



# LDM

## LOCAL DISPLAY MODULE FOR PRESSURE TRANSDUCERS

The MKS Local Display Modules (LDM) are designed to be used with many MKS 700 and 800 Baratron® pressure transducers to provide a local display of pressure in real time and in the customer's specified engineering units. They are typically used when the host controller does not have a real-time data display, is mounted remotely from the transducer, or does not have a multi-channel display. These displays reduce the downtime for system operators and process engineers by always providing an easy-to-read display of the gas line pressure. Because they are installed "in line" between the pressure transducer and host system/power supply, no additional cabling is needed.

### Features & Benefits

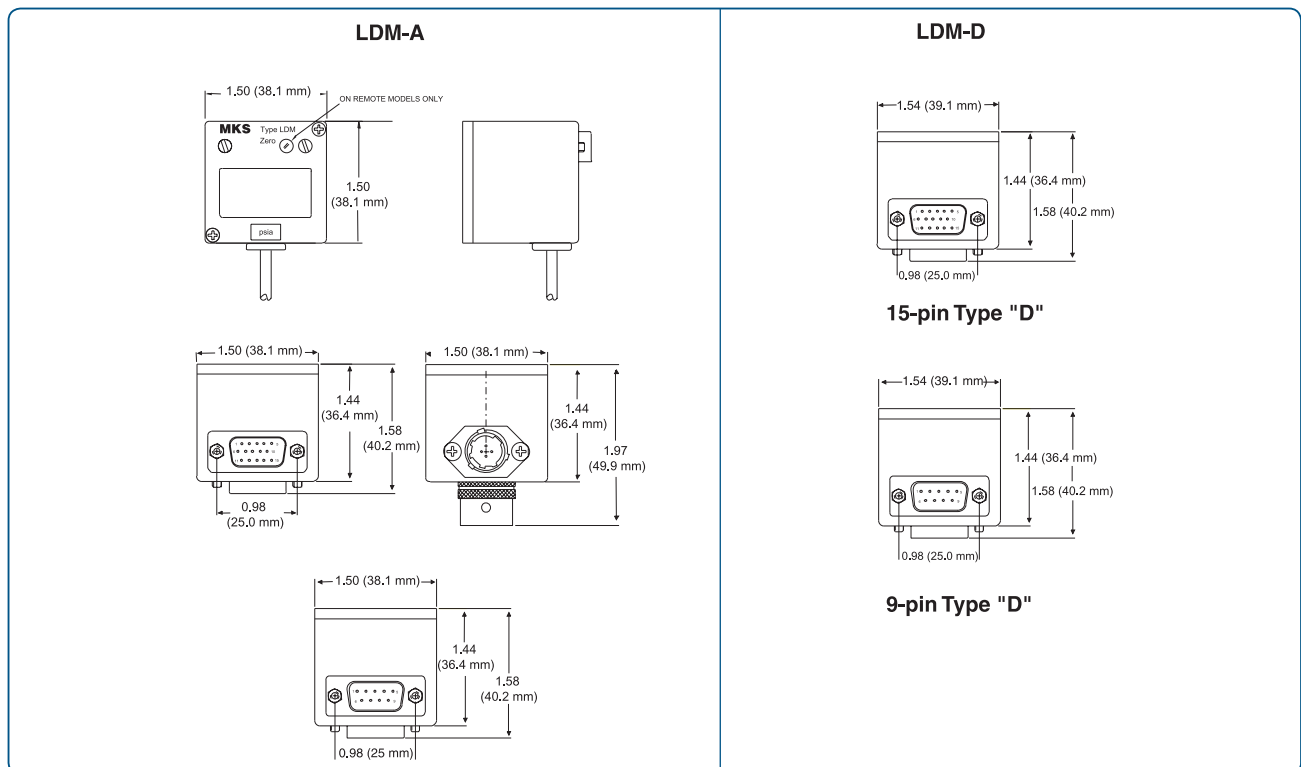
- Large red LED or LCD displays for easy reading, even from a distance
- LDM-D offers user-configurable engineering units such as mmHg/Torr, kPa, and PSI
- Decimal point with automatic range switching, negative values, and over-range indication
- Installed inline between transducer and host – no additional cables needed.
- Small size allows placement on individual gas sticks
- Optional panel mounting
- Wide operating range to match applicable MKS Baratron pressure transducers

Two different models are available. The LDM-A model uses advanced analog electronics, and has a 9-pin D-subminiature, 15-pin high density D-subminiature, or Bendix® electrical connector that can mount directly to the mating electrical connectors of MKS 740B, 742B, 750B, 752B, 840B, 842B, 850B, 852B, 870B, 872B, AA07A and AA08A Baratron pressure transducers. For applications with space constraints around the gas line, it can also be panel-mounted remotely and connected to the transducer via a separate cable. Pressure ranges from 10 Torr to 3000 PSI are available, as are a wide range of options to allow custom configuration to nearly any requirement. Versions with 0-10VDC or 0-5VDC output have a high-visibility red LED display and operate on +13 to 32VDC input power, while models with 4-20 mA output signal use a large LCD display and require +13 to 36VDC excitation.

The LDM-D is a low-cost model that uses microprocessor-controlled electronics to generate a brilliant red LED display that can be easily switched to show the transducer's pressure in alternate engineering units such as bar, kPa, and Torr/mm Hg. The LDM-D operates on input voltages of +12 to +32VDC, and it has a 0-10VDC output.

The LDM-D also can be mounted directly to compatible MKS 740B, 742B, 750B, 752B, 840B, 842B, 850B, 852B, 870B, 872B, AA07A and AA08A Baratron pressure transducers without requiring a separate power and signal cable to the host assuming that the transducer has a 15-pin high-density D-subminiature electrical connector. Pressure ranges of 1000 Torr (absolute), 60 PSIA, and 100 PSIA are available, as is mounting hardware to permit remote panel mounting and cables to connect to the pressure transducer.

Both devices are calibrated at the factory and thus must be used with a pressure transducer calibrated in the same units of measurement. They can be used successfully with a wide variety of competitive pressure transducers. Zero and span adjustments are easily accomplished via the front-mounted potentiometers, and the displays are housed in rugged enclosures that provide excellent EMI/RFI isolation to meet compliance codes used worldwide.



#### Dimensional Drawing —

Note: Unless otherwise specified, dimensions are nominal values in inches (mm referenced).



# Specifications

	LDM-A		LDM-D
<b>Output Signal</b>	0-10VDC and 0-5VDC	4-20mA	0-10VDC
<b>Display Type</b>	3.5 place red LED, 7-segment, 0.37 inch (9.4 mm) tall. Supports minus (-) sign in first digit.	3.5 place LCD, 7-segment, 0.37 inch (9.4mm) tall. Supports minus (-) sign in first digit.	4 place red LED, 16-segment, 0.50 inch (12mm) tall. Supports minus (-) sign in first digit.
<b>Pressure Ranges</b>	All transducer ranges - absolute, gage, or compound calibration	All transducer ranges - absolute, gage, or compound calibration	1000 Torr (absolute), 60 PSIA, and 100 PSIA
<b>Display Units</b>	psi, in Hg, mm Hg (Torr), bar, Pa, or in H <sub>2</sub> O	psi, in Hg, mm Hg (Torr), bar, Pa, or in H <sub>2</sub> O	PSIA with front-panel switch for kPa, bar, or mmHg/Torr
<b>Electrical Connectors</b>	<b>• Transducer (female)</b>	9-pin D-subminiature, 15-pin HD D-subminiature, or Bendix	15-pin HD D-subminiature
	<b>• Display (male)</b>	9-pin D-subminiature, 15-pin HD D-subminiature, Bendix, or 6 ft (2.3 m) flying leads	15-pin HD D-subminiature
<b>Signal Input</b>	0-10VDC or 0-5VDC signal, +13 to 32VDC power @ 15 mA max	4-20 mA signal, 2-wire loop powered, +13 to 36VDC excitation, max voltage drop 3.3V	0-10VDC signal, +12 to 32VDC power @ 15 mA max
<b>Accuracy</b>	± 0.1% of Reading ± (1) digit	± 0.1% of Reading ±(1) digit	± 0.1% of Reading ± (1) digit
<b>Temperature Coefficient</b>	0.2% of Full Scale/°C	0.2% of Full Scale/°C	0.2% of Full Scale/°C
<b>Operating Environment</b>	0° to 50°C (32° - 122°F), 0% to 70% RH (noncondensing)	0° to 50°C (32° - 122°F), 0% to 70% RH (noncondensing)	0° to 50°C (32° - 122°F), 0% to 70% RH (noncondensing)



# Ordering Information

Ordering Code Example: LDM-A12PA3AA1	Code	Configuration
<b>LDM-A Display</b>	<b>LDM-A</b>	<b>LDM-A</b>
<b>Full Scale Range</b>		
10	11	12
20	21	
50	51	
60	61	
100	12	
200	22	
250	RD	
500	52	
1000	13	
2000	23	
3000	33	
<b>Engineering Units</b>		
PSI	P	P
Inches Hg	H	
Pa	L	
Mbar	M	
Torr (mm Hg)	T	
Inches H <sub>2</sub> O	W	
<b>Calibration Reference</b>		
Absolute	A	A
Gauge	B	
Compound	C	
<b>Input/Output</b>		
+13-32VDC/0-10VDC	2	3
+12-32VDC/0-5VDC	3	
4-20 mA	4	
<b>Transducer Connector/Input Connector</b>		
9-pin D-sub/9-pin D-sub	AA	AA
15-pin HD D-sub/15-pin HD D-sub	CC	
Bendix/Bendix	DD	
9-pin D-sub/Flying leads	AF	
15-pin HD D-sub/Flying leads	CF	
Bendix/Flying leads	DF	
<b>Mounting</b>		
Transducer	1	1
Panel	2	

Ordering Code Example: LDM-D12PD2CC1	Code	Configuration
<b>LDM-D Display</b>	<b>LDM-D</b>	<b>LDM-D</b>
<b>Full Scale Range /Engineering Units</b>		
1000 Torr	13T	12P
60 psi	61P	
100 psi	12P	
<b>Calibration Reference</b>		
Absolute	A	D
Absolute with switchable engineering units	D	
<b>Input/Output</b>		
+12-32VDC/0-10VDC	2	2
<b>Transducer Connector/Input Connector</b>		
15-pin HD D-sub/15-pin HD D-sub	CC	CC
<b>Mounting</b>		
Transducer	1	1
Panel Mounted	2	



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