

CXL 450-1LW-SS-Ex

ATEX certified, 0 dBd, Omnidirectional Base Station and Marine Antenna for the 450 MHz Band in hazardous areas



- 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 ATEX antenna for use in zone 2 in potentially explosive areas.

DESCRIPTION

- Before installing the antenna, 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 a 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 $\frac{1}{2} \lambda$ -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.

ORDERING DESIGNATIONS

TYPE	FREQUENCY	PRODUCT NO.
CXL 450-1LW-SS-Ex/l	380 - 430 MHz	115000010
CXL 450-1LW-SS-Ex/h	420 - 470 MHz	115000011
CXL 450-1LW-SS-Ex/hs	460 - 510 MHz	115000012
ACCESSORIES		
ATEX grounding Kit		115000100

SPECIFICATIONS
ELECTRICAL

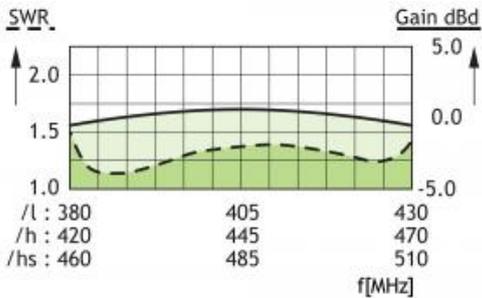
MODEL	CXL 450-1LW-SS-Ex
ANTENNA TYPE	½ λ coaxial dipole, broad-banded 50 MHz wide frequency segments within
FREQUENCY	380 - 510 MHz. See ordering designations
IMPEDANCE	Nom. 50 Ω
RADIATION	Omnidirectional
POLARIZATION	Vertical
GAIN	2 dBi 0 dBd
BANDWIDTH	50 MHz
SWR	≤ 1.5
MAX. RF INPUT POWER DUE TO MAX. 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)
ANTISTATIC PROTECTION	All metal parts DC-grounded (Connector shows a DC-short)

MECHANICAL

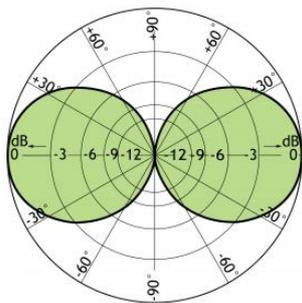
TEMP. RANGE	-30°C → +60°C
CONNECTOR TIGHTENING TORQUE	N-female 0.7 - 1.1 Nm
WIND SURFACE	0.029 m ² / 0.31 ft ²
WIND LOAD	33.6 N @ 160 km/h / 99.42 mph.
MAX. WIND SPEED	200 km/h / 124.27 mph.
INGRESS PROTECTION LEVEL	IP66
COLOUR	Blue
MATERIALS	Radome : Polyurethane-coated glass fibre Mounting bracket : Stainless acid-proof steel (AISI 316L) U-bolt and fittings : Stainless steel (AISI 304)
TOTAL HEIGHT	Approx. 1050 mm / 41.34 in.
DIAMETER	25.5 mm / 1.00 in.
WEIGHT	Approx. 1.45 kg / 3.20 lb.
MOUNTING TIGHTENING TORQUE	On 16 - 54 mm / 0.63 - 2.13 in. dia. mast tub 3 Nm
ATEX MARKING	II 3G Ex nA IIC T6

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

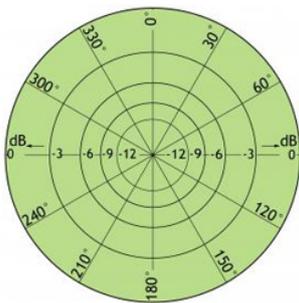
TYPICAL GAIN AND SWR CURVES



TYPICAL RADIATION PATTERN (E-PLANE)



TYPICAL RADIATION PATTERN (H-PLANE)



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)

MULTI-PURPOSE MOUNTING BRACKET

