LPT-M Modbus® Transmitter

Critical Environment Technologies™

FIXED SYSTEMS

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.
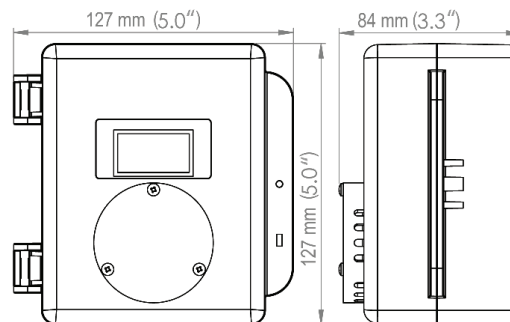
KEY FEATURES

» 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

TECHNICAL DRAWING

127 mm (5.0")   84 mm (3.3")

127 mm (5.0")

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, rated 90 dB @ 10 cm / 4 in

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 4-wire VAC/VDC	Modbus® RTU (version 1.1b3) RS-485, 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

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FIXED SYSTEMS

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-CL2	Chlorine (Cl_2) sensor (0 - 5 ppm)	~3 yrs
LPT-M-CLO2	Chlorine Dioxide (ClO_2) sensor (0 - 10 ppm)	~3 yrs
LPT-M-C2H4	Ethylene (C_2H_4) sensor (0 - 200 ppm)	~2 yrs
LPT-M-EETO	Ethylene Oxide (C_2H_4O) sensor (0 - 20 ppm)	~2 yrs
LPT-M-F2	Fluorine (F_2) sensor (0 - 1 ppm)	~2yrs
LPT-M-CH2O	Formaldehyde (CH_2O) sensor (0 - 5 ppm)	~2 yrs
LPT-M-EH2	Hydrogen (H_2) sensor (0 - 2,000 ppm)	~2 yrs
LPT-M-H2SB	Hydrogen Sulphide (H_2S) 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)	~2 yrs
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 - 1 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_3H_8) sensor (0 - 100% LEL)	~5 yrs
	TVOC PIDs	*** usage and application dependant*
ESH-A-SPL	TVOC PID sensor (0 - 50 ppm)	**
ESH-A-SPH	TVOC PID sensor (0 - 300 ppm)	**
	Infrared	
ESH-A-JET	Propane (C_3H_8) sensor (0 - 100% LEL)	~8 yrs

Type B2: Single Channel (No Internal Sensor + One Remote CO_2 Transmitter)

Use Part Number LPT-M-RT and add the Part Number of the CGAS-A or CGAS-AP or AST-IS CO_2 transmitter of choice. *NOTE: Analog models only*

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 CO_2 Transmitter)

Use Part Number LPT-M-TCO-RT or **LPT-M-NO2B-RT** and add the Part Number of the CGAS-A or CGAS-AP or AST-IS CO_2 transmitter of choice. *NOTE: Analog models only*

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 NO_2 Sensors + One ESH-A Remote Sensor)

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

Type F2: Three Channel (Internal CO and NO_2 Sensors + One Remote CO_2 Transmitter)

LPT-M-TCO-NO2B -RT	Add the Part Number of the CGAS-A or CGAS-AP or AST-IS CO_2 transmitter of choice. *NOTE: Analog models only*

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
L2	Enclosure mounted (on side), strobe with audible, 40 mm / 2 in dia, 80 flashes per min, siren volume 85 dB, drip proof
S	Splash Guard for non sticky gases
SN	Splash Guard for sticky gases (Cl_2, ClO_2, HCl, HCN, 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.

Distributed by: Kenelec Scientific Pty Ltd | 1300 73 22 33 | sales@kenelec.com.au | www.kenelec.com.au