



# DIGITAL GAS DETECTORS DATASHEET

## LPT-B BACnet® Transmitter

**FIXED SYSTEMS**



The LPT-B is a full featured, 3 channel, digital transmitter for use in non-hazardous, non-explosion rated, commercial and light industrial applications. It is available with a wide range of internal and/or external sensors and sensor types including electrochemical, catalytic and PID TVOC. It offers a BACnet® MS/TP output signal for communicating with a Controller or Building Automation System, an audible internal alarm, one SPDT dry contact relay, LCD display with user selectable functions, temperature compensation and thermal resetting fuses all in a RoHS compliant package.

The LPT-B comes in a standard water / dust tight, corrosion resistant ABS / polycarbonate enclosure with a hinged door. It is IP54 rated with the optional splash guard installed which provides protection in water spray or wash down applications.

The LPT-B is not compatible with CETC's Controllers. It is intended to be used as a standalone system or integrated into an existing BACnet® network.

### KEY FEATURES

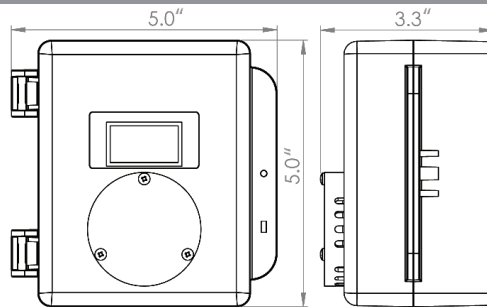
- » 1, 2 or 3 channel operation
- » BACnet® MS/TP digital output signal
- » Many internal and/or remote sensor configurations
- » One SPDT dry contact relay
- » LCD display (with user selectable function)
- » Internal audible alarm
- » Standard water / dust tight, corrosion resistant enclosure (drip proof); IP54 rated with optional splash guard installed.
- » RoHS compliant circuit board
- » Thermal resetting fuses

### APPLICATIONS

- » Parking Garages/Car Parks
- » Vehicle Repair Shops
- » Ice Arenas
- » Ice Cleaning Machine Rooms
- » Commercial Indoor Swimming Pools
- » Manufacturing Plants
- » Maintenance Facilities
- » ... and many more

BACnet® is a registered trademark of American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE)

### TECHNICAL DRAWING



Note: Drawings above are shown with an optional splash guard. Without splash guard, thickness of unit is 71 mm (2.8").

### TECHNICAL SPECIFICATIONS

#### MECHANICAL

|           |  |
|-----------|--|
| Enclosure | ABS / Polycarbonate, IP54 rated with splash guard installed. Copper coated interior to reduce RF interference. |
| Weight    | 400 g (14 oz)  |
| Size      | 127 x 127 x 71 mm / 5.0 x 5.0 x 2.8 inches   |

#### USER INTERFACE

|                  |  |
|------------------|--|
| Display          | Graphic LCD, yellow border   |
| Magnetic Sensors | Using a magnetic wand, initiate calibration and menu options without opening the enclosure |

#### INPUT / OUTPUT

|               |  |
|---------------|--|
| Input         | 4 - 20 mA analog, for ESH-A Remote Sensor                            |
| Output        | BACnet® MS/TP RS-485   |
| Relay         | 1 SPDT dry contact, rated at 30 volts, 2 amps max                    |
| Audible Alarm | Standard internal buzzer, enable/disable, rated 90 dB @ 10 cm / 4 in |

#### ELECTRICAL

|                   |   |
|-------------------|---|
| Power Requirement | 16-30 VDC, 3 W, Class 2<br>12-27 VAC, 50-60 Hz, 3 VA, Class 2   |
| Current Draw      | 55 mA (buzzer & relay energized, 2 sensors)   |
| Wiring            | BACnet® MS/TP (version 1 rev 14) RS-485, 16 gauge, 4-conductor stranded shielded network wiring (daisy chain) |
| Fuses             | Thermal, resetting  |

#### ENVIRONMENTAL

|                       |   |
|-----------------------|---|
| Operating Temperature | -20°C to 40°C (-4°F to 104°F), lower temperature option available |
| Humidity              | 15 - 90% RH non-condensing  |

### PRODUCT CODES

*Type A: Single Channel (One Internal Electrochemical Sensor)*

| Part Number       |  | Lifespan |
|-------------------|--|----------|
| <b>LPT-B-NH3</b>  | Ammonia (NH <sub>3</sub> ) sensor (0 - 500 ppm)                      | ~2 yrs   |
| <b>LPT-B-TCO</b>  | Carbon Monoxide (CO) sensor (0 - 200 ppm)                            | ~6 yrs   |
| <b>LPT-B-CL2</b>  | Chlorine (Cl <sub>2</sub> ) sensor (0 - 5 ppm)                       | ~3 yrs   |
| <b>LPT-B-CLO2</b> | Chlorine Dioxide (ClO <sub>2</sub> ) sensor (0 - 10 ppm)             | ~2 yrs   |
| <b>LPT-B-C2H4</b> | Ethylene (C <sub>2</sub> H <sub>4</sub> ) sensor (0 - 200 ppm)       | ~2 yrs   |
| <b>LPT-B-EETO</b> | Ethylene Oxide (C <sub>2</sub> H <sub>4</sub> O) sensor (0 - 20 ppm) | ~2 yrs   |
| <b>LPT-B-F2</b>   | Fluorine (F <sub>2</sub> ) sensor (0 - 1 ppm)                        | ~2 yrs   |
| <b>LPT-B-CH2O</b> | Formaldehyde (CH <sub>2</sub> O) sensor (0 - 5 ppm)                  | ~2 yrs   |
| <b>LPT-B-EH2</b>  | Hydrogen (H <sub>2</sub> ) sensor (0 - 2,000 ppm)                    | ~2 yrs   |
| <b>LPT-B-H2SB</b> | Hydrogen Sulphide (H <sub>2</sub> S) sensor (0 - 50 ppm)             | ~5 yrs   |
| <b>LPT-B-HCL</b>  | Hydrogen Chloride (HCl) sensor (0 - 30 ppm)                          | ~2 yrs   |
| <b>LPT-B-HCN</b>  | Hydrogen Cyanide (HCN) sensor (0 - 30 ppm)                           | ~2 yrs   |
| <b>LPT-B-HF</b>   | Hydrogen Fluoride (HF) sensor (0 - 10 ppm)                           | ~2 yrs   |
| <b>LPT-B-NO</b>   | Nitric Oxide (NO) sensor (0 - 100 ppm)                               | ~2 yrs   |
| <b>LPT-B-NO2A</b> | Nitrogen Dioxide (NO <sub>2</sub> ) sensor (0 - 10 ppm)              | ~3 yrs   |
| <b>LPT-B-NO2B</b> | Nitrogen Dioxide (NO <sub>2</sub> ) sensor (0 - 10 ppm)              | ~6 yrs   |
| <b>LPT-B-O2</b>   | Oxygen (O <sub>2</sub> ) sensor (0 - 25% volume)                     | ~3 yrs   |
| <b>LPT-B-O3</b>   | Ozone (O <sub>3</sub> ) sensor (0 - 1 ppm)                           | ~2 yrs   |
| <b>LPT-B-PH3</b>  | Phosphine (PH <sub>3</sub> ) sensor (0 - 5 ppm)                      | ~2 yrs   |
| <b>LPT-B-SIH4</b> | Silane (SiH <sub>4</sub> ) sensor (0 - 20 ppm)                       | ~2 yrs   |
| <b>LPT-B-SO2</b>  | Sulphur Dioxide (SO <sub>2</sub> ) sensor (0 - 20 ppm)               | ~2 yrs   |

*Type B: Single Channel (No Internal Sensor, ESH-A Remote Sensor only)*

| [GROUP 2] Part Number  | LPT-B-R and add the Part Number of the ESH-A Remote Sensor from [GROUP 2] below.<br>(example: LPT-B-R + ESH-A-CCH4-100) | Lifespan |
|--|---|----------|
| <i>Catalytic Combustibles</i>  |   |          |
| <b>ESH-A-CH2-100</b>   | Hydrogen (H <sub>2</sub> ) sensor (0 - 100% LEL)  | 5 yrs    |
| <b>ESH-A-CCH4-100</b>  | Methane (CH <sub>4</sub> ) sensor (0 - 100% LEL)  | 5 yrs    |
| <b>ESH-A-CC3H8-100</b>   | Propane (C <sub>3</sub> H <sub>8</sub> ) sensor (0 - 100% LEL)  | 5 yrs    |
| <i>TVOC PIDs</i> <span style="float: right;">** usage and application dependant</span> |   |          |
| <b>ESH-A-SPL</b>   | TVOC PID sensor (0 - 30 ppm)  | **       |
| <b>ESH-A-SPH</b>   | TVOC PID sensor (0 - 300 ppm)   | **       |
| <i>Infrared</i>  |   |          |
| <b>ESH-A-JET</b>   | Propane (C <sub>3</sub> H <sub>8</sub> ) sensor (0 - 100% LEL)  | 8 yrs    |

*Type D: Dual Channel (One Internal Sensor + One ESH-A Remote Sensor)*

|                                    |  |
|------------------------------------|--|
| <b>LPT-B-TCO-R</b><br>+ [GROUP 2]  |  |
| <b>LPT-B-NO2B-R</b><br>+ [GROUP 2] | Add one ESH-A Remote Sensor from [GROUP 2] |
| <b>LPT-B-CH2O-R</b>                |  |
| <b>LPT-B-H2SB-R</b>                |  |

### PRODUCT CODES... continued

*Type E: Dual Channel (Two Internal Electrochemical Sensors)*

|                       |   |                  |
|-----------------------|---|------------------|
| <b>LPT-B-TCO-NO2B</b> | Carbon Monoxide (CO) sensor (0 - 200 ppm) & Nitrogen Dioxide (NO <sub>2</sub> ) sensor (0 - 10 ppm) | ~6 yrs           |
| <b>LPT-B-TCO-O2</b>   | Carbon Monoxide (CO) sensor (0 - 200 ppm) & Oxygen (O <sub>2</sub> ) sensor (0 - 25% volume)        | ~6 yrs<br>~3 yrs |

*Type F: Three Channel (Internal CO and NO<sub>2</sub> Sensors + One ESH-A Remote Sensor)*

|  |  |
|--|--|
| <b>LPT-B-TCO-NO2B-R</b><br>+ [GROUP 2] | Add one ESH-A Remote Sensor from [GROUP 2] |
|--|--|

**OPTIONS** (Factory installed) Add at the end of the "Part Number" above.

|           |  |
|-----------|--|
| <b>L2</b> | Enclosure mounted (on side), strobe with audible, 40 mm / 2 in dia, 80 flashes per min, siren volume 85 dB, drip proof |
| <b>S</b>  | Splash Guard for non sticky gases  |
| <b>SN</b> | Splash Guard for sticky gases (Cl <sub>2</sub> , ClO <sub>2</sub> , HCl, HCN, O <sub>3</sub> , PH <sub>3</sub> )       |

### ACCESSORIES

|                     |  |
|---------------------|--|
| <b>CET-SGC</b>      | Calibration clip for splash guard  |
| <b>CET-715A-CK1</b> | Calibration Kit for 17, 34, 58, 74, 100 L cylinders, 0.5 LPM flow regulator & adapter to fit 17 L cylinder       |
| <b>CET-MW</b>       | Magnetic wand for non-intrusive calibration  |
| <b>PID-KITA</b>     | Maintenance Kit for cleaning PID sensor bulb   |
| <b>SCS-8000-RSG</b> | Small galvanized metal, 16 gauge protective guard for transmitters and/or ESH-A Remote Transmitter, as required. |
| <b>SCS-8000-WSG</b> | Small galvanized metal, 16 gauge protective guard with splash cover for transmitters with sticky gases           |

### CERTIFICATION

Conforms to: CSA-C22.2 No. 205-12 / UL508 (Edition 17):2007

Conforms to: EMC Directive 2004/108/EC

EN 50270:2006, Type 1, EN61010

Conforms to: FCC. This device complies with Part 15 of the FCC Rules.

Listed by BTL

