



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, catalytic and PID TVOC. The LPT-M may be configured to operate as a standalone fixed system or be part of a digital network. It offers a Modbus® RTU RS-485 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® RTU RS-485 digital output signal
- » Many internal and/or remote sensor configurations
- » One 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

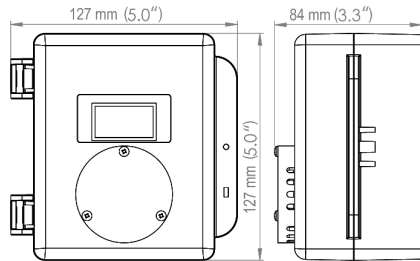
APPLICATIONS

- » Parking Garages/Car Parks
- » Vehicle Repair Shops
- » Ice Arenas
- » Ice Cleaning Machine Rooms
- » Commercial 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

Input	4 - 20 mA analog, for ESH-A Remote Sensor
Output	Modbus® RTU RS-485
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	Modbus® RTU (version 1.1b3) RS-485, 16 gauge, 4-wire VAC/VDC
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
LPT-M-NH3	Ammonia (NH ₃) sensor (0 - 500 ppm)	2 yrs
LPT-M-TCO	Carbon Monoxide (CO) sensor (0 - 200 ppm)	6 yrs
LPT-M-CLO2	Chlorine Dioxide (ClO ₂) sensor (0 - 10 ppm)	3 yrs
LPT-M-CL2	Chlorine (Cl ₂) sensor (0 - 5 ppm)	3 yrs
LPT-M-C2H4	Ethylene (C ₂ H ₄) sensor (0 - 200 ppm)	2 yrs
LPT-M-EETO	Ethylene Oxide (C ₂ H ₄ O) sensor (0 - 20 ppm)	2 yrs
LPT-M-F2	Fluorine (F ₂) sensor (0 - 1 ppm)	1-2yrs
LPT-M-CH2O	Formaldehyde (CH ₂ O) sensor (0 - 5 ppm)	2 yrs
LPT-M-EH2	Hydrogen (H ₂) sensor (0 - 2,000 ppm)	2 yrs
LPT-M-H2S	Hydrogen Sulphide (H ₂ S) sensor (0 - 50 ppm)	5+yrs
LPT-M-HCL	Hydrogen Chloride (HCl) sensor (0 - 30 ppm)	2 yrs
LPT-M-HCN	Hydrogen Cyanide (HCN) sensor (0 - 30 ppm)	2 yrs
LPT-M-HF	Hydrogen Fluoride (HF) sensor (0 - 10 ppm)	1-2yrs
LPT-M-NO	Nitric Oxide (NO) sensor (0 - 100 ppm)	2 yrs
LPT-M-NO2A	Nitrogen Dioxide (NO ₂) sensor (0 - 10 ppm)	3 yrs
LPT-M-NO2B	Nitrogen Dioxide (NO ₂) sensor (0 - 10 ppm)	6 yrs
LPT-M-O2	Oxygen (O ₂) sensor (0 - 25% volume)	3 yrs
LPT-M-O3	Ozone (O ₃) sensor (0 - 2 ppm)	2 yrs
LPT-M-PH3	Phosphine (PH ₃) sensor (0 - 5 ppm)	2 yrs
LPT-M-SiH4	Silane (SiH ₄) sensor (0 - 20 ppm)	2 yrs
LPT-M-SO2	Sulphur Dioxide (SO ₂) sensor (0 - 20 ppm)	2+yrs

Type B1: Single Channel (No Internal Sensor, ESH-A Remote Sensor only)

Use **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-CH2-100)

[GROUP 2]	Catalytic Combustibles	Lifespan
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
	<i>TVOC PIDs</i> *** usage and application dependant	
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 B2: Single Channel (No Internal Sensor + One Remote CO₂ Transmitter)

Use **Part Number LPT-M-RT** and add the Part Number of the AST-IS Standard or Industrial transmitter of choice. *NOTE: Analog models only (refer to the AST-IS Transmitter datasheets)*

PRODUCT CODES... continued

Type D1: Dual Channel (One Internal Sensor + One ESH-A Remote Sensor)

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

Type D2: Dual Channel (One Internal Sensor + One Remote CO₂ Transmitter)

Use **Part Number LPT-M-TCO-RT** or **LPT-M-NO2B-RT** and add the Part Number of the AST-IS Standard or Industrial transmitter of choice. *NOTE: Analog models only (refer to the AST-IS Transmitter datasheets)*

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 F1: Three Channel (Internal CO and NO₂ Sensors + One ESH-A Remote Sensor)

LPT-M-TCO-NO2B-R	Plus choose one ESH-A Remote Sensor from [GROUP 2]
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Type F2: Three Channel (Internal CO and NO₂ Sensors + One Remote CO₂ Transmitter)

LPT-M-TCO-NO2B-RT	Add the Part Number of the AST-IS Standard or Industrial transmitter of choice. <i>NOTE: Analog models only (refer to the AST-IS Transmitter datasheets)</i>
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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 for non sticky gases
SN	Splash Guard for sticky gases (Cl ₂ , ClO ₂ , HCl, HCN, NO ₂ , O ₃ , PH ₃)

ACCESSORIES

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

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.

