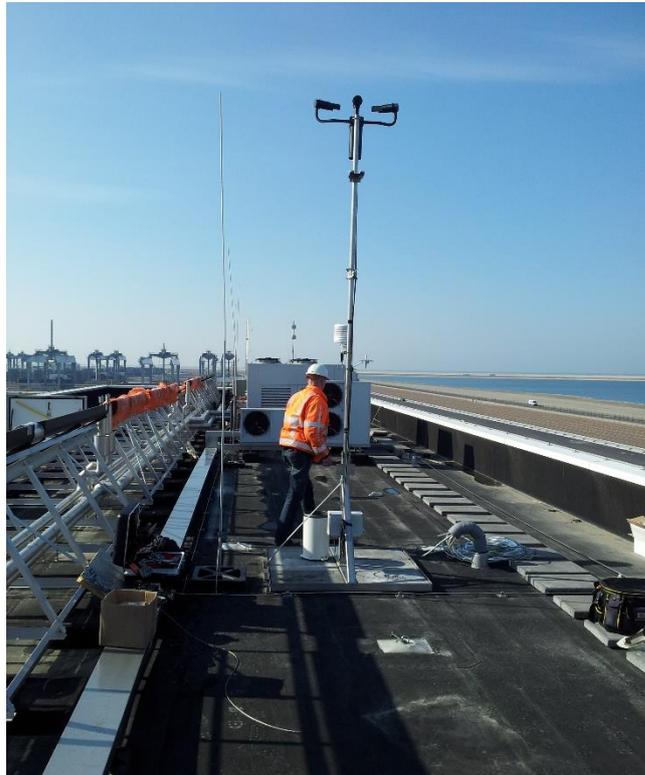




VPF-730 Present Weather Sensor



VPF-730 on a container terminal

Datasheet

VPF-730 Present Weather Sensor

The VPF-730 visibility sensor provides accurate visibility and present weather measurement in a compact and robust package, making it well suited to both general and offshore aviation applications.

Every aspect of the sensor's design is focussed on measurement accuracy, reliability and durability. The open design of the sensor head allows the free passage of air for greater measurement accuracy whilst the hard coat anodised dip brazed construction gives superb corrosion resistance, which is especially important in offshore applications. It has excellent time proven performance and is suitable for use in extreme conditions.

Features

- Measures visibility and present weather
- 15 WMO Table 4680 present weather codes
- Proven reliable measurement in all weather conditions
- Highly corrosion resistant hard coat anodised finish
- Window contamination monitoring and compensation
- Unaffected by obstacle warning lights
- Mains or DC powered
- 10m to 75 km measurement range

General

Present weather

Present weather includes: all forms of liquid, freezing and frozen precipitation; e.g., rain, drizzle, snow, snow pellets, snow grains, ice pellets (formerly sleet) and hail, and those suspended particles that are classed as obstructions to vision; namely, mist, fog, haze, dust and smoke.

Measurement principle

The sensor calculates EXCO (the atmospheric EXtinction COefficient) by measuring the amount of light scattered by the particles in the sampling volume. From this EXCO value the MOR (Meteorological Optical Range) and thus visibility is determined.

Data output

The sensor is configured with RS-232C signal output as standard with RS-422 communication available as an option. The data is output in various ASCII data strings, such as a small compressed data string, expanded data string and remote maintenance data string amongst others. The unit can be set in either automatic or polled mode and data sent to a printer or to a PC for tagging, processing and archiving.

Maintenance, calibration, self-test and monitoring

The sensor is fully calibrated at the time of manufacture. Routine maintenance, including a check on calibrations, can be performed easily in a matter of a few minutes and a re-calibration (although this should never be required) takes only slightly longer. The sensor condition and performance can be monitored remotely using the self-test and monitoring system detailed overleaf.

Specifications

Measures	visibility, present weather
Output	serial data
Range	10 m to 75 Km (33 ft to 47 miles)
Accuracy	+/- 2%
Light source	infra-red
Light source wavelength	880 nm
FSM angle used	45°
Measurement geometry	horizontal
Sample volume size (cm3)	400
Power supply	mains, battery or solar
Power requirements	sensor head 2.0 W window heaters 2.5 W
Hood heating option	available
H. heater power requirements	45 W
Operating temp. range	50°C to +60°C (-58 +140°F)
Humidity	0 - 100%
IP rating	IP66
Weight	5.6kg DC / 6.8kg DC
Output rate (seconds)	30 to 300 (selectable)
Method of construction	salt-dip brazing
Materials	hard-anodised aluminium
Reliability	> 8 years mean time before failure
Undisturbed sample volume	yes
Detection threshold	rain 0.015 mm / hr snow 0.0015 mm / hr
Maximum rain rate	250 mm / hr

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