Sturdy, 8 dBd, Omnidirectional Base Station Antenna for the 450 MHz Band

DESCRIPTION

- CXL 70-8HD/…-PT is an 8 dBd, vertically polarized, omnidirectional base station antenna for the 450 MHz band.
- The antenna has a bandwidth of 20 MHz. Please specify centre frequency or duplex Tx and Rx when ordering.
- The antenna has been approved to withstand lightning (10/350 µs impulses/100 kA) according to EN 62305-1.
- The antenna is provided with our sturdy type “HD” mast mount, which is a heavy-duty, multipurpose mounting bracket made of non-corrosive aluminium. The accompanying U-bolts and fittings are made of stainless steel.
- The antenna can be mounted on mast tubes of 58 to 105 mm in outer diameter. Further, the construction of the mount makes it possible to lead the cable either along the inside or on the outside of the mast tube.
- In designing this antenna special emphasis has been laid on obtaining a large bandwidth both in relation to SWR and gain, making this antenna highly suitable for duplex operation with large spacing between the Tx and Rx frequencies. The phasing of the radiating elements is carefully adjusted to yield maximum gain in the horizontal plane, with the level of the sidelobes reduced to a minimum.
- The antenna element is sealed in a high-quality, conical glass fibre tube with low wind-load, which will ensure performance undisturbed in all climates.
- To substantially reduce noise caused by atmospherical discharges, all metal parts in the antenna are DC-grounded. Consequently, the antenna shows a DC-short across the coaxial cable.
- CXL 70-8HD/…-PT is a vibration-proof, slim-line, corrosion-resistant, modern style base station antenna.
- The CXL 70-8HD/... PT can be ordered on other frequencies on request.
- Grounding conductors is to be chosen in accordance with IEC 62305-3.

SPECIFICATIONS

Electrical	
Model	CXL 70-8HD/...-PT
Frequency	20 MHz wide frequency segments within the 380 - 470 MHz range.
Antenna Type	High-gain collinear
Max. Input Power	250 W
Polarisation	Vertical
3 dB Beamwidth, E-Plane	12 °
3 dB Beamwidth, H-Plane	Omnidirectional
Impedance	50 Ω
Gain	8 dBd (10.2 dBi)
VSWR	< 1.5:1
Bandwidth	20 MHz
Lightning Protection	100 kA (Test pulse 10/350 µs)
Antistatic Protection	All metal parts DC-grounded (Connector shows a DC-short)
HCM Code(s)	HCM000ND00, 004DE50

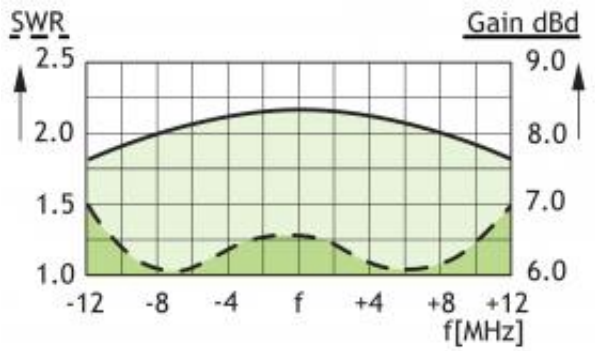
Mechanical	
Connection(s)	N(f)
Materials	Radome : Polyurethane-coated glass fibre Mounting bracket : Seawater resistant aluminium, epoxy-coated
Colour	White (RAL 9003)
Wind Area	0.29 sq. m / 3.12 sq. ft
Wind Load	368 N (160km/h)
Height	Approx. 5300 mm / 208.66 in. (dep. on. freq.)
Weight	Approx. 9 kg / 19.84 lb
Mounting	On 58 - 105 mm / 2.28 - 4.13 in. dia. mast tube

Environmental	
Operating Temperature Range	-30°C to +70°C
Survival Wind Speed	200 km/h

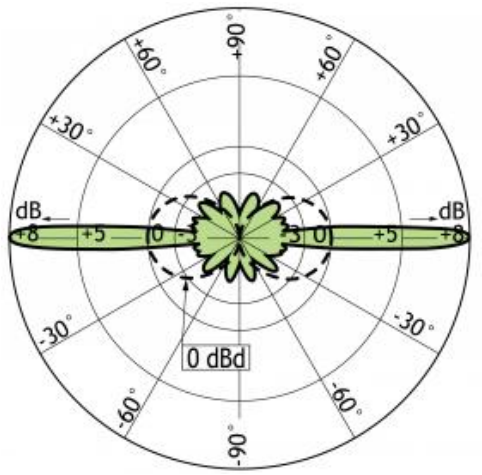
ORDERING

Model	Product No.	Frequency
CXL 70-8HD/l-PT	100000499	380 - 395 MHz
CXL 70-8HD/h-PT	100000500	410 - 430 MHz
CXL 70-8HD/lm-PT	100000501	425 - 445 MHz
CXL 70-8HD/hm-PT	100000502	440 - 460 MHz
CXL 70-8HD/hh-PT	100000503	450 - 470 MHz

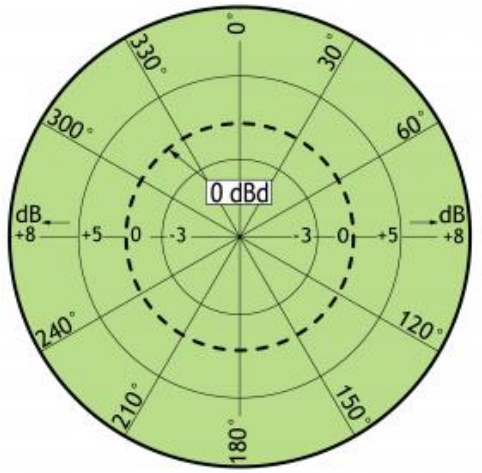
TYPICAL GAIN AND VSWR CURVES



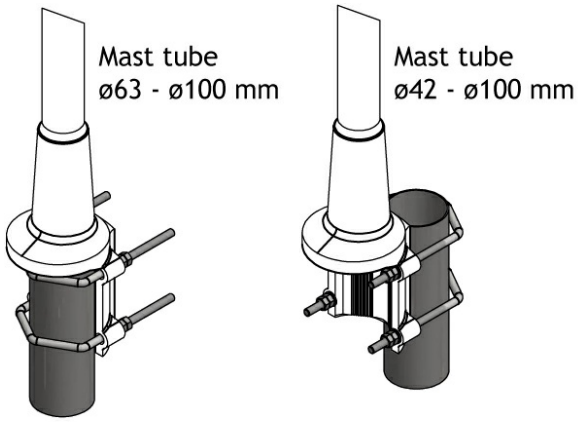
TYPICAL RADIATION PATTERN (E-PLANE)

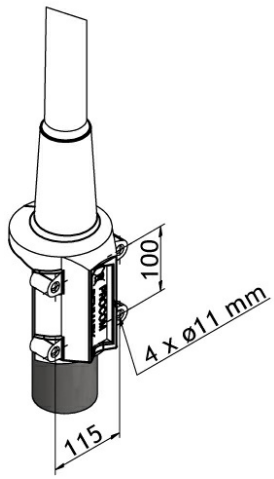


TYPICAL RADIATION PATTERN (H-PLANE)

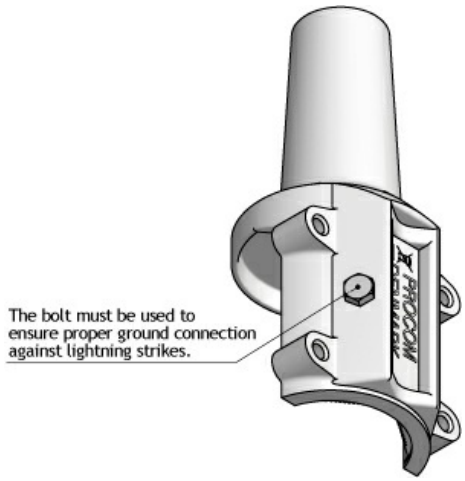


MULTI-PURPOSE MOUNTING BRACKET





MOUNTING DESCRIPTION FOR GROUND CONNECTION



PLEASE NOTE

When using the CXL 70-8HD/...-PT at windy locations where wind speeds of more than (e.g. 150 km/h) can be expected, the antenna must be mounted on the side of the mast and the top section of the glass fibre tube stabilized with a bracket.
For this purpose the Fixatid Bracket FB-HD with the slideable side mounting clamps (SMC) can be used.