



The LPT-M is a full featured, three 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 remote sensors and sensor types including electrochemical, solid state, catalytic and PID. The LPT-M may be configured to operate as a standalone fixed system or be part of a digital network. It offers a Modbus® RS-485 RTU output signal for communicating with a Controller and/or a 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-M comes in a standard water / dust tight, corrosion resistant ABS / polycarbonate enclosure with a hinged, secured door. With the optional, factory installed splash guard the enclosure is IP54 rated and provides protection in water spray or wash down applications. An optional heater is available for continued operation in cold environment applications.

KEY FEATURES

- » 1, 2 or 3 channel operation
- » Modbus® RS-485 RTU digital output signal
- » Many internal and/or remote sensor configurations
- » One 2A SPDT dry contact relay
- » LCD display (with user selectable function)
- » Internal audible alarm
- » Optional display heater for cold environment applications
- » Standard water / dust tight, corrosion resistant enclosure (drip proof); IP54 rated with optional splash guard installed.
- » RoHS compliant circuit board
- » Thermal resetting fuses

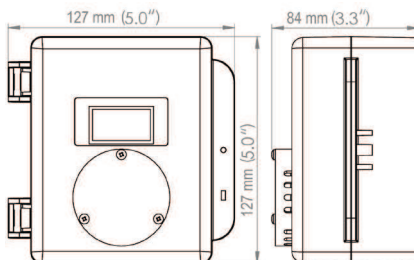
APPLICATIONS

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

DIGITAL GAS DETECTORS DATASHEET

LPT-M Modbus® Transmitter

TECHNICAL DRAWING



Note: Drawings above are shown with the optional splash guard. Without the splash guard, the thickness of the 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, green border
Magnetic Sensors	Using a magnetic wand, initiate calibration and menu options without opening the enclosure

INPUT / OUTPUT

Output	Modbus® RS-485 RTU
Relay	One SPDT dry contact, rated 30 volts, 2 amps max
Audible Alarm	Standard internal buzzer; enable/disable

ELECTRICAL

Power Requirement	12-27 VAC, 50-60 Hz, 3 VA, Class 2 16-30 VDC, 3W, Class 2
Current Draw	30 mA (buzzer & relay energized, 2 sensors)
Wiring	16 gauge, 4-conductor 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)

LPT-M-[GROUP 1] Add the Part Number of the internal electrochemical sensor from **[GROUP 1]** below. (example: LPT-M-TCO)

[GROUP 1] Part Number		Lifespan
NH3	Ammonia (NH ₃) sensor (0 - 500 ppm)	2 yrs
TCO	Carbon Monoxide (CO) sensor (0 - 200 ppm)	6 yrs
ClO2	Chlorine Dioxide (ClO ₂) sensor (0 - 10 ppm)	3 yrs
Cl2	Chlorine (Cl ₂) sensor (0 - 5 ppm)	3 yrs
C2H4	Ethylene (C ₂ H ₄) sensor (0 - 200 ppm)	2 yrs
EETO	Ethylene Oxide (C ₂ H ₄ O) sensor (0 - 20 ppm)	2 yrs
F2	Fluorine (F ₂) sensor (0 - 2 ppm)	1-2yrs
CH2O	Formaldehyde (CH ₂ O) sensor (0 - 5 ppm)	2 yrs
EH2	Hydrogen (H ₂) sensor (0 - 2,000 ppm)	2 yrs
H2SB	Hydrogen Sulphide (H ₂ S) sensor (0 - 50 ppm)	5+ yrs
HCL	Hydrogen Chloride (HCl) sensor (0 - 20 ppm)	2 yrs
HCN	Hydrogen Cyanide (HCN) sensor (0 - 100 ppm)	2 yrs
HF	Hydrogen Fluoride (HF) sensor (0 -10.0 ppm)	1-2yrs
NO	Nitric Oxide (NO) sensor (0 - 100 ppm)	2 yrs
NO2A	Nitrogen Dioxide (NO ₂) sensor (0 - 10 ppm)	3 yrs
NO2B	Nitrogen Dioxide (NO ₂) sensor (0 - 10 ppm)	6 yrs
O2	Oxygen (O ₂) sensor (0 - 25% volume)	3 yrs
O3	Ozone (O ₃) sensor (0 - 1.0 ppm)	2 yrs
PH3	Phosphine (PH ₃) sensor (0 - 5 ppm)	2 yrs
SiH4	Silane (SiH ₄) sensor (0 - 20 ppm)	2 yrs
SO2	Sulphur Dioxide (SO ₂) sensor (0 - 20 ppm)	2+ yrs

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

[GROUP 2] Part Number **LPT-M-R** and add the Part Number of the ESH-A Remote Sensor from **[GROUP 2]** below. (example: LPT-M-R + ESH-A-SR410A)

Solid State Refrigerants & TVOCs		Lifespan
ESH-A-SR22	Refrigerants (R22) sensor (0 - 2,000 ppm)	5 yrs
ESH-A-SR134A	Refrigerants (R134A) sensor (0 - 2,000 ppm)	5 yrs
ESH-A-SR402A	Refrigerants (R402A) sensor (0 - 2,000 ppm)	5 yrs
ESH-A-SR404A	Refrigerants (R404A) sensor (0 - 2,000 ppm)	5 yrs
ESH-A-SR407C	Refrigerants (R407C) sensor (0 - 2,000 ppm)	5 yrs
ESH-A-SR410A	Refrigerants (R410A) sensor (0 - 2,000 ppm)	5 yrs
ESH-A-SR422D	Refrigerants (R422D) sensor (0 - 2,000 ppm)	5 yrs
ESH-A-SR438A	Refrigerants (R438A) sensor (0 - 2,000 ppm)	5 yrs
ESH-A-SR507A	Refrigerants (R507A) sensor (0 - 2,000 ppm)	5 yrs
ESH-A-STVOC	TVOCs sensor (0 - 50 ppm)	5 yrs

Catalytic Combustibles

ESH-A-CH2-100	Hydrogen (H ₂) sensor (0 - 100% LEL)	5 yrs
ESH-A-CCH4-100	Methane (CH ₄) sensor (0 - 100% LEL)	5 yrs
ESH-A-CC3H8-100	Propane (C ₃ H ₈) sensor (0 - 100% LEL)	5 yrs

PRODUCT CODES... continued

TVOC PIDs		** usage and application dependent
ESH-A-SPL	TVOC PID sensor (0 - 50 ppm)	**
ESH-A-SPH	TVOC PID sensor (0 - 300 ppm)	**
<i>Infrared</i>		
ESH-A-JET	Propane (C ₃ H ₈) sensor (0 - 100% LEL)	8 yrs

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

LPT-M-TCO-R + [GROUP 2]	Choose one ESH-A Remote Sensor from [GROUP 2]
LPT-M-NO2B-R + [GROUP 2]	

Type E: Dual Channel (Two Internal Electrochemical Sensors)

LPT-M-TCO-NO2B	Carbon Monoxide (CO) sensor (0 - 200 ppm) & Nitrogen Dioxide (NO ₂) sensor (0 - 10 ppm)	6 yrs
LPT-M-TCO-O2	Carbon Monoxide (CO) sensor (0 - 200 ppm) & Oxygen (O ₂) sensor (0 - 25% volume)	6 yrs 3 yrs

Type F: Three Channel (Internal CO and NO₂ Sensors + One ESH-A Remote Sensor)

LPT-M-TCO-NO2B-R + [GROUP 2]	Choose one ESH-A Remote Sensor from [GROUP 2]
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OPTIONS (factory installed) Add at the end of the "Part Number" above.

H	Internal heater for cold environment applications down to -40°C / 40°F
S	Splash guard (not available for O ₂ , HCl, Cl ₂ sensors) May be added to the LPT-M and/or the ESH-A Remote Sensor, as required.

ACCESSORIES

CE7-715A-CK1	Calibration Kit for 17, 34, 58, 74, 103 L cylinders, 0.5 LPM flow regulator & adapter to fit 17 L cylinder
CE7-MW	Magnetic wand for non-intrusive calibration
PID-KITA	Maintenance Kit for cleaning PID sensor bulb
SCS-8000-RSG	Metal protective guard, small, 16 gauge, galvanized metal guards for transmitters and/or ESH-A Remote Transmitter, as required.

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.

