# ATEX ANTENNAS

PROCOM A/S

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# GPS 4-Ex

## ATEX Certified GPS, Galileo, Glonass and BeiDou antenna for Mast Mounting in Hazardous areas

**PRELIMINARY DATA SHEET**

- Passive quadrifilar helix antenna for fixed installation.
- Covering GPS, Galileo, Glonass and BeiDou.
- The antenna is specified as ATEX antenna for use in zone 2 in potentially explosive areas.
- The antenna is to be used as a receiver only.

## 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.
- A grounding-kit is supplied with the antenna.
  Only to be used to ensure equipotential bonding.
  See the ATEX Product Manual for further details.
- Right-hand circularly polarized antenna (RHCP).
- The circularly polarized antenna minimizes the fading effect often encountered in environments with reflecting obstacles.
- Suitable for mounting on 1” threaded water pipe.
- Comprehensive range of accessory mounting brackets available to make the perfect installation for your specific needs.
- All metal parts in the antenna are DC-grounded. Consequently, the antenna shows a DC-short across the coaxial cable.

## ORDERING DESIGNATIONS

| TYPE | PRODUCT NO. |
|---|---|
| GPS 4-Ex | 115000029 |

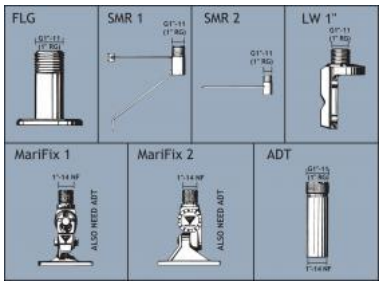
## SPECIFICATIONS

| ELECTRICAL | |
|---|---|
| MODEL | GPS 4-Ex |
| ANTENNA TYPE | Passive quadrifilar helix antenna |
| FREQUENCY | 1575 - 1650 MHz |
| IMPEDANCE | Nom. 50 Ω |
| POLARIZATION | Circular right-hand |
| COVERAGE | Hemispherical |
| GAIN | Approx. 2 dBic 0 dBd |
| BANDWIDTH | 75 MHz |
| SWR | ≤ 2.0 |

| | |
|---|---|
| MAX. POWER | Receiver only |
| ANTISTATIC PROTECTION | All metal parts DC-grounded<br>(Connector shows a DC-short) |
| MECHANICAL | |
| TEMP. RANGE | -30°C → +60°C |
| CONNECTOR | N-female |
| WIND SURFACE | Approx. 0.0072 m² / 0.08 feet² |
| MAX. WIND SPEED | 200 km/h / 124.3 miles/h |
| WIND LOAD | Approx. 9.6 N @ 150 km/h / 93.2 miles/h |
| INGRESS PROTECTION LEVEL | IP66 |
| COLOUR | Blue |
| MATERIALS | Shroud: Weather resistant low loss plastic.<br><br>Mounting bracket: Stainless acidproof steel. (AISI 316L) |
| TOTAL HEIGHT | Approx. 23 cm / 9.1 in |
| ANTENNA DIA. | 33 mm / 1.3 in |
| WEIGHT | Approx. 350 g / 0.31 lb |
| MOUNTING<br>TIGHTENING TOQUE | On 1” threaded water pipe or on PROCOM 1”<br>Mounting brackets (see accessories) 20-25 Nm |
| ATEX MARKING | II 3G Ex nA IIC T6 |

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

## ACCESSORIES (to be ordered separately)



# 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 Product Manual carefully.
- The antenna is suitable for use in gas groups IIA, IIB and IIC in zone 2.
- A grounding-kit is supplied with the antenna. Only to be used to ensure equipotential bonding. See the ATEX Product Manual for further details.
- 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.
- 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 |

## SPECIFICATIONS

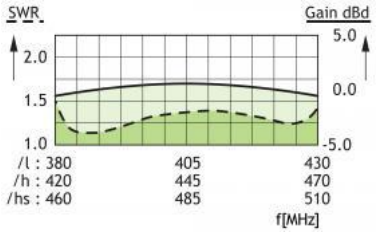
| ELECTRICAL | |
|---|---|
| MODEL | CXL 450-1LW-SS-Ex |
| ANTENNA TYPE | ½ λ coaxial dipole, broad-banded |
| FREQUENCY | 50 MHz wide frequency segments within 380 - 510 MHz. See ordering designations |
| IMPEDANCE | Nom. 50 Ω |
| RADIATION | Omnidirectional |
| | |

| | |
|---|---|
| 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)<br>Group IIB : 33.3 dBm (2.1 W)<br>Group IIC : 30.8 dBm (1.2 W) |
| ANTISTATIC PROTECTION | All metal parts DC-grounded<br>(Connector shows a DC-short) |

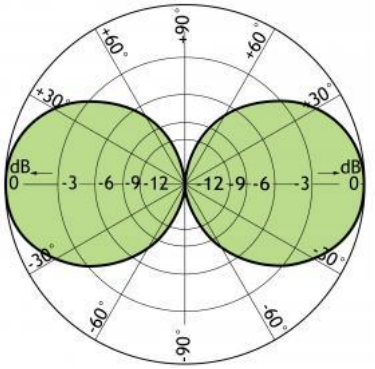
| MECHANICAL | |
|---|---|
| TEMP. RANGE | -30°C → +60°C |
| CONNECTOR<br>TIGHTENING TORQUE | N-female<br>0.7 - 1.1 Nm |
| WIND SURFACE | 0.029 m² / 0.31 ft² |
| WIND LOAD | 33.6 N @ 160 km/h / 99.42 mph. |
| MAX. WIND SPEED | 200 km/h / 124.27 mph. |
| INGRESS PROTECTION LEVEL | IP66 |
| COLOUR | Blue |
| MATERIALS | Radome : Polyurethane-coated glass fibre<br>Mounting bracket : Stainless acid-proof steel (AiSi 316L)<br>U-bolt and fittings : Stainless steel (AiSi 304) |
| TOTAL HEIGHT | Approx. 1050 mm / 41.34 in. |
| DIA. IN TOP END | 25.5 mm / 1.00 in. |
| DIA. IN BOTTOM END | 25.5 mm / 1.00 in. |
| WEIGHT | Approx. 1.45 kg / 3.20 lb. |
| MOUNTING<br>TIGHTENING TORQUE | On 16 - 54 mm / 0.63 - 2.13 in. dia. mast tub<br>3 Nm |
| ATEX MARKING | II 3G Ex nA IIC T6 |

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

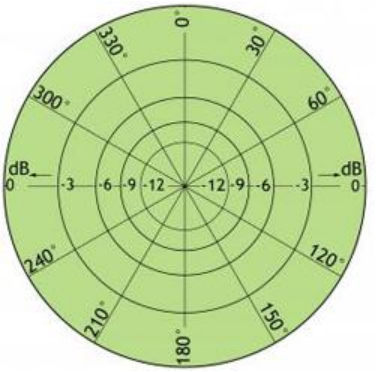
## TYPICAL GAIN AND SWR CURVES




## TYPICAL RADIATION PATTERN (E-PLANE)




**TYPICAL RADIATION PATTERN (H-PLANE)**




**ALCULATION 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**


Mast tube
ø30 - ø54 mm


Mast tube
ø16 - ø54 mm


Mast tube
ø16 - ø54 mm

# CXL 130-1-Ex

## ATEX certified, 0 dBd, Omnidirectional Base Station Antenna for the International Aircraft Band in Hazardous areas

- CXL 130-1-Ex is a 0 dBd, vertically polarized, omnidirectional base station antenna for the 118 - 137 MHz civil aircraft band.
- The antenna is specified as ATEX antenna for use in zone 2 in potentially explosive areas.

## DESCRIPTION

- Before installing the antenna, read the Product Manual carefully.
- The antenna is suitable for use in gas groups IIA, IIB and IIC in zone 2.
- The antenna is a broad-banded ½ λ dipole design.
- The antenna can be mounted on threaded 1" water pipe using the supplied 1" revolving nut. In this way, a nice, slim installation is obtained.
- A wide variety of accessory mounting hardware (see below) gives ample choice regarding alternative ways of installation.
- All metal parts in the antenna are DC-grounded. Consequently, the antenna shows a DC-short across the coaxial cable.
- A conical glass fibre tube with very low wind-loading completely encloses the carefully designed radiating element to ensure long dependable service in all climates.

## ORDERING DESIGNATIONS

| TYPE | PRODUCT NO. |
|---|---|
| CXL 130-1-Ex | 115000026 |

## SPECIFICATIONS

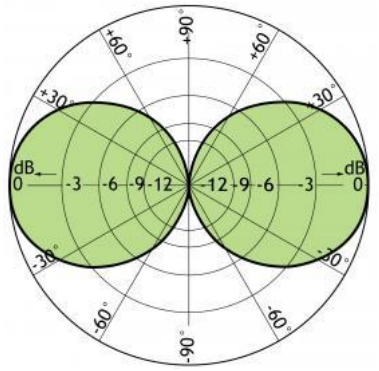
| ELECTRICAL | |
|---|---|
| MODEL | CXL 130-1-Ex |
| ANTENNA TYPE | ½ λ coaxial dipol, broad-banded |
| FREQUENCY | 118 - 137 MHz |
| IMPEDANCE | Nom. 50 Ω |
| RADIATION | Omnidirectional |
| POLARIZATION | Vertical |
| GAIN | 2 dBi 0 dBd |
| BANDWIDTH | 19 MHz |
| SWR | ≤ 1.75 |
| MAX. RF INPUT POWER DUE TO MAX. EIRP IN ATEX ENVIRONMENT * | Group IIA : 35.6 dBm (3.6 W)<br>Group IIB : 33.3 dBm (2.1 W)<br>Group IIC : 30.8 dBm (1.2 W) |

| | |
|---|---|
| ANTISTATIC PROTECTION | All metal parts DC-grounded<br>(Connector shows a DC-short) |
| MECHANICAL | |
| TEMP. RANGE | -30° C → +60° C |
| CONNECTOR<br>TIGHTENING TORQUE | UHF-female (fitting PL-259)<br>0.7 - 1.1 Nm |
| WIND SURFACE | 0.023 m² / 0.25 ft² |
| WIND LOAD | 29 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<br>Mounting hardware: Black chromed brass |
| TOTAL HEIGHT | Approx. 1.43 m / 56.3 in. |
| WEIGHT | Approx. 0.85 kg / 1.87 lb. |
| MOUNTING<br><br><br>TIGHTENING TORQUE | On 1” RG (G1” - 11)<br>threaded water pipe or on optional<br>mounting brackets (see below)<br>20 - 25 Nm |
| ATEX MARKING | II 3G Ex nA IIC T6 |

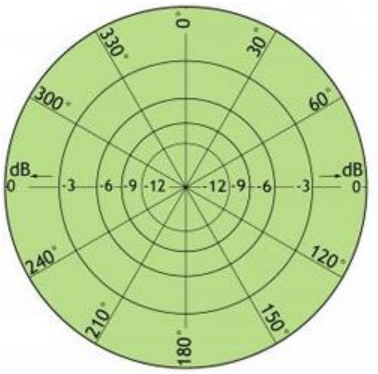
* See the ATEX Product Manual (safety and mounting instructions) and related EC DECLARATION OF CONFORMITY ATEX Directive 2014/34/EU.

## TYPICAL GAIN AND SWR CURVES


## TYPICAL RADIATION PATTERN (E-PLANE)



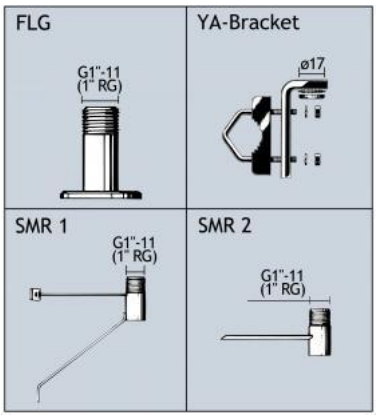
## TYPICAL RADIATION PATTERN (H-PLANE)




## 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) |

## ACCESSORIES (to be ordered separately)



# CXL 130-1LW-SS-Ex

ATEX certified, 0 dBd, Omnidirectional Base Station Antenna for the International Aircraft Band in Hazardous areas

- CXL 130-1LW-SS-Ex is a 0 dBd, vertically polarized, omnidirectional base station antenna for the 118 - 137 MHz civil aircraft band.
- The antenna is specified as ATEX antenna for use in zone 2 in potentially explosive areas.

## DESCRIPTION

- Before installing the antenna, read the Product Manual carefully.
- The antenna is suitable for use in gas groups IIA, IIB and IIC in zone 2.
- A grounding-kit is supplied with the antenna. Only to be used to ensure equipotential bonding. See the ATEX Product Manual for further details.
- The antenna is a broad-banded ½ λ dipole design.
- The accompanying U-bolts and fittings are made of stainless steel.
- All metal parts in the antenna are DC-grounded. Consequently, the antenna shows a DC-short across the coaxial cable.

## ORDERING DESIGNATIONS

| TYPE | PRODUCT NO. |
|---|---|
| CXL 130-1LW-SS-Ex | 115000001 |

## SPECIFICATIONS

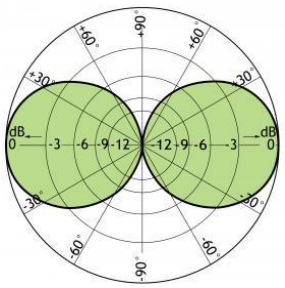
| ELECTRICAL | |
|---|---|
| MODEL | CXL 130-1LW-SS-Ex |
| ANTENNA TYPE | ½ λ coaxial dipol, broad-banded |
| FREQUENCY | 118 - 137 MHz |
| IMPEDANCE | Nom. 50 Ω |
| RADIATION | Omnidirectional |
| POLARIZATION | Vertical |
| GAIN | 2 dBi 0 dBd |
| BANDWIDTH | 19 MHz |
| SWR | ≤ 1.75 |
| MAX. RF INPUT POWER DUE TO MAX. EIRP IN ATEX ENVIRONMENT * | Group IIA : 35.6 dBm (3.6 W)<br>Group IIB : 33.3 dBm (2.1 W)<br>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<br>TIGHTENING TORQUE | N-female<br>0.7 - 1.1 Nm |
| WIND SURFACE | 0.023 m² / 0.25 ft² |
| WIND LOAD | 29 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<br>Mounting bracket: Stainless acid-proof steel (AiSi 316L)<br>U-bolt and fittings: Stainless steel (AiSi 304) |
| TOTAL HEIGHT | Approx. 1.5 m / 59.06 in. |
| DIA. IN TOP END | 17 mm / 0.67 in. |
| DIA. IN BOTTOM END | 23 mm / 0.91 in. |
| WEIGHT | Approx. 1.25 kg / 2.76 lb. |
| MOUNTING<br><br>TIGHTENING TORQUE | On 16 to 54 mm / 0.63 x 2.13 in.<br>dia. mast tube<br>3 Nm |
| ATEX MARKING | II 3G Ex nA IIC T6 |

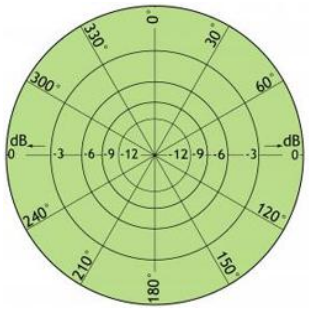
* See the ATEX Product Manual (safety and mounting instructions) and related EC DECLARATION OF CONFORMITY ATEX Directive 2014/34/EU.

## TYPICAL GAIN AND SWR CURVES


## TYPICAL RADIATION PATTERN (E-PLANE)



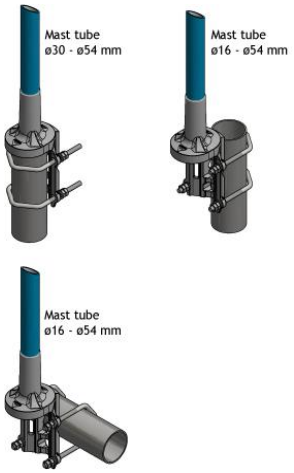

## TYPICAL RADIATION PATTERN (H-PLANE)

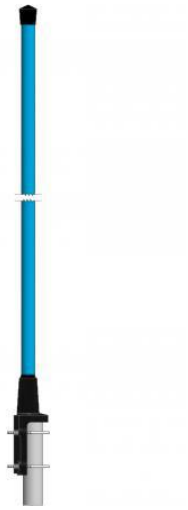



## CALCULATION OF MAX. ANTENNA INPUT POWER IN DIFFERENT ATEX GROUPS

| 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





# CXL 130-1C-Ex

## ATEX certified, 0 dBd, Omnidirectional Base Station Antenna for the International Aircraft Band in Hazardous areas

- CXL 130-1C-Ex is a sturdy, 0 dBd, vertically polarized, omnidirectional base station antenna for the 110 - 140 MHz civil aircraft band.
- The antenna is specified as ATEX antenna for use in zone 2 in potentially explosive areas.

## DESCRIPTION

- Before installing the antenna, read the Product Manual carefully.
- The antenna is suitable for use in gas groups IIA, IIB and IIC in zone 2.
- A grounding-kit is supplied with the antenna. See the ATEX Product Manual for further details.
- The accompanying U-bolts and fittings are made of stainless steel.
- All metal parts in the antenna are DC-grounded. Consequently, the antenna shows a DC-short across the coaxial cable.
- The broad-banded antenna element is completely enclosed in a glass fibre shroud, which will ensure performance undisturbed by corrosive environments.
- CXL 130-1C-Ex is constructed to ensure long dependable service in all climates.

## ORDERING DESIGNATIONS

| TYPE | PRODUCT NO. |
|---|---|
| CXL 130-1C-Ex | 115000002 |

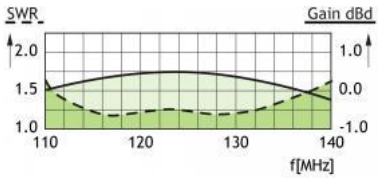
## SPECIFICATIONS

| ELECTRICAL | |
|---|---|
| MODEL | CXL 130-1C-Ex |
| ANTENNA TYPE | Coaxial, broad-band dipole |
| FREQUENCY | 110 - 140 MHz |
| IMPEDANCE | Nom. 50 Ω |
| RADIATION | Omnidirectional |
| POLARIZATION | Vertical |
| GAIN | 2 dBi 0 dBd |
| BANDWIDTH | 30 MHz |
| SWR | ≤ 1.6 |
| MAX. RF INPUT POWER DUE TO MAX. EIRP IN ATEX ENVIRONMENT * | Group IIA : 35.6 dBm (3.6 W)<br>Group IIB : 33.3 dBm (2.1 W) |

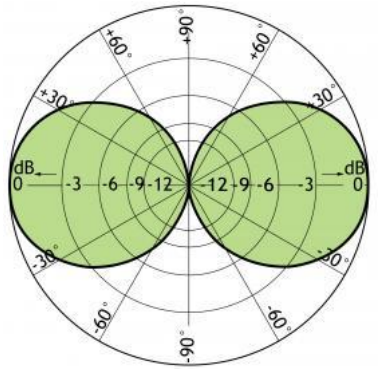
| | |
|---|---|
| | Group IIC : 30.8 dBm (1.2 W) |
| ANTISTATIC PROTECTION | All metal parts DC-grounded<br>(Connector shows a DC-short) |
| MECHANICAL | |
| TEMP. RANGE | –30° C → +60° C |
| CONNECTOR<br>TIGHTENING TORQUE | N-female<br>0.7 - 1.1 Nm |
| WIND SURFACE | 0.12 m² / 1.30 ft² |
| MAX. WIND LOAD | 152 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<br>Mounting bracket : Seawater resistant aluminium, black-coated<br>U-bolt and fittings : Stainless steel (AiSi 304) |
| TOTAL HEIGHT | Approx. 2.3 m / 90.55 in. |
| WEIGHT | Approx. 3.6 kg / 7.94 lb. |
| MOUNTING<br><br>TIGHTENING TORQUE | On 27 - 65 mm / 1.06 - 2.56 in. dia. mast tube<br>7 Nm |
| ATEX MARKING | II 3G Ex nA IIC T6 |

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

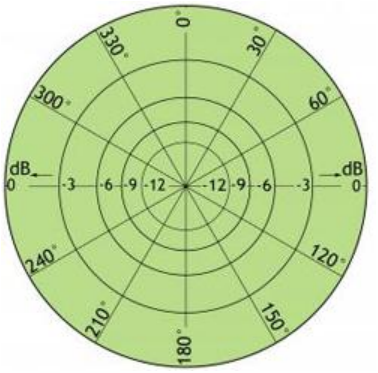
## TYPICAL GAIN AND SWR CURVES




## TYPICAL RADIATION PATTERN (E-PLANE)



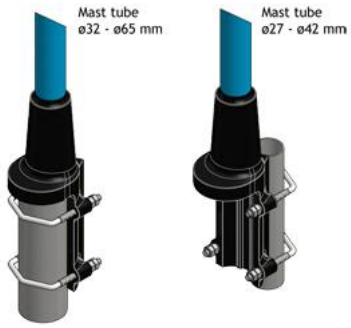

## TYPICAL RADIATION PATTERN (H-PLANE)

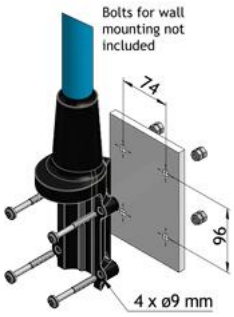



## CALCULATION OF MAX. ANTENNA INPUT POWER IN DIFFERENT ATEX GROUPS

| 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



# CXL 150-1LW-SS-Ex

ATEX certified, 0 dBd, Omnidirectional Base Station Antenna for the 138 - 175 MHz Band in Hazardous areas

- CXL 150-1LW-SS-Ex is a 0 dBd, vertically polarized, omnidirectional base station Antenna which covers the 138 - 175 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 Product Manual carefully.
- The antenna is suitable for use in gas groups IIA, IIB and IIC in zone 2.
- A grounding-kit is supplied with the antenna. Only to be used to ensure equipotential bonding. See the ATEX Product Manual for further details.
- The accompanying U-bolts and fittings are made of stainless steel.
- 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 150-1LW-SS-Ex/s | 138 - 156 MHz | 115000005 |
| CXL 150-1LW-SS-Ex/l | 144 - 165 MHz | 115000004 |
| CXL 150-1LW-SS-Ex/h | 155 - 175 MHz | 115000003 |

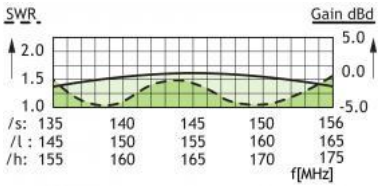
## SPECIFICATIONS

| ELECTRICAL | |
|---|---|
| MODEL | CXL 150-1LW-SS-Ex |
| ANTENNA TYPE | ½ λ coaxial dipol, broad-banded |
| FREQUENCY | 18 - 21 MHz wide frequency segments within 138 - 175 MHz. See ordering designations |
| IMPEDANCE | Nom. 50 Ω |
| RADIATION | Omnidirectional |
| POLARIZATION | Vertical |
| GAIN | 2 dBi 0 dBd |
| BANDWIDTH | 18 - 21 MHz depending on model |
| SWR | ≤ 1.5 |
| MAX. RF INPUT POWER DUE TO MAX. EIRP IN ATEX ENVIRONMENT * | |

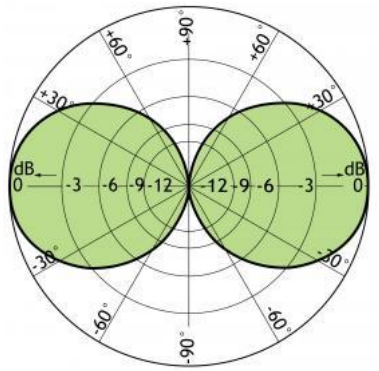
| | |
|---|---|
| Group IIA<br>Group IIB<br><br>Group IIC | : 35.6 dBm (3.6 W)<br>: 33.3 dBm (2.1 W)<br>: 30.8 dBm (1.2 W) |
| ANTISTATIC PROTECTION | All metal parts DC-grounded<br>(Connector shows a DC-short) |
| MECHANICAL | |
| TEMP. RANGE | -30° C → +60° C |
| CONNECTOR<br>TIGHTENING TORQUE | N-female<br>0.7 - 1.1 Nm |
| WIND SURFACE | 0.027 m² / 0.3 ft² |
| WIND LOAD | 32 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<br>Mounting bracket: Stainless acid-proof steel (AiSi 316L)<br>U-bolt and fittings: Stainless steel (AiSi 304) |
| TOTAL HEIGHT | Approx. 1.3 m / 51.18 in. |
| WEIGHT | Approx. 1.25 kg / 2.76 lb. |
| DIA. IN TOP END | 17 mm / 0.67 in. |
| DIA. IN BOTTOM END | 23.6 mm / 0.93 in. |
| MOUNTING<br><br>TIGHTENING TORQUE | On 16 to 54 mm / 0.63 x 2.13 in.dia.<br>mast tube<br>3 Nm |
| ATEX MARKING | II 3G Ex nA IIC T6 |

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

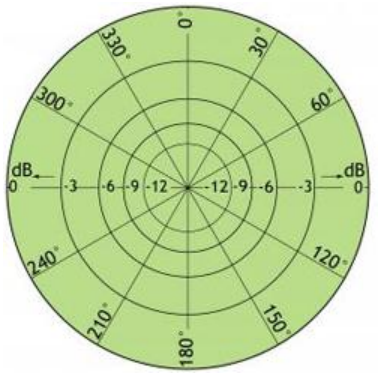
## TYPICAL GAIN AND SWR CURVES




## TYPICAL RADIATION PATTERN (E-PLANE)



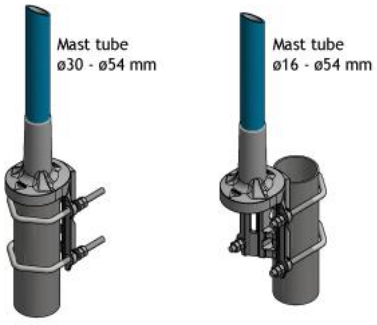

## TYPICAL RADIATION PATTERN (H-PLANE)




## 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




# CXL 150-3LW-SS-Ex

ATEX certified, 3 dBd, Omnidirectional Base Station Antenna for the 146 - 175 MHz Band in Hazardous areas

- CXL 150-3LW-SS-Ex is a 3 dBd, vertically polarised, omnidirectional base station antenna, which covers the VHF-band in four models.
- The antenna is specified as ATEX antenna for use in zone 2 in potentially explosive areas.

## Description

- Before installing the antenna, read the Product Manual carefully.
- The antenna is suitable for use in gas groups IIA, IIB and IIC in zone 2.
- A grounding-kit is supplied with the antenna. Only to be used to ensure equipotential bonding. See the ATEX Product Manual for further details.
- The accompanying U-bolts and fittings are made of stainless steel.
- The carefully designed, broad-banded antenna element is sealed in a high-quality conical glass fibre tube with low wind-load, which will ensure performance undisturbed by corrosive environments.
- 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 150-3LW-SS-Ex/l | 146 - 154 MHz | 115000006 |
| CXL 150-3LW-SS-Ex/lm | 153 - 162 MHz | 115000007 |
| CXL 150-3LW-SS-Ex/hm | 158 - 167 MHz | 115000008 |
| CXL 150-3LW-SS-Ex/h | 166 - 175 MHz | 115000009 |

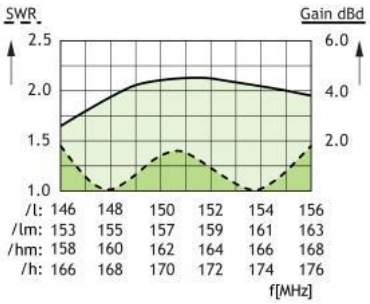
## SPECIFICATIONS

| ELECTRICAL | |
|---|---|
| MODEL | CXL 150-3LW-SS-Ex |
| ANTENNA TYPE | Broad-banded collinear antenna |
| FREQUENCY | 8 - 9 MHz wide frequency segments within 146 - 175 MHz. See ordering designations |
| IMPEDANCE | Nom. 50 Ω |
| RADIATION | Omnidirectional |
| POLARIZATION | Vertical |
| GAIN | 5 dBi 3 dBd |
| HALF POWER BEAMWIDTH | 30° |
| | |

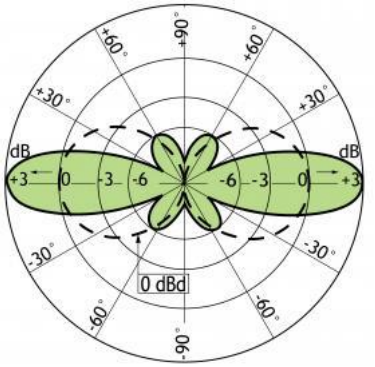
| | |
|---|---|
| BANDWIDTH | 8 - 9 MHz depending on model |
| SWR | ≤ 1.5 |
| MAX. RF INPUT POWER DUE TO MAX. EIRP IN ATEX ENVIRONMENT * | Group IIA : 32.6 dBm (1.8 W)<br>Group IIB : 30.3 dBm (1.0 W)<br>Group IIC : 27.8 dBm (0.6 W) |
| ANTISTATIC PROTECTION | All metal parts DC-grounded<br>(connector shows a DC-short) |
| MECHANICAL | |
| TEMP. RANGE | -30°C → +60°C |
| CONNECTOR<br>TIGHTENING TORQUE | N-female<br>0.7 - 1.1 Nm |
| WIND SURFACE | 0.0651 m² / 0.70 ft² |
| WIND LOAD | 82 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<br>Mounting bracket: Stainless acid-proof steel (AiSi 316L)<br>U-bolt and fittings: Stainless steel (AiSi 304) |
| TOTAL HEIGHT | Approx. 2.8 m / 110.24 in. |
| DIA. IN TOP END | 15 mm / 0.59 in. |
| DIA. IN BOTTOM END | 23 mm / 0.91 in. |
| WEIGHT | Approx. 1.65 kg / 3.64 lb. |
| MOUNTING<br><br>TIGHTENING TORQUE | On 16 to 54 mm / 0.63 x 2.13 in.<br>dia. mast tube<br>3 Nm |
| ATEX MARKING | II 3G Ex nA IIC T6 |

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

## TYPICAL GAIN AND SWR CURVES




## TYPICAL RADIATION PATTERN (E-PLANE)

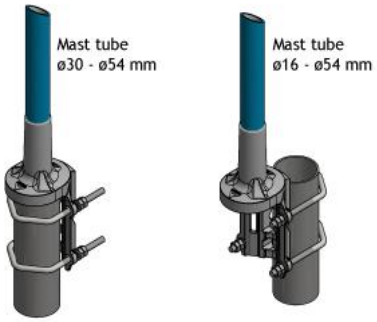



## TYPICAL RADIATION PATTERN (H-PLANE)


## 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) | 3 dBd / 5.15 dBi | 32.6 dBm (1.8 W) |
| IIB | 35.4 dBm (3.5 W) | 3 dBd / 5.15 dBi | 30.3 dBm (1.0 W) |
| IIC | 33.0 dBm (2.0 W) | 3 dBd / 5.15 dBi | 27.8 dBm (0.6 W) |

## MULTI-PURPOSE MOUNTING BRACKET




# CXL 450-3LW-SS-Ex

## ATEX certified, 3 dBd, Omnidirectional Base Station Antenna for the 380 - 470 MHz Band in Hazardous areas

- CXL 450-3LW-SS-Ex is a 3 dBd, vertically polarized, omnidirectional base station antenna which covers the 380 - 470 MHz band in four models with up to 10 MHz overlap.
- The antenna is specified as ATEX antenna for use in zone 2 in potentially explosive areas.

## DESCRIPTION

- Before installing the antenna, read the technical documentation carefully.
- The antenna is suitable for use in gas groups IIA, IIB and IIC in zone 2.
- A grounding-kit is supplied with the antenna. Only to be used to ensure equipotential bonding. See the ATEX Product Manual for further details.
- The carefully designed collinear antenna radiating parts elements is made of brass tube and sealed in a high-quality conical glass fibre tube with low wind-load.
- The accompanying U-bolts and fittings are made of stainless steel.
- 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 450-3LW-SS-Ex/s | 380 - 410 MHz | 115000013 |
| CXL 450-3LW-SS-Ex/f | 406 - 430 MHz | 115000014 |
| CXL 450-3LW-SS-Ex/l | 420 - 450 MHz | 115000015 |
| CXL 450-3LW-SS-Ex/h | 440 - 470 MHz | 115000016 |

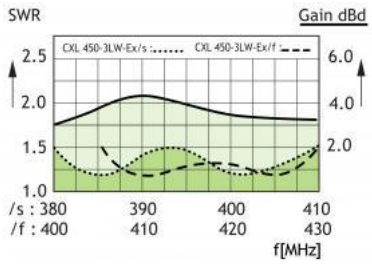
## SPECIFICATIONS

| ELECTRICAL | |
|---|---|
| MODEL | CXL 450-3LW-SS-Ex |
| ANTENNA TYPE | ½ λ coaxial dipole, broad-banded |
| FREQUENCY | 30 MHz wide frequency segments within 380 - 470 MHz. See ordering designations |
| IMPEDANCE | Nom. 50 Ω |
| RADIATION | Omnidirectional |
| POLARIZATION | Vertical |
| HALFPOWER BEAMWIDTH | 30° |
| GAIN | 5 dBi 3 dBd |
| | |

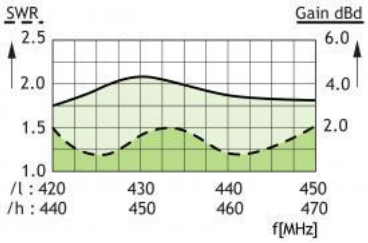
| | |
|---|---|
| BANDWIDTH | 30 MHz |
| SWR | ≤ 1.5 |
| MAX. RF INPUT POWER DUE TO MAX. EIRP IN ATEX ENVIRONMENT * | Group IIA : 32.6 dBm (1.8 W)<br>Group IIB : 30.3 dBm (1.0 W)<br>Group IIC : 27.8 dBm (0.6 W) |
| ANTISTATIC PROTECTION | All metal parts DC-grounded<br>(Connector shows a DC-short) |
| MECHANICAL | |
| TEMP. RANGE | -30°C → +60°C |
| CONNECTOR<br>TIGHTENING TORQUE | N-female<br>0.7 - 1.1 Nm |
| WIND SURFACE | 0.029 m² / 0.31 ft² |
| 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<br>Mounting bracket : Stainless acid-proof steel (AiSi 316L)<br>U-bolt and fittings : Stainless steel (AiSi 304) |
| TOTAL HEIGHT | Approx. 1.4 mm / 55,12 in. (dep. on freq.) |
| DIA. IN TOP END | 17 mm / 0.67 in. |
| DIA. IN BOTTOM END | 23 mm / 0.91 in. |
| WEIGHT | Approx. 1.55 kg / 3.42 lb. |
| MOUNTING<br>TIGHTENING TORQUE | On 16 - 54 mm / 0.63 - 2.13 in. dia. mast tub<br>3 Nm |
| ATEX MARKING | II 3G Ex nA IIC T6 |

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

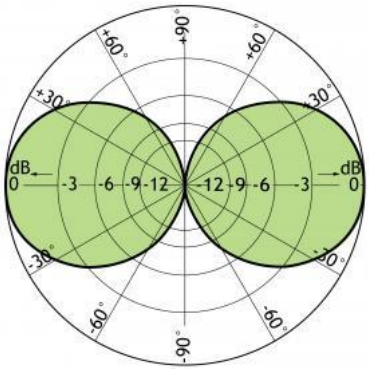
## TYPICAL GAIN AND SWR CURVES



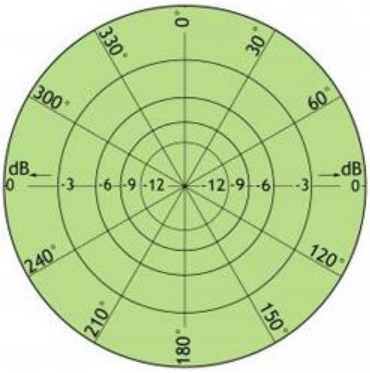

## TYPICAL GAIN AND SWR CURVES




## TYPICAL RADIATION PATTERN (E-PLANE)




## TYPICAL RADIATION PATTERN (H-PLANE)

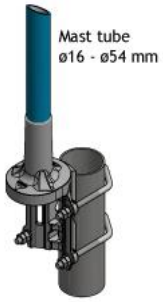



## CALCULATION OF MAX. ANTENNA INPUT POWER IN DIFFERENT ATEX GROUPS

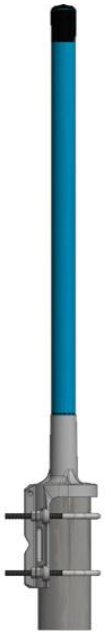
| ATEX GROUP | MAX. EIRP POWER | ANTENNA GAIN | MAX INPUT POWER |
|---|---|---|---|
| IIA | 37.7 dBm (6.0 W) | 3 dBd / 5.15 dBi | 32.6 dBm (1.8 W) |
| IIB | 35.4 dBm (3.5 W) | 3 dBd / 5.15 dBi | 30.3 dBm (1.0 W) |
| IIC | 33.0 dBm (2.0 W) | 3 dBd / 5.15 dBi | 27.8 dBm (0.6 W) |

## MULTI-PURPOSE MOUNTING BRACKET


Mast tube
ø30 - ø54 mm


Mast tube
ø16 - ø54 mm


Mast tube
ø16 - ø54 mm



# CXL 2400-3LW-SS-Ex

ATEX certified, 3 dBd, Omnidirectional Base Station Antenna for the 2200 - 2700 MHz Band in Hazardous areas

- CXL 2400-3LW-SS-Ex is a 3 dBd, vertically polarized, omnidirectional base station Antenna which covers the 2200 - 2700 MHz band in four models.
- The antenna is specified as ATEX antenna for use in zone 2 in potentially explosive areas.

## DESCRIPTION

- Before installing the antenna, read the Product Manual carefully.
- The antenna is suitable for use in gas groups IIA, IIB and IIC in zone 2.
- A grounding-kit is supplied with the antenna. Only to be used to ensure equipotential bonding. See the ATEX Product Manual for further details.
- 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 2400-3LW-SS-Ex/II | 2200 - 2300 MHz | 115000020 |
| CXL 2400-3LW-SS-Ex/I | 2300 - 2500 MHz | 115000021 |
| CXL 2400-3LW-SS-Ex/m | 2400 - 2600 MHz | 115000022 |
| CXL 2400-3LW-SS-Ex/h | 2500 - 2700 MHz | 115000023 |

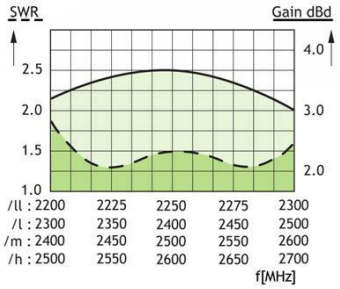
## SPECIFICATIONS

| ELECTRICAL | |
|---|---|
| MODEL | CXL 2400-3LW-SS-Ex |
| ANTENNA TYPE | Coaxial, collinear antenna, broadbanded |
| FREQUENCY | 100 - 200 MHz wide frequency segments within 2200 - 2700 MHz. See ordering designations |
| IMPEDANCE | Nom. 50 Ω |
| POLARIZATION | Vertical |

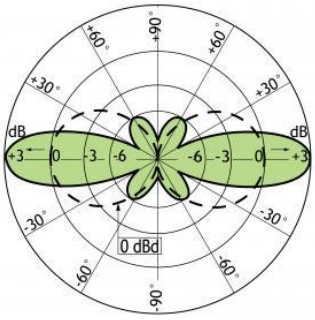
| | |
|---|---|
| GAIN | 5 dBi 3 dBd |
| HALF POWER BEAMWIDTH | 22° |
| BANDWIDTH | For l, m and h models:<br>≥ 200 MHz @ SWR ≤ 2.0<br>For ll-model:<br>≥ 100 MHz @ SWR ≤ 2.0 |
| SWR | ≤ 2.0, typ. ≤ 1.5 |
| MAX. RF INPUT POWER DUE TO MAX. EIRP IN ATEX ENVIRONMENT * | |
| Group IIA<br>Group IIB<br>Group IIC | : 32.6 dBm (1.8 W)<br>: 30.3 dBm (1.0 W)<br>: 27.8 dBm (0.6 W) |
| ANTISTATIC PROTECTION | All metal parts DC-grounded<br>(Connector shows a DC-short) |
| MECHANICAL | |
| TEMP. RANGE | -30°C → +60°C |
| CONNECTOR<br>TIGHTENING TORQUE | N-female<br>0.7 - 1.1 Nm |
| WIND SURFACE | Approx. 0.02 m² / 0.22 ft² |
| WIND LOAD | Approx. 26 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<br>Mounting bracket: Stainless acid-proof steel (AiSi 316L)<br>U-bolt and fittings: Stainless steel (AiSi 304) |
| TOTAL HEIGHT | Approx. 700 mm / 27.56 in. |
| DIA. IN TOP END | 22 mm / 0.87 in. |
| DIA. IN BOTTOM END | 23 mm / 0.91 in. |
| WEIGHT | Approx. 850 g / 1.87 lb. |
| MOUNTING<br>TIGHTENING TORQUE | On 16 to 54 mm / 0.63 - 2.13 in. dia. mast tube<br>3 Nm |
| ATEX MARKING | II 3G Ex nA IIC T6 |

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

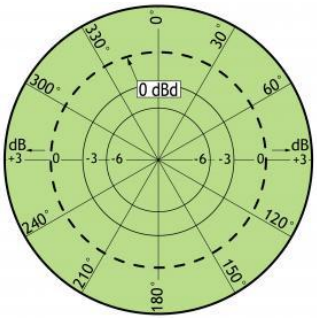
## TYPICAL GAIN AND SWR CURVES




## 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) | 3 dBd / 5.15 dBi | 32.6 dBm (1.8 W) |
| IIB | 35.4 dBm (3.5 W) | 3 dBd / 5.15 dBi | 30.3 dBm (1.0 W) |
| IIC | 33.0 dBm (2.0 W) | 3 dBd / 5.15 dBi | 27.8 dBm (0.6 W) |

## MULTI-PURPOSE MOUNTING BRACKET

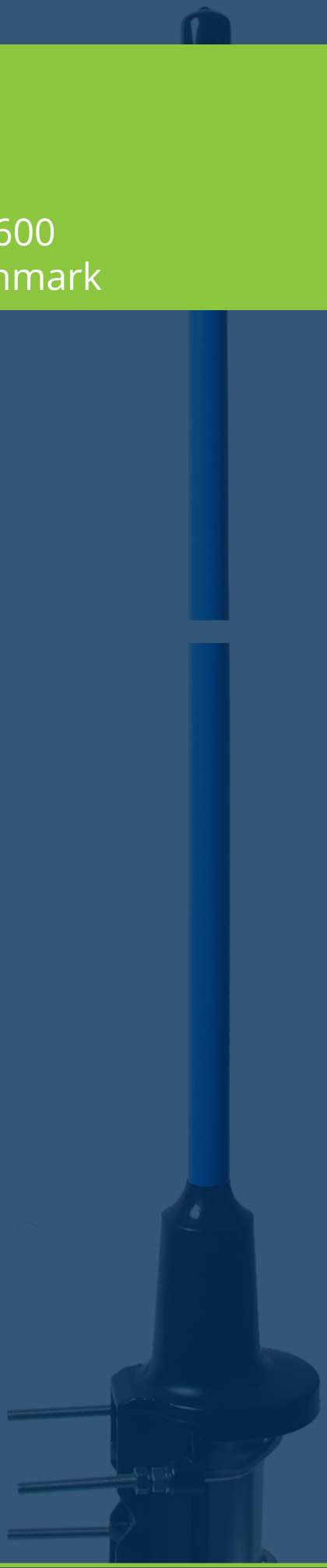

Mast tube
ø30 - ø54 mm


Mast tube
ø16 - ø54 mm


Mast tube
ø16 - ø54 mm

# PROCOM A/S

Smedetoften 12, 3600
Frederikssund, Denmark



PROCOM - Making the world smaller

PROCOM A/S
Smedetoften 12
3600 Frederikssund
Denmark