

Visibility & Present Weather Sensor

VPF-730

INTRODUCTION

The VPF-730 is a visibility and present weather sensor designed for offshore platforms, heli-decks and general aviation sites where rugged construction and long service life are essential. The compact, open-head design ensures that the sample volume is well ventilated so measurements remain representative even in driving rain, spray or dust.

In addition to forward scatter visibility measurement, the VPF-730 includes a dedicated backscatter receiver which markedly improves identification of frozen versus liquid precipitation. Visibility is reported as Meteorological Optical Range (MOR) and Extinction Coefficient (EXCO) over a range from 10 m to 99.99 km, with calibration traceable to a national weather service transmissometer in accordance with ICAO 9328, supporting use in RVR and other aviation systems.

FEATURES

[Rugged design for offshore and aviation use](#)

Hard coat anodised aluminium construction, long service life and optional hood heating make it ideal for offshore platforms, heli-decks and exposed aviation sites.

[Forward scatter visibility with MOR & EXCO](#)

Reports forward scatter Meteorological Optical Range (MOR) and Extinction Coefficient (EXCO) from 10 m to 99.99 km, with calibration traceable to a national weather service transmissometer in accordance with ICAO 9328.

[Exclusive backscatter receiver](#)

Additional backscatter receiver greatly improves the separation of liquid and frozen precipitation, giving reliable present weather codes even in windy and turbulent conditions.

[Aviation-ready weather codes](#)

Outputs visibility plus WMO Table 4680 and METAR present weather codes, supporting use on CAT III runways and in national meteorological networks.

[Low maintenance with contamination monitoring](#)

Automatic window contamination monitoring with two-stage cleaning warnings, long recalibration intervals and proven reliability of more than ten years in harsh marine environments keep cost of ownership low.

[ALS-2 and weather station options](#)

Optional ALS-2 Ambient Light Sensor interface and Weather Station Module (analogue met inputs) allow the VPF-730 to integrate easily into aviation, marine and general meteorological systems.

CONFIGURATION & MEASUREMENT

[Visibility and present weather output](#)

The VPF-730 reports forward scatter MOR and EXCO from 10 m to 99.99 km, meeting international aviation visibility specifications while avoiding the size and complexity of transmissometers. Standard ASCII messages include visibility together with WMO Table 4680 and METAR present weather codes for use in aviation, marine and national network installations.

[Precipitation type determination](#)

Precipitation type is determined from particle intensity and transit time combined with the forward/backscatter ratio, which differs for liquid and frozen hydrometeors, allowing the VPF-730 to report the correct code reliably even in windy, turbulent conditions.

[Interfaces, diagnostics and test mode](#)

Serial RS232 or RS422/RS485 communication provides data at user-defined intervals or on request, with an optional ALS-2 interface appending ambient light data for RVR. Automatic window contamination monitoring with two-stage cleaning warnings, embedded self-test and a functional test mode for simulating visibility, weather, contamination and fault conditions minimise maintenance effort and simplify FAT/SAT and system integration.



- **HIGHLY CORROSION RESISTANT
HARD COAT ANODISED
ENCLOSURE**
- **WMO TABLE 4680 AND METAR
PRESENT WEATHER CODES**
- **AUTOMATIC WINDOW
CONTAMINATION
MONITORING – ENSURES
OPTIMUM ACCURACY WHILST
MINIMISING MAINTENANCE
REQUIREMENTS**
- **DESIGNED FOR AVIATION,
RESEARCH AND GENERAL
METEOROLOGICAL USE – USED
ON CAT III RUNWAYS**
- **OPTIONALLY, EASY INTEGRATION
WITH THE ALS-2 AMBIENT LIGHT
SENSOR – FAST INSTALLATION,
RELIABLE RESULTS**
- **UNAFFECTED BY OBSTACLE
WARNING LIGHTS**
- **5 YEARS WARRANTY**

General specifications

OUTPUTS & REPORTS

Output rate (seconds)	10 to 300 selectable
Serial outputs	RS232 as standard RS422/RS485 as an option
Present Weather	15 WMO Table 4680 codes 17 METAR codes

POWER REQUIREMENTS

Sensor power	12 Vdc / 24 Vdc / 120 Vac / 240 Vac
Hood heating power	As sensor supply
Basic sensor	6 W
Hood heaters	45W (25.5 W for 12 V sensor)

ADDITIONAL FEATURES

Hood heaters	Optional
Window heaters	Fitted as standard
Window contamination monitoring	Fitted as standard on all the transmitter windows. Additional on the receiver windows option available.

ENVIRONMENTAL

Operating temperature	-40 °C to +60 °C
Operating humidity	0 – 100% RH
Protection rating	IP66

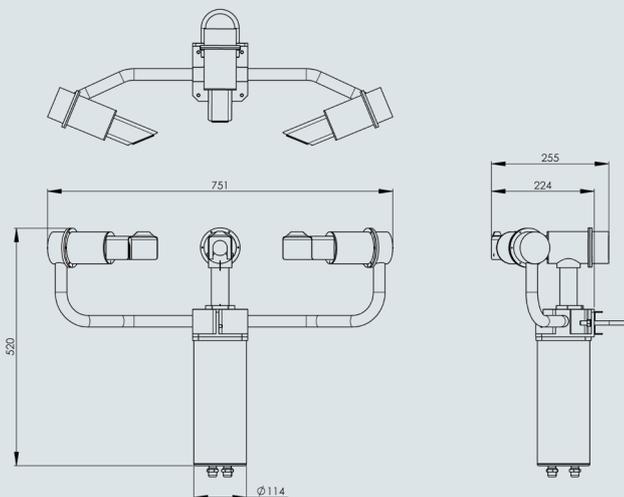
PHYSICAL

Material	Hard coat anodised aluminium
Weight	5.6 kg DC sensors / 6.8 kg AC sensors
Length	751mm
Warranty	5 years
Lifetime	>10 years

CERTIFICATION & COMPLIANCE

- CE Certified
- EMC compliance with EN61326-1997, 1998, 2001
- RoHS and WEEE compliant

Dimensions



Measurement specifications

Measures	Visibility and Present Weather (MOR & EXCO)	
Output	Serial data	
Range (visibility)	10 m to 99.99 km	
Measurement error	≤1.3% at 600 m	≤1.8% at 1,500 m
	≤2.0% at 2 km	≤8.3% at 15 km
	≤10.5% at 30 km	≤20% at 75 km
Measurement principle	Forward scatter meter with 39° to 51° angle, centred at 45°	
Precipitation detection resolution	Rain: 0.015 mm/hr (0.0006 in/hr)	
	Snow: 0.0015 mm/hr (0.00006 in/hr)	
Precipitation intensity reporting range	0-1000 mm/hr (39.4 in/hr)	
Rain intensity accuracy	≤10%	

Ordering codes

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<p>Configuration RC = regular configuration SC = special configuration</p> <p>Precipitation definitions XX. = country code*</p> <p>Cable length 06 = 6 m power and data cables with connectors 06G = 6 m power and data cables hard wired</p> <p>Ambient Light Sensor Interface (ALS-2) NA. = without option board WA. = with ALS-2 Interface</p> <p>Self-test and monitoring S. = standard self-test and monitoring A. = advanced self-test and monitoring</p> <p>Data output D. = RS232 serial output E. = RS422/RS485 serial output</p> <p>Hood Heating NH. = without heating HV. = with heating</p> <p>Power supply 012. = 12 Vdc 024. = 24 Vdc 120. = 120 Vac 240. = 240 Vac</p>									

Example: 73.024.NH.D.A.T.WA.06.UK.RC

* For a full list of currently available country codes, please refer to our Sales Department.

The sensor is delivered in sturdy recyclable foam filled packaging with pole mounting kit (1 x U-bolt); 6 m power and data cable, user manual and calibration certificates.

Accessories – Optional

70.CAL	VPF Series Calibrator
VPF.TEST1	VPF Test Plaque (single stage test kit)
VPF.TEST2	VPF Test Plaque (two stage test kit)
73.WTY	1 Year Extended Warranty
PW.CODE	User defined precipitation definitions

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