

# MultiSensor XP

Installation and operation manual

## Specifications

<b>Supply Voltage</b>	9-30 Vdc
<b>Maximum fuse rating (Fuse individually)</b>	1.0A
<b>Power consumption</b>	Less than 150mW
<b>Operating Temperature Range</b>	-40 to 50°C
<b>IO</b>	2x Digital Outputs (Open Collector) w/ LED indication, Micro USB port
<b>Sensitivity Adjustment</b>	Onboard 10 position selector, adjustments with software via USB Port
<b>Area Classification</b>	Explosion Proof, Class I Division 1, Groups C,D T5
<b>Magnetometer Range</b>	±1200μT
<b>Accelerometer Range</b>	±3g
<b>Optional Accessories</b>	Glass windows cover, pipe mount kit
<b>Dimensions (HxWxD)(mm)</b>	126 x 145 x 109

Caron Measurement &  
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# Overview

Includes an advanced magnetometer and a 3-axis accelerometer in one compact package.

The magnetometer can be used to sense the presence of any ferrous material in front or behind the sensor, ignoring objects on the sides. The sensor uses the earth magnetic field to sense proximity of objects far away such as vehicle detection as well as sensing objects behind other ferrous materials. Can be configured to activate the output for a configurable duration on change of reading, or continuously on offset from normal levels.

The accelerometer can be used for sensing vibrations or impacts. The acceleration is read at up to 100hz and will trigger the output at a configurable threshold and a configurable duration.

Configuration is done with MultiSensor Tool software using the on-board Micro USB port. Live readings can be viewed, and gain and timing adjusted. Also included is a 10-position selector switch for quick sensitivity adjustments. **\*Keep the cover closed in hazardous atmosphere.**

# Installation

Mounting can be accomplished in a variety of ways using the mounting tabs. It can be bolted directly, or optional pipe mount straps can be supplied. For dimensions, see the dimensional drawing.

Electrical connections can be made through any of the 3x conduit entries. Follow all applicable electrical codes. A conduit seal must be placed within 18" of the enclosure.

# Wiring

A push lock, screwless style connector is supplied to make power and signal connections using 16 - 24AWG wire.

## Terminals:

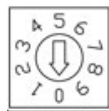
- **GND:** Common (Neg)
- **PWR:** Power (9-30VDC)(Fuse 1A MAX)
- **MAG:** Magnetometer Output
- **ACC:** Accelerometer Output
- **RSA/RSB:** RS485 (Optional)

## Output Details

Outputs are open collectors. When active, the output terminal is pulled to ground (common). Limit current through the outputs to 30mA. If a pullup resistor is required, use a minimum of 2.2 kOhm (4.7kOhm recommended) tied to the fused power supply line.

# Operation

The MultiSensors 2 digital outputs are designed to trip at an adjustable threshold for detection of magnetic or movements events. The following section describes how to configure these outputs.



Sensor sensitivity can be quickly adjusted using the 10 position selector switch with 0 being the least sensitive and 9 being the most. Adjustments made to the selector switch will be made to both the accelerometer and the magnetometer. To fine tune sensors individually use the MultiSensor Tool software.

## LED 1 & 2

LED 1 (Red) will activate when the magnetometer output is active, and similarly LED 2 (Green) will illuminate when the accelerometer output is active.

## MultiSensor Tool Software

The following settings are available for both sensors using the MultiSensor Tool Software.

- Selector Gain: Adjusts the range of the selector switch, a higher number will mean greater sensitivity.
- Output Duration: The time in seconds the output is active when the sensor thresholds is met
- Output Mode: Timed mode will trigger the output for the configured time after the threshold is crossed. Sensor readings will normalize after a change.  
  
Continuous mode will maintain the output when the threshold is crossed. The reading will not normalize.
- Normalize Time: The time in seconds that it will take for a change in sensor value to re zero itself back to baseline.
- Scan Rate: The number or readings per second to read from the sensor.

# Dimensions (mm)

