ATEX certified, 0 dBd, Omnidirectional Base Station for the 450 MHz Band in Hazardous areas

DESCRIPTION

- CXL 450-1LW-SS-Ex is a 0 dBd, vertically polarized, omnidirectional base station antenna which covers the 380 - 510 MHz band in three models.
- The antenna is specified as an ATEX antenna for use in zone 2 in potentially explosive areas.
- Before installing the antenna, please read the ATEX Product Manual carefully.
- The antenna is suitable for use in gas groups IIA, IIB and IIC in zone 2.
- It's only necessary to install an ATEX grounding Kit on the LW-SS-Ex bracket, when the point of installation has a different electrical potential than the system.
- The carefully designed, broadbanded ½ λ-dipole radiating element is made of brass tube and sealed in a high-quality cylindrical glass fibre tube with low wind-load.
- The accompanying U-bolts and fittings are made of stainless steel.
- The antenna element is sealed in a high-quality glass fibre tube.
- All metal parts in the antenna are DC-grounded. Consequently, the antenna shows a DC-short across the coaxial cable.

SPECIFICATIONS

Electrical	
Model	CXL 450-1LW-SS-Ex
Frequency	50 MHz wide frequency segments within 380 - 510 MHz. See ordering designations
Antenna Type	Coaxial dipole, broad-banded
Special spec. info	Max. RF Input Power due to max. EIRP in ATEX Environment *: Group IIA : 35.6 dBm (3.6 W) Group IIB : 33.3 dBm (2.1 W) Group IIC : 30.8 dBm (1.2 W)
Polarisation	Vertical
Pattern Type	Omnidirectional
3 dB Beamwidth, E-Plane	80 °
3 dB Beamwidth, H-Plane	Omnidirectional
Impedance	50 Ω
Gain	0 dBd (2.2 dBi)
VSWR	< 1.5:1
Bandwidth	50 MHz
Antistatic Protection	All metal parts DC-grounded (Connector shows a DC-short)
HCM Code(s)	HCM000ND00, 040DE00

Mechanical	
Connector Torque	N(f) : 0.7 - 1.1 Nm
Materials	Radome : Polyurethane-coated glass fibre Mounting bracket : Stainless acid-proof steel (AISI 316) U-bolt and fittings : Stainless steel (AISI 316)
Installation Torque	3 Nm
Colour	Blue (RAL 5015)
Wind Area	0.029 sq. m / 0.31 sq. ft
Wind Load	33.6 N (160 km/h)
Diameter	25.5 mm / 1.00 in.
Height	Approx. 1050 mm / 41.34 in.
Weight	Approx. 1.45 kg / 3.20 lb.
Mounting	On 16 to 54 mm / 0.63 to 2.13 in. dia. mast tube
ATEX Marking	II 3G Ex nA IIC T6

Environmental	
Operating temperature range	-30 °C to +60 °C
Survival Wind Speed	200 km/h
Ingress Protection	IP66

ORDERING

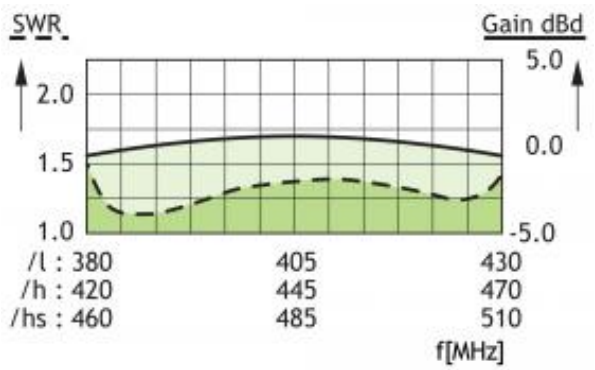
Model	Product No.	Frequency
CXL 450-1LW-SS-Ex/l	115000010	380 - 430 MHz
CXL 450-1LW-SS-Ex/h	115000011	420 - 470 MHz
Accessories		
ATEX grounding Kit	115000100	

CALCULATION OF MAX. ANTENNA INPUT POWER IN DIFFERENT ATEX GROUPS

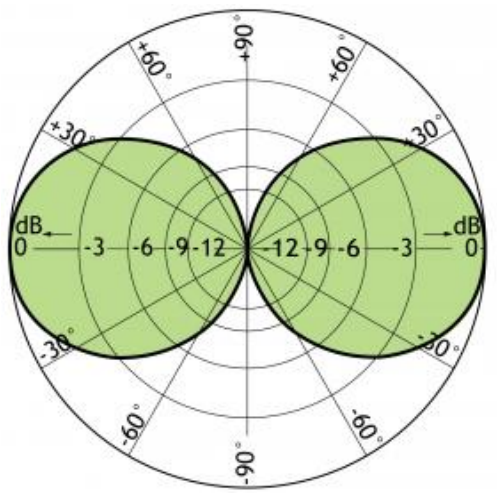
ATEX GROUP	MAX. EIRP POWER	ANTENNA GAIN	MAX INPUT POWER
IIA	37.7 dBm (6.0 W)	0 dBd / 2.15 dBi	35.6 dBm (3.6 W)
IIB	35.4 dBm (3.5 W)	0 dBd / 2.15 dBi	33.3 dBm (2.1 W)
IIC	33.0 dBm (2.0 W)	0 dBd / 2.15 dBi	30.8 dBm (1.2 W)

*See the ATEX Product Manual (safety and mounting instructions) and related EU DECLARATION OF CONFORMITY ATEX Directive 2014/34/EU.

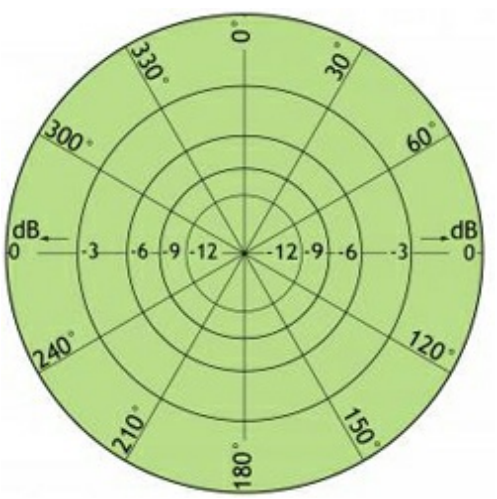
TYPICAL GAIN AND VSWR CURVE



TYPICAL RADIATION PATTERN (E-PLANE)



TYPICAL RADIATION PATTERN (H-PLANE)



MOUNTING DETAILS