

DAS SOLUTIONS

Amphenol Private Networks

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S.8Y series

Directional antennas

- The S.8Y series are of a rugged and reliable construction for long range communication networks at both UHF & VHF.
- The one piece folded dipole incorporates a d.c. short to minimise static interference.
- The balun assembly is completely encapsulated in epoxy resin, totally preventing moisture ingress, and has been tested to BS5490:IP67.

- These antennas give a gain of 10 dBd with front to back ratio typically 18 dB.
- They are supplied as standard with 3 metres of RG 213 cable terminated with an 'N' type socket, although cable and connector options are available upon request.
- The S.8Y is approved to MPT1411: Part 2.

ORDERING DESIGNATIONS

TYPE	FREQUENCY	PRODUCT NO.
S.8Y-155	145 - 165 MHz	Replaced by 7043150
S.8Y-165	155 - 165 MHz	Replaced by 7043155
S.8Y-405	380 - 430 MHz	Replaced by 7043410
S.8Y-445	420 - 470 MHz	Replaced by 7043420

SPECIFICATIONS

ELECTRIAL	
FREQUENCY RANGE	140 - 500 MHz
INPUT IMPEDANCE	50Ω
BANDWIDTH	± 4% of centre frequency
SWR	<1.5:1
FRONT TO BACK RATIO	18 dB
MAXIMUM INPUT POWER	150 Watts
POLARISATION	Vertical & horizontal
FORWARD GAIN	10 dBd
3 dB BEAMWIDTH	E Plane 43° H Plane 50°
MECHANICAL	
STANDARD CONNECTION	3 m (118.11 in.) Length of RG 213 c/w 'N' type socket
ELEMENTS UHF	UHF 12.7 mm dia. x 1.6 mm (0.50 in. dia x 0.06 in.) wall aluminium alloy grade 6063T6
ELEMENTS VHF	VHF 19.0 mm dia. x 1.6 mm

	(0.75 in. dia x 0.06 in.) wall aluminium alloy grade 6063T6
SUPPORT BOOM	31.7 mm dia. x 2.6 mm (1.25 in. dia x 0.10 in.) wall aluminium alloy grade 6082T6
FASTENERS	Stainless steel grade A2-70
SADDLE CLAMPS	Diecast zinc alloy
INSULATOR	Epoxy resin encapsulant
LIGHTNING PROTECTION	Direct grounded
MOUNTING BRACKETS	See mounting accessories (not supplied)
TYPICAL WEIGHT (UHF)	3 kg
TYPICAL WEIGHT (VHF)	5.2 kg
TYPICAL LENGTH (UHF)	1.6 m
TYPICAL LENGTH (VHF)	4 m
TYPICAL WIND LOADING @ 162 km/h (UHF)	UHF 100 N
TYPICAL WIND LOADING @ 162 km/h (VHF)	VHF 230 N

MOUNTING ACCESSORIES

Mounting accessories to be ordered separately.

TYPE	DIMENSION	PRODUCT NO.
1763-100		123001001
UA64-23	25 - 50 mm	123001006
UA64-23	25 - 76 mm	123001007
UA66-24	25 - 50 mm	123001017
UA66-24	25 - 76 mm	123001018
UA66-24	25 - 100 mm	123001019
UA66-24	25 - 115 mm	123001020

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1763-100

Galvanised steel-cross-over clamp, fits 32 mm (1-1/4") diameter antenna booms to up to 50 mm (2") diameter poles, max. length 1500 mm.

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UA64-23

Circular cast alloy clamp, gives a good two point fixing, supplied as standard with 4 x 50 mm stainless steel 'U' bolts and two half-moon cast spacers to fit antenna booms of 25 to 50 mm diameter. Will also accommodate 76 mm (3") 'U' bolts to fit masts of that diameter. (order UB06).

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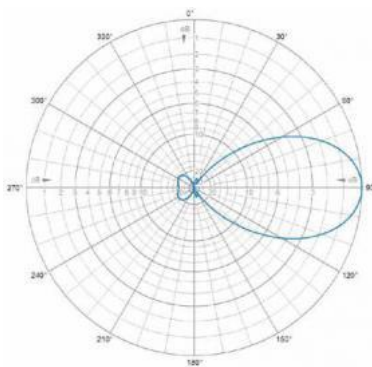


UA66-24

Rectangular cast alloy clamp, gives a good two point fixing, supplied as standard with 4 x 50 mm stainless steel 'U' bolts and two half-moon cast spacers to fit antenna booms of 25 to 50 mm diameter. To fit 76 mm (3") masts (order UB06 'U' bolts). To fit 100 mm (4") masts (order UB07 'U' bolts). To fit 115 mm (4 1/2") masts (order UB09 'U' bolts).

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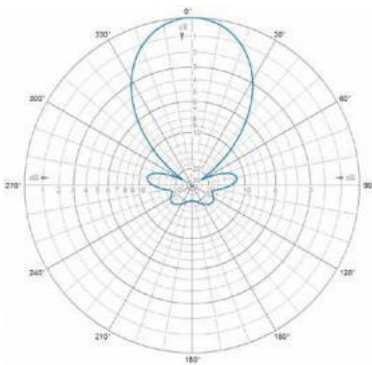
TYPICAL RADIATION PATTERN (E-PLANE)



If the antennas are mounted for vertical polarization, these curves show the radiation patterns in the vertical plane.

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TYPICAL RADIATION PATTERN (H-PLANE)



If the antennas are mounted for vertical polarization, these curves show the radiation patterns in the horizontal plane (horizontal coverage).



S.6Y series

Directional antennas

- The S.6Y series are of a rugged and reliable construction for communication networks at both UHF & VHF.
- The one piece folded dipole incorporates a d.c. short to minimise static interference.
- The balun assembly is completely encapsulated in epoxy resin, totally preventing moisture ingress, and has been tested to BS5490:IP67.

- These antennas give a gain of 8.5 dBd with front to back ratio typically 16 dB.
- They are supplied as standard with 3 metres of RG 213 cable terminated with an 'N' type socket, although cable and connector options are available upon request.

ORDERING DESIGNATIONS

TYPE	FREQUENCY	PRODUCT NO.
S.6Y-148	140 - 155 MHz	Replaced by 7042140
S.6Y-165	156 - 175 MHz	Replaced by 7042155
S.6Y-184	176 - 192 MHz	123002062
S.6Y-200	192 - 208 MHz	123002063
S.6Y-395	380 - 410 MHz	123002064
S.6Y-420	410 - 430 MHz	123002065
S.6Y-445	420 - 470 MHz	123002066

SPECIFICATIONS

ELECTRIAL	
FREQUENCY RANGE	140 - 470 MHz
INPUT IMPEDANCE	50Ω
BANDWIDTH	± 5% of centre frequency
SWR	<1.5:1
FRONT TO BACK RATIO	16 dB
MAXIMUM INPUT POWER	150 Watts
POLARISATION	Vertical & horizontal
FORWARD GAIN	8.5 dBd
3 dB BEAMWIDTH	E Plane 56° H Plane 63°
MECHANICAL	
STANDARD CONNECTION	3 m (118.11 in.) Length of RG 213 c/w 'N' type socket

ELEMENTS UHF	UHF 12.7 mm dia. x 1.6 mm (0.50 in. dia x 0.06 in.) wall aluminium alloy grade 6063T6
ELEMENTS VHF	VHF 19.0 mm dia. x 1.6 mm (0.75 in. dia x 0.06 in.) wall aluminium alloy grade 6063T6
SUPPORT BOOM	31.7 mm dia. x 2.6 mm (1.25 in. dia x 0.10 in.) wall aluminium alloy grade 6082T6
FASTENERS	Stainless steel grade A2-70
SADDLE CLAMPS	Diecast zinc alloy
INSULATOR	Epoxy resin encapsulant
LIGHTNING PROTECTION	Direct grounded
MOUNTING BRACKETS	See mounting accessories (not supplied)
TYPICAL WEIGHT (UHF)	UHF 2.7 kg (5.95 lb.)
TYPICAL WEIGHT (VHF)	VHF 5.5 kg (12.13 lb.)
TYPICAL LENGTH (UHF)	UHF 1.3 m (51.18 in.)
TYPICAL LENGTH (VHF)	VHF 4 m (157.48 in.)
TYPICAL WIND LOADING @ 162 km/h (UHF)	UHF 100 N
TYPICAL WIND LOADING @ 162 km/h (VHF)	VHF 208 N

MOUNTING ACCESSORIES

Mounting accessories to be ordered separately.

TYPE	DIMENSION	PRODUCT NO.
1763-100		123001001
UA64-23	25 - 50 mm	123001006
UA64-23	25 - 76 mm	123001007
UA66-24	25 - 50 mm	123001017
UA66-24	25 - 76 mm	123001018
UA66-24	25 - 100 mm	123001019
UA66-24	25 - 115 mm	123001020



1763-100

Galvanised steel-cross-over clamp, fits 32 mm (1-1/4") diameter antenna booms to up to 50 mm (2") diameter poles, max. length 1500 mm.



UA64-23

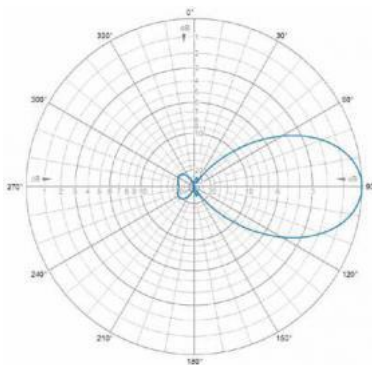
Circular cast alloy clamp, gives a good two point fixing, supplied as standard with 4 x 50 mm stainless steel 'U' bolts and two half-moon cast spacers to fit antenna booms of 25 to 50 mm diameter. Will also accommodate 76 mm (3") 'U' bolts to fit masts of that diameter. (order UB06).



UA66-24

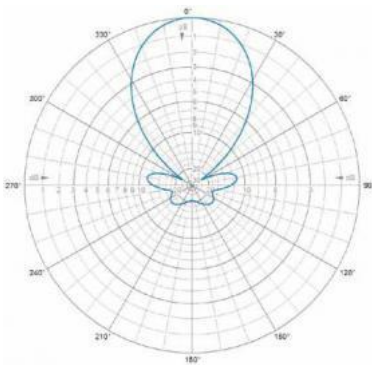
Rectangular cast alloy clamp, gives a good two point fixing, supplied as standard with 4 x 50 mm stainless steel 'U' bolts and two half-moon cast spacers to fit antenna booms of 25 to 50 mm diameter. To fit 76 mm (3") masts (order UB06 'U' bolts). To fit 100 mm (4") masts (order UB07 'U' bolts). To fit 115 mm (4 1/2") masts (order UB09 'U' bolts).

TYPICAL RADIATION PATTERN (E-PLANE)



If the antennas are mounted for vertical polarization, these curves show the radiation patterns in the vertical plane.

TYPICAL RADIATION PATTERN (H-PLANE)



If the antennas are mounted for vertical polarization, these curves show the radiation patterns in the horizontal plane (horizontal coverage).



S.4Y series

Directional antennas

- The S.4Y series are of a rugged and reliable construction for communication networks at both UHF & VHF.
- The one piece folded dipole incorporates a d.c. short to minimise static interference.
- The balun assembly is completely encapsulated in epoxy resin, totally preventing moisture ingress, and has been tested to BS5490:IP67.

- These antennas give a gain of 7.5 dBd with front to back ratio typically 15 dB.
- They are supplied as standard with 3 metres of RG 213 cable terminated with an 'N' type socket, although cable and connector options are available upon request.

ORDERING DESIGNATIONS

TYPE	FREQUENCY	PRODUCT NO.
S.4Y-73	69 - 77 MHz	123002040
S.4Y-82	77 - 87 MHz	123002041
S.4Y-127	117 - 137 MHz	123002044
S.4Y-165	155 - 175 MHz	123002045
S.4Y-184	176 - 192 MHz	123002046
S.4Y-200	192 - 208 MHz	123002047
S.4Y-405	380 - 430 MHz	Replaced by 7041410
S.4Y-445	420 - 470 MHz	Replaced by 7041420

SPECIFICATIONS

ELECTRICAL	
FREQUENCY RANGE	69 - 470 MHz
INPUT IMPEDANCE	50Ω
BANDWIDTH	± 6% of centre frequency
SWR	<1.5:1
FRONT TO BACK RATIO	15 dB
MAXIMUM INPUT POWER	150 Watts
POLARISATION	Vertical & horizontal
FORWARD GAIN	7.5 dBd
3 dB BEAMWIDTH	E Plane 57° H Plane 74°
MECHANICAL	

STANDARD CONNECTION	3 m (118.11 in.) Length of RG 213 c/w 'N' type socket
ELEMENTS UHF	UHF 12.7 mm dia. x 1.6 mm (0.50 in. dia x 0.06 in.) wall aluminium alloy grade 6063T6
ELEMENTS VHF	VHF 19.0 mm dia. x 1.6 mm (0.75 in. dia x 0.06 in.) wall aluminium alloy grade 6063T6
SUPPORT BOOM	31.7 mm dia. x 2.6 mm (1.25 in. dia x 0.10 in.) wall aluminium alloy grade 6082T6
FASTENERS	Stainless steel grade A2-70
SADDLE CLAMPS	Diecast zinc alloy
INSULATOR	Epoxy resin encapsulant
LIGHTNING PROTECTION	Direct grounded
MOUNTING BRACKETS	See mounting accessories (not supplied)
TYPICAL WEIGHT (UHF)	UHF 2.3 kg (5.07 lb.)
TYPICAL WEIGHT (VHF)	VHF 6.0 kg (13.23 lb.)
TYPICAL LENGTH (UHF)	UHF 0.9 m (35.43 in.)
TYPICAL LENGTH (VHF)	VHF 3 m (118.11 in.)
TYPICAL WIND LOADING @ 162 km/h (UHF)	UHF 60 N
TYPICAL WIND LOADING @ 162 km/h (VHF)	VHF 340 N

MOUNTING ACCESSORIES

Mounting accessories to be ordered separately.

TYPE	DIMENSION	PRODUCT NO.
1763-100		123001001
UA64-23	25 - 50 mm	123001006
UA64-23	25 - 76 mm	123001007
UA66-24	25 - 50 mm	123001017
UA66-24	25 - 76 mm	123001018
UA66-24	25 - 100 mm	123001019
UA66-24	25 - 115 mm	123001020



1763-100

Galvanised steel-cross-over clamp, fits 32 mm (1-1/4") diameter antenna booms to up to 50 mm (2") diameter poles, max. length 1500 mm.



UA64-23

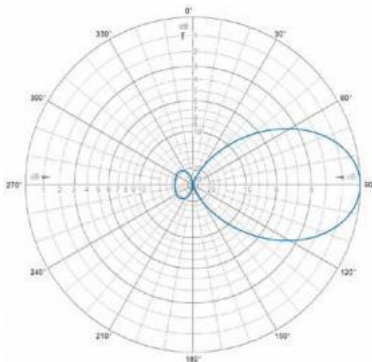
Circular cast alloy clamp, gives a good two point fixing, supplied as standard with 4 x 50 mm stainless steel 'U' bolts and two half-moon cast spacers to fit antenna booms of 25 to 50 mm diameter. Will also accomodate 76 mm (3") 'U' bolts to fit masts of that diameter. (order UB06).



UA66-24

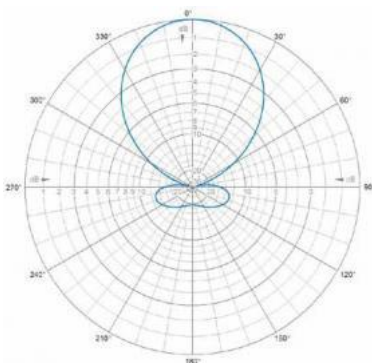
Rectangular cast alloy clamp, gives a good two point fixing, supplied as standard with 4 x 50 mm stainless steel 'U' bolts and two half-moon cast spacers to fit antenna booms of 25 to 50 mm diameter. To fit 76 mm (3") masts (order UB06 'U' bolts). To fit 100 mm (4") masts (order UB07 'U' bolts). To fit 115 mm (4 1/2") masts (order UB09 'U' bolts).

TYPICAL RADIATION PATTERN (E-PLANE)



If the antennas are mounted for vertical polarization, these curves show the radiation patterns in the vertical plane.

TYPICAL RADIATION PATTERN (H-PLANE)



If the antennas are mounted for vertical polarization, these curves show the radiation patterns in the horizontal plane (horizontal coverage).



S.3Y series

Directional antennas

- The S.3Y series are of a rugged and reliable construction for communication networks at both UHF & VHF.
- The one piece folded dipole incorporates a d.c. short to minimise static interference.
- The balun assembly is completely encapsulated in epoxy resin, totally preventing moisture ingress, and has been tested to BS5490:IP67.

- These antennas give a gain of 6dBd with front to back ratio typ. 15 dB.
- They are supplied as standard with 3 metres of RG 213 cable terminated with an 'N' type socket, although cable and connector options are available upon request.

ORDERING DESIGNATIONS

TYPE	FREQUENCY	PRODUCT NO.
S.3Y-71	66 - 75 MHz	Replaced by 7049066
S.3Y-80	75 - 85 MHz	Replaced by 7049075
S.3Y-98	88 - 108 MHz	123002032
S.3Y-127	117 - 137 MHz	123002033
S.3Y-142	135 - 149 MHz	123002034
S.3Y-155	145- 165 MHz	Replaced by 7049145
S.3Y-165	155 - 175 MHz	Replaced by 7049000
S.3Y-184	176 - 192 MHz	123002037
S.3Y-200	192 - 208 MHz	123002038
S.3Y-395	380 - 410 MHz	123002039
S.3Y-420	410 - 430 MHz	123002048
S.3Y-445	420 - 470 MHz	123002049

SPECIFICATIONS

ELECTRICAL	
FREQUENCY RANGE	66 - 470 MHz
INPUT IMPEDANCE	50Ω
BANDWIDTH	± 6% of centre frequency
SWR	<1.5:1
FRONT TO BACK RATIO	15 dB
MAXIMUM INPUT POWER	150 Watts
POLARISATION	Vertical & horizontal

FORWARD GAIN	6 dBd
3 dB BEAMWIDTH	E Plane 62° H Plane 84°
MECHANICAL	
STANDARD CONNECTION	3m (118.11 in.) Length of RG 213 c/w 'N' type socket
ELEMENTS UHF	UHF 12.7 mm dia. x 1.6 mm (0.50 in. dia x 0.06 in.) wall aluminium alloy grade 6063T6
ELEMENTS VHF	VHF 19.0 mm dia. x 1.6 mm (0.75 in. dia x 0.06 in.) wall aluminium alloy grade 6063T6
SUPPORT BOOM	31.7 mm dia. x 2.6 mm (1.25 in. dia x 0.10 in.) wall aluminium alloy grade 6082T6
FASTENERS	Stainless steel grade A2-70
SADDLE CLAMPS	Diecast zinc alloy
INSULATOR	Epoxy resin encapsulant
LIGHTNING PROTECTION	Direct grounded
MOUNTING BRACKETS	See mounting accessories (not supplied)
TYPICAL WEIGHT (UHF)	UHF 1.5 kg (3.31 lb.)
TYPICAL WEIGHT (VHF)	VHF 4.5 kg (9.92 lb.)
TYPICAL LENGTH (UHF)	UHF 0.7 m (27.56 in.)
TYPICAL LENGTH (VHF)	VHF 1.5 m (88.61 in.)
TYPICAL WIND LOADING @ 162 km/h (UHF)	UHF 52 N
TYPICAL WIND LOADING @ 162 km/h (VHF)	VHF 240 N

MOUNTING ACCESSORIES

Mounting accessories to be ordered separately.

TYPE	DIMENSION	PRODUCT NO.
1763-100		123001001
UA64-23	25 - 50 mm	123001006
UA64-23	25 - 76 mm	123001007
UA66-24	25 - 50 mm	123001017
UA66-24	25 - 76 mm	123001018
UA66-24	25 - 100 mm	123001019
UA66-24	25 - 115 mm	123001020



1763-100

Galvanised steel-cross-over clamp, fits 32 mm (1-1/4") diameter antenna booms to up to 50 mm (2") diameter poles, max. length 1500 mm.



UA64-23

Circular cast alloy clamp, gives a good two point fixing, supplied as standard with 4 x 50 mm stainless steel 'U' bolts and two half-moon cast spacers to fit antenna booms of 25 to 50 mm diameter. Will also accommodate 76 mm (3") 'U' bolts to fit masts of that diameter. (order UB06).



UA66-24

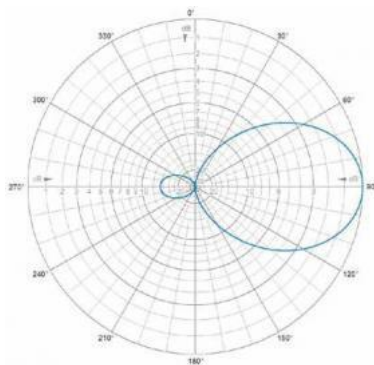
Rectangular cast alloy clamp, gives a good two point fixing, supplied as standard with 4 x 50 mm stainless steel 'U' bolts and two half-moon cast spacers to fit antenna booms of 25 to 50 mm diameter.

To fit 76 mm (3") masts (order UB06 'U' bolts).

To fit 100 mm (4") masts (order UB07 'U' bolts).

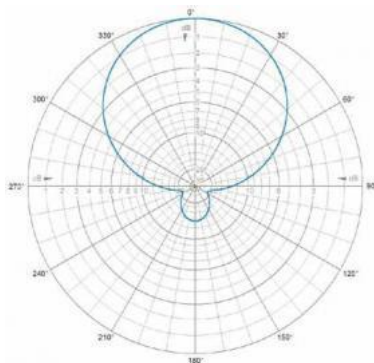
To fit 115 mm (4 1/2") masts (order UB09 'U' bolts).

TYPICAL RADIATION PATTERN (E-PLANE)



If the antennas are mounted for vertical polarization, these curves show the radiation patterns in the vertical plane.

TYPICAL RADIATION PATTERN (H-PLANE)



If the antennas are mounted for vertical polarization, these curves show the radiation patterns in the horizontal plane (horizontal coverage).



S.2Y series

Directional antennas

- The S.2Y series are of a rugged and reliable construction for communication networks at both UHF & VHF.
- The one piece folded dipole incorporates a d.c. short to minimise static interference.
- The balun assembly is completely encapsulated in epoxy resin, totally preventing moisture ingress, and has been tested to BS5490:IP67.

- These antennas give a gain of 3 dBd with front to back ratio typ. 13 dB.
- They are supplied as standard with 3 metres of RG 213 cable terminated with an 'N' type socket, although cable and connector options are available upon request.

ORDERING DESIGNATIONS

TYPE	FREQUENCY	PRODUCT NO.
S.2Y-72	67 - 76 MHz	Replaced by 7031050
S.2Y-82	77 - 86 MHz	Replaced by 7031066
S.2Y-155	145 - 165 MHz	Replaced by 7031144
S.2Y-165	156 - 175 MHz	Replaced by 7031156
S.2Y-405	376 - 424 MHz	Replaced by 7039380
S.2Y-410	385 - 435 MHz	Replaced by 7039410
S.2Y-445	420 - 470 MHz	Replaced by 7039420

SPECIFICATIONS

ELECTRICAL	
FREQUENCY RANGE	67 - 470 MHz
INPUT IMPEDANCE	50Ω
BANDWIDTH	± 6% of centre frequency
SWR	<1.5:1
FRONT TO BACK RATIO	13 dB
MAXIMUM INPUT POWER	150 Watts
POLARISATION	Vertical & horizontal
FORWARD GAIN	3 dBd
3 dB BEAMWIDTH	E Plane 72° H Plane 144°
MECHANICAL	
STANDARD CONNECTION	3 m (118.11 in.) Length of RG 213 c/w 'N' type socket

ELEMENTS UHF	UHF 12.7 mm dia. x 1.6 mm (0.50 in. dia x 0.06 in.) wall aluminium alloy grade 6063T6
ELEMENTS VHF	VHF 19.0 mm dia. x 1.6 mm (0.75 in. dia x 0.06 in.) wall aluminium alloy grade 6063T6
SUPPORT BOOM	31.7 mm dia. x 2.6 mm (1.25 in. dia x 0.10 in.) wall aluminium alloy grade 6082T6
FASTENERS	Stainless steel grade A2-70
SADDLE CLAMPS	Diecast zinc alloy
INSULATOR	Epoxy resin encapsulant
LIGHTNING PROTECTION	Direct grounded
MOUNTING BRACKETS	See mounting accessories (not supplied)
TYPICAL WEIGHT (UHF)	UHF 1.3 kg (2.87 lb.)
TYPICAL WEIGHT (VHF)	VHF 3.5 kg (7.71 lb.)
TYPICAL LENGTH (UHF)	UHF 0.6 m (23.62 in.)
TYPICAL LENGTH (VHF)	VHF 1.5 m (59.06 in.)
TYPICAL WIND LOADING @ 162 km/h (UHF)	UHF 50 N
TYPICAL WIND LOADING @ 162 km/h (VHF)	VHF 180 N

MOUNTING ACCESSORIES

Mounting accessories to be ordered separately.

TYPE	DIMENSION	PRODUCT NO.
1763-100		123001001
UA64-23	25 - 50 mm	123001006
UA64-23	25 - 76 mm	123001007
UA66-24	25 - 50 mm	123001017
UA66-24	25 - 76 mm	123001018
UA66-24	25 - 100 mm	123001019
UA66-24	25 - 115 mm	123001020



1763-100

Galvanised steel-cross-over clamp, fits 32 mm (1-1/4") diameter antenna booms to up to 50 mm (2") diameter poles, max. length 1500 mm.



UA64-23

Circular cast alloy clamp, gives a good two point fixing, supplied as standard with 4 x 50 mm stainless steel 'U' bolts and two half-moon cast spacers to fit antenna booms of 25 to 50 mm diameter. Will also accommodate 76 mm (3") 'U' bolts to fit masts of that diameter. (order UB06).



UA66-24

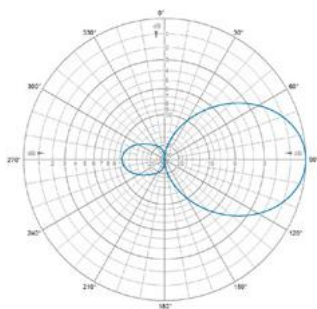
Rectangular cast alloy clamp, gives a good two point fixing, supplied as standard with 4 x 50 mm stainless steel 'U' bolts and two half-moon cast spacers to fit antenna booms of 25 to 50 mm diameter.

To fit 76 mm (3") masts (order UB06 'U' bolts).

To fit 100 mm (4") masts (order UB07 'U' bolts).

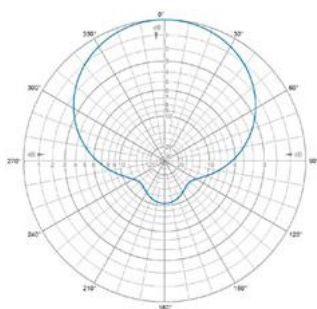
To fit 115 mm (4 1/2") masts (order UB09 'U' bolts).

TYPICAL RADIATION PATTERN (E-PLANE)



If the antennas are mounted for vertical polarization, these curves show the radiation patterns in the vertical plane.

TYPICAL RADIATION PATTERN (H-PLANE)



If the antennas are mounted for vertical polarization, these curves show the radiation patterns in the horizontal plane (horizontal coverage).



R 900-7/..., R 900-10/..., R 900-14/...

Directional Antennas with 7, 10 and 14 dBd Gain for the 900 MHz Band

- These antennas are 4-, 8- and 18-element Yagi antennas with 7, 10, and 14 dBd gain, respectively.
 - When mounted for vertical polarisation the horizontal coverage is R 900-7: 74°, R 900-10: 52° and R 900-14: 32°.
 - These Yagis incorporate baluns optimized for wide bandwidth and accurate matching.
-
- The entire balun unit and feeder cable inlet are completely sealed in a polythene moulding ensuring permanent waterproof connections. The antennas are supplied with a 0.8 or 3 m “tail” of RG 213 terminated with an N-female connector. (See specifications).
 - Radiating elements, supporting booms and adjoining metal castings have been constructed in high quality aluminium alloys to prevent corrosion. All metal parts are DC-grounded.
 - The antennas are designed for back mounting and are provided with rear extended booms.
 - These antennas can be stacked and fed in phase with a matching harness for increased gain.
 - A mast clamp for fixation on 30 - 58 mm diameter mast tube is enclosed.

ORDERING DESIGNATIONS

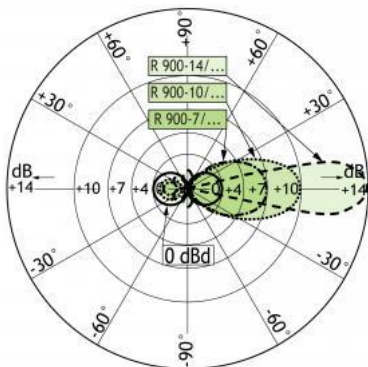
TYPE	ANTENNA TYPE	FREQUENCY	PRODUCT NO.
R 900-7/l	4-element Yagi 7 dBd	820 - 900 MHz	7385900
R 900-7/h	4-element Yagi 7 dBd	870 - 960 MHz	7385900
R 900-10/l	8-element Yagi 10 dBd	820 - 900 MHz	7175890
R 900-10/h	8-element Yagi 10 dBd	870 - 960 MHz	7175872
R 900-14/l	18-element Yagi 14 dBd	820 - 900 MHz	7176890
R 900-14/h	18-element Yagi 14 dBd	870 - 960 MHz	7176870

SPECIFICATIONS

ELECTRICAL			
MODEL	R 900-7/...	R 900-10/...	R 900-14/...
ANTENNA TYPE	4-element Yagi	8-element Yagi	18-element Yagi
FREQUENCY	l: 820 - 900 MHz h: 870 - 960 MHz		
IMPEDANCE	50 Ω		
POLARIZATION	Vertical or horizontal		
GAIN	9 dBi 7 dBd	12 dBi 10 dBd	16 dBi 14 dBd
FRONT TO BACK RATIO	16 dB	20 dB	25 dB
HALF POWER BEAMWIDTH	E-plane: 56° H-plane: 74°	E-plane: 42° H-plane: 52°	E-plane: 23° H-plane: 32°
BANDWIDTH	80-90 MHz		

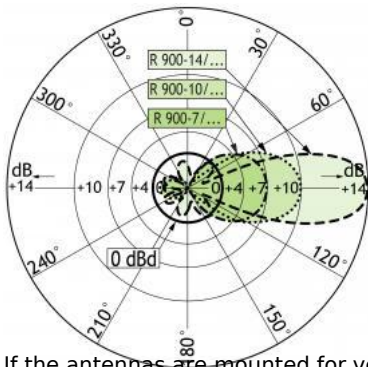
SWR	≤ 1.5		
MAX. POWER	150 W		
ANTISTATIC PROTECTION	All metal parts DC-grounded (Connector shows a DC-short)		
MECHANICAL			
TEMP. RANGE	-25°C → +60°C		
CONNECTION	0.8 m tail of RG 213 terminated with type "N" female connector	0.8 m tail of RG 213 terminated with type "N" female connector	3 m tail of RG 213 terminated with type "N" female connector
WIND SURFACE	0.034 m ²	0.047 m ²	0.091 m ²
WIND LOAD	43 N @ 160 km/h	59 N @ 160 km/h	119 N @ 160 km/h
COLOUR	"Aluminium"		
MATERIALS	Elements/Boom/Saddle clamps: Aluminium alloys. Fittings: Stainless steel. Bracket: Hot-dipped galvanized steel		
BOOM LENGTH	Approx. 0.69 m	Approx. 0.97 m	Approx. 2.04 m
BOOM DIA.	25.4 mm		
MAX. ELEMENT LENGTH	0.21 m		
DIA. OF ELEMENTS	9.5 mm		
WEIGHT	Approx. 2.1 kg	Approx. 2.8 kg	Approx. 4.2 kg
MOUNTING	Supplied with mast bracket suiting 30-58 mm dia. mast tube		

RADIATION PATTERN



If the antennas are mounted for vertical polarization these curves show the radiation patterns in the vertical plane.

TYPICAL RADIATION PATTERN (H-PLANE)



If the antennas are mounted for vertical polarization these curves show the radiation patterns in the horizontal plane (horizontal coverage).



R 900/1800-12/14

Dual Band Yagi Antenna for the 900 & 1800 MHz Bands

- Dual band shrouded yagi antenna.
- Covers the 900 MHz GSM band (880 – 960 MHz) as well as the 1800 MHz DCS-1800/PCN band (1710 – 1890 MHz).
- 12 dBd gain on 900 MHz and 14 dBd gain on 1800 MHz.
- Linearly polarised with orthogonal polarisations for the two bands.

- H-plane beam widths 35° and 29° for the 900 MHz and 1800 MHz bands respectively.
- E-plane beam widths 33° and 26° for the two bands.
- A sturdy glass reinforced plastic shroud ensures effective protection against the weather.
- All metal parts are DC grounded for noise reduction and lightning protection.
- Materials carefully chosen for minimum electrolytic corrosion and intermodulation.
- Supplied with circular cast alloy clamp for mounting on 25 – 50 mm mast tubes.
- Reliable and robust design for optimum performance and long lifetime.

ORDERING DESIGNATIONS

The antenna is supplied in the standard version with bracket suiting 25 - 50 mm dia. mast tube. Available for 50 - 75 mm dia. mast tube as an option.

TYPE	PRODUCT NO.
R 900/1800-12/14	120000066

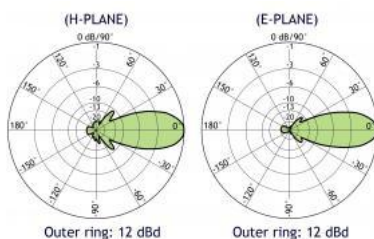
SPECIFICATIONS

MODEL		R 900/1800-12/14	
ANTENNA TYPE		Dual band yagi antenna	
FREQUENCY		GSM: 880–960 MHz PCN: 1710–1890 MHz	
GAIN		GSM: 14 dBi 12 dBd PCN: 16 dBi 14 dBd	
H-PLANE BEAM WIDTH (-3 DB POINTS)		GSM: 35° PCN: 29°	
E-PLANE BEAM WIDTH (-3 DB POINTS)		GSM: 33° PCN: 26°	
MAXIMUM POWER		50 W	
ELETRICAL			
MODEL	R 900/1800-12/14		
ANTENNA TYPE	Dual band yagi antenna		
FREQUENCY	GSM: 880 – 960 MHz PCN: 1710 – 1890 MHz		
IMPEDANCE	50 Ω		

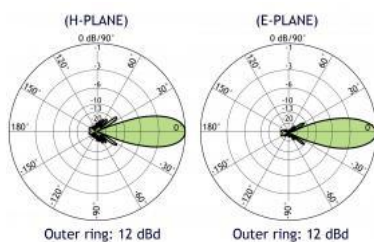
POLARIZATION	Two linear orthogonal
GAIN	GSM: 14 dBi 12 dBd PCN: 16 dBi 14 dBd
H-PLANE BEAM WIDTH (-3 DB POINTS)	GSM: 35° PCN: 29°
E-PLANE BEAM WIDTH (-3 DB POINTS)	GSM: 33° PCN: 26°
FRONT TO BACK RATIO	20 dB
BANDWIDTH	GSM : 80 MHz PCN : 180 MHz
SWR	≤ 1.5 (typ. ≤ 1.3)
MAX. POWER	50 W
ANTISTATIC PROTECTION	All metal parts DC-grounded
MECHANICAL	
TEMP. RANGE	-25°C → +60°C
CONNECTOR	“N” type female
WIND LOAD	244 N @ 160 km/h
COLOUR	Grey
SHROUD	183 mm dia. glass fiber tube
DIMENSIONS	Length 1300 mm, diameter 183 mm
WEIGHT	5 kg
MOUNTING	Supplied with circular cast alloy clamp for mounting on 25 – 50 mm dia. mast tubes

RADIATION PATTERN

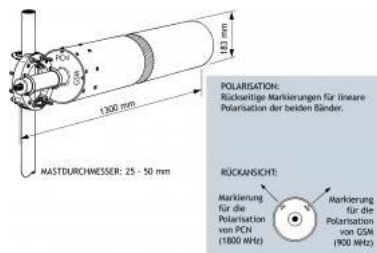
TYPICAL RADIATION PATTERN 900 MHz (GSM)



TYPICAL RADIATION PATTERN 1800 MHz (PCN)



MOUNTING OUTLINE





R 700-2700/10

Multi Band Yagi Antenna for the 700 - 2700 MHz Bands

- Multi-band shrouded Directional Antenna.
- Covers e.g. the 900 MHz EGSM band (880 – 960 MHz) as well as the 1800 MHz DCS-1800/PCN band (1710 – 1890 MHz), UMTS band (1900 - 2200 MHz) and WIFI (2400 - 2484 MHz).
- A sturdy glass-reinforced plastic shroud ensures effective protection against the weather.

- All metal parts are DC-grounded for noise reduction and lightning protection.
- Materials carefully chosen for minimum electrolytic corrosion and intermodulation.
- Supplied with circular cast alloy clamp for mounting on 25 – 50 mm mast tubes.
- Reliable and robust design for optimum performance and long lifetime.
- Fire retardant properties.

ORDERING DESIGNATIONS

The antenna is supplied in the standard version with bracket suiting 25 - 50 mm dia. mast tube. Available for 50 - 75 mm dia. mast tube as an option.

TYPE	PRODUCT NO.
R 700-2700/10	120000067

SPECIFICATIONS

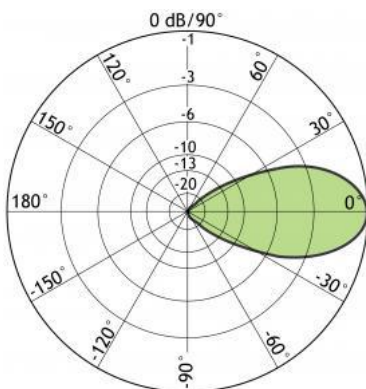
ELETRICAL					
MODEL	R 700-2700/10				
ANTENNA TYPE	Shrouded Directional Antenna				
FREQUENCY	700 MHz	900 MHz	1800 MHz	2100 MHz	2700 MHz
POLARIZATION	Linear, vertical or horizontal				
GAIN	11.0 dBi	12.0 dBi	11.6 dBi	11.0 dBi	9.5 dBi
H-PLANE BEAMWIDTH (-3 dB POINTS)	53°	50°	48°	62°	78°
E-PLANE BEAMWIDTH (-3 dB POINTS)	46°	45°	40°	40°	38°
FRONT-TO-BACK RATIO	> 25 dB				
BANDWIDTH	≥ 2000 MHz @ SWR ≤ 1.5				
SWR	≤ 1.5				
IMPEDANCE	50 Ω				
MAX. POWER	150 W				

ANTISTATIC PROTECTION	All metal parts DC-grounded
MECHANICAL	
TEMP. RANGE	-25°C → +60°C
CONNECTOR	"N" type female
WIND LOAD	250 N (max. @ 160 km/h)
COLOUR	Grey
SHROUD	180 mm glass fibre tube
DIMENSIONS	Length 1360 mm, diameter 180 mm
WEIGHT	7 kg excl. mounting hardware
MOUNTING	Supplied with circular cast alloy clamp for mounting on 25 - 50 mm dia. mast tubes

RADIATION PATTERN

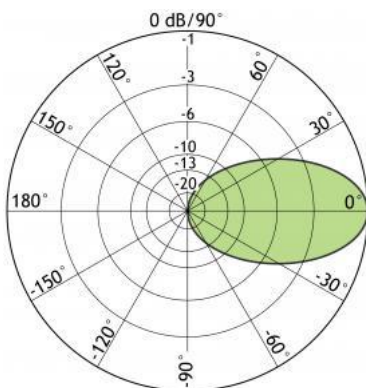
TYPICAL RADIATION PATTERN (E-PLANE)

Outer ring: 10 dBd (@ 900 MHz)



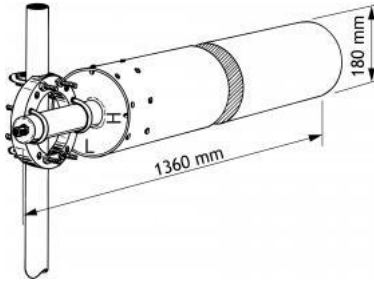
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TYPICAL RADIATION PATTERN (H-PLANE)



Outer ring: 10 dBd (@ 900 MHz)

MOUNTING OUTLINE



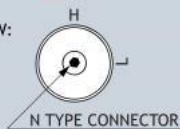
MAST DIAMETER: 25 - 50 mm

POLARIZATION:

MOUNTING NOTES:

1. "L" and "H" indicate polarization of antenna. Polarization is vertical when "L" is facing downwards. By aligning the middle drain holes to face downwards the antenna is at 45° polarization.
2. When mounting inside a tunnel, the "L" must be normal to the wall/roof.
3. Antenna must be mounted at least 50 mm from tunnel wall/roof.
4. One drain hole at the rear of the antenna and one at the front must be pointing downwards.
These drain holes must have the sealing grommets removed.

REAR VIEW:





R 2400-...

Shrouded Yagi Antennas for the 2400 MHz Band

- Series of three shrouded yagi antennas with 6 – 15 dBd gain.
- Covers the frequency range 2300 – 2500 MHz.
- Can be used for both vertical and horizontal polarisation.
- H-plane beam widths 24° to 80° and E-plane beam widths 23° to 60° depending on model.

- Ideal for fixed links and point-to-multipoint applications.
- A sturdy glass reinforced plastic shroud ensures effective protection against the weather.
- All metal parts are DC grounded for noise reduction and lightning protection.
- Materials carefully chosen for minimum electrolytic corrosion and intermodulation.
- Supplied with fixed Norstell clamp (48.5 mm dia.).
- Reliable and robust design for optimum performance and long lifetime.

R 2400-6



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R 2400-11



R 2400-15



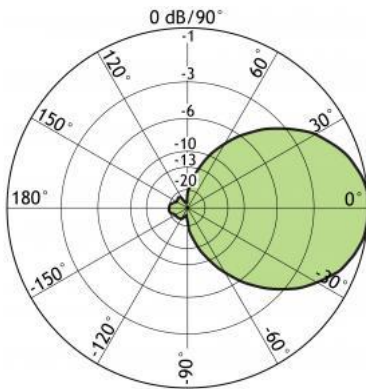
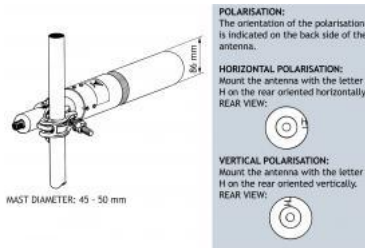
ORDERING DESIGNATIONS

TYPE	PRODUCT NO.
R 2400-6	120000073
R 2400-11	120000076
R 2400-15	120000075

SPECIFICATIONS

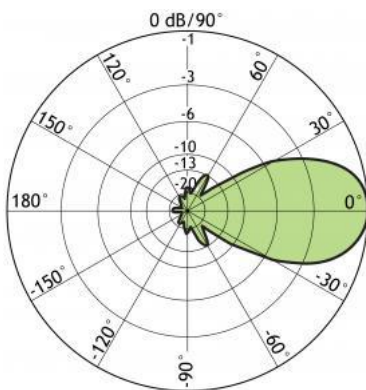
MODEL	R 2400-6	R 2400-11	R 2400-15
ANTENNA TYPE	Shrouded yagi antenna		
FREQUENCY	2300 – 2500 MHz		
GAIN	8 dBi 6 dBd	13 dBi 11 dBd	17 dBi 15 dBd
H-PLANE BEAM WIDTH (-3 DB POINTS)	80°	43°	24-30°
E-PLANE BEAM WIDTH (-3 DB POINTS)	60°	40°	23-27°
MAXIMUM POWER	150 W		
MODEL	R 2400-6	R 2400-11	R 2400-15
ELECTRICAL			
ANTENNA TYPE	Shrouded yagi		
FREQUENCY	2300 – 2500 MHz		
IMPEDANCE	50 Ω		
POLARIZATION	Vertical or horizontal		
GAIN	8 dBi 6 dBd	13 dBi 11 dBd	17 dBi 15 dBd
H-PLANE BEAM WIDTH (-3 DB POINTS)	80°	43°	24-30°
E-PLANE BEAM WIDTH (-3 DB POINTS)	60°	40°	23-27°
FRONT TO BACK RATIO	> 20 dB	> 20 dB	20 dB
BANDWIDTH	200 MHz		
SWR	≤ 1.5:1		
MAX. POWER	150 W		
ANTISTATIC PROTECTION	All metal parts DC-grounded (Connector shows a DC-short)		
MECHANICAL			
TEMP. RANGE	-25°C → +60°C		
CONNECTOR	“N” type female		
WIND LOAD @ 160 km/h	34 N	63 N	91 N
WIND SURFACE	0.027 m²	0.0495 m²	0.072 m²
COLOUR	Grey		
SHROUD	86 mm dia. glass fibre tube		
LENGTH	420 mm	620 mm	1000 mm
WEIGHT	1.6 kg	1.8 kg	2.1 kg
MOUNTING	Supplied with fixed Norstell clamp (48.5 mm dia.) for mounting on 45-50 mm mast tubes		

MOUNTING & PATTERN



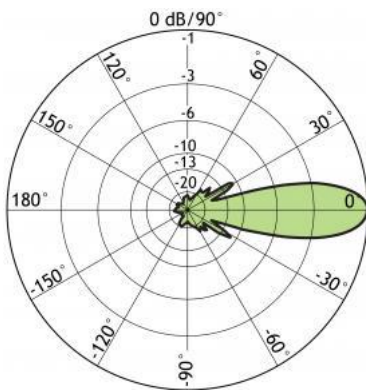
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H-PLANE: Outer ring 6 dBd



H-PLANE: Outer ring 11 dBd

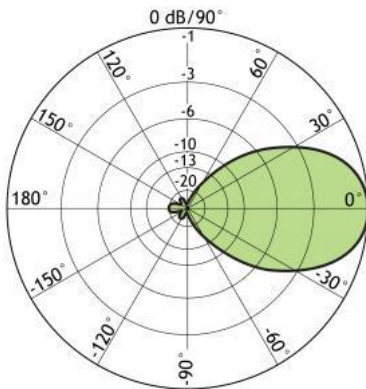
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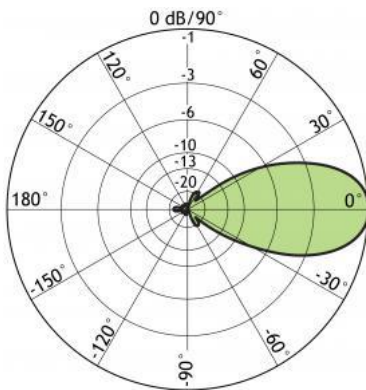
{start_next_col}

H-PLANE: Outer ring 15 dBd

TYPICAL RADIATION PATTERN

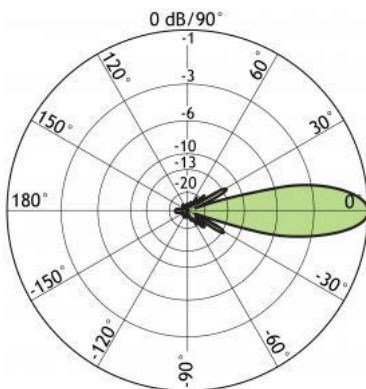


E-PLANE: Outer ring 6 dBd



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E-PLANE: Outer ring 11 dBd



E-PLANE: Outer ring 15 dBd



R 1800-...

Shrouded Yagi Antennas for the 1800 MHz Band

- Series of three shrouded yagi antennas with 6–15 dBd gain.
- Covers the 1800 MHz DCS-1800/PCN band (1710 – 1880 MHz).
- Can be used for both vertical and horizontal polarisation.

- H-plane beam widths 24° to 80° and E-plane beam widths 23° to 60° depending on model.
- A sturdy glass reinforced plastic shroud ensures effective protection against the weather.
- All metal parts are DC grounded for noise reduction and lightning protection.
- Materials carefully chosen for minimum electrolytic corrosion and intermodulation.
- Supplied with fixed Norstell clamp (48.5 mm dia.)
- Reliable and robust design for optimum performance and long lifetime.

R 1800-6



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R 1880-11



R 1800-15



ORDERING DESIGNATIONS

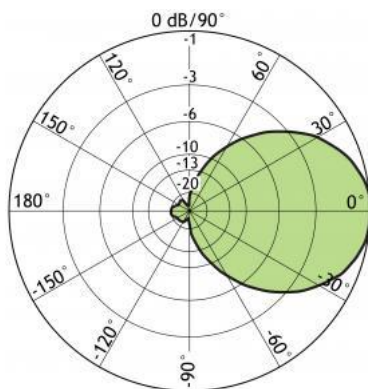
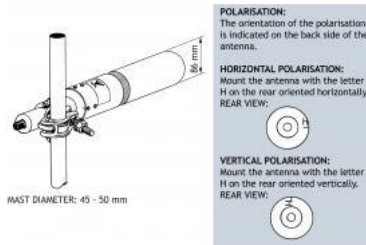
TYPE	PRODUCT NO.
R 1800-6	120000070
R 1800-11	120000071
R 1800-15	120000072

SPECIFICATIONS

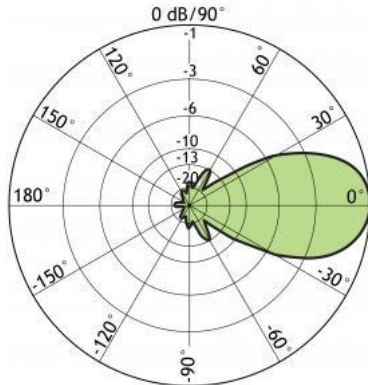
MODEL	R 1800-6	R 1800-11	R 1800-15
ANTENNA TYPE	Shrouded yagi antenna		
FREQUENCY	1710 - 1880 MHz		
GAIN	8 dBi 6 dBd	13 dBi 11 dBd	17 dBi 15 dBd
H-PLANE BEAM WIDTH (-3 DB POINTS)	80°	43°	24-30°
E-PLANE BEAM WIDTH (-3 DB POINTS)	60°	40°	23-27°
MAXIMUM POWER	150 W		
MODEL	R 1800-6	R 1800-11	R 1800-15
ELECTRICAL			
ANTENNA TYPE	Shrouded yagi		
FREQUENCY	1710 - 1880 MHz		
IMPEDANCE	Nom. 50 Ω		
POLARIZATION	Vertical or horizontal		
GAIN	8 dBi 6 dBd	13 dBi 11 dBd	17 dBi 15 dBd
H-PLANE BEAM WIDTH (-3 DB POINTS)	80°	43°	24 - 30°
E-PLANE BEAM WIDTH (-3 DB POINTS)	60°	40°	23 - 27°
FRONT TO BACK RATIO	> 20 dB	> 20 dB	20 dB
BANDWIDTH	170 MHz		
SWR	≤ 1.5		
MAX. POWER	150 W		
ANTISTATIC PROTECTION	All metal parts DC-grounded (Connector shows a DC-short)		
MECHANICAL			
TEMP. RANGE	-25°C → +60°C		
CONNECTOR	"N" type female		
WIND LOAD @ 160 km/h	34 N	63 N	114 N
WIND SURFACE	0.027 m²	0.050 m²	0.090 m²
COLOUR	Grey		
SHROUD	86 mm dia. glass fibre tube		
LENGTH	420 mm	620 mm	1300 mm
WEIGHT	1.6 kg	1.8 kg	2.1 kg

MOUNTING	Supplied with fixed Norstell clamp (48.5 mm dia.) for mounting on 45 - 50 mm mast tubes
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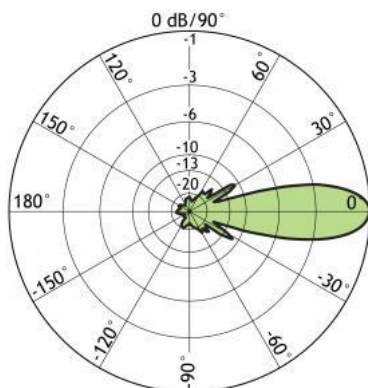
MOUNTING & PATTERN



H-PLANE: Outer ring 6 dBd

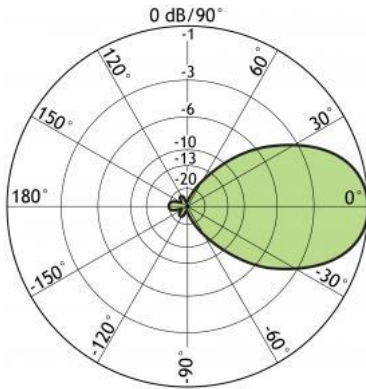


H-PLANE: Outer ring 11 dBd

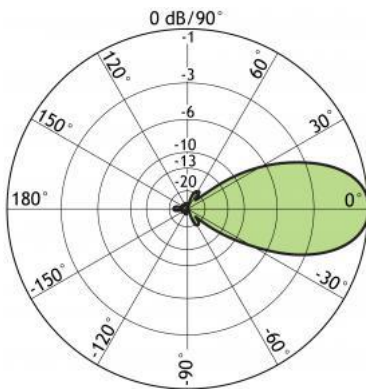


H-PLANE: Outer ring 15 dBd

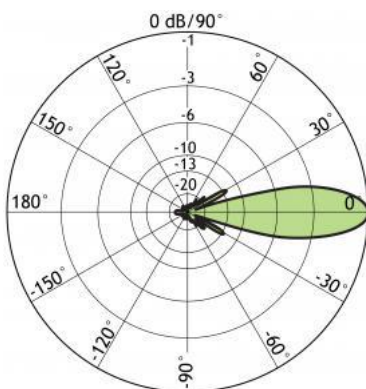
TYPICAL RADIATION PATTERN



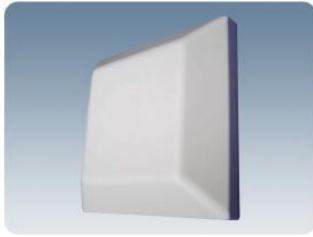
E-PLANE: Outer ring 6 dBd



E-PLANE: Outer ring 11 dBd



E-PLANE: Outer ring 15 dBd



PLPO TETRA/380-470

Indoor or outdoor linearly polarized patch antennas for wall mounting

DESCRIPTION

- Low-profile antenna for the 380 - 470 MHz band.
- Covers 90 MHz with a radiation of approx. 4 dBi.
- The antenna is available with a snap-fit wall mounting bracket.

ORDERING DESIGNATIONS

TYPE	FREQUENCY	PRODUCT NO.	
PLPO TETRA/380-470	380 - 470 MHz	752.01.05.00	

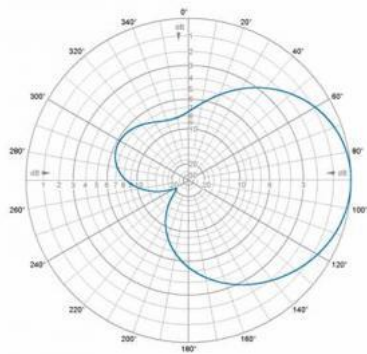
SPECIFICATIONS

ELETRICAL	
MODEL	PLPO TETRA/380-470
ANTENNA TYPE	Linearly polarized low-profile antenna
FREQUENCY	380 - 470 MHz
IMPEDANCE	Nom. 50 Ω
POLARIZATION	Linear (Vertical and Horizontal)
GAIN	Approx. 4 dBi
BANDWIDTH	≥ 90 MHz
HALF-POWER BEAMWIDTH	E-plane 120° H-plane 130°
SWR	≤ 2
MAX. POWER	50 W
IM3	≤ -140 dBc (2x Tx @ 37 dBm)
SAR Testing (Specific Absorption Rate)	EN 50385:2002; 7.19 W Touch Safe Level
MECHANICAL	
CONNECTOR	N-Socket on 150 mm pigtail or antenna back
MATERIALS	Aluminium, PTFE Radome: ABS fire retardant, white RAL 6014
SIZE (L x W x H)	Approx. 292 x 292 x 76 mm / 11.50 x 11.50 x 2.99 in.

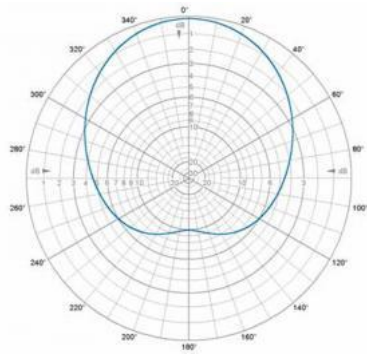
WEIGHT	Approx. 0.4 kg / 0.88 lb.	
MOUNTING	Click mounting on stainless steel plate A2-70	
IP-RATING	IP65	

PATTERN

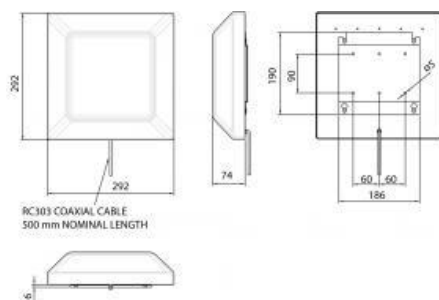
TYPICAL RADIATION PATTERN (E-plane)

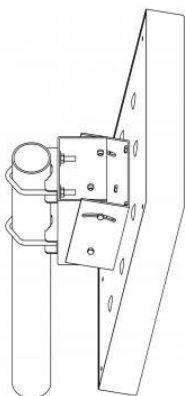


TYPICAL RADIATION PATTERN (H-plane)



DIMENSIONS





PATCH-MAMO

Mast mounting bracket for vertical or horizontal supporting mast tube

- Using the PATCH-MAMO mast mounting bracket, PCPO xH/TETRA/... and PLPO xH/TETRA/... can be mounted on any kind of vertical or horizontal supporting mast tube as long as the outer diameter of the tube is within 40 - 55 mm.

- The PATCH-MAMO is a lightweight mounting bracket made of non-corrosive aluminium.
- The accompanying U-bolts and nuts are made of stainless steel.

ORDERING DESIGNATIONS

TYPE	PRODUCT NO.
PATCH-MAMO	100000447

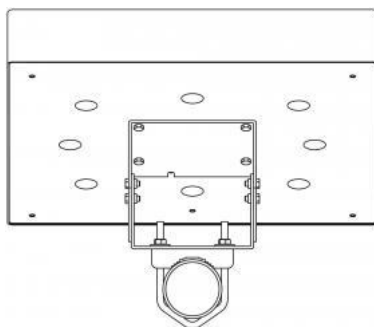
SPECIFICATIONS

MODEL	PATCH-MAMO
APPLICATION	Clamp for mounting on vertical or horizontal mast tubes with 40 - 55 mm diameter
COLOUR	"Aluminium"
WEIGHT	Approx. 558 g
MOUNTING	On 40 - 55 mm dia. mast tube, see drawing

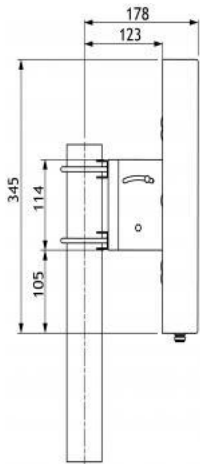
Mounting

Tilt adjustable from +5°/-30°.

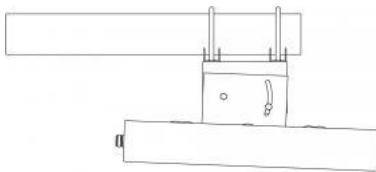
Top view



Mounting via U-bolts.



Horizontal mounting





PRO-HPS... 380-2700-...

2, 3 & 4 Way Reactive High Power Splitters

- 2, 3 & 4 way high power splitter covering the 380-2700 MHz band.
- Excellent high power performance.

DESCRIPTION

- Low insertion loss and good impedance match.
- Low specified PIM.

Power splitters are frequently used in distributed antenna systems in buildings or tunnels. The power splitter splits the signal evenly and with minimal loss and reflections.

Application area: Antennas arrays; radiating cables and distributed antenna systems.

ORDERING DESIGNATIONS

TYPE	DESCRIPTION	PRODUCT NO.
PRO-HPS2 380-2700-N(f)	2-way splitter	200002404
PRO-HPS3 380-2700-N(f)	3-way splitter	200002453
PRO-HPS4 380-2700-N(f)	4-way splitter	200002472
PRO-HPS2 380-2700-7/16(f)	2-way splitter	200002519
PRO-HPS3 380-2700-7/16(f)	3-way splitter	200002520
PRO-HPS4 380-2700-7/16(f)	4-way splitter	200002521

SPECIFICATIONS

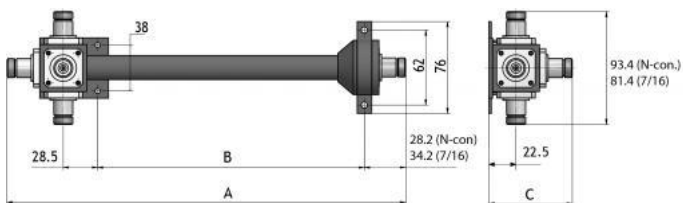
ELECTRICAL			
MODEL	PRO-HPS2 380-2700-...	PRO-HPS3 380-2700-...	PRO-HPS4 380-2700-...
FREQUENCY	380-2700 MHz	380-2700 MHz	380-2700 MHz
AMPLITUDE BALANCE	± 0.3 dB	± 0.3 dB	± 0.4 dB
SPLIT	1 : 2	1 : 3	1 : 4
SPLIT LOSS	3 dB	4.8 dB	6 dB
MAX. INPUT POWER	500 W	500 W	500 W
THROUGH LOSS	< 3.3 dB	< 5.1 dB	< 6.4 dB
GROUP DELAY	< 1.4 ns	< 1.5 ns	< 1.7 ns
IMPEDANCE	Nom. 50 Ω	Nom. 50 Ω	Nom. 50 Ω
INPUT SWR	≤ 1.3	≤ 1.3	≤ 1.3

IMD level	< -155 dBc (with N-connectors) < -160 dBc (with 7/16-connectors)		
COMPLIANCE			
N	RoHS, IP65		
7/16	RoHS, IP65		
MECHANICAL			
TEMP. RANGE	-30° C → +60° C		
CONNECTORS	N-female or 7/16-female		
DIMENSIONS (L x W x H)	Approx. 244 x 93 x 45 mm (Con. including)	Approx. 250 x 93 x 45 mm (Con. including)	Approx. 319 x 93 x 45 mm (Con. including)
WEIGHT	Approx. 570g	Approx. 670g	Approx. 770g
Mounting	ø4.2 mm (4 holes)		

DIMENSION

TYPE	A	B	C
PRO-HPS2 380-2700-N(f)	244	162	45
PRO-HPS2 380-2700-7/16(f)	238	162	45
PRO-HPS3 380-2700-N(f)	301	191.5	45
PRO-HPS3 380-2700-7/16(f)	289	191.5	45
PRO-HPS4 380-2700-N(f)	331	249,7	69.2
PRO-HPS4 380-2700-7/16(f)	319	249,7	63.2

MOUNTING DETAILS





PRO-BBPHY 4/2-20-.. dB-N

Broad Band Power Divider / Combiner

- Two antennas connected to the same transmitter or receiver.
- Broad band power splitter for radio systems.

Description

- Combining two transmitters on the same antenna.
Note: The power splitter has to be mounted on an extra heat sink when used as a combiner. Max. 15 W per TX.
- Combining two signal generators.
- 30 W load built-in.

ORDERING DESIGNATIONS

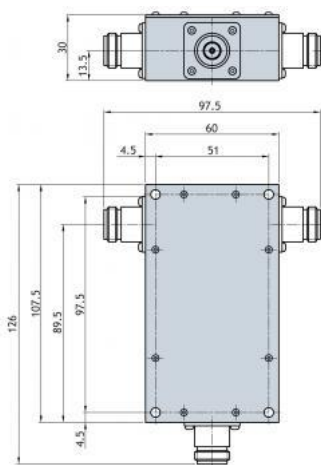
TYPE	PRODUCT NO.
PRO-BBMPHY 4/2-20-3 dB-N	210000291
PRO-BBMPHY 4/2-20-6 dB-N	210001240
PRO-BBMPHY 4/2-20-10 dB-N	210000289
PRO-BBMPHY 4/2-20-20 dB-N	210001241

SPECIFICATIONS

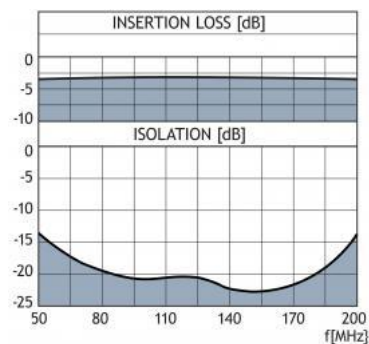
ELECTRICAL				
MODEL	PRO-BBPHY 4/2-20-.. dB-N			
	3 dB	6 dB	10 dB	20 dB
TYPE	Cascaded Wilkinson-hybrid			
FREQUENCY	70 - 175 MHz			
MAX. INPUT POWER	30 W when used as a power splitter - 15 W per channel when used as a hybrid combiner. Note: Extra cooling necessary when used as a hybrid combiner			
INSERTION LOSS	< 3.8 dB typ. < 3.4 dB	??	< 10 dB ±1.5 dB typ. < 10 dB ±1 dB	??
ISOLATION TX ₁ , TX ₂	> 16 dB 70 - 175 MHz, typ. > 20.5 dB	??	> 17 dB 70 - 175 MHz, typ. > 19 dB	??
PHASE TX ₁ , TX ₂	0°			
IMPEDANCE	Nom. 50 Ω			
LOAD	30 W load built-in			
SWR	< 1.5 all other ports terminated with 50 Ω (typically < 1.4)			

MECHANICAL	
TEMP. RANGE	-30° C → +60° C
CONNECTOR TYPE	N-female (other types available)
DIMENSIONS (L x W x H)	126 (incl. conn.) x 97.5 (incl. conn.) x 30.3 mm
WEIGHT	Approx. 400 g

MOUNTING DETAIL



TYPICAL RESPONSE CURVE for 3 dB





PRO-BBPHY 4/146-470-20-N

Broad Band Power Divider 1:4

- Four antennas connected to the same transmitter or receiver.
- Broad band power splitter for radio systems.

Description

- Combining four transmitters on the same antenna.
Note: The power splitter has to be mounted on an extra heat sink when used as a combiner. Max. 15 W per TX.
- Built-in 30 W load.

ORDERING DESIGNATION

TYPE NO.	PRODUCT NO.
PRO-BBPHY 4/146-470-20-N	210000470

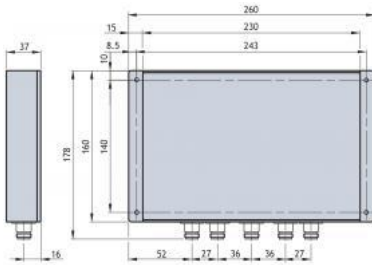
SPECIFICATIONS

ELECTRICAL	
MODEL	PRO-BBPHY 4/146-470-20-N
TYPE	Cascaded Wilkinson multisection hybrids
FREQUENCY	146 - 470 MHz
MAX. INPUT POWER	30 W when used as a power splitter - 15 W per channel when used as a hybrid combiner. Note: Extra cooling necessary when used as a hybrid combiner
INSERTION LOSS	< 8.5 dB
ISOLATION	> 11 dB, 146 - 220 MHz, > 18 dB, 220 - 470 MHz
IMPEDANCE	Nom. 50 Ω
LOAD	Built-in 30 W load
SWR	< 1.5 all other ports terminated with 50 Ω
MECHANICAL	
TEMP. RANGE	-30° C → +60° C
CONNECTOR TYPE	N-female (other types available)
DIMENSIONS (L x W x H)	260 x 178 (incl. conn.) x 37 mm
WEIGHT	Approx. 800 g

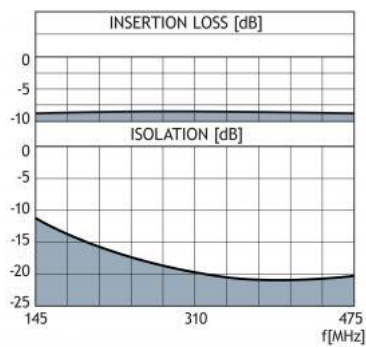
MOUNTING

ø4 mm (four holes)

MOUNTING DETAILS



TYPICAL RESPONSE CURVE





PRO-BBPHY 2/70-20-6 dB-N

Broad Band Unsymmetrical Power Divider 1:4

- Used where unsymmetrical splitting of the signal is required.
- Two antennas connected to the same transmitter or receiver where 25% of the signal either comes from or is transmitted to one of the antennas.

Description

- Broad band power splitter for radio systems. Max. 30 W.
- 30 W load built-in.

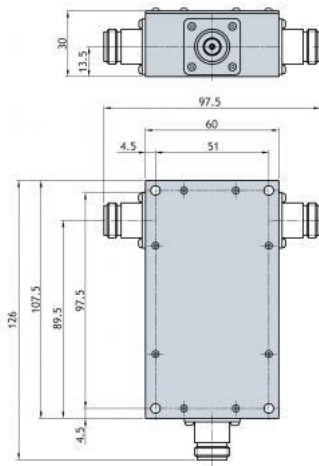
ORDERING DESIGNATION

TYPE NO.	PRODUCT NO.
PRO-BBPHY 2/70-20-6 dB-N	210000468

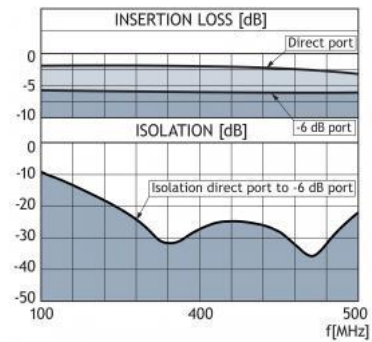
SPECIFICATIONS

ELECTRICAL	
MODEL	PRO-BBPHY 2/70-20-6 dB-N
TYPE	Cascaded Wilkinson-hybrid
FREQUENCY	146 - 470 MHz
MAX. INPUT POWER	30 W when used as a power splitter
INSERTION LOSS	Main port: Typically < 2.2 dB, max. 3.2 dB -6 dB port: 6 dB±0.5 dB (typically 6 dB±0.3 dB)
ISOLATION	> 14 dB, 146 - 470 MHz, typically > 20 dB
IMPEDANCE	Nom. 50 Ω
LOAD	30 W load built-in
SWR High power & input port	< 1.5 (typically ≤ 1.3 dB) all other ports terminated with 50 Ω
MECHANICAL	
TEMP. RANGE	-30° C → +60° C
CONNECTOR TYPE	N-female (other types available)
DIMENSIONS (L x W x H)	126 (incl. conn.) x 97.5 (incl. conn.) x 30.3 mm
WEIGHT	Approx. 400 g

MOUNTING DETAILS



TYPICAL RESPONSE CURVE





PRO-BBPHY 2/70-20-3 dB-N

Broad Band Power Divider 1:2

- Two antennas connected to the same transmitter or receiver.
- Broad band power splitter for radio systems.

Description

- Combining two transmitters on the same antenna.
Note: The power splitter has to be mounted on an extra heat sink when used as a combiner. Max. 15 W per TX.
- Combining two signal generators.
- 30 W load built-in.

ORDERING DESIGNATION

TYPE NO.	PRODUCT NO.
PRO-BBPHY 2/70-20-3 dB-N	210000282

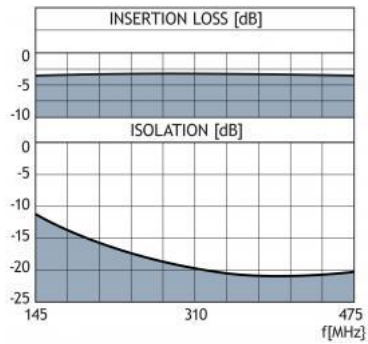
SPECIFICATIONS

ELECTRICAL	
MODEL	PRO-BBPHY 2/70-20-3 dB-N
TYPE	Cascaded Wilkinson-hybrid
FREQUENCY	146 - 470 MHz
MAX. INPUT POWER	30 W when used as a power splitter - 15 W per channel when used as a hybrid combiner. Note: Extra cooling necessary when used as a hybrid combiner
INSERTION LOSS	< 4.5 dB
ISOLATION TX ₁ , TX ₂	> 11 dB, 146-470 MHz, typically > 17 dB
PHASE TX ₁ , TX ₂	0°
IMPEDANCE	Nom. 50 Ω
LOAD	30 W load built-in
SWR	< 1.5 all other ports terminated with 50 Ω
MECHANICAL	
TEMP. RANGE	-30° C → +60° C
CONNECTOR TYPE	N-female (other types available)
DIMENSIONS (L x W x H)	126 (incl. conn.) x 97.5 (incl. conn.) x 30.3 mm

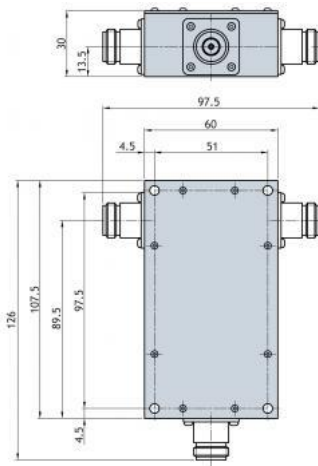
WEIGHT

Approx. 400 g

TYPICAL RESPONSE CURVE



MOUNTING DETAILS





RPD 145-470/800-1000-10-N

Couplers

- Coupler with 8 - 14 dB coupling covering the 2 m, 70 cm, GSM and GPS bands.

DESCRIPTION

- Very broad-banded performance.

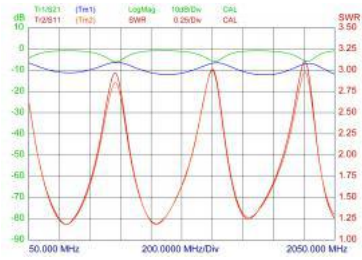
ORDERING DESIGNATIONS

TYPE	PRODUCT NO.
RPD 145-470/800-1000-10-N	210001193

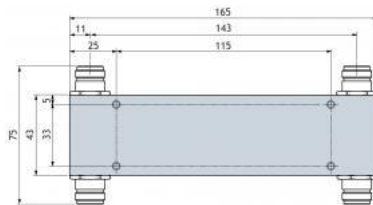
SPECIFICATIONS

ELECTRICAL	
MODEL	RPD 145-470/800-1000-10-N
FREQUENCY RANGE	2 m and 70 cm: 145 - 470 MHz GSM: 800 - 1000 MHz GPS: 1575 MHz
COUPLING	8 - 14 dB
MAX. INPUT POWER	50 W
TOTAL LOSS	
IMPEDANCE	Nom. 50 Ω
INPUT SWR	≤2.0
COMPLIANCE	RoHS, IP65
MECHANICAL	
CONNECTORS	N-female
DIMENSIONS (L x W x H)	165 x 75 x 23 mm
WEIGHT	Approx. 375 g
MOUNTING	M4 mm (4 holes)
ENVIRONMENTAL	
TEMP. RANGE	-30° C → +60° C

TYPICAL RESPONSE CURVE



MOUNTING DETAILS





PRO-BBPHY 2/70-20-10 dB-N

Broad Band Unsymmetrical Power Divider 1:10

- Used where unsymmetrical splitting of the signal is required.
- Two antennas connected to the same transmitter or receiver where 10% of the signal either comes from or is transmitted to one of the antennas.

DESCRIPTION

- Broad band power splitter for radio systems. Max. 30 W.
- 30 W load built-in.

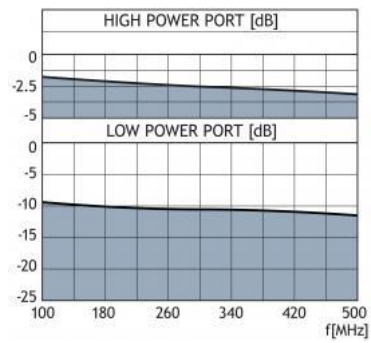
ORDERING DESIGNATION

TYPE NO.	PRODUCT NO.
PRO-BBPHY 2/70-20-10 dB-N	210000281

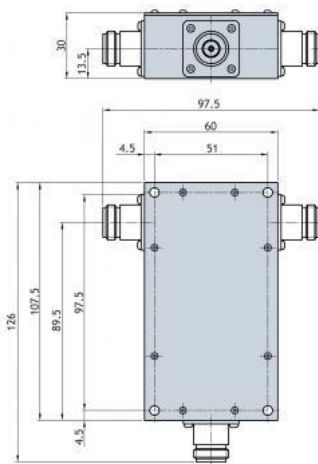
SPECIFICATION

ELECTRICAL	
MODEL	PRO-BBPHY 2/70-20-10 dB-N
TYPE	Cascaded Wilkinson-hybrid
FREQUENCY	146 - 470 MHz
MAX. INPUT POWER	30 W when used as a power splitter
INSERTION LOSS	High power port: < 3.2 dB typically 2.4 dB Low power port: -10 dB±1 dB (typically -10 dB±0.6 dB)
ISOLATION Low to high power port	> 14 dB (typically > 17 dB)
IMPEDANCE	Nom. 50 Ω
LOAD	30 W load built-in
SWR High power & input port	< 1.5 (typically ≤ 1.3 dB) all other ports terminated with 50 Ω
MECHANICAL	
TEMP. RANGE	-30° C → +60° C
CONNECTOR TYPE	N-female (other types available)
DIMENSIONS (L x W x H)	126 (incl. conn.) x 97.5 (incl. conn.) x 30.3 mm
WEIGHT	Approx. 400 g

TYPICAL RESPONSE CURVE



MOUNTING DETAILS





PRO-BBMPHY-74-175-3 dB-100W

Broad Band Power Divider / Combiner

- Two antennas connected to the same transmitter or receiver.
- Broad band power splitter for radio systems.

DESCRIPTION

- Combining of two transmitters on the same antenna.
- Note: The power splitter has a built-in heat sink.
Max. 40 W per TX.
- 100 W load built-in.

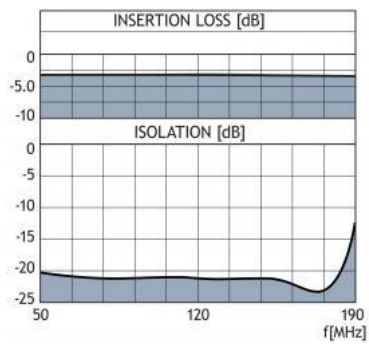
ORDERING DESIGNATIONS

TYPE	PRODUCT NO.
PRO-BBMPHY-74-175-3 dB-100W	210000286

SPECIFICATIONS

ELECTRICAL	
MODEL	PRO-BBMPHY-74-175-3 dB-100W
TYPE	Cascaded Wilkinson-hybrid
FREQUENCY	74 - 175 MHz
MAX. INPUT POWER	100 W when used as a power splitter - 40 W per channel when used as a hybrid combiner. Note: Gets hot when used as a hybrid combiner. (Up to approx. 80° C)
INSERTION LOSS	< 3.6 dB
ISOLATION TX ₁ , TX ₂	> 20 dB
PHASE TX ₁ , TX ₂	0°
IMPEDANCE	Nom. 50 Ω
LOAD	100 W load built-in
SWR	< 1.5 with all other ports terminated with 50 Ω
MECHANICAL	
TEMP. RANGE	-30° C → +60° C
CONNECTOR TYPE	N-female (other types available)
DIMENSIONS (L x W x H)	196 (incl. conn.) x 128 x 70 mm
WEIGHT	Approx. 1.3 kg

TYPICAL RESPONSE CURVE





PRO-BBMPHY-450-2-N

Broad Band Power Divider / Combiner

- Two antennas connected to the same transmitter or receiver.
- Broad band power splitter for radio systems.

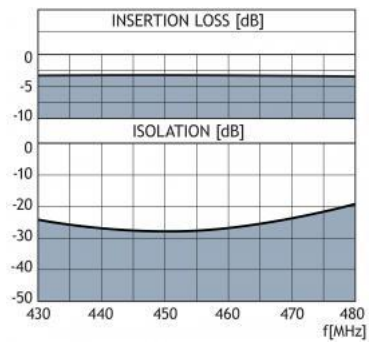
DESCRIPTION

- Combining two transmitters on the same antenna.
Note: The power splitter has to be mounted on an extra heat sink when used as a combiner. Max. 15 W per TX.
- Combining two signal generators.
- 30 W load built-in.

SPECIFICATIONS

ELECTRICAL	
MODEL	PRO-BBMPHY-450-2-N
TYPE	Cascaded Wilkinson-hybrid
FREQUENCY	430 - 470 MHz (other frequencies on request)
MAX. INPUT POWER	30 W when used as a power splitter - 15 W per channel when used as a hybrid combiner. Note: Extra cooling necessary when used as a hybrid combiner
BANDWIDTH	30 MHz min. Can be extended.
INSERTION LOSS	< 3.6 dB, typically < 3.4 dB
ISOLATION TX ₁ , TX ₂	> 20 dB, typically > 23 dB
PHASE TX ₁ , TX ₂	0°
IMPEDANCE	Nom. 50 Ω
LOAD	30 W load built-in
SWR	< 1.5 (typically < 1.35)
MECHANICAL	
TEMP. RANGE	-30° C → +60° C
CONNECTOR TYPE	N-female (other types available)
DIMENSIONS (L x W x H)	130 (incl. conn.) x 152 x 35 mm
WEIGHT	Approx. 400 g

TYPICAL RESPONSE CURVE





PRO-BBMPHY-200-2-N

Broad Band Power Divider / Combiner

- Two antennas connected to the same transmitter or receiver.
- Broad band power divider for radio systems.

DESCRIPTION

- Combining two transmitters on the same antenna.
Note: The power divider has to be mounted on an extra heat sink when used as a combiner. Max. 10 W per TX.
- Combining two signal generators.
- 20 W load built-in.

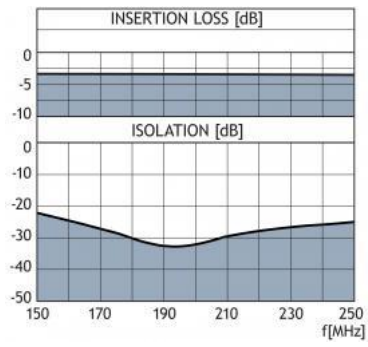
ORDERING DESIGNATION

TYPE	PRODUCT NO.
PRO-BBMPHY-200-2-N	210001111

SPECIFICATIONS

ELECTRICAL	
MODEL	PRO-BBMPHY-200-2-N
TYPE	Cascaded Wilkinson-hybrid
FREQUENCY	175 - 225 MHz
MAX. INPUT POWER	20 W when used as a power divider. 10 W per channel when used as a hybrid combiner. Note: Extra cooling necessary when used as a hybrid combiner
INSERTION LOSS	< 0.6 dB, typically < 0.5 dB
ISOLATION TX ₁ , TX ₂	> 24 dB, typically > 26 dB
PHASE TX ₁ , TX ₂	0°
IMPEDANCE	Nom. 50 Ω
LOAD	30 W load built-in
SWR	< 1.6 all other ports terminated with 50 Ω
MECHANICAL	
TEMP. RANGE	-30° C → +60° C
CONNECTOR TYPE	N-female (other types available)
DIMENSIONS (L x W x H)	130 (incl. conn.) x 152 x 35 mm

TYPICAL RESPONSE CURVE





PRO-BBMPHY-150-2-N

Broad Band Power Divider / Combiner

- Two antennas connected to the same transmitter or receiver.
- Broad band power divider for radio systems.

DESCRIPTION

- Combining two transmitters on the same antenna.
- Note: The power divider has to be mounted on an extra heat sink when used as a combiner. Max. 15 W per TX.
- Combining two signal generators.
- 30 W load built-in.

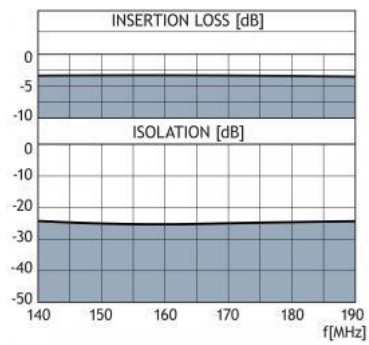
ORDER DESIGNATIONS

TYPE	PRODUCT NO.
PRO-BBMPHY-150-2-N	210000287

SPECIFICATIONS

ELECTRICAL	
MODEL	PRO-BBMPHY-150-2-N
TYPE	Cascaded Wilkinson-hybrid
FREQUENCY	144 - 175 MHz
MAX. INPUT POWER	30 W when used as a power divider. 15 W per channel when used as a hybrid combiner. Note: Extra cooling necessary when used as a hybrid combiner
INSERTION LOSS	< 3.6 dB, typically < 3.4 dB
ISOLATION TX ₁ , TX ₂	> 24 dB, typically > 26 dB
PHASE TX ₁ , TX ₂	0°
IMPEDANCE	Nom. 50 Ω
LOAD	30 W load built-in
SWR	< 1.6 all other ports terminated with 50 Ω
MECHANICAL	
TEMP. RANGE	-30° C → +60° C
CONNECTOR TYPE	N-female (other types available)
DIMENSIONS (L x W x H)	130 (incl. conn.) x 152 x 35 mm
WEIGHT	Approx. 400 g

TYPICAL RESPONSE CURVE





PS 900/1800-7/16

2-Channel TX Power Splitter

- High power 2-channel power splitter/combiner.
- The splitter covers the frequency range from 800 – 1900 MHz.

DESCRIPTION

- Very little ripple in loss and isolation over the entire frequency range.

ORDERING DESIGNATIONS

TYPE	PRODUCT NO.
PS 900/1800-7/16	200001884

SPECIFICATIONS

ELECTRICAL	
MODEL	PS 900/1800-7/16
FREQUENCY RANGE	800–1900 MHz
MAX. INPUT POWER	100 W
INSERTION LOSS (over 3 dB)	< 0.6 dB
ISOLATION OUTPUT TO OUTPUT	> 20 dB
IMPEDANCE	50 Ω
SWR	< 1.3
MECHANICAL	
TEMP. RANGE	–30° C → +60° C
CONNECTORS	7/16 DIN
DIMENSIONS (L x W x H)	170 x 120 x 80 mm
WEIGHT	1300 g

TYPICAL RESPONSE CURVE





PRO-TAP 150-2700-...

Multiband PowerTapper 150-2700 MHz

- 500 W power tapper with 4.8 to 30 dB coupling covering the 150 - 2700 MHz.
- Taps off a portion of the signal from the main line.

DESCRIPTION

- Excellent high-power performance.
- Very low insertion loss over the entire frequency range.

Power tappers are frequently used in distributed antenna systems in buildings or tunnels. Tappers operate similarly to directional couplers, but without the directivity (no isolation between output port and coupled port) and have relatively broad bandwidths.

ORDERING DESIGNATIONS

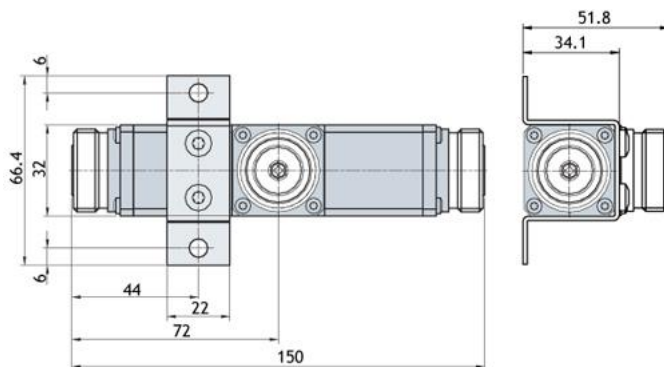
TYPE	COUPLING	PRODUCT NO.
PRO-TAP 150-2700-4.8 dB-N(f)	4.8 dB	200002374
PRO-TAP 150-2700-6 dB-N(f)	6 dB	200002316
PRO-TAP 150-2700-8 dB-N(f)	8 dB	200002448
PRO-TAP 150-2700-10 dB-N(f)	10 dB	200002317
PRO-TAP 150-2700-15 dB-N(f)	15 dB	200002450
PRO-TAP 150-2700-20 dB-N(f)	20 dB	200002318
PRO-TAP 150-2700-30 dB-N(f)	30 dB	200002456
PRO-TAP 150-2700-4.8 dB-7/16(f)	4.8 dB	200002447
PRO-TAP 150-2700-6 dB-7/16(f)	6 dB	200002319
PRO-TAP 150-2700-8 dB-7/16(f)	8 dB	200002449
PRO-TAP 150-2700-10 dB-7/16(f)	10 dB	200002320
PRO-TAP 150-2700-15 dB-7/16(f)	15 dB	200002397
PRO-TAP 150-2700-20 dB-7/16(f)	20 dB	200002321
PRO-TAP 150-2700-30 dB-7/16(f)	30 dB	200002457
ACCESSORIES		
TB-39		200002565

SPECIFICATIONS

ELECTRICAL							
MODEL	PRO-TAP 150-2700-... (dB)						
	4.8	6	8	10	15	20	30

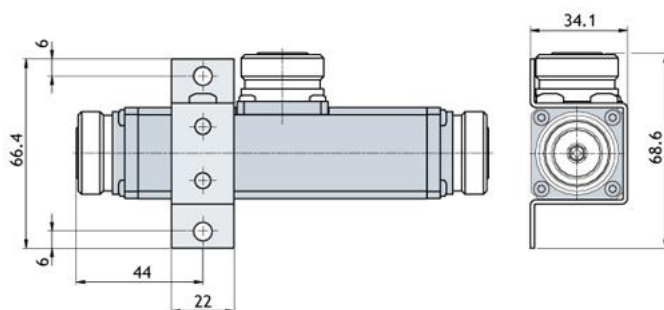
FREQUENCY	150 - 1550 MHz & 1650 - 2700 MHz						
COUPLING (dB)	4.8	6	8	10	15	20	30
COUPLING FLATNESS (dB)							
150 - 380 MHz	-0/+2	-0/+2.5	-0.5/+2	-0.5/+2	-0.5/+1.5	-1/+0.5	-3/+1
380 - 2700 MHz	±1	±1	±1	±1	±1	±1	-3/+1
PERCENTAGE OF SIGNAL AT THE COUPLED PORT	33%	25%	16%	10%	3%	1%	0.1%
PERCENTAGE OF SIGNAL AT THE MAIN LINE PORT	67%	75%	84%	90%	97%	99%	99.9%
THROUGH LOSS	<2.3	<1.9	<1.2	<0.7	<0.3	<0.2	<0.2
INPUT SWR	≤1.6	≤1.6	≤1.4	≤1.3	≤1.2	≤1.25	≤1.2
GROUP DELAY (Through)	<0.6 ns						
GROUP DELAY (Coupled)	<0.8 ns						
MAX. INPUT POWER	500 W						
IMPEDANCE	Nom. 50 Ω						
PIM 2X43 dBm	< -150 dBc						
COMPLIANCE							
N(f)	RoHS, IP65						
7/16(f)	RoHs, IP68						
MECHANICAL							
TEMP. RANGE	-30° C → +60° C						
CONNECTORS	N-female or 7/16-female						
DIMENSIONS (L x W x H)	145 x 33 x 51 mm / 5.71 x 1.30 x 2.01 in.						
WEIGHT	Approx. 550 g / 1.21 lb.						
MOUNTING	ø6.5 mm (two holes)						

MOUNTING DETAILS STANDARD BRACKET



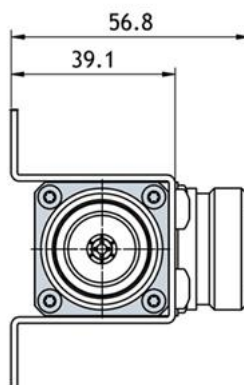
MOUNTING DETAILS STANDARD BRACKET

SIDE MOUNTING



TB-39 BRACKET

EXTRA HIGH





PRO-RPS-8-N

8-Channel passive RX Power Splitter

- Passive wide-band receiver power splitter.
- Wide frequency range 50 MHz to 1000 MHz.
- High isolation between outputs.

DESCRIPTION

- To be used where RF-signals are to be divided or combined:
 - more receivers connected to the same antenna
 - more antenna signals on the same coaxial cable.
- N-female on all ports. (Other connector types on request).
- DC-ground on all ports.

ORDERING DESIGNATIONS

TYPE NO.	PRODUCT NO.
PRO-RPS-8-N	210000767

SPECIFICATIONS

ELECTRICAL	
MODEL	PRO-RPS-8-N
FREQUENCY RANGE	50 - 1000 MHz
INSERTION LOSS [S21]	10 dB \pm 0.5 dB @ 50 MHz 12 dB \pm 0.5 dB @ 960 MHz
ISOLATION OUTPUT TO OUTPUT	Min. 20 dB
INPUT SWR	Max. 2.0 typ. < 1.5
OUTPUT SWR	Max. 1.5 typ. < 1.3
POWER HANDLING	Max. 0.5 W each port
MECHANICAL	
TEMP. RANGE	-30° C \rightarrow +60° C
CONNECTORS	N-female
DIMENSIONS (L x W x H)	138 (incl. conn.) x 255 (incl. flanges) x 35 mm
WEIGHT	550 g

MOUNTING DETAILS

TYPICAL RESPONSE CURVES



PRO-RPS-8-GPS-N

8-Channel RX Power Splitter

- Passive receiver power splitter.
- Large frequency range. 1500 MHz to 1650 MHz.
- High isolation between outputs. > 20 dB.

DESCRIPTION

- To be used where RF-signals, special GPS-signals shall be divided or combined:
 - more receivers connected to the same coaxial cable
 - more GPS-antennas on the same coaxial cable
 - spectrum analyzer and GPS-receiver on the same coaxial cable.
- N-female on all ports. (Other connector types on request).
- DC-pass on all ports. (Other possibilities on request).

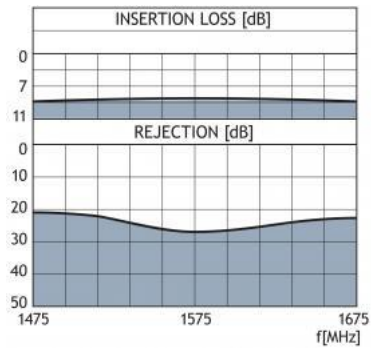
ORDERING DESIGNATIONS

TYPE NO.	PRODUCT NO.
PRO-RPS-8-GPS-N	210000774

SPECIFICATIONS

ELECTRICAL	
MODEL	PRO-RPS-8-GPS-N
FREQUENCY RANGE	1500 - 1650 MHz
INSERTION LOSS [S12]	9.5 dB ± 0.5 dB
ISOLATION OUTPUT TO OUTPUT	Min. 20 dB typ. 23 dB
INPUT SWR	Max. 1.5 typ. < 1.3
OUTPUT SWR	Max. 1.5 typ. < 1.3
POWER HANDLING	Max. 0.5 W each port
DC-PASS	Yes - all ports
MECHANICAL	
TEMP. RANGE	-30° C → +60° C
CONNECTORS	N-female
DIMENSIONS (L x W x H)	138 (incl. conn.) x 255 (incl. flanges) x 35 mm
WEIGHT	550 g

INSERTION LOSS & ISOLATION





PRO-RPS-4-N

4-Channel RX Power Splitter

- Low power, compact 4-channel power splitter/combiner.
- The splitter covers the frequency range from 50-1000 MHz.

DESCRIPTION

- Almost no ripple in loss and isolation over the entire frequency range.

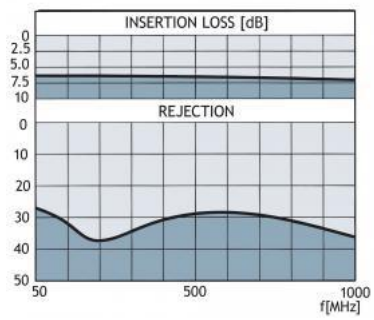
ORDERING DESIGNATIONS

TYPE NO.	PRODUCT NO.
PRO-RPS-4-N	210000593

SPECIFICATIONS

ELECTRICAL	
FREQUENCY RANGE	50-1000 MHz
MAX INPUT POWER	2 W
INSERTION LOSS (above 6 dB)	< 1.5 dB
ISOLATION OUTPUT TO OUTPUT	> 20 dB
IMPEDANCE	Nom. 50 Ω
SWR	< 1.3
MECHANICAL	
TEMP. RANGE	-30° C → +60° C
CONNECTORS	N-female
DIMENSIONS (L x W x H)	89 x 39 x 29 mm
WEIGHT	Approx. 200 g

INSERTION LOSS & ISOLATION



PRO-RPS-4-GPS-N

4-channel RX Power Splitter

- Passive receiver power splitter.
- Large frequency range. 1500 MHz to 1650 MHz.
- High isolation between outputs. > 20 dB.

DESCRIPTION

- To be used where RF-signals, special GPS-signals shall be divided or combined:
 - more receivers connected to the same coaxial cable
 - more GPS-antennas on the same coaxial cable
 - spectrum analyzer and GPS-receiver on the same coaxial cable.
- N-female on all ports. (Other connector types on request).
- DC-pass on all ports. (Other possibilities on request).

ORDERING DESIGNATIONS

TYPE	PRODUCT NO.
PRO-RPS-4-GPS-N	210000664

SPECIFICATIONS

ELECTRICAL	
FREQUENCY RANGE	1500-1650 MHz
INSERTION LOSS [S12]	6.5 dB ± 0.5 dB
ISOLATION OUTPUT TO OUTPUT	Min. 20 dB typ. ≥ 25 dB
INPUT SWR	Max. 1.5 typ. < 1.3
OUTPUT SWR	Max. 1.5 typ. < 1.3
POWER HANDLING	Max. 0.5 W each port
DC-PASS	Yes - all ports
MECHANICAL	
TEMP. RANGE	-30° C → +60° C
CONNECTORS	N-female
DIMENSIONS (L x W x H)	138 (incl. conn.) x 152 (incl. flanges) x 35 mm
WEIGHT	280 g

INSERTION LOSS & ISOLATION



PRO-RPS-2-N

2-Channel RX Power Splitter

- Low power, compact 2-channel power splitter/combiner.
- The splitter covers the frequency range from 50 – 1000 MHz.

DESCRIPTION

- Almost no ripple in loss and isolation over the entire frequency range.

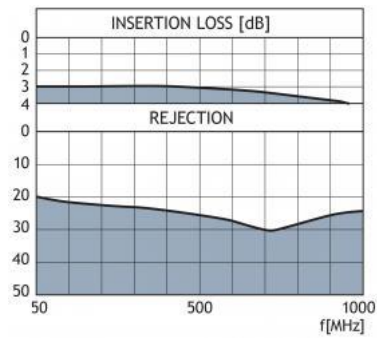
ORDERING DESIGNATIONS

TYPE NO.	PRODUCT NO.
PRO-RPS-2-N	210000599

SPECIFICATIONS

ELECTRICAL	
FREQUENCY RANGE	50-1000 MHz
MAX INPUT POWER	2 W
INSERTION LOSS (above 3 dB)	< 1.2 dB
ISOLATION OUTPUT TO OUTPUT	> 20 dB
IMPEDANCE	Nom. 50 Ω
SWR	< 1.3
MECHANICAL	
TEMP. RANGE	-30° C → +60° C
CONNECTORS	N-female
DIMENSIONS (L x W x H)	89 x 39 x 29 mm
WEIGHT	Approx. 150 g

INSERTION LOSS & ISOLATION



PRO-RPS-2-GPS-N

2-Channel RX Power Splitter

- Passive receiver power splitter.
- Large frequency range: 1500 MHz to 1650 MHz.
- High isolation between outputs: > 20 dB.

DESCRIPTION

- To be used where RF-signals, especially GPS-signals, are to be divided or combined:
 - 1.more receivers connected to the same coaxial cable
 - 2.more GPS-antennas on the same coaxial cable
 - 3.spectrum analyzer and GPS-receiver on the same coaxial cable.
- N-female on all ports. (Other connector types on request).
- Several DC-pass options available (see ordering designations).

ORDERING DESIGNATIONS

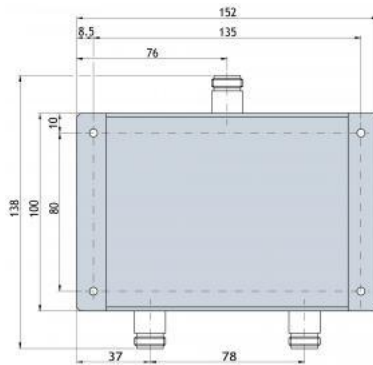
TYPE	DC PASS	PRODUCT NO.
PRO-RPS-2-GPS-N	DC pass between all ports	210000765
PRO-RPS-2-GPS-N-0DC	No DC pass	210002074
PRO-RPS-2-GPS-N-1DC	DC pass between RX port 1 and ANT port	210001852
PRO-RPS-2-GPS-N-2DC	DC pass from RX port 1 to ANT port and from RX port 2 to ANT port, but NOT from RX port 1 to RX port 2	210002143

SPECIFICATIONS

ELECTRICAL	
MODEL	PRO-RPS-2-GPS-N
FREQUENCY RANGE	1500 - 1650 MHz
INSERTION LOSS [S12]	3.5 dB ± 0.5 dB
ISOLATION OUTPUT TO OUTPUT	Min. 20 dB typ. ≥ 25 dB
INPUT SWR	Max. 1.5 typ. < 1.3
OUTPUT SWR	Max. 1.5 typ. < 1.3
POWER HANDLING	Max. 0.5 W each port
MECHANICAL	
TEMP. RANGE	-30° C → +60° C
CONNECTORS	N-female
DIMENSIONS (L x W x H)	138 (incl. conn.) x 152 (incl. flanges) x 35 mm
WEIGHT	280 g

MOUNTING	ø4 mm (4 holes)
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MOUNTING DETAILS



TYPICAL RESPONSE CURVE



PRO-QLNA 380-520

High-Performance Quadrature LowNoise Amplifier for 380-520 mHz

- Mast mounted or wall mounted LNA suitable for:
 - Mast head amplifier to compensate for high cable loss.
 - Preamplifier in antenna signal distribution network.
- Ensures low system noise figure in receiver systems.

DESCRIPTION

- Built-in low-loss input preselector prevents amplifier overload from e.g. nearby transmitters in adjacent frequency bands:
 - Rejects the entire HF/VHF range 0 to 240 MHz > 30 dB.
 - Rejects LTE, GSM and UMTS > 30 dB.
- LNA design with two identical amplifier stages coupled in quadrature ensures high reliability. If a fault occurs in one amplifier stage, the LNA will continue to operate with only minor performance deterioration.
- Very high OIP3.
- Low input and output SWR ensure excellent matching to other units.
- Low weight.
- Wide temperature range.
- Wide supply voltage range.
- Low power consumption.
- DC supply from phantom voltage on the output cable, e.g. by means of junction box PRO-JB1-1G.
- UV-resistant ABS box with water drip.
- N(f) connectors on input and output.

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MAMO



WAMO

ORDERING DESIGNATIONS

TYPE	PRODUCT NO.
PRO-QLNA 380-520-MAMO-N(f)	200002473
PRO-QLNA 380-520-WAMO-N(f)	200002557
ACCESSORIES	
PRO-JB1-1G	200001677

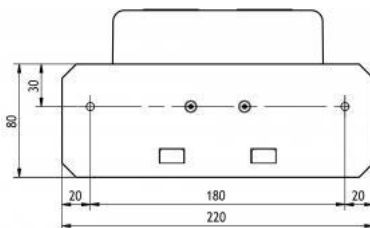
SPECIFICATIONS

ELECTRICAL	
LNA TYPE	Redundant, Quadrature
MODEL	PRO-QLNA 380-520
FREQUENCY RANGE	380 - 520 MHz
GAIN	22 dB \pm 1 dB @ 380 MHz 20 dB \pm 1 dB @ 520 MHz (See typical Gain and SWR curve)
NOISE FIGURE	Max. 1.5 dB (See typical Noise Figure curve)
MAX OUTPUT POWER @ 1 dB COMPRESSION (P1dB)	>+20 dBm (100 mW)
OUTPUT 3RD ORDER INTERCEPT POINT (OIP3)	>+37 dBm
MAX NON-DESTRUCTIVE INPUT POWER	+23 dBm (@ 330 - 550 MHz)
IMPEDANCE	Nom. 50 Ω
SWR (INPUT AND OUTPUT)	Max. 1.5:1
SUPPLY VOLTAGE	8 - 25 VDC
CURRENT CONSUMPTION	150 mA
MECHANICAL	
TEMP. RANGE	-30° C \rightarrow +60° C

CONNECTORS	INPUT: N-female OUTPUT: N-female
DIMENSIONS (L x W x H)	160 x 113 x 88 mm / 6.30 x 4.45 x 3.46 in. (incl. conn.)
WEIGHT	Approx. 500 g / 1.10 lb.
ENVIRONMENTAL	
IP-GRADE	IP-63, providing that the stipulated installation is observed

MOUNTING DETAILS

MAMO

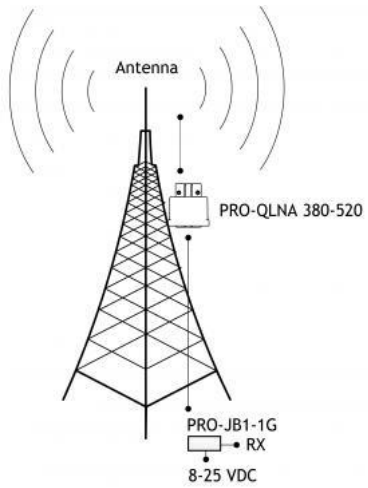


WAMO

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PRO-JB1-1G

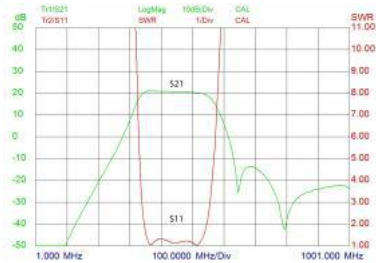
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PRO-QLNA 380-520

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TYPICAL GAIN AND SWR



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TYPICAL NOISE FIGURE

PRO-PDI2-40-1G-... dB-2.5W-N

Power Divider

- 2.5 W unequal power divider.

DESCRIPTION

- The divider covers the frequency range from 40 - 1000 MHz.
- Very little ripple on divider output over the entire frequency range.

ORDERING DESIGNATIONS

TYPE		PRODUCT NO.
PRO-PDI2-40-1G(2G)-N, 2.5..	6 dB	210001060
PRO-PDI2-40-1G(2G)-N, 2.5..	10 dB	210000437
PRO-PDI2-40-1G(2G)-N, 2.5..	15 dB	210001020
PRO-PDI2-40-1G(2G)-N, 2.5..	20 dB	210000994

SPECIFICATIONS

ELECTRICAL										
MODEL			PRO-PDI2-40-1G-... dB-2.5W-N							
			6 dB		10 dB		15 dB		20 dB	
FREQUENCY RANGE			40 - 1000 MHz						40 MHz - 2 GHz	
MAX. INPUT POWER			2.5 W (3 W)							
NOMINAL DIVIDER LOSS			1.25 dB		0.45 dB		0.45 dB		0.4 dB	
TOTAL LOSS INCL. NOMINAL LOSS	@ 40 MHz	≤ 2.3 dB		≤ 1.4 dB		≤ 1.4 dB		≤ 0.9 dB		
	@ 1000 MHz	≤ 2.75 dB	≤ 2.2 dB	≤ 2.2 dB	≤ 1.1 dB @ 2G < 1.4					
ISOLATION OUTPUT TO OUTPUT		> 10 dB	> 12 dB	> 16 dB	> 18 dB					
DIVIDER OUTPUT (dB)		-6.5 - 0.5 + 1	-10 ± 0.5	- 15 ± 0.5	- 20 ± 1					
IMPEDANCE		Nom. 50 Ω								
INPUT SWR		< 1.5				< 1.5 @ 2G < 2				
MECHANICAL										
TEMP. RANGE		-30°C → +60°C								
CONNECTORS		N-female								
DIMENSIONS		89 x 56 x 29 mm (incl. connectors)								



WEIGHT	Approx. 145 g	
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TYPICAL RESPONSE CURVE

MOUNTING DETAILS



PRO-ATT ... dB-25-3

Attenuator 25 W

- This series includes 3 dB, 6 dB, 10 dB, 20 dB and 30 dB attenuators.

DESCRIPTION

- This series of attenuators has very low SWR and attenuation flatness and is especially suitable for use with:
 - Coaxial Transmission Lines
 - Power Monitors
 - Watt Meters
- The attenuators have a finish of black anodization.

ORDERING DESIGNATIONS

TYPE	PRODUCT NO.
PRO-ATT 3 dB-25-3-N(f)	200001732
PRO-ATT 6 dB-25-3-N(f)	200001750
PRO-ATT 10 dB-25-3-N(f)	200001751
PRO-ATT 20 dB-25-3-N(f)	200001724
PRO-ATT 30 dB-25-3-N(f)	200001752
PRO-ATT 3 dB-25-3-7/16(f)	200002544
PRO-ATT 6 dB-25-3-7/16(f)	200002545
PRO-ATT 10 dB-25-3-7/16(f)	200002541
PRO-ATT 20 dB-25-3-7/16(f)	200002542
PRO-ATT 30 dB-25-3-7/16(f)	200002543

SPECIFICATIONS

ELECTRICAL	
MODEL	PRO-ATT ... dB-25-3
FREQUENCY RANGE	DC - 3 GHz
MAX. INPUT POWER	25 W
ATTENUATION	See table below
POWER RATING REMARKS	Unrestricted airflow necessary for operating at maximum power
IMPEDANCE	Nom. 50 Ω
SWR	<1.25
MECHANICAL	
TEMP. RANGE	-35°C → +70°C

CONNECTORS		N-female or 7/16 DIN-female	
DIMENSIONS (L x W x H)		120 x 100 x 34 mm / 4.72 x 3.94 x 1.35 in.	
WEIGHT		Approx. 650 g / 1.43 lb.	
MOUNTING		ø5 mm (4 holes)	
MODEL	ATTENUATION	ATT. DEVIATION	
		DC - 2.0 GHz	2.0 - 3.0 GHz
PRO-ATT 3 dB-25-3	3 dB	+/-0.5 dB	+/-1.0 dB
PRO-ATT 6 dB-25-3	6 dB	+/-0.5 dB	+/-1.0 dB
PRO-ATT 10 dB-25-3	10 dB	+/-0.75 dB	+/-1.5 dB
PRO-ATT 20 dB-25-3	20 dB	+/-0.75 dB	+/-1.5 dB
PRO-ATT 30 dB-25-3	30 dB	+/-0.75 dB	+/-1.5 dB

MOUNTING DETAILS

DIMENSIONS

	A	B
PRO-ATT ... dB-25-3-N(f)	18.5 mm (0.73 in.)	157 mm (6.18 in.)
PRO-ATT ... dB-25-3-7/16(f)	21.5 mm (0.85 in.)	163 mm (6.42 in.)



PRO-ATT ... dB-2-3-N

Attenuator 2 W

- This 2 W series includes 3 dB, 6 dB, 10 dB, 20 dB and 30 dB attenuators.

DESCRIPTION

- This series of attenuators has very low SWR and attenuation flatness and is especially suitable for use with:
 - Coaxial Transmission Lines
 - Power Monitors
 - Watt Meters

ORDERING DESIGNATIONS

TYPE	PRODUCT NO.
PRO-ATT 3 dB-2-3-N	200002212
PRO-ATT 6 dB-2-3-N	200002213
PRO-ATT 10 dB-2-3-N	200002087
PRO-ATT 20 dB-2-3-N	200002214
PRO-ATT 30 dB-2-3-N	200002215

SPECIFICATIONS

ELECTRICAL			
FREQUENCY RANGE		DC - 3 GHz	
MAX. INPUT POWER		2 W	
ATTENUATION		See table below	
IMPEDANCE		Nom. 50 Ω	
SWR		< 1.25	
MECHANICAL			
TEMP. RANGE		-35°C → +70°C	
CONNECTORS		N-male to N-female	
DIMENSIONS		53 x 21 mm / 2.09 x 0.83 in.	
WEIGHT		Approx. 71 g / 0.16 lb.	
MODEL	ATTENUATION	ATT. DEVIATION	
		DC - 2.0 GHz	2.0 - 3.0 GHz
PRO-ATT 3 dB-2-3-N	3 dB	+/-0.2 dB	+/-0.3 dB
PRO-ATT 6 dB-2-3-N	6 dB	+/-0.2 dB	+/-0.3 dB
PRO-ATT 10 dB-2-3-N	10 dB	+/-0.2 dB	+/-0.3 dB

PRO-ATT 20 dB-2-3-N	20 dB	+/-0.2 dB	+/-0.3 dB
PRO-ATT 30 dB-2-3-N	30 dB	+/-0.5 dB	+/-1.5 dB

PRO-PDI2-0.8-2.7G-20W-N

Power Divider 20 W

- 20 W Power Divider with broadband characteristics covering the cellular service bands.

DESCRIPTION

- 20 W equal power divider.
- Very low SWR and excellent isolation over the entire frequency range.

ORDERING DESIGNATIONS

TYPE	PRODUCT NO.
PRO-PDI2-0.8-2.7G-20W-N	200001704

SPECIFICATIONS

ELECTRICAL	
MODEL	PRO-PDI2-0.8-2.7G-20W-N
FREQUENCY RANGE	0.8 - 2.7 GHz
ISOLATION	> 20 dB
SWR	< 1.2
MAX. INPUT POWER	20 W
NOMINAL DIVIDER LOSS	3 dB
TOTAL LOSS INCL. NOMINAL DIVIDER LOSS	< 3.7 dB (typ. 3.5 dB)
DIVIDER OUTPUT	Equal
IMPEDANCE	Nom. 50 Ω
COMPLIANCE	RoHS, IP66
MECHANICAL	
CONNECTORS	N-female
DIMENSIONS (L x W x H)	75.6 x 90.4 x 28 mm
WEIGHT	Approx. 395 g
ENVIRONMENTAL	
TEMP. RANGE	-35° C → 60° C

TYPICAL RESPONSE CURVE



MOUNTING DETAILS

PRO-MPS... 380-2700

2- & 3-Way Medium Power Splitter 100W

- 100 W 2- & 3-way medium power splitter covering the 380 - 2700 MHz band.
- Excellent power performance.

DESCRIPTION

- Very low SWR and insertion loss over the entire frequency range.

ORDERING DESIGNATION

TYPE	DESCRIPTION	PRODUCT NO.
PRO-MPS2 380-2700-N(f)	2-Way	200002458
PRO-MPS3 380-2700-N(f)	3-Way	200002485

SPECIFICATIONS

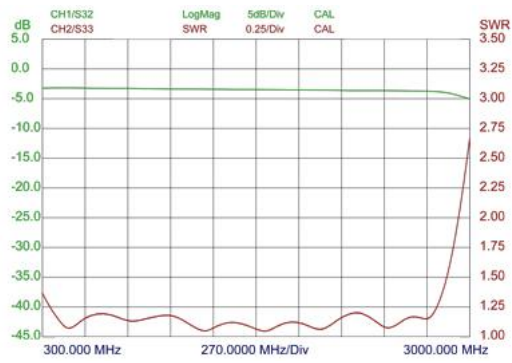
ELECTRICAL		
MODEL	PRO-MPS2 380-2700	PRO-MPS3 380-2700
FREQUENCY RANGE	380 - 2700 MHz	380 - 2700 MHz
AMPLITUDE BALANCE	± 0.3 dB	± 0.5 dB
MAX. INPUT POWER	100 W	100 W
SPLIT	1:2	1:3
SPLIT LOSS	3 dB	4.8 dB
THROUGH LOSS	380 MHz < 3.4 dB 1000 MHz < 3.8 dB 2700 MHz < 4 dB	380 MHz < 5.1 dB 1500 MHz < 5.6 dB 2700 MHz < 5.8 dB
IMPEDANCE	Nom. 50 Ω	Nom. 50 Ω
INPUT SWR	≤ 1.3	≤ 1.3
COMPLIANCE	RoHS, IP64	RoHS, IP64
MECHANICAL		
TEMP. RANGE	-30° C → +60° C	-30° C → +60° C
CONNECTORS	N-female	N-female
DIMENSIONS (L x W x H)	165 x 75 x 23 mm	185 x 75 x 23 mm
WEIGHT	Approx. 345 g	Approx. 360 g
MOUNTING	M4 mm (4 holes)	M4 mm (4 holes)

3-WAY

MOUNTING DETAILS 2-WAY

MOUNTING DETAILS 3-WAY

TYPICAL RESPONSE CURVE 2-WAY



TYPICAL RESPONSE CURVE 3-WAY

PRO-MPHY450-2-.. dB-N-...

2-Channel Hybrid Ring Power Combiner/Divider for the 450 MHz band

- Combines two transmitters or receivers on the same antenna.
- Better utilization of good antenna position.
- The only combining option with very small TX-TX frequency spacing.

DESCRIPTION

- 30 W load built-in.
- Two antennas on the same transmitter or receiver.
- Symmetrical 1:1 dividing ratio (-3 dB).
- Can be delivered with asymmetrical dividing ratio, e.g. -6 dB, -10 dB or -15 dB.
- Centre frequency to be arbitrary specified by the customer within 380 - 475 MHz.

ORDERING DESIGNATIONS

TYPE	PRODUCT NO.
PRO-MPHY450-2-3 dB-N	210000606
PRO-MPHY450-2-6 dB-N	210000728
PRO-MPHY450-2-10 dB-N	210000746
PRO-MPHY450-2-15 dB-N	210001145

SPECIFICATIONS

ELECTRICAL	
MODEL	PRO-MPHY450-2-... dB-N-...
FILTER TYPE	Hybrid Ring Junction
CENTRE FREQUENCY	To be stated within 380 and 475 MHz
MAX. INPUT POWER	30 W per channel when used as a power combiner. 60 W when used as a power divider. Note: When used as a power combiner, extra cooling is necessary. At 2 x 30 W the unit requires a heatsink with $R_{th} \leq 3^{\circ} \text{ C/W}$.
THROUGH LOSS	
3 dB COMBINER	< 3.4 dB @ $\pm 5 \text{ MHz BW}$
	< 3.7 dB @ $\pm 10 \text{ MHz BW}$
6 dB COMBINER	< 1.6 dB (typ. 1.5 dB)
10 dB COMBINER	< 1.2 dB (typ. 1.0 dB)
15 dB COMBINER	< 0.7 dB (typ. 0.5 dB)
ISOLATION	
3 dB COMBINER	> 35 dB @ $\pm 5 \text{ MHz BW}$

	> 30 dB @ ± 10 MHz BW
6 dB, 10 dB, 15 dB COMBINER	> 20 dB @ ± 10 MHz
IMPEDANCE	Nom. 50 Ω
SWR	< 1.5 within ± 10 MHz from centre frequency, all other ports terminated with 50 Ω .
MECHANICAL	
TEMP. RANGE	-30° C \rightarrow +60° C
CONNECTORS	N-female (other types as option)
DIMENSIONS (L x W x H)	138 (incl. conn.) x 152 (incl. flanges) x 35 mm
WEIGHT	Approx. 350 g

TYPICAL RESPONSE CURVE

MOUNTING DETAILS



PRO-MPHY150-2-... dB

2-Channel Hybrid Ring Power Combiner/Divider for the 150 MHz band

- Combines two transmitters or receivers on the same antenna.
- Better utilization of good antenna position.
- The only combining option with very small TX-TX frequency spacing.

DESCRIPTION

- 30 W load built-in.
- Two antennas on the same transmitter or receiver.
- Symmetrical 1:1 dividing ratio (-3 dB).
- Can be delivered with asymmetrical dividing ratio, e.g. -6 dB, -10 dB, -20 dB or -30 dB.
- Centre frequency to be specified by the customer within 150 - 175 MHz.

ORDERING DESIGNATIONS

TYPE	PRODUCT NO.
PRO-MPHY150-2-3 dB-N(f)	210000514
PRO-MPHY150-2-6 dB-N(f)	210001431
PRO-MPHY150-2-10 dB-N(f)	210000624
PRO-MPHY150-2-20 dB-N(f)	210000752
PRO-MPHY150-2-30 dB-N(f)	210000725

SPECIFICATIONS

ELECTRICAL	
MODEL	PRO-MPHY150-2-.. dB
FILTER TYPE	Hybrid Ring Junction
CENTRE FREQUENCY	To be stated within 150 and 175 MHz
MAX. INPUT POWER	30 W per channel when used as a power combiner. 60 W when used as a power divider. Note: When used as a power combiner, extra cooling is necessary. At 2 x 30 W the unit requires a heatsink with $R_{th} \leq 3^{\circ} \text{C/W}$.
INSERTION LOSS	< 3.3 dB @ ± 12 MHz BW
ISOLATION	> 35 dB @ ± 6 MHz BW > 30 dB @ ± 12 MHz BW
IMPEDANCE	Nom. 50 Ω
SWR	< 1.3 within ± 10 MHz from centre frequency, all other ports terminated with 50 Ω .
MECHANICAL	
TEMP. RANGE	-30° C → +60° C

CONNECTORS	N-female (other types as option)
DIMENSIONS (L x W x H)	138 (incl. conn.) x 152 (incl. flanges) x 35 mm
WEIGHT	Approx. 450 g

TYPICAL RESPONSE CURVE



PRO-MMU 0.8-2.5G-200W-N

Power Splitter 200 W

- 200 W equal Power Splitter with broad-band characteristic covering the cellular service bands.
- Excellent high power performance.

DESCRIPTION

- Very low SWR and IL over the entire frequency range.
- Compliant with RoHS and IP66.

ORDERING DESIGNATIONS

TYPE	PRODUCT NO.
PRO-MMU 0.8-2.5G-200W-N	200001718

SPECIFICATIONS

ELECTRICAL	
MODEL	PRO-MMU 0.8-2.5G-200W-N
FREQUENCY RANGE	0.8 - 2.5 GHz
WAY	2
SWR	< 1.2
MAX. INPUT POWER	200 W
NOMINAL SPLITTER LOSS	3 dB
TOTAL LOSS INCL.NOMINAL SPLITTER LOSS	< 3.5 dB
COMPLIANCE	RoHS, IP66
DIVIDER OUTPUT	Equal
IMPEDANCE	Nom. 50 Ω
MECHANICAL	
TEMP. RANGE	-35° C → +50° C
CONNECTORS	N-female
DIMENSIONS (L x W x H)	212 x 61 x 26 mm
WEIGHT	Approx. 401 g

TYPICAL RESPONSE CURVE



AMP 50-1.6G

Miniature Ultra-High Dynamic Low-noise Preamplifier

- Miniature ultra-high dynamic low-noise preamplifier.
- Ultra-high P_{1dB} -compression point.

DESCRIPTION

- Ultra-high 3rd order intercept point.
- To be used where extra preamplification is needed:
 - Receivers with long antenna cabling
 - Measuring instruments
 - Multicoupler systems
 - Scanners.
- Low noise figure.
- 12 V operational voltage (24 V as option).
- Provided with FME-male connector on input and output.
- Can be DC powered in two ways without any switching:
 - Via the red/black DC cable
 - From phantom voltage on the RF output port.



ORDERING DESIGNATIONS

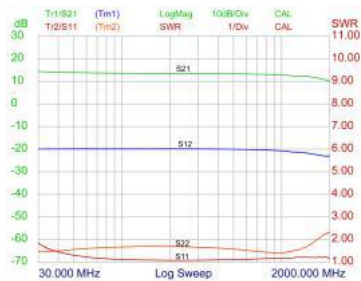
TYPE	PRODUCT NO.
AMP 50-1.6G	200001113

SPECIFICATIONS

ELECTRICAL	
MODEL	AMP 50-1.6G
FREQUENCY RANGE	50 - 1600 MHz
GAIN [S21]	12 dB \pm 2 dB
NOISE FIGURE	\leq 6.0 dB, typ. 4.0 dB @ 400 MHz
P_{1dB}	$>$ 23 dBm
OIP ₃	\geq 40 dBm
INPUT SWR	Max. 1.5
OUTPUT SWR	Max. 2.5

ISOLATION OUTPUT TO INPUT	> 17 dB
MAX. RF INPUT POWER	50 mW / +17 dBm
VOLTAGE	11-14 V @ 12 V; 250 mA (24 V as option)
MECHANICAL	
CONNECTORS	FME-male, 2 pcs. + flexible wire
DIMENSIONS (W x H x D)	50 x 36 x 50 mm (incl. connectors)
WEIGHT	Approx. 95 g
ENVIROMENTAL	
TEMP. RANGE	- 30° C → + 50° C

TYPICAL RESPONSE CURVES



PRO-MARHP4-4-3-2-12V

Miniature 4-Channel Receiver Multicoupler for the 4 m, 3 m and 2 m bands

- For use where four receivers have to share the same antenna.
- High isolation between the four receivers: > 20 dB.



PRO-MARHP2-4-3-2-12V

Miniature 2-Channel Receiver Multicoupler for the 4 m, 3 m and 2 m bands

- For use where two receivers have to share the same antenna.
- High isolation between the two receivers: > 20 dB.

DESCRIPTION

- High-dynamic range amplifier built in to compensate for loss in the multicoupler network.
- Ultra-high third-order intercept point, > +37 dBm.
- Low noise figure for the amplifier: 1.2 dB.
- 12 V operating voltage (24 V as option).

ORDERING DESIGNATIONS

TYPE	PRODUCT NO.
PRO-MARHP2-4-3-2-12V	210000182

SPECIFICATIONS

ELECTRICAL	
MODEL	PRO-MARHP2-4-3-2-12V
FREQUENCY RANGE	68 - 180 MHz
GAIN (INPUT TO ALL OUTPUTS)	2 dB ± 1 dB (Gain adj. 1 dB to 11 dB)
NOISE FIGURE, AMPLIFIER	< 1.2 dB
OIP ₃	> 31 dBm
P _{1dB}	> 10 dBm
ISOLATION OUTPUT TO OUTPUT	> 20 dB
IMPEDANCE	Nom. 50 Ω
INPUT SWR OUTPUT SWR	Max. 3.5, typ. 2.0 Max. 1.5, typ. 1.3
SUPPLY POWER	12 V @ 60 mA
MECHANICAL	
TEMP. RANGE	-30° C → +60° C
CONNECTORS	N-female
DIMENSIONS (L x W x H)	138 (incl. connectors) x 152 (incl. flanges) x 35 mm
WEIGHT	Approx. 500 g



PRO-MAR4-N

Miniature 4-Channel Software Receiver Multicoupler

- Active wideband receiver multicoupler for the LF, MF, HF and low VHF bands.
- For use where four receivers have to share the same antenna.

DESCRIPTION

- Wide frequency range: Covers 10 kHz - 108 MHz.
- High isolation between the four receiver outputs.
- Amplifier built in to compensate for loss in multicoupler network.
- Adjustable gain.
- High IP2 and IP3.
- Low amplifier noise figure.
- Wide supply voltage range.
- N-, BNC- or TNC-female connectors on all ports.

ORDERING DESIGNATIONS

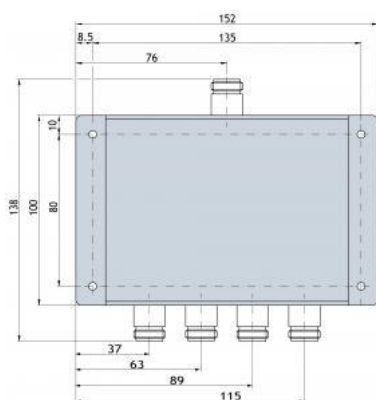
TYPE	PRODUCT NO.
PRO-MAR4-N	210001594
PRO-MAR4-BNC	210000153
PRO-MAR4-TNC	210001593

SPECIFICATIONS

ELECTRICAL	
MODEL	PRO-MAR4-N
FREQUENCY RANGE	10 kHz - 108 MHz
GAIN INPUT TO ALL OUTPUTS	Adjustable from < -8 dB to > +2 dB
GAIN FLATNESS	Better than ± 1 dB
NF (AMPLIFIER)	< 5.5 dB @ 10 MHz, < 4.5 dB @ 108 MHz
P _{1dB}	> +6 dBm (@ gain = max.)
OIP ₂	> +29 dBm (@ gain = max.)
OIP ₃	> +17 dBm (@ gain = max.)
ISOLATION BETWEEN OUTPUTS	Min. 17 dB, typ. > 20 dB
ISOLATION, OUTPUT TO INPUT	> 25 dB
INPUT SWR	< 2.0
OUTPUT SWR	< 1.5
SUPPLY VOLTAGE/CURRENT	11 to 25 V 90 mA

MECHANICAL	
CONNECTORS	N-, BNC- or TNC-female
DIMENSIONS (L x W x H)	138 (incl. connectors) x 152 (incl. flanges) x 35 mm
WEIGHT	Approx. 400 g
MOUNTING	ø4 mm (four holes)

MOUNTING DETAILS



PRO-MAR2-N

Ministure 2-Channel Shortwave Receiver Multicoupler

- Active wideband receiver multicoupler for the LF, MF, HF and low VHF bands.
- For use where two receivers have to share the same antenna.

DESCRIPTION

- Wide frequency range: Covers 10 kHz – 108 MHz.
- High isolation between the two receiver outputs.
- Amplifier built in to compensate for loss in multicoupler network.
- Adjustable gain.
- High IP2 and IP3.
- Low amplifier noise figure.
- Wide supply voltage range.
- N-, BNC- or TNC-female connectors on all ports.

ORDERING DESIGNATIONS

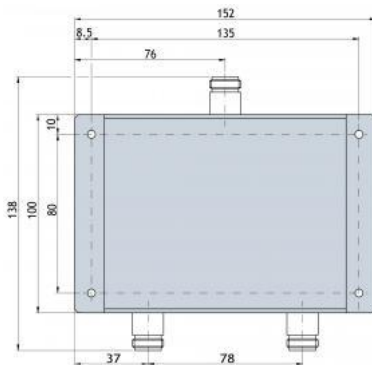
TYPE	PRODUCT NO.
PRO-MAR2-N	210001583
PRO-MAR2-BNC	210001584
PRO-MAR2-TNC	210001585

SPECIFICATIONS

ELECTRICAL	
MODEL	PRO-MAR2-N
FREQUENCY RANGE	10 kHz - 108 MHz
GAIN INPUT TO ALL OUTPUTS	Adjustable from < -8 dB to > +2 dB
GAIN FLATNESS	Better than ± 1 dB
NF (AMPLIFIER)	< 5.5 dB @ 10 MHz, < 4.5 dB @ 108 MHz
P _{1dB}	> +6 dBm (@ gain = max.)
OIP ₂	> +29 dBm (@ gain = max.)
OIP ₃	> +17 dBm (@ gain = max.)
ISOLATION BETWEEN OUTPUTS	Min. 17 dB, typ. > 20 dB
ISOLATION, OUTPUT TO INPUT	> 25 dB
INPUT SWR	< 2.0
OUTPUT SWR	< 1.5
SUPPLY VOLTAGE/CURRENT	11 to 25 V 90 mA

MECHANICAL	
CONNECTORS	N-, BNC- or TNC-female
DIMENSIONS (L x W x H)	138 (incl. connectors) x 152 (incl. flanges) x 35 mm
WEIGHT	Approx. 400 g
MOUNTING	ø4 mm (four holes)

MOUNTING DETAILS





PRO-LNA-GPS-12V

Low-noise Preamplifier for 1575 MHz

- Miniature high-dynamic range low-noise preamplifier.



PRO-LNA-900-12V

Low-noise Preamplifier for 800 - 1000 MHz

- Miniature high-dynamic range low-noise preamplifier.

DESCRIPTION

- For use where additional preamplification is required:
 - receivers with long antenna cabling
 - measuring instruments
 - antenna distribution systems
 - scanners.
- Low noise figure: ≤ 1.2 dB.
- 12 V operating voltage (24 V as option).
- N-female connectors on input and outputs (other types available).

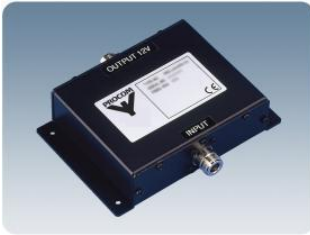
ORDERING DESIGNATIONS

TYPE NO.	PRODUCT NO.
PRO-LNA-900-12V	210000107

SPECIFICATIONS

ELECTRICAL	
FREQUENCY RANGE	800-1000 MHz
GAIN [S21]	19 dB
P1dB	> 13 dBm
NOISE FIGURE	< 1.2 dB @ 915 MHz
3rd ORDER INTERCEPT POINT	> +25 dBm
MAX NON-DESTRUCTIVE INPUT POWER	+17 dBm
IMPEDANCE	Nom. 50 ohm
INPUT SWR	Max. 2.5, typically < 2.0
OUTPUT SWR	Max. 2.0, typically < 1.7
ISOLATION OUTPUT TO INPUT	> 23 dB
VOLTAGE	11-14 V @ 12 V: 40 mA (24 V as option)
MECHANICAL	
DIMENSIONS (L x W x H)	138 (incl. conn.) x 152 (incl. flanges) x 35 mm
WEIGHT	Approx. 280 g





PRO-LNA-70-12V

Low-noise Preamplifier for 400 - 475 MHz

- Miniature high-dynamic range low-noise preamplifier.

DESCRIPTION

- For use where additional preamplification is required:
 - Receivers with long antenna cabling
 - Measuring instruments
 - Antenna distribution systems
 - Scanners
- Low noise figure: ≤ 2.5 dB.
- Bandwidth 30 MHz within the frequency range 400-475 MHz
 F_{LOW} to F_{HIGH} to be stated after the ordering designation when ordering.
- 12 V operating voltage (24 V as option).
- N-female connectors on input and output.
- Also available with SMA(f), TNC(f) or BNC(f).

ORDERING DESIGNATIONS

TYPE NO.	PRODUCT NO.
PRO-LNA-70-12V-N(f)	210000145
PRO-LNA-70-12V-SMA(f)	210002213
PRO-LNA-70-12V-TNC(f)	210002214
PRO-LNA-70-12V-BNC(f)	210002215

SPECIFICATIONS

ELECTRICAL	
FREQUENCY RANGE	400-475 MHz
BANDWIDTH	30 MHz F_{LOW} to F_{HIGH} to be stated within 400-470 MHz
GAIN [S21]	Typ. 18 dB (Gain adj. 0/-10 dB)
ISOLATION (S12)	>30 dB
NOISE FIGURE	< 2.5 dB
MAX. OUTPUT POWER @ 1dB COMPRESSION (P1dB)	$\geq +5$ dBm @ 18 dB gain
OUTPUT 3 RD ORDER INTERCEPT POINT (OIP3)	>+20 dBm @ 18 dB gain
IMPEDANCE	Nom. 50 ohm
INPUT SWR (S11)	Max. 3.5, typ ≤ 2.0
OUTPUT SWR (S22)	Max. 2.5, typ ≤ 1.5

SUPPLY VOLTAGE	11-14 V (24 V as option)
CURRENT CONSUMPTION	50 mA
MECHANICAL	
DIMENSIONS (L x W x H)	138 (incl. conn.) x 152 (incl. flanges) x 35 mm / 5.4 x 5.9 x 1.3 in.
WEIGHT	Approx. 280 g / 0.6 lb

Procom A/S reserve the right to amend specifications without prior notice.



PRO-LNA-2400-12V

Low-noise preamplifier for 2300 2500 MHz

- Miniature high-dynamic range low-noise preamplifier.



PRO-LNA-1800-12V

Low-noise Preamplifier

- Miniature high-dynamic range low-noise preamplifier.



PRO-LNA-1200-12V

Low-noise Preamplifier for 1140 - 1300 ;Hz

- Miniature high-dynamic range low-noise preamplifier.



CBBR-400

TETRA Band Selective Repeater for the 400 MHz indoor systems

DISCONTINUED

- Repeater for use in 400 MHz indoor TETRA systems
- High sensitivity
- High dynamic range

- [Download the manual **](#)
- [Download the software **](#)

DESCRIPTION

- Remote control
- Compact size
- Max. output power: +21 dBm (125 mW)
- Gain: 40 to 70 dB
- External power supply included.

****Download the software and manual from www.procom.dk**
Navigate to the search field (What are you looking for?)
Search for CBBR-400 and you will find a link for the manual and software here.

ORDERING DESIGNATIONS

TYPE	FREQUENCY	PRODUCT NO.
CBBR-400/l	380 - 385 MHz/ 390 - 395 MHz	PRODUCT IS DISCONTINUED
CBBR-400/m	410 - 415 MHz/ 420 - 425 MHz	
CBBR-400/h	415 - 420 MHz/ 425 - 430 MHz	
ACCESSORIES		
R232(f)-R232(f) cable 1.8m		
R232(m)-USB cable 0.1m*		

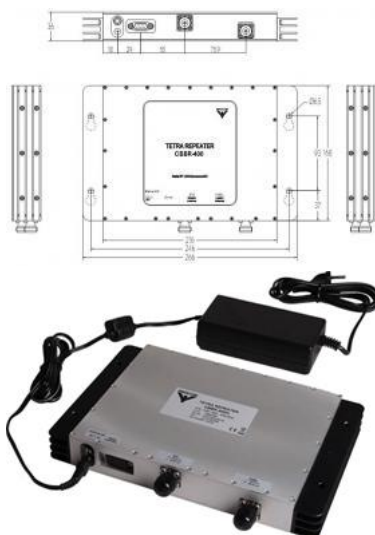
*You also need R232(f)-R232(f) cable. Other TETRA band available on request.

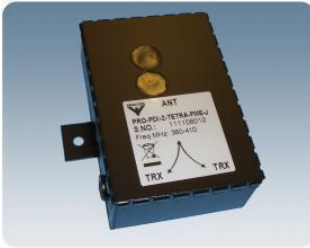
SPECIFICATIONS

ELECTRICAL			
MODEL	CBBR-400/l	CBBR-400/m	CBBR-400/h
FREQUENCY RANGE	380 - 385 MHz / 390 - 395 MHz	410 - 415 MHz / 420 - 425 MHz	415 - 420 MHz / 425 - 430 MHz
MODE OF OPERATION	Band selective duplex		
APPLICATION	Indoor or limited outdoor (IP52)		

GAIN	40 to 70 dB
INPUT NOISE FIGURE	< 4 dB
MAX. OUTPUT POWER	+21 dBm (125 mW)
ICP3	+36 dBm
MECHANICAL	
TEMP. RANGE	0° C → +45° C optional -10° C → +50° C
CONNECTORS	N-female
DIMENSIONS (L x W x H)	266 x 168 x 36 mm / 10.47 x 6.61 x 1.42 in.
WEIGHT	1.2 kg / 2.65 lb.

OUTLINE DIMENSIONS (mm)





PRO-PDI-2-TETRA-FME-J-...

TETRA combiner with SWR adaption/adjustment network

Replaced by PHY-TETRA-2-FME-...

- Combiner for coupling of two TETRA mobile transceivers on one common antenna.
- Factory-adjusted to either 380 to 410 MHz or 410 to 430 MHz.
- Compact dimensions – especially suitable for mobile applications.

DESCRIPTION

- FME-connectors for direct connection of FME-cable without extra adapter.
- For parallel operation of two two-way communication radios (transceivers) where highest possible decoupling (isolation) is necessary.
- Integrated SWR adjustment network for optimization of isolation in the frequency range of 380 to 410 MHz or 410 to 430 MHz. Via the adjustment network the effective SWR of the antenna can be optimized and consequently the isolation between the ports of the combiner clearly improved.
- High isolation obtainable: Up to 50 dB (Dependant on the SWR of the connected antenna).
- The adjustment of the SWR adjustment network takes place via built-in variable capacitors.
- Max. TETRA transmitter power 2 x 5 W.
- Also usable as equal or unequal power divider for max. 10 W.
- Very small ripple over the total frequency range.

ORDERING DESIGNATIONS

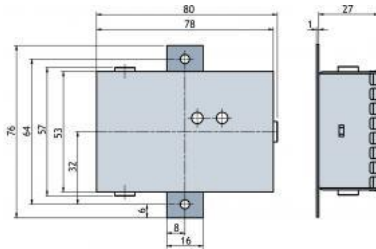
TYPE	PRODUCT NO.
PRO-PDI-2-TETRA-FME-J-380-410	Replaced by PHY-TETRA-2-FME-...
PRO-PDI-2-TETRA-FME-J-410-430	

SPECIFICATIONS

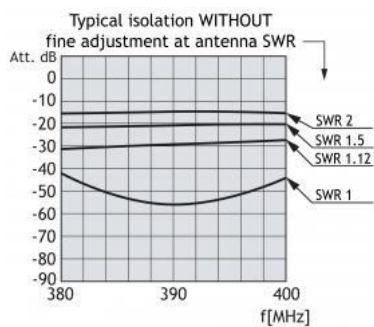
ELECTRICAL	
MODEL	PRO-PDI-2-TETRA-FME-J-...
FREQUENCY	380 - 410 MHz or 410 - 430 MHz
MAX. INPUT POWER (TETRA)	1 x 10 W if used as divider 2 x 5 W if used as coupler
NOMINAL DIVIDER LOSS	3.0 dB
TOTAL LOSS INCL. SPLITTER LOSS /COUPLER LOSS	< 3.5 dB
IMPEDANCE	Nom. 50 Ω
SWR	< 1.5
MECHANICAL	
TEMP. RANGE	-30° C → +60° C
CONNECTOR TYPE	FME-connectors
DIMENSIONS (L x W x H)	80 x 76 (inclusive of mounting plate) x 28 mm

WEIGHT	Approx. 360 g
MOUNTING	ø4 mm (two holes)

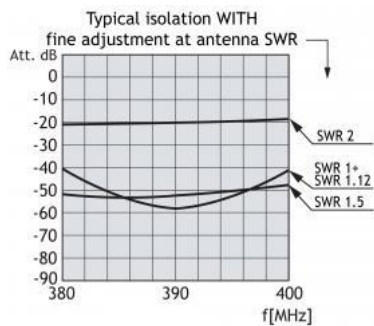
MOUNTING DETAILS



TYPICAL RESPONSE CURVE



TYPICAL RESPONSE CURVE



PRO-ATT ... dB-100-3

Attenuator 100 W

- This series includes 3 dB, 6 dB, 10 dB, 20 dB and 30 dB attenuators.

DESCRIPTION

- This series of attenuators has very low SWR and attenuation flatness and is especially suitable for use with:
 - Coaxial Transmission Lines
 - Power Monitors
 - Watt Meters
- The attenuators have a finish of black anodization.

ORDERING DESIGNATIONS

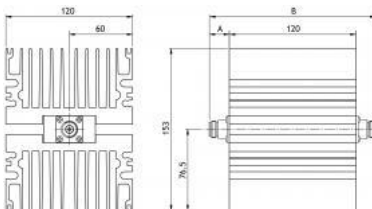
TYPE	PRODUCT NO.
PRO-ATT 3 dB-100-3-N(f)	200001731
PRO-ATT 6 dB-100-3-N(f)	200001757
PRO-ATT 10 dB-100-3-N(f)	200001758
PRO-ATT 20 dB-100-3-N(f)	200001743
PRO-ATT 30 dB-100-3-N(f)	200001742
PRO-ATT 3 dB-100-3-7/16(f)	200001509
PRO-ATT 6 dB-100-3-7/16(f)	200002538
PRO-ATT 10 dB-100-3-7/16(f)	200002510
PRO-ATT 20 dB-100-3-7/16(f)	200002539
PRO-ATT 30 dB-100-3-7/16(f)	200002540

SPECIFICATIONS

ELECTRICAL		
MODEL		PRO-ATT ... dB-100-3
FREQUENCY RANGE		DC - 3 GHz
MAX. INPUT POWER		
	3 dB, 6 dB:	100 W
	Up to 50°C ambient temperature:	Linearly derated to 70 W at 70°C ambient temperature - see curve below
	10 dB, 20 dB, 30 dB:	100 W
	Up to 30°C ambient	Linearly derated to 50 W at 70°C

		temperature:		ambient temperature - see curve below	
POWER RATING REMARKS				Unrestricted airflow necessary for operating at maximum power	
ATTENUATION				See table below	
IMPEDANCE				Nom. 50 Ω	
SWR				<1.25	
MECHANICAL					
TEMP. RANGE				-35°C → +70°C	
CONNECTORS				N-female or 7/16 DIN-female	
DIMENSIONS (L x W x H)				152 x 120 x 120 mm / 5.98 x 4.72 x 4.72 in.	
WEIGHT				Approx. 2500 g / 5.51 lb.	
MODEL		ATTENUATION		ATT. DEVIATION	
				DC - 2.0 GHz	2.0 - 3.0 GHz
PRO-ATT 3 dB-100-3		3 dB		+/-0.5 dB	+/-0.75 dB
PRO-ATT 6 dB-100-3		6 dB		+/-0.5 dB	+/-1.0 dB
PRO-ATT 10 dB-100-3		10 dB		+/-0.75 dB	+/-1.5 dB
PRO-ATT 20 dB-100-3		20 dB		+/-0.75 dB	+/-1.5 dB
PRO-ATT 30 dB-100-3		30 dB		+/-0.75 dB	+/-1.5 dB

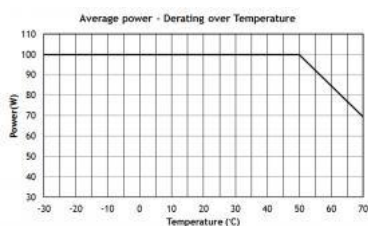
DIMENSIONS



MODEL	A	B
PRO-ATT ... dB-100-3-N(f)	18.5 mm (0.73 in.)	157 mm (6.18 in.)
PRO-ATT ... dB-100-3-7/16(f)	21.5 mm (0.85 in.)	163 mm (6.42 in.)

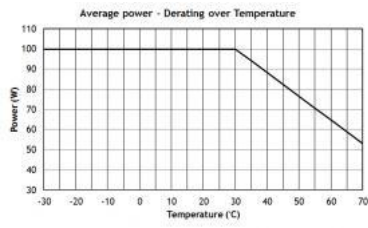
AMBIENT TEMPERATURE FOR

3 dB and 6 dB



AMBIENT TEMPERATURE FOR

10 dB, 20 dB and 30 dB



PRO-LNAHP-4-3-2

Low-noise Preamplifier for the 4m, 3m and 2m bands 68-240 MHz

- Miniature high-dynamic range low-noise preamplifier for the 4m LMR band, the FM radio band, the VHF air band, the 2m LMR band and the DAB radio band.
- Covers 68 MHz – 240 MHz.

DESCRIPTION

- For use where additional preamplification may be required:
 - In receiver systems to ensure low system noise figure
 - As buffer amplifier in RF signal distribution systems
 - As buffer amplifier to compensate high cable loss
 - As preamplifier for measuring instruments
- Adjustable gain.
- Very low noise figure ensures best possible S/N ratio of weak RF signals.
- Excellent large signal behaviour ensures handling of strong RF signals with very low level of IM and harmonic distortion.
- Low power consumption.
- Models for 12 VDC or 24 VDC supply voltage available (please see ordering designations).
- DC supply on solder terminal or on 2.5mm barrel DC connector.
- RF connectors: N-female on input and output ports (other types on request).
- Low weight.
- Wide temperature range.
- Sturdy aluminium box.
- Black vinyl coated to prevent corrosion.

ORDERING DESIGNATIONS

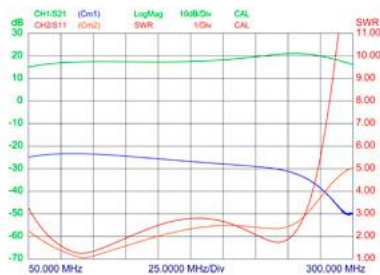
TYPE	PRODUCT NO.
PRO-LNAHP-4-3-2-12V-N	210000175
PRO-LNAHP-4-3-2-24V-N	210002296
ACCESSORIES	
ADAPTOR AC/DC 12V EU	240000040
ADAPTOR AC/DC 12V UK	240000041

SPECIFICATIONS

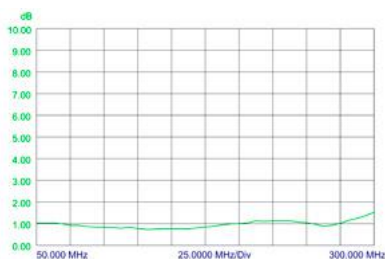
ELECTRICAL	
FREQUENCY RANGE	68-240 MHz
NOMINAL GAIN	18 dB (Gain adj. 8 dB to 18 dB)
GAIN RIPPLE	≤ ±2 dB
NOISE FIGURE @ 23°C	< 1.5 dB, typ. < 1.0 dB
MAX. OUTPUT POWER @ 1DB COMPRESSION (P1DB)	> +17 dBm @ max. gain

Output 2 ND order intercept point (OIP ₂)	> +47 dBm @ max. gain
Output 3 RD order intercept point (OIP ₃)	> +31 dBm @ max. gain
MAX. NON-DESTRUCTIVE INPUT POWER	+17 dBm
ISOLATION OUTPUT TO INPUT	> 20 dB
NOMINAL IMPEDANCE	Nom. 50 Ω
SWR (INPUT & OUTPUT)	Max. 3.5 typ. < 2.0
DC SUPPLY VOLTAGE / CURRENT	11 to 14 V DC / 60 mA
MECHANICAL	
CONNECTORS	N-female (standard), TNC(f), BNC(f) or SMA(f) on request
DIMENSIONS (L x W x H)	138 x 152 x 35 mm / 5.43 x 5.98 x 1.38 in. (incl. connectors and flanges)
WEIGHT	Approx. 350 g / 0.77 lb.
MOUNTING	ø4.3 / ø0.17 in. (four holes)
ENVIRONMENTAL	
TEMPERATURE RANGE	-30 °C to +60 °C

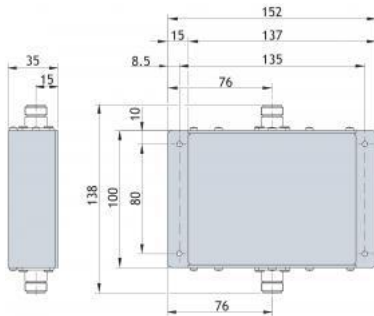
Typical Gain and SWR



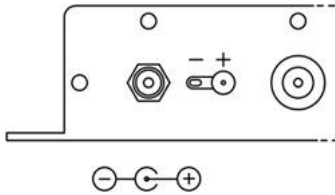
Typical Noise Figure



MOUNTING DETAILS



Power supply connection



ADAPTOR AC/DC 12V EU +ADAPTOR AC/DC 12V UK





UWB-I 380-6000

Ultra Wideband Omnidirectional Antenna capable of supporting TETRA, GSM, DCS, PCS, UMTS, WiFi 2.4 and 5.6 GHz, 4G LTE, and WiMax

- Ground plane independent indoor DAS antenna .
- Omnidirectional coverage for the 380 - 6000 MHz band.
- Installation from above or below the ceiling.

DESCRIPTION

- Provided with external coaxial cable with N-female connector.
- No need for external ground plane.
- Two installation options.



ORDERING DESIGNATIONS

TYPE	PRODUCT NO.
UWB-I 380-6000	100000545

SPECIFICATIONS

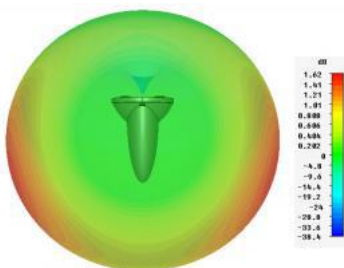
ELECTRICAL	
MODEL	UWB-I 380-6000
ANTENNA TYPE	Low profile multiband
FREQUENCY	380 - 6000 MHz
IMPEDANCE	Nom. 50 Ω
POLARIZATION	Linear (Vertical polarized)

COVERAGE	Omnidirectional	
GAIN	Approx. 0 dBi	
SWR	TETRA (380-470 MHz)	: ≤ 2
	4G LTE (698-960 MHz) (2500-2700 MHz)	: ≤ 2
	GSM (880-960 MHz) (1710-1880 MHz)	: ≤ 2
	UMTS (1910-2200 MHz)	: ≤ 2
	WiFi (2400-2500 MHz)	: ≤ 2
	WiMax (5000-6000 MHz)	: ≤ 2
MAX. POWER	50 W	
IM3	< - 140 dBc (2 x 37 dBm)	
MECHANICAL		
TEMP. RANGE	-30° C → +70° C	
MATERIALS	Radome: Lexan Flame retardent: UL 94 HB recognized Chasis : Aluminium	
CABLE	RG400 (length : 400 mm)	
COLOUR	White RAL 9003	
CONNECTOR	N-female	
HEIGHT	146 mm (ex. connector)	
WIDTH / DEPTH	107 / 325 mm	
WEIGHT	Approx. 650 g	

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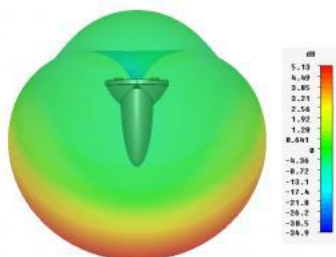
3D Gain Plot

TETRA 380 MHz



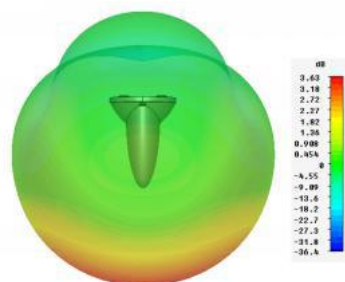
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LTE 750 MHz



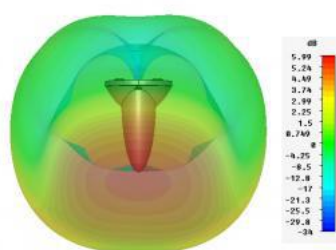
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GSM 900 MHz



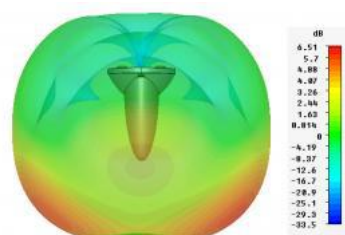
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GSM 1850 MHz



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UMTS 2100 MHz

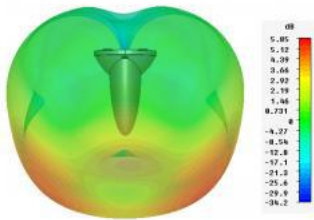


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WIFI 2400 MHz

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LTE 2600 MHz



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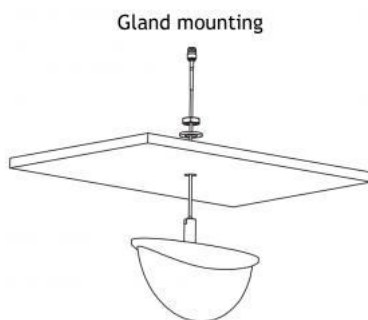
WIMAX 5500 MHz

INSTALLATION - METHOD A (Gland installation)

(Ceiling thickness 3-44 mm)

- Screw the gland unit on to the bottom.
- Drill a hole in the ceiling (ø23-25mm).
- Pull the cable through the hole.
- Mount the antenna with the nut and the washer

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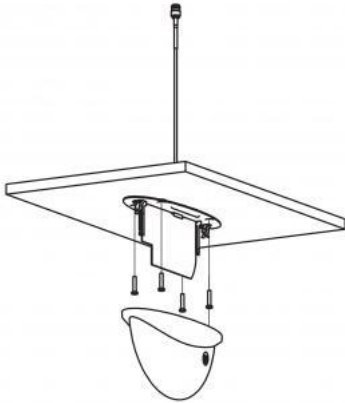
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INSTALLATION - METHOD B

- Separate the radome part (white plastic) from the base part by pulling the 2 parts from each other.
- Drill 5 holes in the ceiling. 4 pcs. ø 6.3 mm and 1 pcs. ø 23-25 mm.
- Pull the cable through the ø23 mm hole.
- Mount the base part to the ceiling with 4 screws (e.g. M6 screws) Screw height max 5 mm.
- Snap the radome part to the base part

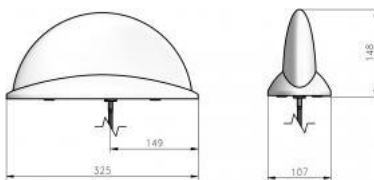
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ANTENNA DIMENSIONS



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TYPICAL SWR CURVE (375-475 MHz)

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TYPICAL SWR CURVE (700-6000 MHz)

XCPI 160/RHCP

Indoor Right Hand Circular Polarized Antenna for the 160 Mhz Band

- Low profile antenna for the 160 MHz band.
- XCPI 160/RHCP is a Right Hand Circularly Polarized antenna for indoor use e.g. ceilings and walls inside ships and houses.
- Circularly polarization is chosen to avoid out-of-phase signals.

DESCRIPTION

- Reduces flutter considerably.
- Specially designed for closed rooms.
- Covers 144 - 175 MHz with a radiation of approx. 2 dBic.
- The antenna is carefully sealed with a discreet cover.
- The connector is placed at one side to enable mounting close to a wall or a ceiling.

ORDERING DESIGNATIONS

TYPE	PRODUCT NO.
XCPI 160/RHCP	100000154

SPECIFICATIONS

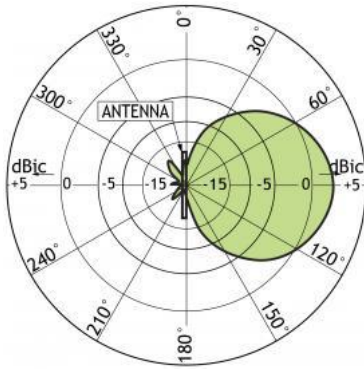
ELECTRICAL	
MODEL	XCPI 160/RHCP
ANTENNA TYPE	Right hand circularly polarized single band antenna
FREQUENCY	144 - 175 MHz
IMPEDANCE	Nom. 50 Ω
POLARIZATION	Circular (Right hand)
GAIN	Approx. 2 dBic
HALF POWER BEAMWIDTH	Approx. 60° (H- and E-plane)
BANDWIDTH	≥ 31 MHz @ SWR ≤ 2
SWR	≤ 1.5 f.res.
MAX. POWER	50 W
MECHANICAL	
TEMP. RANGE	-30°C → +75°C
CONNECTOR	N-female
COLOUR	Marine white
MATERIALS	Cover: PS (white) Chassis: Stainless steel
SIZE (W x L x H)	Approx. 608 x 608 x 90 mm

WEIGHT	Approx. 5.5 kg
MOUNTING	<p>ø 5.5 mm (4 holes)</p> <p>For optimum performance a groundplane of 1 x 1 m is required</p>

MOUNTING DETAILS (Dimensions excl. cover)

TYPICAL GAIN AND SWR CURVES

TYPICAL RADIATION PATTERN (E-PLANE)



This curve shows the radiation patterns in the vertical plane.

TYPICAL RADIATION PATTERN (H-PLANE)

This curve shows the radiation patterns in the horizontal plane (horizontal coverage).



XCPI 160/450/RHCP

Indoor Right Hand Circularly Polarized Antenna for the 160 Mhz and 450 MHz Bands

- Dual band indoor base station antenna - one antenna with two bands.
- Low profile antenna for the 160 MHz and 450 MHz bands.
- XCPI 160/450/RHCP/... is a Right Hand Circularly Polarized antenna for indoor use e.g. for ceilings and walls inside ships and houses.

DESCRIPTION

- Circularly polarized antenna to optimize indoor coverage.
- Reduces flutter considerably.
- Specially designed for closed rooms.
- Covers 160 MHz and 450 MHz bands with a gain of approx. 2 dBic for 160 MHz band and 5 dBic for 450 MHz band.
- The two built-in antennas are combined with a diplexer, built in diplexer, with low insertion loss, which makes it possible to have only one download cable.
- The antenna is carefully sealed with a discreet cover.
- The antenna is provided with one connector.
- The connector is placed at one side to enable mounting close to a wall or a ceiling.

ORDERING DESIGNATIONS

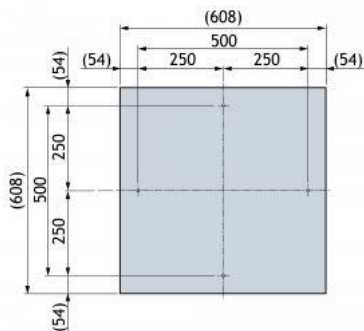
TYPE	PRODUCT NO.	FREQUENCY
XCPI 160/450/RHCP/s	100000495	380 - 400 MHz
XCPI 160/450/RHCP/f	100000498	410 - 430 MHz
XCPI 160/450/RHCP/h	100000496	450 - 470 MHz

SPECIFICATIONS

ELECTRICAL		
MODEL	XCPI 160/450/RHCP/...	
ANTENNA TYPE	Right hand circularly polarized dual band antenna	
FREQUENCY	160 MHz :	144 - 175 MHz
Other frequency band available on request	450 MHz :	380 - 400 MHz 410 - 430 MHz 450 - 470 MHz
IMPEDANCE	Nom. 50 Ω	
POLARIZATION	Circular (Right hand)	

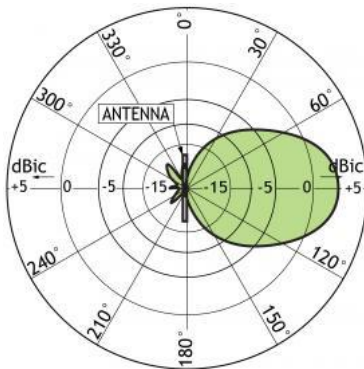
GAIN	
160 MHz :	Approx. 2 dBic
450 MHz :	Approx. 5 dBic
BANDWIDTH	160 MHz: ≥ 8 MHz 450 MHz: ≥ 20 MHz
HALF POWER BEAMWIDTH	Approx. 60° (H- and E-plane)
SWR	≤ 2
MAX. POWER	25 W
MECHANICAL	
TEMP. RANGE	-30°C → +75°C
CONNECTOR	N-female
COLOUR	Marine white
MATERIALS	Cover: PS (white) Chassis: Stainless steel
SIZE (W x L x H)	Approx. 608 x 608 x 90mm
WEIGHT	Approx. 6.0 kg
MOUNTING	ø 5.5 mm (four holes) For optimum performance a groundplane of 1 x 1 m is required
ELECTRICAL FOR BUILT-IN DIPLEXER	
FREQUENCY	Low port : 0 - 225 MHz High port : 330 - 1300 MHz
MAX. INPUT POWER	25 watts each port
INSERTION LOSS	0 - 225 MHz : < 0.5 dB 330 - 1300 MHz: < 0.5 dB
ISOLATION	Low to high port: > 45 dB

MOUNTING DETAILS (Dimensions excl. cover)



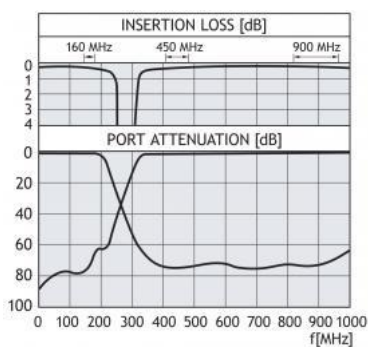
TYPICAL GAIN AND SWR CURVES

TYPICAL RADIATION PATTERN (E-PLANE) (160 MHz band)



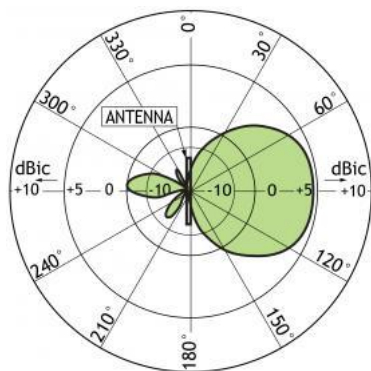
TYPICAL RADIATION PATTERN (H-PLANE) (160 MHz band)

BUILT-IN DIPLEXER



TYPICAL RADIATION PATTERN (E-PLANE) (450 MHz band)

TYPICAL RADIATION PATTERN (H-PLANE) (450 MHz band)



GPS 4/...

Active Receiving Antenna for the 1575 MHz NAVSTAR GPS Satellite Navigational System

- Full hemispherical coverage due to quadrifilar helix antenna element.
- Built-in high gain, low noise amplifier.
- Input filter for thorough RF-overload protection.
- Right-hand circular polarization (RHCP).

DESCRIPTION

- High rejection of cross-polarized reflections prevents fading caused by multipath propagation.
- 5 V supply voltage (3 V respectively 12 V available on request).
- DC supply via RF-connector.
- EMC tested to IEC 801 and IEC 255.
- Total design carried out to make the antenna withstand tough environments.
- Comprehensive range of accessory mounting brackets available.
- Colour opportunities:
 - White (Standard)
 - Black
 - Sand

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ORDERING DESIGNATIONS

TYPE	PRODUCT NO.	SUPPLY VOLTAGE	TYPE	PRODUCT NO.
GPS 4	112000017	5 V DC (4.5 - 5.5 V)	GPS 4-S	112000066
GPS 4/3 V	112000015	3 V DC (3 - 3.5 V)	GPS 4/3 V-S	112000068
GPS 4/12 V	112000016	12 V DC (9 - 15 V)	GPS 4/12 V-S	112000070
GPS 4-B	112000065	5 V DC	GPS 4/5 V-TNC	112000014

		(4.5 - 5.5 V)		
GPS 4/3 V-B	112000067	3 V DC (3 - 3.5 V)	GPS 4/3 V-TNC	112000010
GPS 4/12 V-B	112000069	12 V DC (9 - 15 V)	GPS 4/12 V-TNC	112000012

SPECIFICATIONS

ELECTRICAL General Specifications	
MODEL	GPS 4/...
ANTENNA TYPE	Quadrifilar helix active antenna
FREQUENCY	1575 MHz
IMPEDANCE	Nom. 50 Ω
POLARIZATION	Circular right-hand
COVERAGE	Hemispherical
GAIN (in axial direction)	> 32 dBi
CROSSPOLARIZATION ATT.	> 10 dB
SELECTIVITY	> 20 dB down @ \pm 100 MHz
Built-in Amplifier	
GAIN	> 30 dB
NOISE FIGURE	< 3 dB (incl. input filter). Typ. approx. 3 dB
1 dB COMPRESSION POINT	> 10 dBm
OUT OF BAND ATTENUATION	0.03 - 1 GHz : > 40 dB down 2 - 10 GHz : > 40 dB down
SWR (output)	< 2.0
SUPPLY VOLTAGE	GPS 4: 5 \pm 0.5 V DC GPS 4/3 V: 3-3.5 V DC GPS 4/12V: 9-15 V DC
CURRENT CONSUMPTION	Approx. 44 mA
EMC	Full protection (IEC 801, IEC 255)
MECHANICAL	
MATERIALS	Antenna dome: Weather-resistant low-loss plastic
ANTENNA COLOUR	Marine white, black or sand
INSULATION	Connector ground terminal galvanically insulated from the mounting hardware
WIND SURFACE	Approx. 0.0072 m ² / 0.08 ft ²
MAX. WIND SPEED	200 km/h / 124.27 mph.
WIND LOAD	Approx. 9.6 N @ 150 km/h / 93.21 mph.
CONNECTOR	FME-male (pin) or TNC-female

SUGGESTED DOWNLEAD CABLE	< 10 m: RG 58 10 - 30 m: RG 213
TOTAL HEIGHT	Approx. 23 cm / 9.06 in.
ANTENNA DIA.	33 mm / 1.30 in.
WEIGHT	Approx. 150 g / 0.33 lb.
MOUNTING	Vertical on 1" water pipe or on PROCOM 1" mounting brackets (see accessories)
ENVIRONMENTAL	
TEMP. RANGE	-50° C → +70° C
IP-RATING	IP-56 (IP-66 on request)

FME-SYSTEM ACCESSORIES

FME-CABLES	
TYPE	PRODUCT NO.
1 m FME(f)	130000437
2 m FME(f)	130000447
3 m FME(f)	130000457
4 m FME(f)	130000466
5 m FME(f)	130000474
6 m FME(f)	130000483
4 m FME-white(f)	110000064
6 m FME-white(f)	110000066
12 m FME-white(f)	110000068
18 m FME-white(f)	110000069
FME-CONNECTORS	
TYPE	PRODUCT NO.
FME(f)-FME(f)	130000583
FME(m)-P(m) (Prolongation)	130000565
FME(m)-N(m)	130000571
FME(m)-FSMA (Female-SMA)	130000578
FME(m)-BNC(m)	130000566
FME(m)-TNC(m)	130000569
FME(m)-UHF(m)	130000572
FME(m)-MUHF(m) (Mini-UHF)	130000573

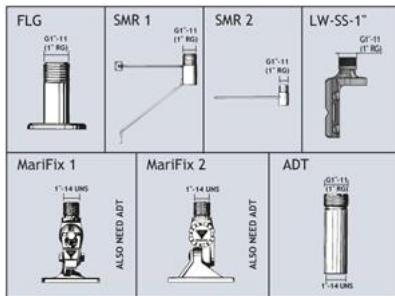
FME(m)-EMUHF(m)
(Elbow-MUHF)

130000582

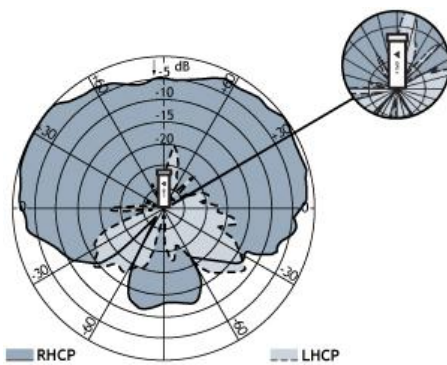
For further information about other types of FME-cables and FME-connectors, please compare the cable and connector data sheets under accessories in our catalogue.

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ACCESSORIES (to be ordered separately)

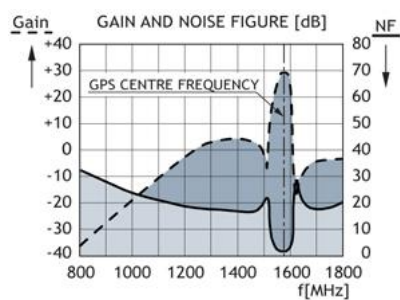


VERTICAL RADIATION PATTERN



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TYPICAL RESPONSE CURVES



LPO TETRA/380-470

Indoor linearly polarized low-profile antennas for ceiling mounting.

- Low-profile antenna for the 380 - 470 MHz band.
- LPO TETRA/380-470 is a vertically polarized antenna for indoor use.

DESCRIPTION

- Specially designed for closed rooms.
- Covers 90 MHz with a radiation of approx. 1 dBi.
- The antenna is carefully sealed with a discreet cover.

ORDERING DESIGNATIONS

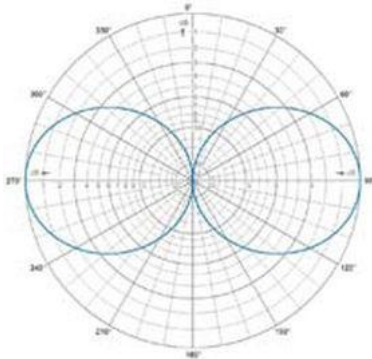
TYPE	FREQUENCY	PRODUCT NO.
LPO TETRA/380-470	380 - 470 MHz	802.00.05.00

SPECIFICATIONS

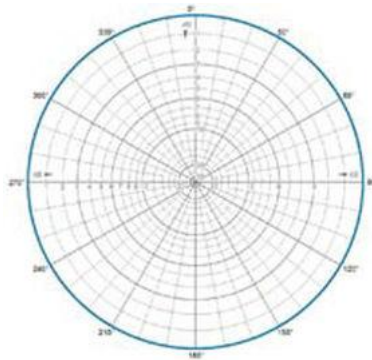
ELECTRICAL	
MODEL	LPO TETRA/380-470
ANTENNA TYPE	Vertically polarized low-profile antenna
FREQUENCY	380 - 470 MHz
IMPEDANCE	Nom. 50 Ω
POLARIZATION	Linear (Vertically polarized)
GAIN	1 dBi
BANDWIDTH	≥ 90 MHz
HALF-POWER BEAMWIDTH	E-plane 80° H-plane 360°
SWR	≤ 2.0
MAX. POWER	50 W
IM3	
MECHANICAL	
CONNECTOR	500 mm / 19.69 in. RG 303 term; "N"-type socket
RADOME	ABS White fire retardant
MATERIALS	Element: FR4 Printed circuit
SIZE (D x H)	ø231 mm x 81 mm / ø9.09 in. x 3.19 in.
WEIGHT	Approx. 0.4 kg / 0.88 lb.
MOUNTING	Via 3 screws on 180 mm / 7.09 in. PCD

IP-RATING	IP65
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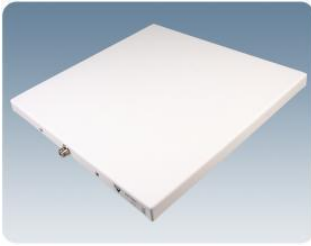
TYPICAL RADIATION PATTERN (E-plane)



TYPICAL RADIATION PATTERN (H-plane)



DIMENSIONS

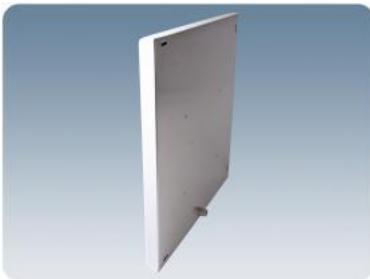


PCPI 70/xH/

Indoor Left or Right Hand Circularly Polarized Patch Antennas for mounting on Wall or Ceiling

- Low-profile antenna for the 450 MHz band.
- PCPI 70/xH/... is a Left or Right Hand Circularly Polarized patch antenna for indoor use.
- Circularly polarized antenna is chosen to avoid out-of-phase signals.

- Reduces flutter considerably.
- Specially designed for closed rooms.
- Covers approx. 20 MHz with a radiation of approx. 7 dBic 3 dBd.
- Full size $\frac{1}{2} \lambda$ patch antennas.
- The antennas are carefully sealed with a discrete cover.
- The connector is placed at one side to enable mounting close to a wall or a ceiling.
- Chassis also available in stainless steel PCPI 70R/xH/... (see ordering designations below).
- Connection also available on backside (see overleaf).



ORDERING DESIGNATIONS

STANDARD VERSION ORDERING DESIGNATIONS

TYPE	PRODUCT NO.	FREQUENCY
PCPI 70/LH/s	100000146	380 - 400 MHz
PCPI 70/LH/f	100000147	410 - 430 MHz
PCPI 70/LH/l	100000148	430 - 450 MHz
PCPI 70/LH/h	100000149	450 - 470 MHz
PCPI 70/RH/s	100000145	380 - 400 MHz
PCPI 70/RH/f	100000143	410 - 430 MHz
PCPI 70/RH/l	100000144	430 - 450 MHz
PCPI 70/RH/h	100000150	450 - 470 MHz

STAINLESS STEEL VERSION ORDERING DESIGNATIONS

TYPE	PRODUCT NO.	FREQUENCY
PCPI 70R/LH/s	100000302	380 - 400 MHz
PCPI 70R/LH/f	100000303	410 - 430 MHz

PCPI 70R/LH/l	100000304	430 - 450 MHz
PCPI 70R/LH/h	100000305	450 - 470 MHz
PCPI 70R/RH/s	100000306	380 - 400 MHz
PCPI 70R/RH/f	100000151	410 - 430 MHz
PCPI 70R/RH/l	100000307	430 - 450 MHz
PCPI 70R/RH/h	100000152	450 - 470 MHz

BC VERSION ORDERING DESIGNATIONS

TYPE	PRODUCT NO.	FREQUENCY
PCPI 70/LH/s-BC	100000337	380 - 400 MHz
PCPI 70/LH/f-BC	100000338	410 - 430 MHz
PCPI 70/LH/l-BC	100000339	430 - 450 MHz
PCPI 70/LH/h-BC	100000340	450 - 470 MHz
PCPI 70/RH/s-BC	100000333	380 - 400 MHz
PCPI 70/RH/f-BC	100000334	410 - 430 MHz
PCPI 70/RH/l-BC	100000335	430 - 450 MHz
PCPI 70/RH/h-BC	100000336	450 - 470 MHz

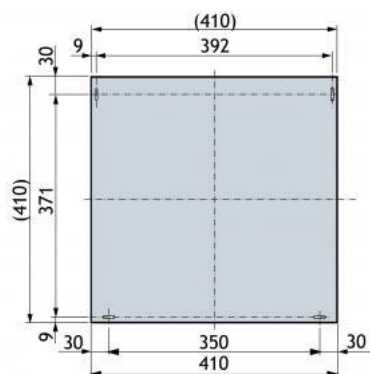
SPECIFICATIONS

ELETRICAL	
MODEL	PCPI 70/xH/...
ANTENNA TYPE	Left or right hand circularly polarized patch antenna
FREQUENCY	380 - 470 MHz covered by four models
IMPEDANCE	Nom. 50 Ω
POLARIZATION	Circular
GAIN	Approx. 7 dBic 3 dBd
BANDWIDTH	≥ 20 MHz @ SWR ≤ 1.8
HALF POWER BEAMWIDTH	Approx. 80° (H- and E-plane)
SWR	≤ 1.5 f.res.
MAX. POWER	100 W
MECHANICAL	
TEMP. RANGE	-30°C → +75°C
CONNECTOR	N-female

COLOUR	Marine white
MATERIALS	Cover: PS (white) Chassis: Aluminium
SIZE (L x W x H)	Approx. 415 x 415 x 25 mm
WEIGHT	Approx. 1.8 kg
MOUNTING	For mounting on wall or ceiling ø4.5 x 20 mm (four holes)

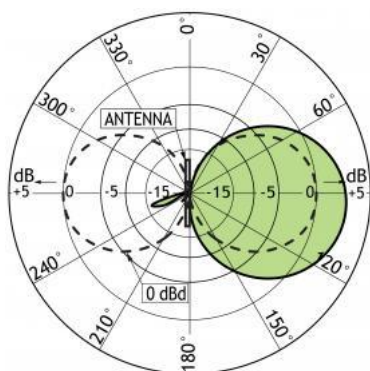
MOUNTING & PATTERN

MOUNTING DETAILS (Dimensions excl. cover)



TYPICAL GAIN AND SWR CURVES

TYPICAL RADIATION PATTERN (E-PLANE)



This curve shows the radiation patterns in the vertical plane.

TYPICAL RADIATION PATTERN (H-PLANE)



This curve shows the radiation patterns in the horizontal plane (horizontal coverage).



XCPI 160/900/1800/1900/2100/R

Indoor Right Hand Circularly Polarized Antenna for the 160 Mhz, GSM, DCS, PCS and UMTS Bands

- Quin band indoor base station antenna - one antenna with five bands.
- Low profile antenna for the 160 MHz, GSM, DCS, PCS and UMTS bands.
- XCPI 160/900/1800/1900/2100/R is a right hand circularly polarized antenna for indoor use e.g. on ceilings and walls inside ships and houses.

DESCRIPTION

- Circularly polarized antenna is chosen to avoid out-of-phase signals.
- Reduces flutter considerably.
- Specially designed for closed rooms.
- Covers 160 MHz, GSM, DCS, PCS and UMTS bands with a radiation of approx. 2 dBic.
- The built-in antennas are combined with built in diplexers, with low insertion loss, which make it possible to have only one download cable.
- The antenna is carefully sealed with a discreet cover.
- The antenna is provided with one connector.
- The connector is placed at one side to enable mounting close to a wall or a ceiling.

ORDERING DESIGNATIONS

TYPE	PRODUCT NO.
XCPI 160/900/1800/1900/2100/R	100000203

SPECIFICATIONS

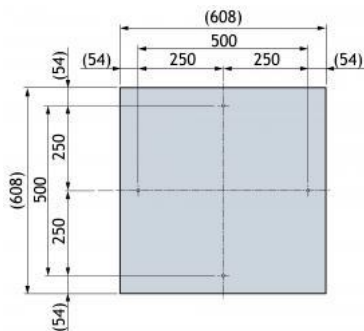
ELECTRICAL											
MODEL	XCPI 160/900/1800/1900/2100/R										
ANTENNA TYPE	Right hand circularly polarized quin band antenna										
FREQUENCY	<table> <tr> <td>160 MHz:</td><td>144 - 175 MHz</td></tr> <tr> <td>GSM:</td><td>880 - 960 MHz</td></tr> <tr> <td>DCS:</td><td>1710 - 1880 MHz</td></tr> <tr> <td>PCS:</td><td>1850 - 1990 MHz</td></tr> <tr> <td>UMTS:</td><td>1910 - 2200 MHz</td></tr> </table>	160 MHz:	144 - 175 MHz	GSM:	880 - 960 MHz	DCS:	1710 - 1880 MHz	PCS:	1850 - 1990 MHz	UMTS:	1910 - 2200 MHz
160 MHz:	144 - 175 MHz										
GSM:	880 - 960 MHz										
DCS:	1710 - 1880 MHz										
PCS:	1850 - 1990 MHz										
UMTS:	1910 - 2200 MHz										
IMPEDANCE	Nom. 50 Ω										
POLARIZATION	Circular (right hand)										
GAIN	Approx. 2 dBic										
BANDWIDTH	<table> <tr> <td>160 MHz:</td><td>≥ 31 MHz @ SWR ≤ 2.5</td></tr> <tr> <td>GSM:</td><td>≥ 80 MHz @ SWR ≤ 2.5</td></tr> </table>	160 MHz:	≥ 31 MHz @ SWR ≤ 2.5	GSM:	≥ 80 MHz @ SWR ≤ 2.5						
160 MHz:	≥ 31 MHz @ SWR ≤ 2.5										
GSM:	≥ 80 MHz @ SWR ≤ 2.5										

	DCS:	≥ 170 MHz @ SWR ≤ 2.0
	PCS:	≥ 140 MHz @ SWR ≤ 2.0
	UMTS:	≥ 240 MHz @ SWR ≤ 3.0
HALF POWER BEAMWIDTH	Approx. 60º (H- and E-plane)	
SWR	≤ 1.5 f.res.	
MAX. POWER	25 W	
MECHANICAL		
CONNECTOR	N-female	
COLOUR	Marine white	
MATERIALS	Cover: PS (white) Chassis: Stainless steel	
SIZE (W x L x H)	Approx. 608 x 608 x 90 mm	
WEIGHT	Approx. 10 kg	
MOUNTING	ø 5.5 mm (four holes). For optimum performance a groundplane of 1 x 1 m is required	

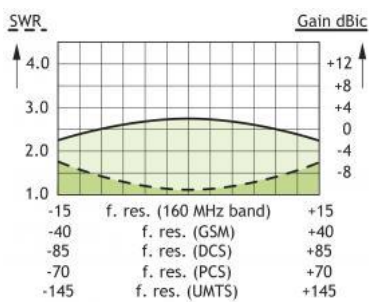
SPECIFICATIONS DIPLEXER

ELECTRICAL FOR BUILT-IN DIPLEXER DIPX 225/330		
FREQUENCY	Low port	: 0 - 225 MHz
	High port	: 330 - 1300 MHz
MAX. INPUT POWER	25 W each port	
INSERTION LOSS	0 - 225 MHz	: ≤ 0.5 dB
	330 - 1300 MHz	: ≤ 0.5 MHz
ISOLATION	Low to high port : ≥45 dB	
ELECTRICAL FOR BUILT-IN DIPLEXER DIPX 1000/1550		
FREQUENCY	Low port	: 0 - 1000 MHz
	High port	: 1550 - 2500 MHz
MAX. INPUT POWER	35 W each port	
INSERTION LOSS	0 - 1000 MHz	: ≤ 0.5 dB
	1550 - 2500 MHz	: ≤ 0.5 MHz
ISOLATION	Low to high port : ≥ 45 dB	

MOUNTING DETAILS

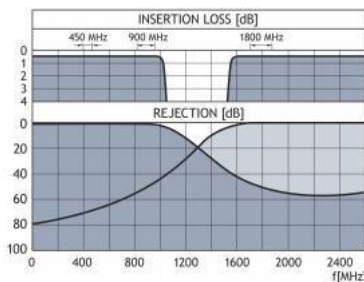


TYPICAL GAIN AND SWR CURVES

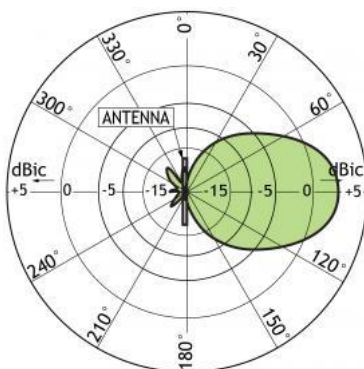


BUILT-IN DIPLEXER

BUILT-IN DIPLEXER



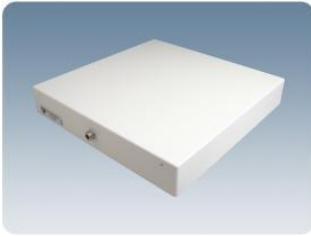
TYPICAL RADIATION PATTERN (E-PLANE)



This curve shows the radiation patterns in the vertical plane.

TYPICAL RADIATION PATTERN (H-PLANE)

This curve shows the radiation patterns in the horizontal plane.



PCPI xH/TETRA/...

Indoor Left or Right Hand Circularly Polarized Patch Antennas for mounting on Wall or Ceiling

- Low-profile antenna for the 380 - 470 MHz band.
- PCPI xH/TETRA/... is a Left or Right Hand Circularly Polarized patch antenna for indoor use.
- Circular polarization is chosen to avoid out-of-phase signals.
- Reduces flutter considerably.

- Specially designed for closed rooms.
- Covers approx. 50 MHz with a radiation of approx. 7 dBic.
- The antennas are carefully sealed with a discreet cover.
- The connector is placed at one side to enable mounting close to a wall or a ceiling.
- Including mounting bracket.
- Connection also available on backside (see overleaf).

ORDERING DESIGNATIONS

TYPE	FREQUENCY	PRODUCT NO.
PCPI RH/TETRA/s-f	380 - 430 MHz	100000426
PCPI LH/TETRA/s-f	380 - 430 MHz	100000425
PCPI RH/TETRA/l-h	430 - 470 MHz	100000442
PCPI LH/TETRA/l-h	430 - 470 MHz	100000441
ACCESSORIES		
PATCH-WAMO		100000511

BACK CONNECTOR VERSION ORDERING DESIGNATIONS

TYPE	FREQUENCY	PRODUCT NO.
PCPI RH/TETRA/s-f-BC	380 - 430 MHz	100000468
PCPI LH/TETRA/s-f-BC	380 - 430 MHz	
PCPI RH/TETRA/l-h-BC	430 - 470 MHz	
PCPI LH/TETRA/l-h-BC	430 - 470 MHz	

SPECIFICATIONS

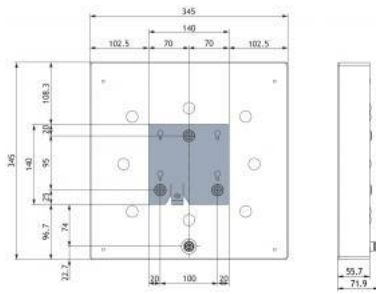
ELETRICAL	
MODEL	PCPI xH/TETRA/...
ANTENNA TYPE	Left or right hand circularly polarized patch antenna
FREQUENCY	380 - 470 MHz covered by two models
IMPEDANCE	Nom. 50 Ω

POLARIZATION	Circular
GAIN	Approx. 7 dBic
BANDWIDTH	≥ 50 MHz
HALF POWER BEAMWIDTH	Approx. 80° (H- and E-plane)
SWR	≤ 2
MAX. POWER	100 W
MECHANICAL	
TEMP. RANGE	-30° C → +75° C
CONNECTOR	N-female
COLOUR	Marine white
MATERIALS	Cover: ABS (white) Chassis: Aluminium
SIZE (L x W x H)	Approx. 345 x 345 x 60 mm / 13.58 x 13.58 x 2.36 in.
WEIGHT	Approx. 2.3 kg / 5.07 lb.
MOUNTING	For mounting on wall or ceiling ø5 mm / 0.20 in. (three holes) (see mounting details)

MOUNTING & PATTERN

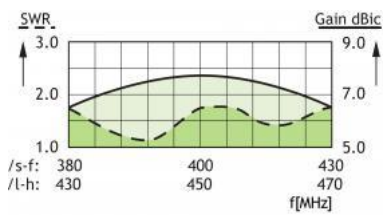
MOUNTING DETAILS (wall mounting bracket included)

MOUNTING DETAILS BACK CONNECTOR VERSION (wall mounting bracket included)



MOUNTING DETAILS PATCH-WAMO (ordered separately)

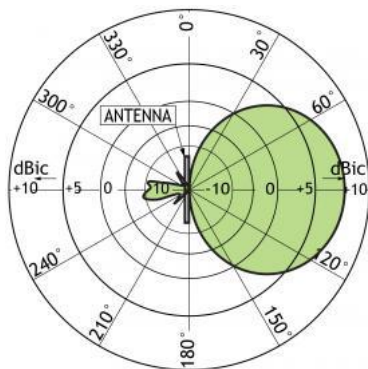
TYPICAL GAIN AND SWR CURVES



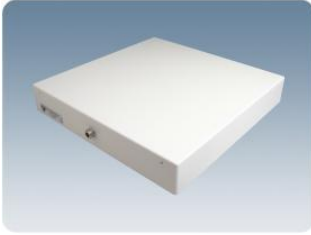
TYPICAL RADIATION PATTERN (E-PLANE)

This curve shows the radiation patterns in the vertical plane.

TYPICAL RADIATION PATTERN (H-PLANE)



This curve shows the radiation patterns in the horizontal plane (horizontal coverage).



PCPO xH/TETRA/

Outdoor Left or Right Hand Circularly Polarized Patch Antennas for mounting on Wall or Mast

- Low-profile antenna for the 380 - 470 MHz band.
- PCPO xH/TETRA/... is a Left or Right Hand Circularly Polarized patch antenna for outdoor use.
- Circular polarization is chosen to avoid out-of-phase signals.

- Reduces flutter considerably.
- Covers approx. 50 MHz with a radiation of approx. 7 dBic.
- The antennas are carefully sealed with a discrete cover.
- The connector is placed at one side to enable mounting close to a wall.
- Including wall mounting bracket. PATCH-MAMO and PATCH/WAMO to be ordered separately.

ORDERING DESIGNATIONS

TYPE	FREQUENCY	PRODUCT NO.
PCPO RH/TETRA/s-f	380 - 430 MHz	100000428
PCPO LH/TETRA/s-f	380 - 430 MHz	100000427
PCPO RH/TETRA/l-h	430 - 470 MHz	100000443
PCPO LH/TETRA/l-h	430 - 470 MHz	100000444
ACCESSORIES		
PATCH-MAMO		100000447
PATCH-WAMO		100000511

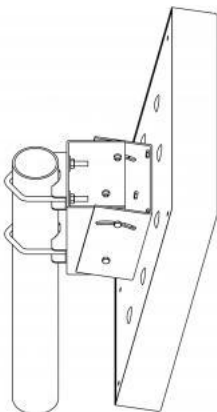
SPECIFICATIONS

ELETRICAL	
MODEL	PCPO xH/TETRA/...
ANTENNA TYPE	Left or right hand circularly polarized patch antenna
FREQUENCY	380 - 470 MHz covered by two models
IMPEDANCE	Nom. 50 Ω
POLARIZATION	Circular
GAIN	Approx. 7 dBic
BANDWIDTH	≥ 50 MHz
HALF-POWER BEAMWIDTH	Approx. 80° (H- and E-plane)
SWR	≤ 2
MAX. POWER	100 W

MECHANICAL	
TEMP. RANGE	-30° C → +75° C
CONNECTOR	N-female
WIND LOAD	173 N @ 160 km/h / 173 N @ 100 mph.
COLOUR	Marine white
MATERIALS	Cover: ABS (white) Chassis: Aluminium
SIZE (L x W x H)	Approx. 345 x 345 x 60 mm / 13.58 x 13.58 x 2.36 in.
WEIGHT	Approx. 2.3 kg / 5.07 lb.
MOUNTING	For mounting on wall ø5 mm (three holes) (see mounting details) or mast on 40 - 55 mm / 1.57 x 2.17 in. dia. mast tube.

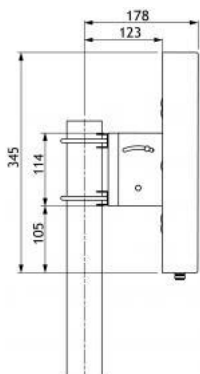
MOUNTING & GAIN

Mast mounting bracket: PATCH-MAMO (ordered separately)

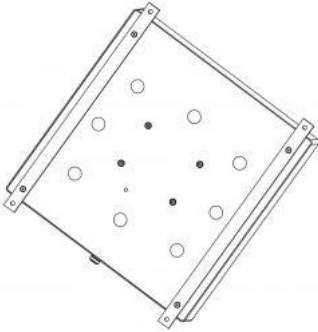


Tilt adjustable from +5°/-30°.

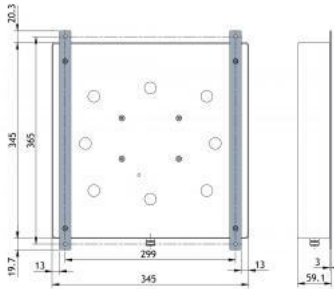
MOUNTING DETAILS (PATCH-MAMO)



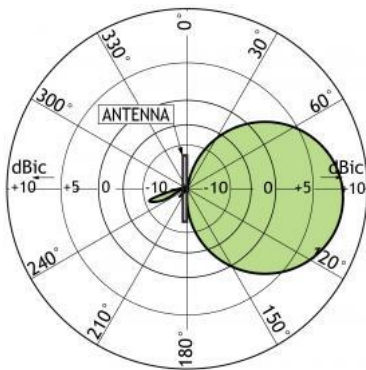
Wall mounting bracket: PATCH-WAMO (ordered separately)



MOUNTING DETAILS (PATCH-WAMO)

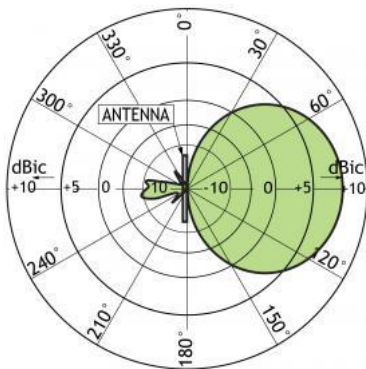


TYPICAL RADIATION PATTERN (E-PLANE)

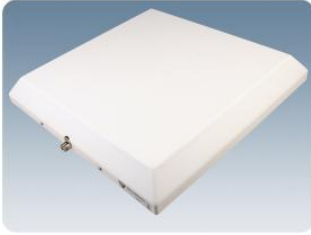


This curve shows the radiation patterns in the vertical plane.

TYPICAL RADIATION PATTERN (H-PLANE)



This curve shows the radiation patterns in the horizontal plane (horizontal coverage).



PCPI TETRA/LTE 800/RH

Indoor Right Hand Circularly Polarized Antenna for the TETRA and LTE Bands

- Dual-band low-profile antenna for indoor use.
- Right hand circularly polarized, 7 dBic antenna specially designed for closed rooms. For use e.g. on ceilings and walls inside ships and buildings.

- Circular polarization is chosen to improve link quality.
- Built-in duplexers with low insertion loss make it possible to have only one connector.

ORDERING DESIGNATIONS

TYPE	PRODUCT NO.
PCPI TETRA/LTE 800/RH	100000522

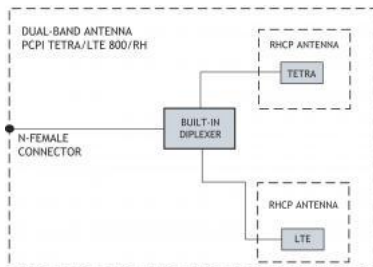
SPECIFICATIONS

ELECTRICAL					
MODEL	PCPI TETRA/LTE 800/RH				
ANTENNA TYPE	Right hand circularly polarized antenna				
FREQUENCY	<table border="1"> <tr> <td>TETRA:</td><td>380 - 430 MHz</td></tr> <tr> <td>LTE:</td><td>790 - 850 MHz</td></tr> </table>	TETRA:	380 - 430 MHz	LTE:	790 - 850 MHz
TETRA:	380 - 430 MHz				
LTE:	790 - 850 MHz				
IMPEDANCE	Nom. 50 Ω				
POLARIZATION	Circular (right hand)				
GAIN	Approx. 7 dBic				
HALF POWER BEAMWIDTH	Approx. 60° (H- and E-plane)				
SWR	≤ 2				
MAX. POWER	35 W				
MECHANICAL					
TEMP. RANGE	-30°C → +75°C				
CONNECTOR	N-female				
COLOUR	Marine white				
MATERIALS	Cover: PS (white) Chassis: Aluminium				
SIZE (L x W x H)	Approx. 415 x 415 x 70 mm / 16.34 x 16.34 x 2.76 in.				
WEIGHT	Approx. 1.9 kg / 4.19 lb.				
MOUNTING	Ø 4.5 mm (four holes)				

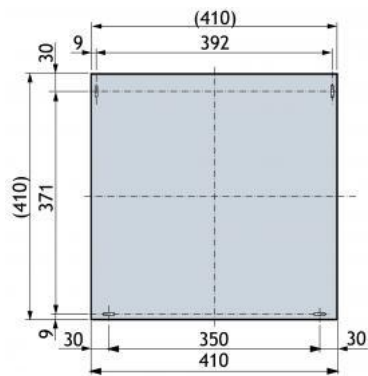
SPECIFICATIONS DIPLEXER

ELECTRICAL FOR BUILT-IN DIPLEXER DIPX 500/800		
FREQUENCY	Low port	: 0 - 500 MHz
	High port	: 800 - 1300 MHz
MAX. INPUT POWER	35 W each port	
INSERTION LOSS	0 - 500 MHz	: ≤ 0.7 dB
	800 - 1300 MHz	: ≤ 0.7 dB
ISOLATION	Low to high port : ≥ 45 dB	

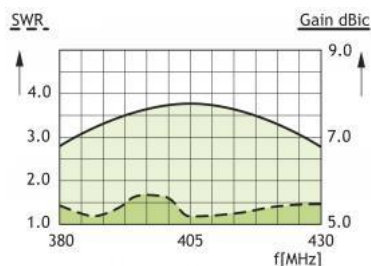
MOUNTING & PATTERN



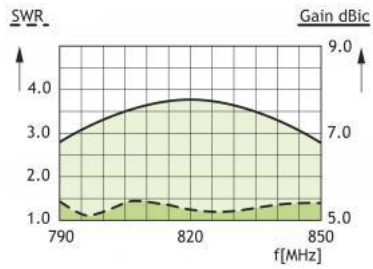
MOUNTING DETAILS (Dimensions excl. cover)



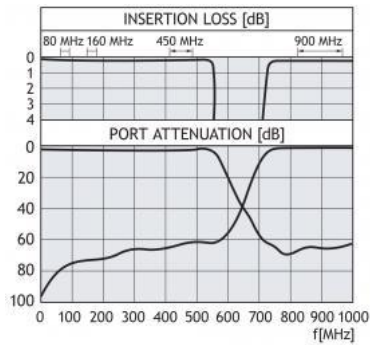
TYPICAL GAIN AND SWR CURVES



TYPICAL GAIN AND SWR CURVES



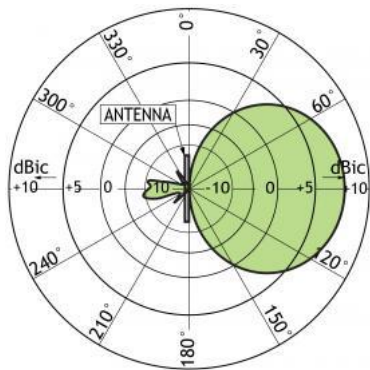
BUILT-IN DIPLEXER



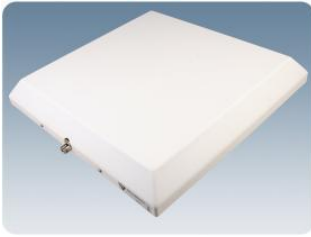
TYPICAL RADIATION PATTERN (E-PLANE)

This curve shows the radiation patterns in the vertical plane.

TYPICAL RADIATION PATTERN (H-PLANE)



This curve shows the radiation patterns in the horizontal plane (horizontal coverage).



PCPI 70/900/xHCP

Indoor Left or Right Hand Circularly Polarized Antenna for the 450 MHz and RHCP for 900 MHz Bands

- Dual band indoor base station antenna - one antenna with two bands.
- Low profile antenna for the 450 MHz and 900 MHz bands.
- PCPI 70/900/xHCP/... is a Left or Right Hand Circularly Polarized antenna for indoor use e.g. on ceilings and walls inside ships and houses.

- 900 MHz band is fixed RHCP.
- Circularly polarized antenna is chosen to avoid out-of-phase signals.
- Reduces flutter considerably.
- Specially designed for closed rooms.
- Covers 450 MHz and 900 MHz bands with a radiation of approx. 2 dBic 0 dBd.
- The two built in antennas are combined with a built in diplexer, with low insertion loss, which makes it possible to have only one downlead cable.
- The antenna is carefully sealed with a discreet cover.
- The antenna is provided with one connector.
- The connector is placed at one side to enable mounting close to a wall or a ceiling.
- Chassis also available in stainless steel PCPI 70R/900/xHCP/... (see ordering designations below).

ORDERING DESIGNATIONS

STANDARD VERSION ORDERING DESIGNATIONS

TYPE	FREQUENCY	PRODUCT NO.
PCPI 70/900/LHCP/s	380 - 400 MHz	100000248
PCPI 70/900/LHCP/f	410 - 430 MHz	100000249
PCPI 70/900/LHCP/l	430 - 450 MHz	100000250
PCPI 70/900/LHCP/h	450 - 470 MHz	100000251
TYPE	FREQUENCY	PRODUCT NO.
PCPI 70/900/RHCP/s	380 - 400 MHz	100000252
PCPI 70/900/RHCP/f	410 - 430 MHz	100000253
PCPI 70/900/RHCP/l	430 - 450 MHz	100000254
PCPI 70/900/RHCP/h	450 - 470 MHz	100000255

STAINLESS STEEL VERSION ORDERING DESIGNATIONS

TYPE	FREQUENCY	PRODUCT NO.
PCPI 70R/900/LHCP/s	380 - 400 MHz	100000256
PCPI 70R/900/LHCP/f	410 - 430 MHz	100000257
PCPI 70R/900/LHCP/l	430 - 450 MHz	100000258
PCPI 70R/900/LHCP/h	450 - 470 MHz	100000259
TYPE	FREQUENCY	PRODUCT NO.
PCPI 70R/900/RHCP/s	380 - 400 MHz	100000260

PCPI 70R/900/RHCP/f	410 - 430 MHz	100000261
PCPI 70R/900/RHCP/l	430 - 450 MHz	100000262
PCPI 70R/900/RHCP/h	450 - 470 MHz	100000263

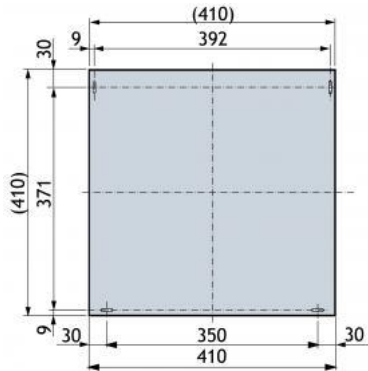
SPECIFICATIONS

ELECTRICAL	
MODEL	PCPI 70/900/xHCP/...
ANTENNA TYPE	Left or right hand circularly polarized dual band antenna
FREQUENCY	450 MHz freq. to be stated within: 380 - 470 MHz 900 MHz freq. to be stated within: 880 - 960 MHz
IMPEDANCE	Nom. 50 Ω
POLARIZATION	Circular
GAIN	Approx. 2 dBic 0 dBd \pm 3 dB
BANDWIDTH	450 MHz: \geq 20 MHz @ SWR \leq 2.0 900 MHz: \geq 80 MHz @ SWR \leq 2.0
HALF POWER BEAMWIDTH	Approx. 60° (H- and E-plane)
SWR	\leq 1.5 f.res.
MAX. POWER	35 W
MECHANICAL	
CONNECTOR	N-female
COLOUR	Marine white
MATERIALS	Cover: PS (white) Chassis: Aluminium
SIZE (W x L x H)	Approx. 415 x 415 x 70 mm
WEIGHT	Approx. 2.0 kg
MOUNTING	For mounting on wall or ceiling \varnothing 4.5 x 20 mm (four holes)
ELECTRICAL FOR BUILT IN DIPLEXER	
MODEL	DIPX 500/800
FREQUENCY	Low port : 0 - 500 MHz High port : 800 - 1300 MHz
MAX. INPUT POWER	35 W each port
INSERTION LOSS	0 - 500 MHz : \leq 0.5 dB 800 - 1300 MHz: \leq 0.5 dB
ISOLATION	Low to high port: \geq 45 dB
TEMP. RANGE	-30° C \rightarrow +70° C

MOUNTING & PATTERN

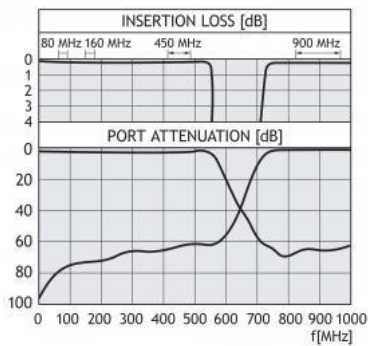
MOUNTING DETAILS

(Dimensions excl. cover)



TYPICAL GAIN AND SWR CURVES

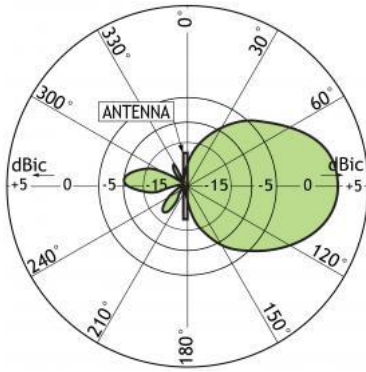
BUILT-IN DIPLEXER



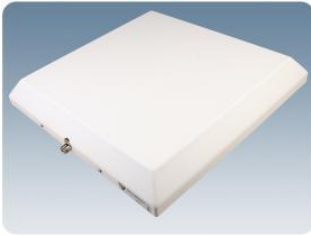
TYPICAL RADIATION PATTERN (E-PLANE)

This curve shows the radiation patterns in the vertical plane.

TYPICAL RADIATION PATTERN (H-PLANE)



This curve shows the radiation patterns in the horizontal plane.



PCPI 70/900/1800/PCS/UMTS/R/...

Indoor Right Hand Circular Polarized Antenna for the 450 MHz, GSM, DCS, PCS and UMTS Bands

- 5-band indoor base station antenna - one antenna with five bands.
- Right hand circular polarized, 7 dBic antenna specially designed for closed rooms. For use e.g. on ceilings and walls inside ships and buildings.

- Circular polarization is chosen to improve link quality.
- Built-in diplexers with low insertion loss make it possible to have only one connector.

ORDERING DESIGNATIONS

TYPE	PRODUCT NO.	FREQUENCY
PCPI 70/900/1800/PCS/UMTS/R/s	100000391	380 - 400 MHz
PCPI 70/900/1800/PCS/UMTS/R/f	100000392	410 - 430 MHz
PCPI 70/900/1800/PCS/UMTS/R/l	100000393	430 - 450 MHz
PCPI 70/900/1800/PCS/UMTS/R/h	100000394	450 - 470 MHz

SPECIFICATIONS

ELECTRICAL											
MODEL	PCPI 70/900/1800/PCS/UMTS/R/...										
ANTENNA TYPE	Right hand circular polarized 5-band antenna										
FREQUENCY	<table> <tr> <td>450 MHz:</td><td>380 - 470 MHz</td></tr> <tr> <td>GSM:</td><td>880 - 960 MHz</td></tr> <tr> <td>DCS:</td><td>1710 - 1880 MHz</td></tr> <tr> <td>PCS:</td><td>1850 - 1990 MHz</td></tr> <tr> <td>UMTS:</td><td>1910 - 2200 MHz</td></tr> </table>	450 MHz:	380 - 470 MHz	GSM:	880 - 960 MHz	DCS:	1710 - 1880 MHz	PCS:	1850 - 1990 MHz	UMTS:	1910 - 2200 MHz
450 MHz:	380 - 470 MHz										
GSM:	880 - 960 MHz										
DCS:	1710 - 1880 MHz										
PCS:	1850 - 1990 MHz										
UMTS:	1910 - 2200 MHz										
IMPEDANCE	Nom. 50 Ω										
POLARIZATION	Circular (right hand)										
GAIN	Approx. 7 dBic										
BANDWIDTH	<table> <tr> <td>450 MHz:</td><td>≥ 20 MHz @ SWR ≤ 2.0</td></tr> <tr> <td>GSM:</td><td>≥ 80 MHz @ SWR ≤ 2.0</td></tr> <tr> <td>DCS:</td><td>≥ 170 MHz @ SWR ≤ 3.0</td></tr> <tr> <td>PCS:</td><td>≥ 140 MHz @ SWR ≤ 3.0</td></tr> <tr> <td>UMTS:</td><td>≥ 290 MHz @ SWR ≤ 3.0</td></tr> </table>	450 MHz:	≥ 20 MHz @ SWR ≤ 2.0	GSM:	≥ 80 MHz @ SWR ≤ 2.0	DCS:	≥ 170 MHz @ SWR ≤ 3.0	PCS:	≥ 140 MHz @ SWR ≤ 3.0	UMTS:	≥ 290 MHz @ SWR ≤ 3.0
450 MHz:	≥ 20 MHz @ SWR ≤ 2.0										
GSM:	≥ 80 MHz @ SWR ≤ 2.0										
DCS:	≥ 170 MHz @ SWR ≤ 3.0										
PCS:	≥ 140 MHz @ SWR ≤ 3.0										
UMTS:	≥ 290 MHz @ SWR ≤ 3.0										

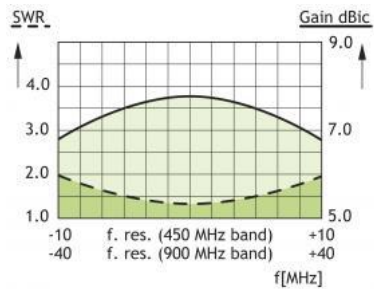
HALF POWER BEAMWIDTH	Approx. 60° (H- and E-plane)
SWR	≤ 1.5 f.res.
MAX. POWER	25 W
MECHANICAL	
CONNECTOR	N-female
COLOUR	Marine white
MATERIALS	Cover: PS (white) Chassis: Aluminium
SIZE (L x W x H)	Approx. 415 x 415 x 70 mm
WEIGHT	Approx. 2 kg
MOUNTING	ø 4.5 mm (4 holes)

SPECIFICATIONS DIPLEXER

ELECTRICAL FOR BUILT-IN DIPLEXER DIPX 500/800		
FREQUENCY	Low port	: 0 - 500 MHz
	High port	: 800 - 1300 MHz
MAX. INPUT POWER	35 W each port	
INSERTION LOSS	0 - 500 MHz	: ≤ 0.7 dB
	800 - 1300 MHz	: ≤ 0.7 dB
ISOLATION	Low to high port : ≥45 dB	
ELECTRICAL FOR BUILT-IN DIPLEXER DIPX 1000/1550		
FREQUENCY	Low port	: 0 - 1000 MHz
	High port	: 1550 - 2500 MHz
MAX. INPUT POWER	35 W each port	
INSERTION LOSS	0 - 1000 MHz	: ≤ 0.8 dB
	1550 - 2500 MHz	: ≤ 1.0 dB
ISOLATION	Low to high port : ≥ 45 dB	

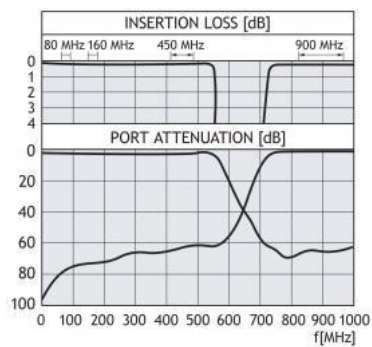
GAIN & PATTERN

TYPICAL GAIN AND SWR CURVES

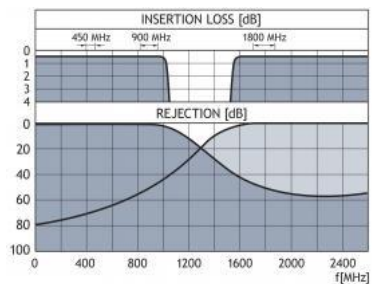


TYPICAL GAIN AND SWR CURVES

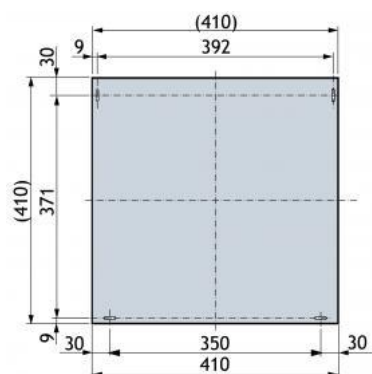
BUILT-IN DIPLEXER



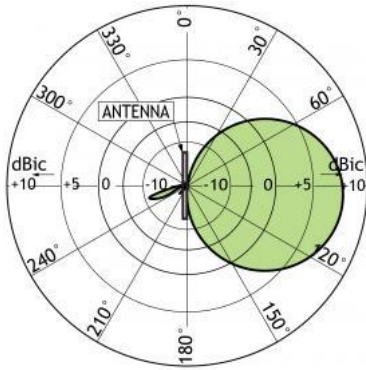
BUILT-IN DIPLEXER



MOUNTING DETAILS (Dimensions excl. cover)

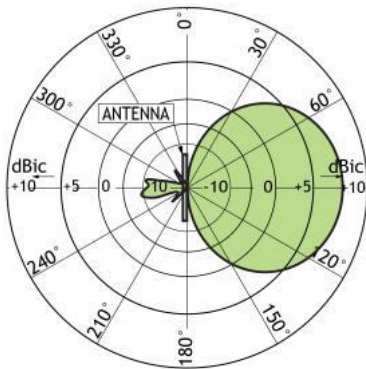


TYPICAL RADIATION PATTERN (E-PLANE)

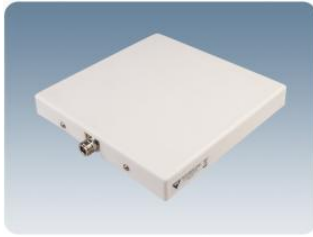


This curve shows the radiation patterns in the vertical plane.

TYPICAL RADIATION PATTERN (H-PLANE)



This curve shows the radiation patterns in the horizontal plane (horizontal coverage).



PCPI 800/xH

Indoor Left or Right Hand Circularly Polarized Patch Antenna for mounting on Wall or Ceiling

- Low profile antenna for the 800 MHz Band.
- PCPI 800/xH is a Left or Right Hand Circularly Polarized patch antenna for indoor use.
- Circularly polarized antenna is chosen to avoid out-of-phase signals.

- Specially designed for closed rooms.
- Covers approx. 80 MHz with a radiation of approx. 7 dBic.
- The antenna is carefully sealed with a discreet white cover.
- The connector is placed at one side to enable mounting close to a wall or a ceiling.

ORDERING DESIGNATIONS

TYPE	PRODUCT NO.
PCPI 800/LH	100000396
PCPI 800/RH	100000397

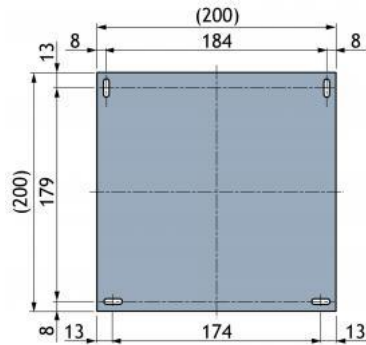
SPECIFICATIONS

ELECTRICAL	
MODEL	PCPI 800/xH
ANTENNA TYPE	Left or right hand circularly polarized patch antenna
FREQUENCY	800 - 880 MHz
IMPEDANCE	Nom. 50 Ω
POLARIZATION	Circular
GAIN	Approx. 7 dBic
BANDWIDTH	≥ 80 MHz @ SWR ≤ 2.0
HALF-POWER BEAMWIDTH	Approx. 80° (H- and E-plane)
SWR	≤ 1.5 f.res.
MAX. POWER	50 W
MECHANICAL	
CONNECTOR	N-female
COLOUR	Marine white
MATERIALS	Cover: ABS Chassis: Aluminium
SIZE (L x W x H)	Approx. 204 x 204 x 28 mm
WEIGHT	Approx. 0.4 kg

MOUNTING	For mounting on wall or ceiling $\varnothing 4.5 \times 20$ mm (4 holes)
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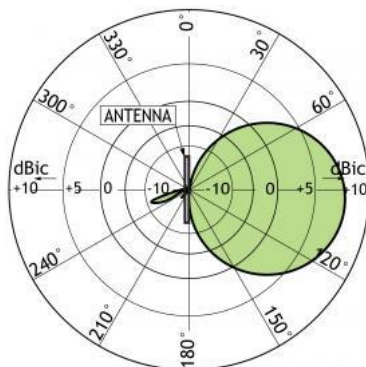
MOUNTING & PATTERN

MOUNTING DETAILS (Dimensions excl. cover)



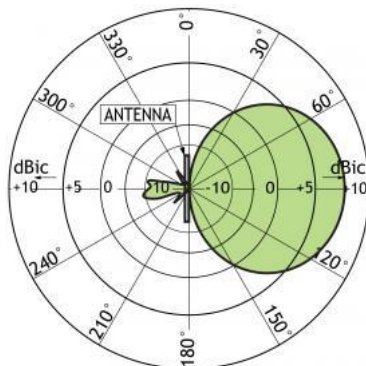
TYPICAL GAIN AND SWR CURVES

TYPICAL RADIATION PATTERN (E-PLANE)

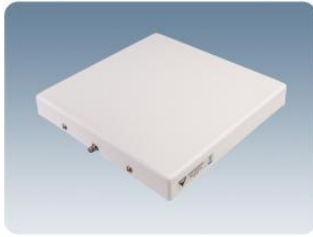


This curve shows the radiation patterns in the vertical plane.

TYPICAL RADIATION PATTERN (H-PLANE)



This curve shows the radiation patterns in the horizontal plane (horizontal coverage).



PCPI 900/RHCP

Indoor Right Hand Circularly Polarized Patch Antenna for mounting on Wall or Ceiling

- Low profile antenna for the 900 MHz Band.
- PCPI 900/RHCP is a Right Hand Circularly Polarized patch antenna for indoor use.
- Circularly polarized antenna is chosen to avoid out-of-phase signals.

- Specially designed for closed rooms.
- Covers approx. 80 MHz with a radiation of approx. 7 dBic.
- Full size 2λ circular patch antenna.
- The antenna is carefully sealed with a discreet white cover.
- The connector is placed at one side to enable mounting close to a wall or a ceiling.

ORDERING DESIGNATIONS

TYPE	PRODUCT NO.
PCPI 900/RHCP	100000159

SPECIFICATIONS

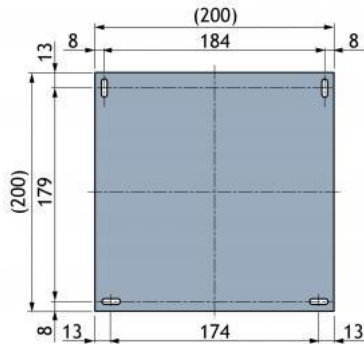
ELECTRICAL	
MODEL	PCPI 900/RHCP
ANTENNA TYPE	Right Hand Circularly Polarized patch antenna
FREQUENCY	880 - 960 MHz
IMPEDANCE	Nom. 50 Ω
POLARIZATION	Circular
GAIN	Approx. 7 dBic
BANDWIDTH	≥ 80 MHz
HALF-POWER BEAMWIDTH	Approx. 80° (H- and E-plane)
SWR	≤ 2.0
MAX. POWER	50 W
MECHANICAL	
CONNECTOR	SMA-female
COLOUR	Marine white
MATERIALS	Cover: ABS Chassis: Aluminium
SIZE (L x W x H)	Approx. 204 x 204 x 28 mm
WEIGHT	Approx. 0.4 kg

MOUNTING

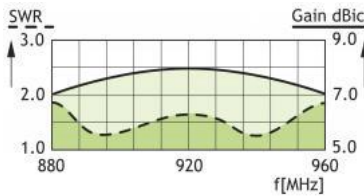
For mounting on wall or ceiling
ø4.5 x 20 mm (4 holes)

MOUNTING & PATTERN

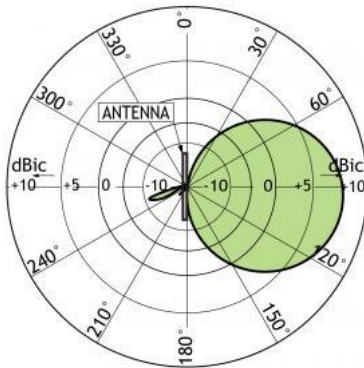
MOUNTING DETAILS (Dimensions excl. cover)



TYPICAL GAIN AND SWR CURVES

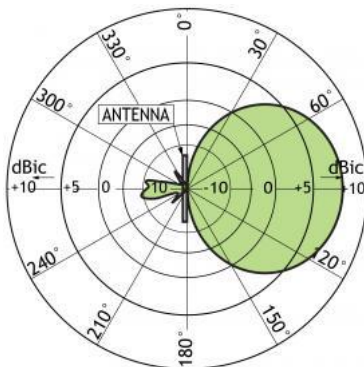


TYPICAL RADIATION PATTERN (E-PLANE)



This curve shows the radiation patterns in the vertical plane.

TYPICAL RADIATION PATTERN (H-PLANE)



This curve shows the radiation patterns in the horizontal plane (horizontal coverage).



PCPI GPS

Indoor Right Hand Circularly Polarized Patch Antenna for mounting on Wall or Ceiling

- Low profile antenna for the GPS band.
- PCPI GPS is a Right Hand Circularly Polarized patch antenna for indoor use.
- Circularly polarized antenna is chosen to avoid out-of-phase signals.

- Specially designed for closed rooms.
- Covers the GPS frequency 1575 MHz with a radiation of approx. 5 dBic 3 dBd.
- Full size 2λ circular patch antenna.
- The antenna is carefully sealed with a discreet white cover.
- The connector is placed at one side to enable mounting close to a wall or a ceiling.

ORDERING DESIGNATIONS

TYPE	PRODUCT NO.
PCPI GPS	102000001

SPECIFICATIONS

ELECTRICAL	
MODEL	PCPI GPS
ANTENNA TYPE	Right Hand Circularly Polarized patch antenna
FREQUENCY	1575 MHz
IMPEDANCE	Nom. 50 Ω
POLARIZATION	Circular
GAIN	Approx. 5 dBic 3 dBd ± 2 dB
HALF-POWER BEAMWIDTH	Approx. 70° (H- and E-plane)
SWR	≤ 1.5 f.res.
MAX. POWER	50 W
MECHANICAL	
CONNECTOR	N-female
COLOUR	Marine white
MATERIALS	Cover: PS Chassis: Aluminium
SIZE (L x W x H)	Approx. 104 x 104 x 40 mm
WEIGHT	Approx. 0.4 kg
MOUNTING	For mounting on wall or ceiling $\varnothing 4.5 \times 10$ mm (4 holes)

MOUNTING & PATTERN

MOUNTING DETAILS (Dimensions excl. cover)

TYPICAL GAIN AND SWR CURVES

TYPICAL RADIATION PATTERN (E-PLANE)

This curve shows the radiation patterns in the vertical plane.

TYPICAL RADIATION PATTERN (H-PLANE)

This curve shows the radiation patterns in the horizontal plane (horizontal coverage).

PCPI GPS EXTEND

Indoor Right Hand Circularly Polarized Patch Antenna for extending GPS coverage

- To be used where GPS-signals are missing.
- Outdoor GPS antenna is necessary.
- Recommended outdoor GPS antenna: GPS 4/...

DESCRIPTION

- Low profile antenna for reradiating the GPS signal.
- Specially designed for closed rooms.
- Covers the GPS frequency 1575 MHz with a radiation of approx. 5 dBic 3 dBd.
- Full size 2λ circular patch antenna.
- The antenna is carefully sealed with a discreet white cover.
- Internal 25 dB selective amplifier.
- PCPI GPS EXTEND 12V/5V-N has 5V DC output on N-connector for feeding outside GPS antenna with built-in amplifier.
- PCPI GPS EXTEND 12V/12V-N has 12V DC on N-connector for phantom powering the unit via the signal line.

ORDERING DESIGNATIONS

TYPE	SUPPLY VOLTAGE	PRODUCT NO.	
PCPI GPS EXTEND 12V/5V-N		102000002	
PCPI GPS EXTEND 12V/12V-N		102000005	
ADAPTOR AC/DC 12V EU		240000040	
ADAPTOR AC/DC 12V UK		240000041	
GPS 4	5 V DC (4.5 - 5.5 V)	112000017	

SPECIFICATIONS

ELECTRICAL	
MODEL	PCPI GPS EXTEND
ANTENNA TYPE	Right Hand Circularly Polarized patch antenna
FREQUENCY	1575 MHz
IMPEDANCE	Nom. 50 Ω
COVERAGE	10 - 16 m *
GAIN	Approx. 5 dBic 3 dBd ± 2 dB
HALF-POWER BEAMWIDTH	Approx. 70° (H- and E-plane)
SWR	≤ 1.5 f.res.
SUPPLY VOLTAGE PCPI GPS EXTEND 12V/5V-N	12V on DC connector, 5V out on N-connector for GPS

	outdoor antenna
SUPPLY VOLTAGE PCPI GPS EXTEND 12V/12V-N	12V phantom voltage on N-connector, or 12V on DC-connector
SUPPLY CURRENT	Approx. 150 mA
MECHANICAL	
CONNECTOR	N-female
DC-CONNECTOR	ø2.5 mm - centre pin
COLOUR	Marine white
MATERIALS	Cover: ABS Chassis: Aluminium
SIZE (L x W x H)	104 x 104 x 40 mm / 4.1 x 4.1 x 1.5 in.
WEIGHT	Approx. 200 g / 0.4 lb
MOUNTING	For mounting on wall or ceiling ø4.5 x 10 mm (4 holes)

* To achieve 10-16 m coverage the cable loss between the PCPI-GPS EXTEND and the outdoor antenna must be ≤7 dB.
(Provided outdoor antenna gain of ≥30 dB)

MOUNTING DETAILS (Dimensions excl. cover)

INSTALLATION DETAILS

EXAMPLE

PLEASE NOTE: GPS 4/... + power supply to be ordered separately.

EXAMPLE PCPI GPS EXTEND 12V/12V-N

* To achieve 10-16 m coverage the total cable losses between the outdoor antenna, PRO-ARPS4-GPS-N-5VI-DCO and the 4 individual PCPI GPS EXTEND 12V/12V must be ≤ 12 dB. (Provided outdoor antenna gain of ≥ 30 dB).

PCPI PCS

Indoor Right Hand Circularly Polarized Patch Antenna for mounting on Wall or Ceiling

- Low profile antenna for the 1850 - 1990 MHz band.
- PCPI PCS is a Right Hand Circularly Polarized patch antenna for indoor use.
- Circularly polarized antenna is chosen to avoid out-of-phase signals.

- Specially designed for closed rooms.
- Covers the PCS frequency range 1850 - 1990 MHz with a radiation of approx. 5 dBic 3 dBd.
- Full size 2λ circular patch antenna.
- The antenna is carefully sealed with a discreet white cover.
- The connector is placed at one side to enable mounting close to a wall or a ceiling.

ORDERING DESIGNATIONS

TYPE	PRODUCT NO.
PCPI PCS	100000230

SPECIFICATIONS

ELECTRICAL	
MODEL	PCPI PCS
ANTENNA TYPE	Right Hand Circularly Polarized patch antenna
FREQUENCY	1850 - 1990 MHz
IMPEDANCE	Nom. 50 Ω
POLARIZATION	Circular
GAIN	Approx. 5 dBic 3 dBd ± 2 dB
HALF-POWER BEAMWIDTH	Approx. 70° (H- and E-plane)
SWR	≤ 1.5 f.res.
MAX. POWER	50 W
MECHANICAL	
CONNECTOR	N-female
COLOUR	Marine white
MATERIALS	Cover: PS Chassis: Aluminium
SIZE (L x W x H)	Approx. 104 x 104 x 40 mm
WEIGHT	Approx. 0.2 kg
MOUNTING	For mounting on wall or ceiling $\varnothing 4.5 \times 10$ mm (4 holes)

MOUNTING & PATTERN

MOUNTING DETAILS (Dimensions excl. cover)

TYPICAL GAIN AND SWR CURVES

TYPICAL RADIATION PATTERN (E-PLANE)

This curve shows the radiation patterns in the vertical plane.

TYPICAL RADIATION PATTERN (H-PLANE)

This curve shows the radiation patterns in the horizontal plane (horizontal coverage).

PCPI DECT

Indoor Right Hand Circularly Polarized Patch Antenna for mounting on Wall or Ceiling

- Low profile antenna for the 1880 - 1900 MHz band.
- PCPI DECT is a Right Hand Circularly Polarized patch antenna for indoor use.
- Circularly polarized antenna is chosen to avoid out-of-phase signals.

- Specially designed for closed rooms.
- Covers the Dect frequency range 1880 - 1900 MHz with a radiation of approx. 5 dBic 3 dBd.
- Full size 2λ circular patch antenna.
- The antenna is carefully sealed with a discreet white cover.
- The connector is placed at one side to enable mounting close to a wall or a ceiling.

ORDERING DESIGNATIONS

TYPE	PRODUCT NO.
PCPI DECT	100000158

SPECIFICATIONS

ELECTRICAL	
MODEL	PCPI DECT
ANTENNA TYPE	Right Hand Circularly Polarized patch antenna
FREQUENCY	1880 - 1900 MHz
IMPEDANCE	Nom. 50 Ω
POLARIZATION	Circular
GAIN	Approx. 5 dBic 3 dBd ± 2 dB
HALF-POWER BEAMWIDTH	Approx. 70° (H- and E-plane)
SWR	≤ 1.5 f.res.
MAX. POWER	50 W
MECHANICAL	
CONNECTOR	N-female
COLOUR	Marine white
MATERIALS	Cover: PS Chassis: Aluminium
SIZE (L x W x H)	Approx. 104 x 104 x 40 mm
WEIGHT	Approx. 0.2 kg
MOUNTING	For mounting on wall or ceiling $\varnothing 4.5 \times 10$ mm (4 holes)

MOUNTING & PATTERN

MOUNTING DETAILS (Dimensions excl. cover)

TYPICAL GAIN AND SWR CURVES

TYPICAL RADIATION PATTERN (E-PLANE)

This curve shows the radiation patterns in the vertical plane.

TYPICAL RADIATION PATTERN (H-PLANE)

This curve shows the radiation patterns in the horizontal plane (horizontal coverage).

PCPI DCS

Indoor Right Hand Circularly Polarized Patch Antenna for mounting on Wall or Ceiling

- Low profile antenna for the 1710 - 1880 MHz band.
- PCPI DCS is a Right Hand Circularly Polarized patch antenna for indoor use.
- Circularly polarized antenna is chosen to avoid out-of-phase signals.

- Specially designed for closed rooms.
- Covers the DCS frequency range 1710 - 1880 MHz with a radiation of approx. 5 dBic 3 dBd.
- Full size 2λ circular patch antenna.
- The antenna is carefully sealed with a discreet white cover.
- The connector is placed at one side to enable mounting close to a wall or a ceiling.

ORDERING DESIGNATIONS

TYPE	PRODUCT NO.
PCPI DCS	100000229

SPECIFICATIONS

ELECTRICAL	
MODEL	PCPI DCS
ANTENNA TYPE	Right Hand Circularly Polarized patch antenna
FREQUENCY	1710 - 1880 MHz
IMPEDANCE	Nom. 50 Ω
POLARIZATION	Circular
GAIN	Approx. 5 dBic 3 dBd ± 2 dB
HALF-POWER BEAMWIDTH	Approx. 70° (H- and E-plane)
SWR	≤ 1.5 f.res.
MAX. POWER	50 W
MECHANICAL	
CONNECTOR	N-female
COLOUR	Marine white
MATERIALS	Cover: PS Chassis: Aluminium
SIZE (L x W x H)	Approx. 104 x 104 x 40 mm
WEIGHT	Approx. 0.2 kg
MOUNTING	For mounting on wall or ceiling $\varnothing 4.5 \times 10$ mm (4 holes)

MOUNTING & PATTERN

MOUNTING DETAILS (Dimensions excl. cover)

TYPICAL GAIN AND SWR CURVES

TYPICAL RADIATION PATTERN (E-PLANE)

This curve shows the radiation patterns in the vertical plane.

TYPICAL RADIATION PATTERN (H-PLANE)

This curve shows the radiation patterns in the horizontal plane (horizontal coverage).

PCPI UMTS

Indoor Right Hand Circularly Polarized Patch Antenna for mounting on Wall or Ceiling

- Low profile antenna for the 1910 - 2200 MHz band.
- PCPI UMTS is a Right Hand Circularly Polarized patch antenna for indoor use.
- Circularly polarized antenna is chosen to avoid out-of-phase signals.

- Specially designed for closed rooms.
- Covers the UMTS frequency range 1910 - 2200 MHz with a radiation of approx. 5 dBic 3 dBd.
- Full size 2λ circular patch antenna.
- The antenna is carefully sealed with a discreet white cover.
- The connector is placed at one side to enable mounting close to a wall or a ceiling.

ORDERING DESIGNATIONS

TYPE	PRODUCT NO.
PCPI UMTS	100000231

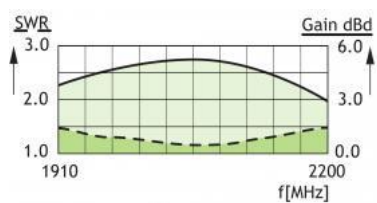
SPECIFICATIONS

ELECTRICAL	
MODEL	PCPI UMTS
ANTENNA TYPE	Right Hand Circularly Polarized patch antenna
FREQUENCY	1910 - 2200 MHz
IMPEDANCE	Nom. 50 Ω
POLARIZATION	Circular
GAIN	Approx. 5 dBic 3 dBd ± 2 dB
HALF-POWER BEAMWIDTH	Approx. 70° (H- and E-plane)
SWR	≤ 1.5 f.res.
MAX. POWER	50 W
MECHANICAL	
CONNECTOR	N-female
COLOUR	Marine white
MATERIALS	Cover: PS Chassis: Aluminium
SIZE (L x W x H)	Approx. 104 x 104 x 40 mm
WEIGHT	Approx. 0.2 kg
MOUNTING	For mounting on wall or ceiling $\varnothing 4.5 \times 10$ mm (4 holes)

MOUNTING & PATTERN

MOUNTING DETAILS (Dimensions excl. cover)

TYPICAL GAIN AND SWR CURVES



TYPICAL RADIATION PATTERN (E-PLANE)

This curve shows the radiation patterns in the vertical plane.

TYPICAL RADIATION PATTERN (H-PLANE)

This curve shows the radiation patterns in the horizontal plane.

PCPI DCS/UMTS

Indoor Right Hand Circularly Polarized Patch Antenna for mounting on Wall or Ceiling

- Low profile antenna for the 1710 - 2200 MHz band.
- PCPI DCS/UMTS is a 2λ Right Hand Circularly Polarized patch antenna for indoor use.
- Circularly polarized antenna is chosen to avoid out-of-phase signals.

- Specially designed for closed rooms.
- Covers the DCS and the UMTS frequency range 1710 - 2200 MHz with a radiation of approx. 5 dBic 3 dBd.
- The antenna is carefully sealed with a discreet white cover.
- The connector is placed at one side to enable mounting close to a wall or a ceiling.

ORDERING DESIGNATIONS

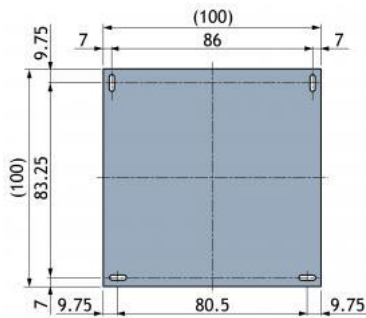
TYPE	PRODUCT NO.
PCPI DCS/UMTS	100000242

SPECIFICATIONS

ELECTRICAL	
MODEL	PCPI DCS/UMTS
ANTENNA TYPE	Right Hand Circularly Polarized patch antenna
FREQUENCY	DCS + UMTS: 1710 - 2200 MHz
IMPEDANCE	Nom. 50 Ω
POLARISATION	Circular
GAIN	Approx. 5 dBic 3 dBd
HALF-POWER BEAMWIDTH	Approx. 70° (H- and E-plane)
SWR	≤ 2.0
MAX. POWER	50 W
MECHANICAL	
CONNECTOR	N-female
COLOUR	Marine white
MATERIALS	Cover: PS Chassis: Aluminium
SIZE (W x L x H)	Approx. 104 x 104 x 40 mm
WEIGHT	Approx. 0.2 kg
MOUNTING	For mounting on wall or ceiling $\varnothing 4.5 \times 10$ mm (four holes)

MOUNTING & PATTERN

MOUNTING DETAILS



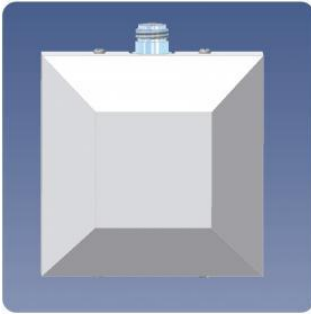
TYPICAL GAIN AND SWR CURVES

TYPICAL RADIATION PATTERN (E-PLANE)

This curve shows the radiation patterns in the vertical plane.

TYPICAL RADIATION PATTEN (H-PLANE)

This curve shows the radiation patterns in the horizontal plane.



PCPI WIFI

Indoor Right Hand Circularly Polarized Patch Antenna for mounting on Wall or Ceiling

- Low profile antenna for the 2400 - 2500 MHz band.
- PCPI WIFI is a Right Hand Circularly Polarized patch antenna for indoor use.
- Circularly polarized antenna is chosen to avoid out-of-phase signals.

- Specially designed for closed rooms.
- The antenna is carefully sealed with a discrete white cover.
- The connector is placed at one side to enable mounting close to a wall or a ceiling.

SPECIFICATIONS

ELECTRICAL	
MODEL	PCPI WIFI
ANTENNA TYPE	Right Hand Circularly Polarized patch antenna
FREQUENCY	2400 - 2500 MHz
IMPEDANCE	Nom. 50 Ω
POLARIZATION	Circular
GAIN	Approx. 5 dBic 3 dBd ±2 dB
HALF-POWER BEAMWIDTH	Approx. 70° (H- and E-plane)
SWR	≤ 2
MAX. POWER	50 W
MECHANICAL	
CONNECTOR	N-female
COLOUR	Marine white
MATERIALS	Cover: PS Chassis: Aluminium
SIZE (L x W x H)	Approx. 104 x 104 x 40 mm
WEIGHT	Approx. 0.2 kg
MOUNTING	For mounting on wall or ceiling ø4.5 x 10 mm (4 holes)

MOUNTING DETAILS (Dimensions excl. cover)

TYPICAL GAIN AND SWR CURVES

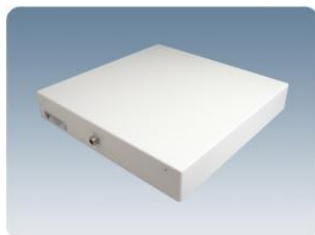
TYPICAL RADIATION PATTEN (E-PLANE)

This curve shows the radiation patterns in the vertical plane.

TYPICAL RADIATION PATTEN (H-PLANE)



This curve shows the radiation patterns in the horizontal plane (horizontal coverage).



PLPI/TETRA/

Indoor Linearly Polarized Patch Antennas for mounting on Wall or Ceiling

- Low-profile antenna for the 380 - 470 MHz band.
- PLPI/TETRA/... is a patch antenna for indoor use.
- Specially designed for closed rooms.

- Covers 50 MHz with a radiation of approx. 7 dBi.
- The antenna is carefully sealed with a discreet cover.
- The connector is placed at one side to enable mounting close to a wall or a ceiling.
- Including mounting bracket.
- Connection also available on backside (see overleaf).

ORDERING DESIGNATIONS

TYPE	FREQUENCY	PRODUCT NO.
PLPI/TETRA/s-f	380 - 430 MHz	100000423
PLPI/TETRA/l-h	430 - 470 MHz	100000445
ACCESSORIES		
PATCH-WAMO		100000511

BACK CONNECTOR VERSION ORDERING DESIGNATIONS

TYPE	FREQUENCY	PRODUCT NO.
PLPI/TETRA/s-f-BC	380 - 430 MHz	100000581
PLPI/TETRA/l-h-BC	430 - 470 MHz	

SPECIFICATIONS

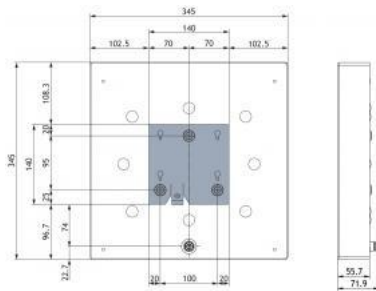
ELETRICAL	
MODEL	PLPI/TETRA/...
ANTENNA TYPE	Linearly polarized patch antenna
FREQUENCY	380 - 470 MHz covered by two models
IMPEDANCE	Nom. 50 Ω
POLARIZATION	Linear
GAIN	Approx. 7 dBi
BANDWIDTH	≥ 50 MHz
HALF POWER BEAMWIDTH	Approx. 80° (H- and E-plane)
SWR	≤ 2
MAX. POWER	100 W
ANTISTATIC PROTECTION	All metal parts DC-grounded

	(Connector shows a DC-short)
MECHANICAL	
TEMP. RANGE	-30° C → +75° C
CONNECTOR	N-female
COLOUR	Marine white
MATERIALS	Cover: ABS (white) Chassis: Aluminium
SIZE (L x W x H)	Approx. 345 x 345 x 60 mm / 13.58 x 13.58 x 2.36 in.
WEIGHT	Approx. 2.3 kg / 5.07 lb.
MOUNTING	For mounting on wall or ceiling ø5 mm / 0.20 in. (three holes) (see mounting details)

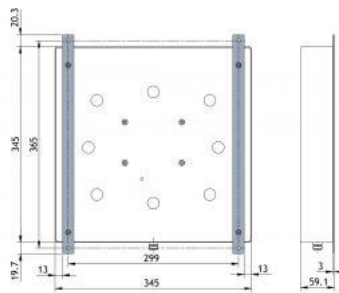
MOUNTING & PATTERN

MOUNTING DETAILS (wall mounting bracket included)

MOUNTING DETAILS BACK CONNECTOR VERSION (wall mounting bracket included)

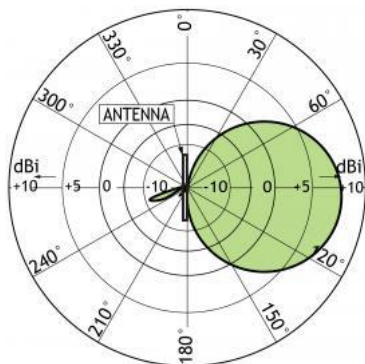


MOUNTING DETAILS PATCH-WAMO (ordered separately)



TYPICAL GAIN AND SWR CURVES

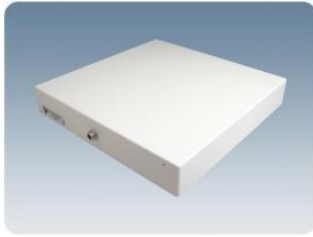
TYPICAL RADIATION PATTERN (E-PLANE)



This curve shows the radiation patterns in the vertical plane.

TYPICAL RADIATION PATTERN (H-PLANE)

This curve shows the radiation patterns in the horizontal plane (horizontal coverage).



PLPO/TETRA/

Outdoor Linearly Polarized low profile Antennas for mounting on Ceiling or Mast

- Low-profile antenna for the 380 - 470 MHz band.
- PLPO/TETRA/... is a patch antenna for outdoor use.
- Covers approx. 50 MHz with a radiation of 7 dBi.

- The antenna is carefully sealed with a discreet cover.
- The connector is placed at one side to enable mounting closed to a wall.
- Including wall mounting bracket. PATCH-MAMO and PATCH/WAMO to be ordered separately.

ORDERING DESIGNATIONS

TYPE	FREQUENCY	PRODUCT NO.
PLPO/TETRA/s-f	380 - 430 MHz	100000424
PLPO/TETRA/l-h	430 - 470 MHz	100000446
PLPO/TETRA/s	380 - 410 MHz	100000476
ACCESSORIES		
PATCH-MAMO		100000447
PATCH-WAMO		100000511

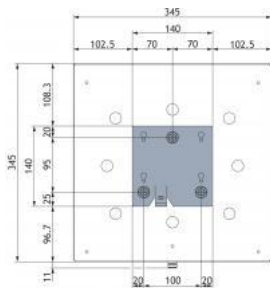
SPECIFICATIONS

ELETRICAL			
MODEL	PLPO/TETRA/s-f	PLPO/TETRA/l-h	PLPO/TETRA/s
ANTENNA TYPE	Linearly polarized patch antenna		
FREQUENCY	380 - 430 MHz	430 - 470 MHz	380 - 410 MHz
IMPEDANCE	Nom. 50 Ω		
POLARIZATION	Linear		
GAIN	Approx. 7 dBi		
BANDWIDTH	≥ 50 MHz @ SWR ≤ 2	≥ 50 MHz @ SWR ≤ 2	≥ 30 MHz @ SWR ≤ 1.6
HALF-POWER BEAMWIDTH	Approx. 80° (H- and E-plane)		
SWR	≤ 2	≤ 2	≤ 1.6
MAX. POWER	100 W		
ANTISTATIC PROTECTION	All metal parts DC-grounded (Connector shows a DC-short)		
MECHANICAL			

CONNECTOR	N-female	
WIND LOAD	173 N @ 160 km/h / 173 N @ 100 mph.	
COLOUR	Marine white	
MATERIALS	Cover: ABS (white) Chassis: Aluminium	
SIZE (L x W x H)	Approx. 345 x 345 x 60 mm / 13.58 x 13.58 x 2.36 in.	
WEIGHT	Approx. 2.3 kg / 5.07 lb.	
MOUNTING	For mounting on wall ø5 mm / 0.20 in. (three holes) (see mounting details) or mast on 40 - 55 mm / 1.57 x 2.17 in. dia. mast tube	

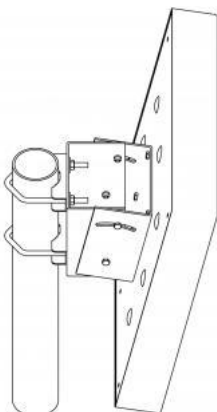
MOUNTING & PATTERN

MOUNTING DETAILS (wall mounting bracket included)



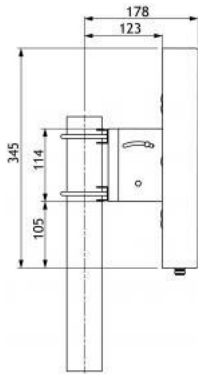
TYPICAL GAIN AND SWR CURVES

Mast mounting bracket: PATCH-MAMO (ordered separately)

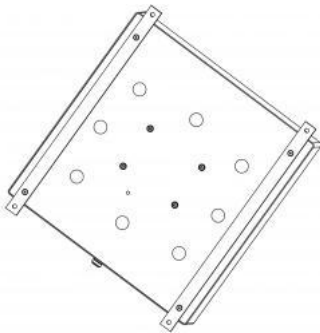


Tilt adjustable from +5°/-30°

MOUNTING DETAILS (PATCH-MAMO)

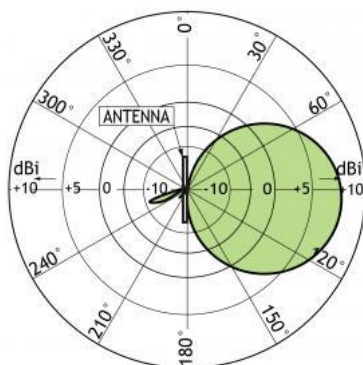


Wall mounting bracket: PATCH-WAMO (ordered separately)



MOUNTING DETAILS (PATCH-WAMO)

TYPICAL RADIATION PATTERN (E-PLANE)



This curve shows the radiation patterns in the vertical plane.

TYPICAL RADIATION PATTERN (H-PLANE)

This curve shows the radiation patterns in the horizontal plane (horizontal coverage).



PLPI 900/1800

Indoor dual Patch Antenna for mounting on Wall or Ceiling

- Low profile antenna for the 900 and 1800 MHz Band.
- PLPI 900/1800 is a patch antenna for indoor use.
- Covers 80 MHz at 900 MHz and 170 MHz at 1800 MHz with a radiation of approx. 8 dBi.

- The antenna is carefully sealed with a discreet white cover.
- The two connectors are placed at one side to enable mounting close to a wall or a ceiling.

ORDERING DESIGNATIONS

TYPE	PRODUCT NO.
PLPI 900/1800	100000322

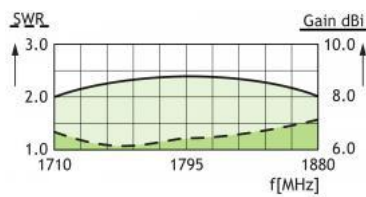
SPECIFICATIONS

ELECTRICAL	
MODEL	PLPI 900/1800
ANTENNA TYPE	Linearly Polarized patch antenna
FREQUENCY	880 - 960 MHz / 1710 - 1880 MHz
IMPEDANCE	Nom. 50 Ω
POLARIZATION	Linear
GAIN	8 dBi
BANDWIDTH	880 - 960 \geq 80 MHz @ SWR \leq 2 1710 - 1880 \geq 170 MHz @ SWR \leq 2
HALF-POWER BEAMWIDTH	65° - 85° in azimuth plane 60° - 80° in elevation plane
SWR	\leq 2
MAX. POWER	100 W
MECHANICAL	
CONNECTOR	2 x N-female
COLOUR	Marine white
MATERIALS	Cover: PS Chassis: Aluminium
SIZE (L x W x H)	Approx. 250 x 200 x 30 mm
WEIGHT	Approx. 0.4 kg
MOUNTING	For mounting on wall or ceiling \varnothing 4.5 x 20 mm (four holes)

MOUNTING & PATTERN

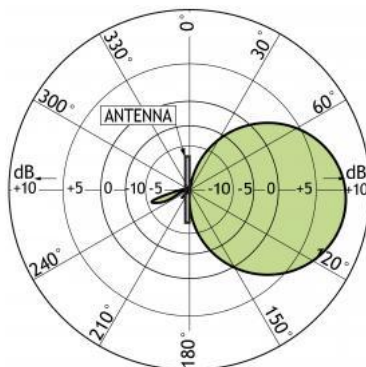
(Dimensions excl. cover)

overskrift



overskrift

overskrift



This curve shows the radiation patterns in the vertical plane.

overskrift

This curve shows the radiation patterns in the horizontal plane.

PLPI UMTS 2100

Indoor Linearly Polarized Patch Antenna for mounting on Wall or Ceiling

- Low-profile antenna for the UMTS 2100 band.
- PLPI UMTS 2100 is a linear patch antenna for indoor use.

- The antenna is carefully sealed with a discreet white cover.
- The connector is placed at one side to enable mounting close to a wall or a ceiling.

ORDERING DESIGNATIONS

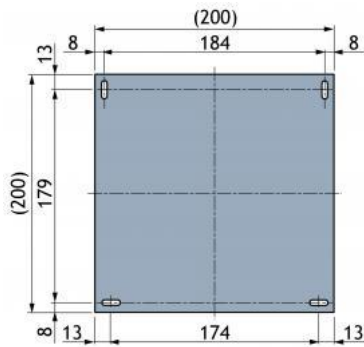
TYPE	PRODUCT NO.
PLPI UMTS 2100	100000323

SPECIFICATIONS

ELECTRICAL	
MODEL	PLPI UMTS 2100
ANTENNA TYPE	Linearly polarized patch antenna
FREQUENCY	2110 - 2170 MHz
IMPEDANCE	Nom. 50 Ω
POLARIZATION	Linear
GAIN	6 - 9 dBi
BANDWIDTH	≥ 80 MHz @ SWR ≤ 2.0
HALF-POWER BEAMWIDTH	Approx. 60° (H- and E-plane)
SWR	1.5 f.res.
MAX. POWER	25 W
MECHANICAL	
CONNECTOR	N-female
COLOUR	Marine white
MATERIALS	Cover: PS Chassis: Aluminium
SIZE (L x W x H)	Approx. 204 x 204 x 28 mm / 8.03 x 8.03 x 1.10 in.
WEIGHT	Approx. 0.4 kg / 0.88 lb.
MOUNTING	For mounting on wall or ceiling $\varnothing 4.5$ x 20 mm (4 holes)

MOUNTING & GAIN

MOUNTING DETAILS (Dimensions excl. cover)



TYPICAL GAIN AND SWR CURVES



PRO-PDI2-40-1G-... dB-10W-N

Power Divider

- 10 W unequal power divider.

DESCRIPTION

- The divider covers the frequency range from 40 - 1000 MHz.
- Very little ripple on divider output over the entire frequency range.

ORDERING DESIGNATIONS

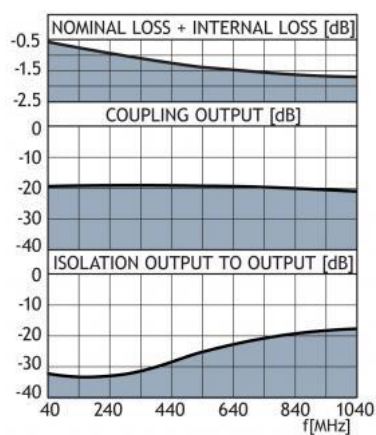
TYPE	PRODUCT NO.
PRO-PDI2-40-1G-3 dB-10W-N	210000438
PRO-PDI2-40-1G-6 dB-10W-N	210000440
PRO-PDI2-40-1G-7 dB-10W-N	210000443
PRO-PDI2-40-1G-8 dB-10W-N	210000444
PRO-PDI2-40-1G-10 dB-10W-N	210000446
PRO-PDI2-40-1G-20 dB-10W-N	210000445

SPECIFICATIONS

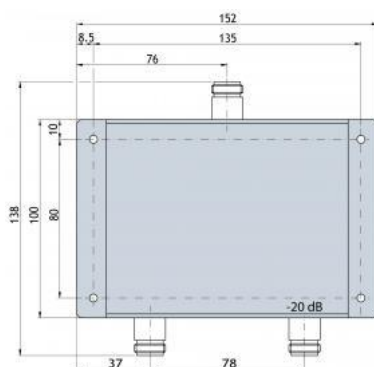
ELECTRICAL														
MODEL			PRO-PDI2-40-1G-... dB-10W-N											
			3 dB		6 dB		7 dB		8 dB		10 dB		20 dB	
FREQUENCY RANGE		40 - 1000 MHz												
MAX. INPUT POWER		10 W												
NOMINAL DIVIDER LOSS		3.0 dB		1.25 dB		0.8 dB		0.75 dB		0.45 dB		0.04 dB		
TOTAL LOSS INCL. NOMINAL LOSS		@ 40 MHz	≤ 3.7 dB		≤ 2.0 dB		≤ 2.0 dB		≤ 1.8 dB		≤ 1.8 dB		≤ 0.8 dB	
		@ 1000 MHz	≤ 4.8 dB		≤ 3.75 dB		≤ 2.75 dB		≤ 2.9 dB		≤ 2.9 dB		≤ 1.7 dB	
ISOLATION OUTPUT TO OUTPUT			> 17 dB		> 10 dB		> 10 dB		> 10 dB		> 12 dB		> 15 dB	
DIVIDER OUTPUT (dB)			Equal		-6.5 ± 0.5		-7.0 ± 0.5		-8.0 ± 0.5		-10.0 ± 0.5		-20 ± 1.0	
IMPEDANCE			Nom. 50 Ω											

INPUT SWR	< 1.5
MECHANICAL	
TEMP. RANGE	-30°C → +60°C
CONNECTORS	N-female
DIMENSIONS	138 (incl. connectors) x 152 (incl. flanges) x 35 mm
WEIGHT	Approx. 360 g

TYPICAL RESPONSE CURVE



MOUNTING DETAILS





PROCOM A/S

Smedetoften 12, 3600
Frederikssund, Denmark



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