

# MILITARY AUTOMATIC METEOROLOGICAL SENSOR – 6056 SERIES

IRDAM 6056 meteorological sensor is a powerful digital instrument measuring local real time environmental conditions.

**It is especially designed for armoured and tracked vehicles equipped with large calibre guns.**

Its patented operating principle with no moving parts makes it perfectly adapted to military environments : vibrations, shocks, dust and water.

IRDAM sensors are the result of over 30 years of experience on the battlefield. They demonstrated their reliability and performance on MBT's, armoured and CBRN vehicles worldwide.

6056 meteorological sensors are fully automatic and measure constantly:

- Wind speed
- Wind direction
- Air temperature
- Atmospheric pressure
- Relative air humidity (optional)

Additional features include:

- Electronic compass indicating wind direction and vehicle direction versus geographical North.
- GPS receiver that combines the geographical coordinates of the measurement location with the meteorological data.
- Digital external temperature sensor TEMPEX (ground, ammunition storage room, etc.).

The high precision meteorological sensor responds quickly to wind variations and measures the slightest breath. The measurements provided by the sensor are transmitted through a single digital frame on RS-422 / RS-485 serial link.

IRDAM sensors are fully certified to military standards and received the "Swiss Made" label.

They do not require any particular maintenance but need to be checked and calibrated regularly as any high precision measuring instrument.

Supported by an optional diagnostic tool, the IRDAM 6056 sensor is easily maintainable on the field by exchanging calibrated sub-elements. Replacement filter kits are also available for decontamination procedures.

IRDAM guarantees a 25 years lifetime and operability of the 6056 series.



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## Measurements specification

### Wind Speed

Range	0 - 40 m/s
Accuracy	± (0,5 m/s + 5%)
Resolution	0.1 m/s

### Wind Direction

Azimuth	0 - 360°
Accuracy	± 5°
Resolution	0,1°

### Direction of the station to magnetic North : OPTIONAL

Azimuth	0 - 360°
Accuracy	± 5°
Resolution	0.1°

### Air Temperature

Range	- 40°C - + 70°C
Accuracy	± 1°C (@ Wind Speed > 2 m/s)
Resolution	0.1°C

### Absolute Atmospheric Pressure

Range	600 - 1100 hPa (mbar)
Accuracy	± 5 hPa (mbar) (@ Wind Speed > 2 m/s)
Resolution	0,1 hPa (mbar)

### Relative humidity : OPTIONAL

Range	0% - 100 %
Accuracy	± 4 % HR (0 % - 20 %) ± 3 % HR (20 % - 80 %) ± 4 % HR (80 % - 100 %)
Resolution	0,1 % HR

### GPS Localization : OPTIONAL

Latitude	90° N - 90° S
Longitude	180° E - 180° W
Accuracy	variable
Resolution	1/512 min

## Technical specification

<b>Data transmission</b>	RS-422 / RS-485
<b>Transmission cycle</b>	100 ms

<b>Input voltage</b>	18 - 32 V DC
<b>Consumption</b>	< 25 W

<b>Autotest</b>	Permanent
<b>Start up</b>	< 20s

<b>Operating temperature</b>	- 40°C - + 70°C
<b>Storage temperature</b>	- 40°C - + 71°C

### MTBF (MIL HDBK 217F – 20°C)

6056B, 6056H	> 45'000 hours
6056BC, 6056HC	> 16'000 hours
6056BCGPS, 6056HCGPS	> 16'000 hours

### Size

Height	550 mm
Diameter	85 mm
Base	Ø120 mm
Weight	3.320 kg

### Options

Ground or ammunition storage room temperature sensor	TEMPEX
Transportation Case	PELI
Protection cover	HOUSSE-100000
Replacement filter kit	KITNBC6056

### PAINT system

Chemical agent resistant coating system	MIL-DTL-53072E
Pre-treatment	MIL-DTL-5541F
Primer	MIL-DTL-530022E
Top coat	MIL-DTL-530039E

### Color

All military colour references available

## Certification specification

### MIL-STD 461F : electromagnetic compatibility

• Conducted emission	CE 102 : 10 kHz to 10 MHz
• Conducted susceptibility	CS 101 : 30 Hz to 150 kHz
• Radiated emissions	RE 102 : 10 kHz to 18 GHz
• Radiated susceptibility	RS 103 : 30 MHz to 18 GHz
• Bulk cable injection	CS114 : 10kHz to 200 MHz
• Bulk cable injection (In ex)	CS115 : 14Hz, 1200V
• Bulk cable injection (sinus)	CS116 : 10k to 100MHz /0.1 to 3A

### MIL-STD 810F : environmental conditions

• Low pressure (altitude)	500.4: -40°C; 570 hPa
• High temperature storage	501.4 proc 1 : +71°C; 2h
• Low temperature storage	502.4 Proc 1 : -40°C; 4h
• High temperature operation	501.4 Proc 2: +70°C; 2h
• Low temperature operation	502.4 Proc 2 : -40°C; 4h
• Temperature shock	503.4: -40°C, +71°C, -40°C
• Humidity	507.4: 10X 60°C to 30°C @ 95%RH
• Immersion	512.4: +52°C, 1m, 0.5h
• Salt fog	509.4: 34°C, 48h, 5% NaCl
• Blowing dust	510.4: 23+71°C, 8.9m/s, 10.6g/m3
• Vibration	514.5: +20°C, 20Hz to 2kHz, 7.7gRMS
• Shocks	516.5: +20°C, sawtooth, 40g 11ms

### IEC EN 60000 : Environmental testing

• Half sinus shocks	60068-2-27: 10g, 6ms
• Half sinus shocks	60068-2-27: <b>500g, 0.5ms</b>
• Protect again water jet (IP)	60529:2001 : 100l/min IP X6
• Random vibration	60068-2-64 : 10Hz to 2050Hz 1.5gRMS
• Electrostatic discharges	61000-4-2 : 8kV contact, 15kV air

### VG 95373, VG95370: electromagnetic compatibility

• Immunity to RF filed	95373-13: 30Hz to 1GHz, <b>100V/m</b>
• Conducted susceptibility	95373-14 LF03G, 100k to 100MHz
• impulse susceptibility	95373-14 LF07G , +/- 100V@50Ohms
• Radiated emission	95373-12 SA04G, 30MHz to 1GHz
• conducted emission	95370-16 SA06S, 30MHZ to 88MHz
• Radiated emission	95373-10 LA01G, 100k to 100MHz

### VG96916, TL 1240-060 : power network requirement

• Impulse immunity	96916-5: 70V/2ms & 50V/50ms
• Sinus Immunity	96916-5 : 10Hz to 10kHz 8.4V
• Immunity DC change	TL1240-060: 18V to 32V

### • custom specific tests