

# M2B Transmitter

## Single Channel Universal Gas Monitoring

The Millennium II Basic (M2B) universal transmitter is a robust and reliable safety solution delivering highly accurate monitoring of toxic and combustible gases. Utilizing our state-of-the-art sensor technology, it provides a flexible detection platform that includes all the advanced features users in the field demand with complete ease-of-use and operation.

- Compatible with ST3 and SC3 series sensors (Infrared, Catalytic Bead, Electrochemical)
- -55 °C to +85 °C temperature range
- Lowest power consumption available
- Wide voltage range allows for greater stability and system compatibility
- Nonintrusive menu system, simple set-up and calibrations via external magnet
- Field selectable gas curves and ranges
- Long range (+600 m/2,000 ft.) sensor separation through digital communication between transmitter and sensor

### Streamlined Controller Design

Designed for applications that require a local, full-featured transmitter interface but do not require a character display. The Millennium II Basic includes a bright multi-colored LED indicator for Power/Alarm/Fault conditions with an optional HART® interface.

### Universal Transmitter

A truly universal transmitter, the M2B can be fitted with a full range of both toxic or combustible gas sensors. The Millennium II sensors are pre-calibrated and easily connect to the transmitter which automatically recognizes a newly fitted sensor and uploads its specific configuration profile.



M2B (SS & AL) shown with SX3 Series sensors and HART® port

### Digital Communications

The sensor and transmitter continuously communicate digitally, giving you the confidence of stable, accurate protection with fast response times even over long separation distances.

### Global Certifications

The Millennium II Basic is approved to international hazardous area safety standards for operation and performance.

### Analog, Relay, Modbus® RS485 RTU & HART®

Multiple communication protocols allow the M2B to work seamlessly with your new or existing system.

### Field-proven Sensor Innovations

Our sensors are engineered to be fast and reliable with field-proven performance in the harshest industrial conditions. Sensors include electrochemical, catalytic bead with SensorGuard, which greatly prolongs sensor life, and point infrared. The infrared sensor offers a dual beam design with no mirrors, which increases the sensor's resilience to dust or other debris.

# Specifications

Table 1 - Millennium II Basic Transmitter

| Electrical         |  |
|--------------------|--|
| Power Consumption  | 1.5 W @ 24 VDC (average - varies by sensor type/quantity)  |
| Voltage Range      | 10.5–32.0 VDC (HART: 18–32 VDC)  |
| EMC Compliance     | EN 50270:2006 per EMC directive 2004/108/EC  |
| Display            | Multi-color LED Indication (Normal/Fault/Alarm)  |
| Environmental      |  |
| Temperature        | -55 °C to +85 °C (-67 °F to +185 °F)   |
| Relative Humidity  | 0–95 % RH non condensing   |
| Enclosure          |  |
| Enclosure Material | Aluminum (6061) or 316 Stainless Steel   |
| Conduit Opening    | ¾" NPT (3X)  |
| Outputs            | Optional: Analog 4–20 mA, Four 5 A Form C Relays, RS-485 Modbus® RTU, and HART®  |
| Certifications     | <p><b>North American</b><br/>                     Class I, Division 1, Groups BCD; Class I, Zone 1, Group IIB+H2<br/>                     Type 4X, IP67<br/>                     FM 6310/6320, ANSI/ISA 12.13.01/92.03.01, CSA-C22.2 No152</p> <p><b>ATEX</b><br/>                     CE 0575 Ex II 2 G Exd IIB+H2 T5 IP67<br/>                     EN 61779-1 &amp; EN 61779-4</p> <p><b>IECEX</b><br/>                     Ex d IIB+H2 T5 IP67<br/>                     -55 °C ≤ Ta +85 °C<br/>                     IEC 60079-0:2011/IEC 60079-1:2007</p> <p><b>Inmetro</b><br/>                     Ex d IIB+H2 T5 Gb IP67</p> |
| Sensors            | Combustible Gases (SC3 Series): Infrared and Catalytic Bead<br>Toxic Gases (ST3 Series): Electrochemical   |
| Warranty           | 3 years  |
| Mounting           | Surface Mount/Pipe Mount/Duct Mount  |
| Weight             | Aluminum: 0.8 kg (2.0 lbs), Stainless Steel (316SS): 1.6 kg (3.5 lbs)  |

| Ordering Information   |                                 |
|--|---------------------------------|
| M2B-A  | Single Channel - Analog         |
| M2B-R  | Single Channel - Relay          |
| M2B-D  | Single Channel - RS485 Modbus®  |
| M2B-AH   | Single Channel - Analog & HART® |
| Enclosure Available: Aluminum (-A) Stainless Steel (-S)                                  |                                 |
| <b>Ordering Matrix Example:</b><br>M2B-A-S (Transmitter - Output - Enclosure - Material) |                                 |

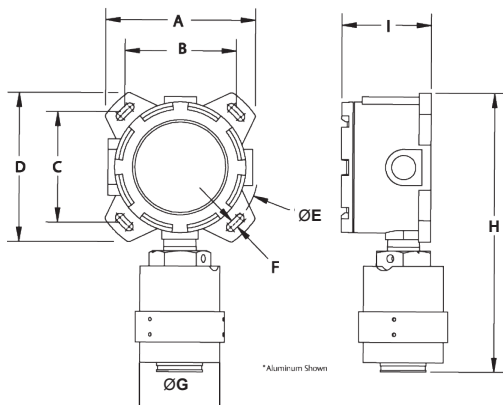
| Special Features   |
|--|
| <ul style="list-style-type: none"> <li>■ Nonintrusive one man calibration (magnetic switch)</li> <li>■ Field selectable toxic gas ranges</li> <li>■ Field selectable combustible gas curves</li> </ul> |

| Accessories   |
|---|
| <ul style="list-style-type: none"> <li>■ HART® Port Adaptor</li> <li>■ Mounting Bracket c/w Hardware</li> <li>■ Sun Shade/Deluge Protection</li> <li>■ Duct Mount and Hardware Kit</li> </ul> |

# Specifications

**Table 2 - Accessories**

| Accessories     |   |
|-----------------|---|
| <b>UDM-001</b>  | Universal duct mount assembly with 1 M inlet sampling pipe - Stainless Steel                |
| <b>UDM-002</b>  | Universal duct mount assembly with 1.5 M inlet sampling pipe - Stainless Steel              |
| <b>UDM-003</b>  | Universal duct mount assembly - Stainless Steel   |
| <b>UDM-EX1</b>  | 1 M extension - for use with UDM-001 and UDM-002 - Stainless Steel                          |
| <b>UDM-EX2</b>  | 1.5 M extension - for use with UDM-001 and UDM-002 - Stainless Steel                        |
| <b>UN-MK-31</b> | 1" Pipe Mounting kit c/w stainless steel mounting bracket and hardware                      |
| <b>UN-MK-32</b> | 2" Pipe Mounting kit c/w stainless steel mounting bracket and hardware                      |
| <b>UN-MK-33</b> | 3" Pipe Mounting kit c/w stainless steel mounting bracket and hardware                      |
| <b>HPT-001</b>  | HART® Communicator port, mounts directly to JB-MPH-A/S or Millennium II transmitter         |
| <b>SSK-51</b>   | 1" Pipe Mounted Sun shade kit/rain guard - Stainless steel - includes UN-MK-31 Mounting Kit |
| <b>SSK-52</b>   | 2" Pipe Mounted Sun shade kit/rain guard - Stainless steel - includes UN-MK-32 Mounting Kit |
| <b>SSK-53</b>   | 3" Pipe Mounted Sun shade kit/rain guard - Stainless steel - includes UN-MK-33 Mounting Kit |



|                                 | A   |     | B   |    | C   |     | D   |     | E   |     |
|---------------------------------|-----|-----|-----|----|-----|-----|-----|-----|-----|-----|
|                                 | in  | mm  | in  | mm | in  | mm  | in  | mm  | in  | mm  |
| <b>Aluminum Housings</b>        | 4.8 | 122 | 3.6 | 92 | 3.6 | 92  | 4.8 | 122 | 5.1 | 130 |
| <b>Stainless Steel Housings</b> | 4.7 | 119 | 3.6 | 92 | 3.6 | 92  | 4.7 | 119 | 5.1 | 130 |
|                                 | F   |     | G   |    | H   |     | I   |     |     |     |
|                                 | in  | mm  | in  | mm | in  | mm  | in  | mm  |     |     |
| <b>Aluminum Housings</b>        | 0.3 | 8   | 2.6 | 66 | 9.0 | 229 | 3.3 | 84  |     |     |
| <b>Stainless Steel Housings</b> | 0.3 | 8   | 2.6 | 66 | 8.9 | 226 | 3.2 | 81  |     |     |

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