

SICE NAVIGATION AID SYSTEM Ex VISIBILITY METER (FOG DETECTOR)




ATEX certified Visibility Sensor, suitable for ZONE 1 installation. Measures atmospheric visibility (meteorological optical range) by determining the amount of light scattered by particles (smoke, dust, haze, fog, rain, & snow) in the air that passes through the sample volume. A 42-degree forward scatter angle is used to ensure performance over a wide range of particle sizes. MOR is calculated by the user by converting the received signal strength (extinction coefficient, σ) using Koschmeider's formula, MOR (Km)= $3/\sigma$.

Performance in all weather conditions was a design prerequisite for this Visibility Meter. The sensor uses ATEX rated Ex housings and offshore marine grade sheathed cables to ensure all-weather, Zone I, IP66 certified performance. A sturdy aluminum frame painted with durable powder-coat paint is used to mount the housings and provide mounting to a customer supplied mounting pipe. Power and signal lines are protected with surge and EMI filtering to help guarantee uninterrupted service for the life of the sensor.

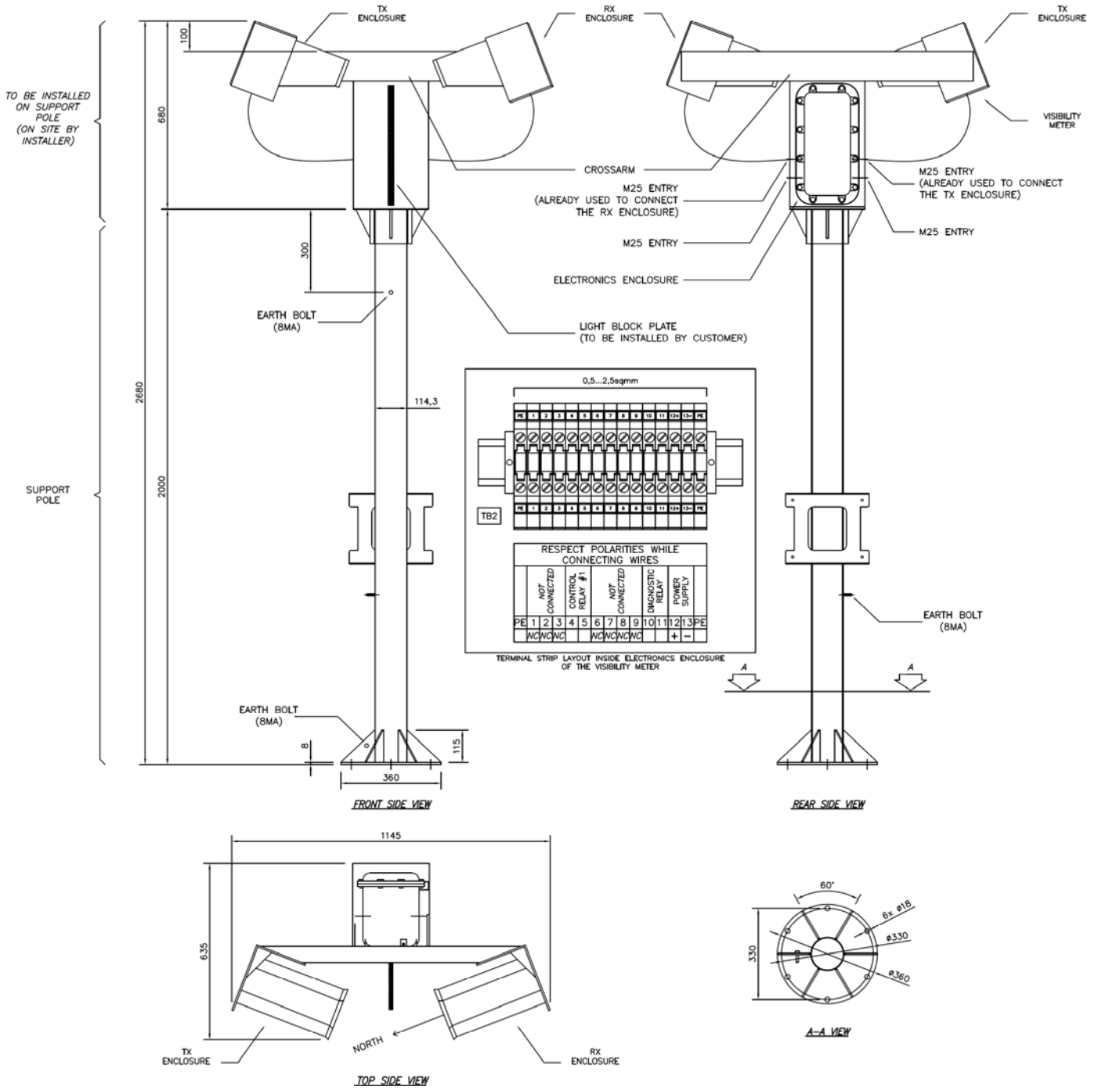
Installation of the Visibility Meter is easy. A mounting flange located on the bottom of the sensor housing mates with a supplied support pole. Power and signal connections are made through M25 threaded holes using user supplied, ATEX approved cable glands and wiring. User wiring is made to DIN rail mounted terminal boards in the Signal Processing Box.

Calibration of the Visibility Meter in the field is as simple as attaching a calibration fixture to the back of the sensor and following a procedure that requires less than 20 minutes. Each sensor is supplied with a calibration fixture. Semiannual calibration is recommended.

Main technical data:

✓ Type	: SVSEEx
✓ Manufacturer	: R.M. YOUNG
✓ Range	: 15m to 8km
✓ Accuracy	: +/-10% RMSE
✓ Scatter angle	: 42 deg. Nominal
✓ Source	: 880 nm LED
✓ Output (standard)	: control relay (fog/no fog) and diagnostic relay (ok/alarm)
✓ Output (optional)	: 4-20mA
✓ Working voltage	: 12Vdc or 24Vdc
✓ Power consumption	: 12W approx.
✓ Operating temperature	: -20°C + 60°C (available optional hood heater for extended range -40°C)
✓ Mechanical protection	: IP66 (NEMA-4X)
✓ Protection mode	:  II 2GD Ex d IIB T5/T6
✓ ATEX certificates	: CESI 01 ATEX036 and CESI 01 ATEX027
✓ Weight	: 40kg (excluded support pole)
✓ Frame	: sturdy aluminium (painted)
✓ Hardware	: AISI 316 stainless steel
✓ Mounting	: Nominal 102mm pipe, 122mm OD max (4 inch IPS pipe, 4.8 inch OD max)
✓ Calibration KIT	: included
✓ Support pole	: included, type SICE PF/FD-Ex

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SVSEEx VISIBILITY METER (FOG DETECTOR)
SICE TYPICAL INSTALLATION ON SUPPORT POLE TYPE PF/FD-Ex
DIMENSIONAL DRAWING

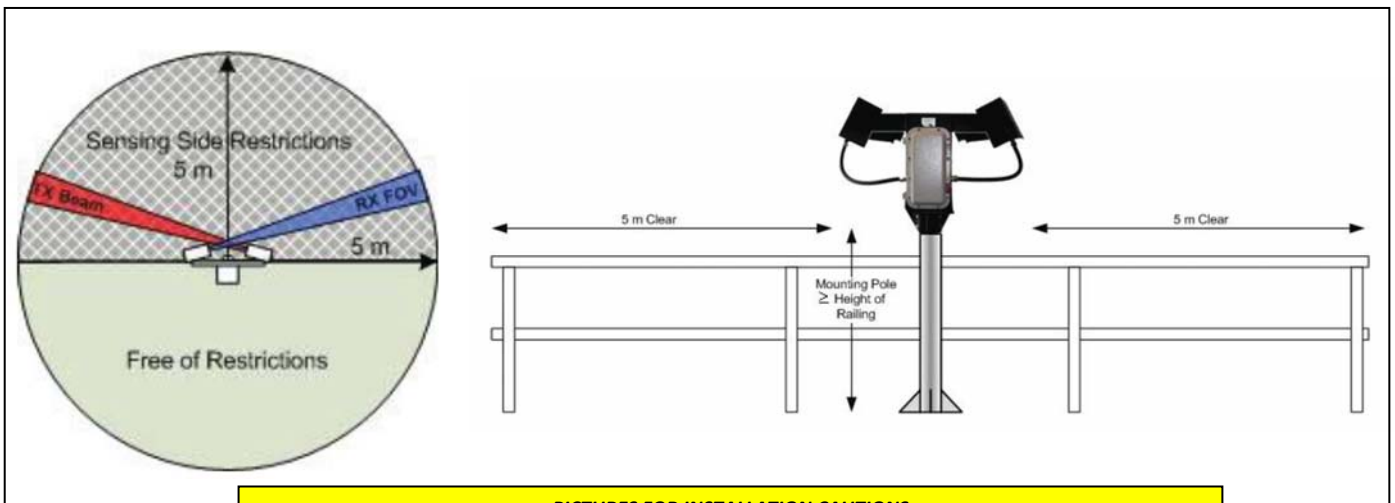
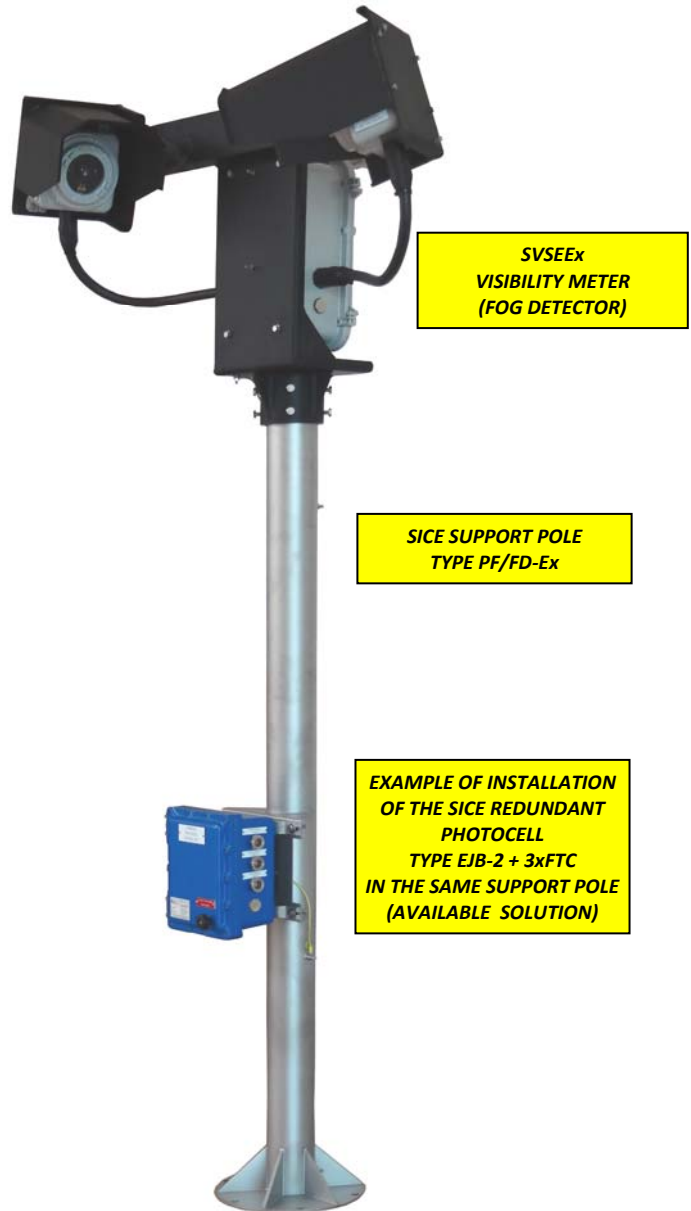
- Main technical data:**
- ✓ Visibility Meter type: SVSEEX
 - ✓ Support pole type: PF/FD-Ex
 - ✓ Support pole material: AISI 316L stainless steel
 - ✓ Support pole weight: 30kg
 - ✓ Assembling total weight: 70kg

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INSTALLATION CAUTIONS (extract from the operating manual)

The best location to site the Visibility Sensor is at the edge of the platform deck with the optics looking over the rail and the TX head towards the south so the RX optics window looks towards the north. If the Visibility sensor is mounted so it looks over the rail, the mounting pole supplied by the customer should be at equal to or greater than the height of the rail. The area along the rail should be straight for at least 5m on either side of the Visibility Sensor and not have any obstructions, bright lights or navigation beacons within that area. Lights installed on the inside of the rail to illuminate the walkway for safety reasons are acceptable. The area above the sensor must be clear to the sky and not subject to dripping water from hoses or other objects. High powered sources of RF energy such as HF antennas or microwave communication dishes must not be within 10m of the Visibility Sensor to avoid interference or damage to the sensitive RX electronics. If the Visibility Sensor cannot be installed along the rail, the 2nd best location is in an open area like a deck. The height of the customer supplied mounting pole should be ~2.5m, so the sensor optics are 3 m above the deck. The area to be clear of obstructions and walkways is a hemisphere of radius 5m on the sensing side of the Sentry (were the TX and RX Heads are). If the sensing side must overlook a walkway, locate the Visibility Sensor 2-3 m from the walkway and 3 m above the deck. The hemisphere area on the other side of the sensor (with Main Electronics Enclosure) is considered free of restrictions as shown in the following figure. If the full restrictions on the sensing side of the Sentry cannot be met, it is suggested that the area be cordoned off and placards used to caution personnel not to linger or to leave equipment or containers in that area.

See the operative manual for other and exhaustive information.



PICTURES FOR INSTALLATION CAUTIONS

Document can be subjected to modifications, without prior notice