

Order Code - Antenna	Description
AW3893-E-C	Enclosed Remote Electrical Tilt (eRET) with MLOC and 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
SADC 2000	Site 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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