

MTS

Panel-Mounted LED Display Meter

Features and Benefits

- **High/low scaling from front panel**
- **24 V output for peripherals**
- **4 to 20 mA output**
- **Two each, form C SPDT/10 amp relays**
- **NEMA 4X/IP65 front panel**

LED Display Meter

The Panel-Mounted LED Display Meter is a ratemeter that accepts analog signal inputs and features six digits of bright, seven-segment LED displays. It can be field programmed to accept several analog signals, such as:

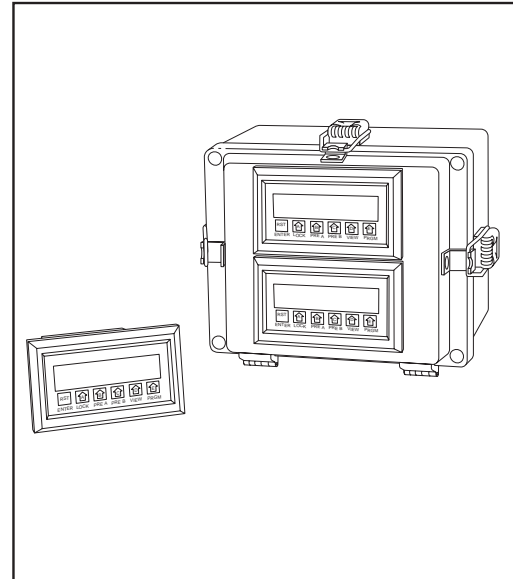
- 4 to 20 mA
- 0 to 20 mA
- 0 to 5 V
- 0 to 10 V
- 1 to 5 V

Also, a 4 to 20 mA output option is available to control strip recorders or other peripherals.

Two assignable set points are standard for two-stage shut-off. The high and low scaling settings are programmable from the front panel. Press the "view" button to display integrated total, rate, peak, or valley. To freeze the display, press the "lock" key once.

Materials of Construction

Housing for the LED Display Meter is a high-impact ABS plastic case. The front panel is rated NEMA 4X/IP65.



Complete Magnetostrictive System Package

In addition to the Panel-Mounted LED Display Meter, MTS offers other analog products to fulfill your process level sensing requirements. The Level Plus A4 transmitter offers dual output 4-20 mA loops (dual level output or level and temperature outputs). The multifunctional transmitter is HART® (Highway Addressable Remote Terminal) compatible.

The Level Plus C4 transmitter offers a single 4-20 mA loop circuitry for level measurement. Available in lengths up to 300 inches, the C4 transmitter is explosion-proof.

The design flexibility of our Level Plus products lets you take advantage of your existing hardware and wiring. Whether you require local indication or interface capabilities with your existing PLC, DCS, or PID controllers and recorders, we have a product to meet your demands.

LED Display Meter

Features

- High/low scaling from front panel
- 24 V output for peripherals
- 4 to 20 mA output option
- Two each, form C SPDT/10 amp relays
- NEMA 4X/IP65 front panel

Benefits

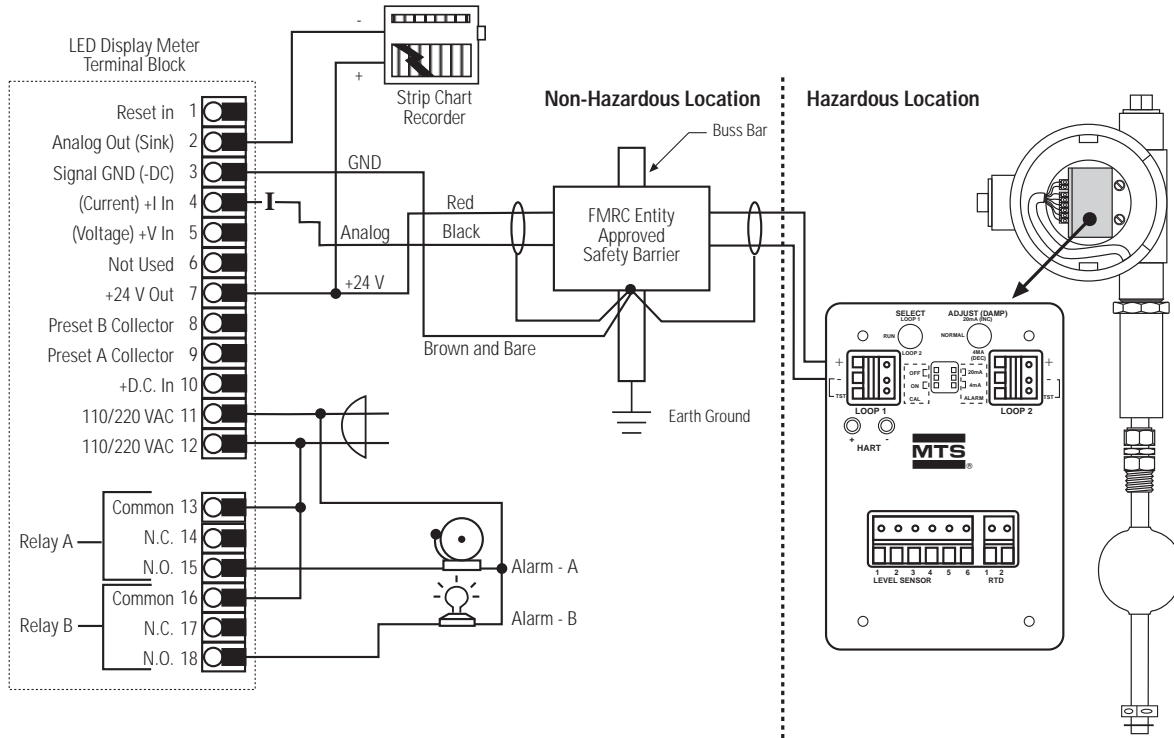
- Allows for easy adjustment to meet process requirements with no potentiometers or dip switches
- The LED Display Meter can be used to power other loop powered instruments
- Industry standard analog output for control and indication
- Fully adjustable set points for alarm or control
- Weather-proof front panel

Parameter	Specifications																		
Display:	6-digit, 0.55" high, 7 segment LED																		
Input Power:	110, 220 Vac + 15% or 15 to 24 Vdc																		
Current:	Maximum 300 mA DC or 8.0 VA at rated AC voltage																		
Output Power:	24 Vdc at 50 mA regulated $\pm 5\%$ (AC powered units only)																		
Operating Temperature:	41 to 130°F (5 to 54°C)																		
Humidity:	0 to 90% noncondensing																		
Memory:	EEPROM stores data for ten years if power is lost																		
Reset:	Front Panel: resets displayed values and control outputs Remote: 4 to 30 Vdc positive edge, resets totalizer and control outputs																		
Control Outputs:	Standard: Open collector sinks 250 mA from 30 Vdc when active Optional: Two each Form C SPDT 10 amp at 120/240 Vac or 28 Vdc																		
Input:	Standard: Linear 4 to 20 mA, 0 to 20 mA, 0 to 5 V, 0 to 10 V, or 1 to 5 V selectable from the front panel Optional: Square Law 4 to 20 mA, 0 to 20 mA, 0 to 5 V, 0 to 10 V, or 1 to 5 V is available for inputs that require square root extraction																		
Input Impedance:	Current: 100 Ω ; Voltage: 115K Ω																		
Resolution:	14.5 bits																		
Set Points:	2-10 amp, Form C relays are optional																		
Rate Display:	Updates 5 times per second, accurate to 4.5 digits																		
Analog Output:	Optional 4 to 20 mA output available proportional to the rate display																		
Programming:	Decimal points, scaling from 0 to 59999 units per selected time base, set points, input type, security lock code, and assigning outputs are all programmable from the front panel																		
Housing:	Standard 1/8 DIN, high impact ABS plastic case (NEMA 4X/IP65 front panel)																		
Accuracy:	<table border="1"> <thead> <tr> <th>Range</th> <th>% FS error (worst case)</th> <th>% FS error (typical)</th> </tr> </thead> <tbody> <tr> <td>0 to 20 mA</td> <td>0.10%</td> <td>0.05%</td> </tr> <tr> <td>4 to 20 mA</td> <td>0.10%</td> <td>0.05%</td> </tr> <tr> <td>0 to 10 Vdc</td> <td>0.20%</td> <td>0.10%</td> </tr> <tr> <td>0 to 5 Vdc</td> <td>0.25%</td> <td>0.15%</td> </tr> <tr> <td>1 to 5 Vdc</td> <td>0.25%</td> <td>0.15%</td> </tr> </tbody> </table>	Range	% FS error (worst case)	% FS error (typical)	0 to 20 mA	0.10%	0.05%	4 to 20 mA	0.10%	0.05%	0 to 10 Vdc	0.20%	0.10%	0 to 5 Vdc	0.25%	0.15%	1 to 5 Vdc	0.25%	0.15%
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0 to 5 Vdc	0.25%	0.15%																	
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Temperature Stability:	Will not drift more than 20 ppm per °C from 5 to 54 °C																		

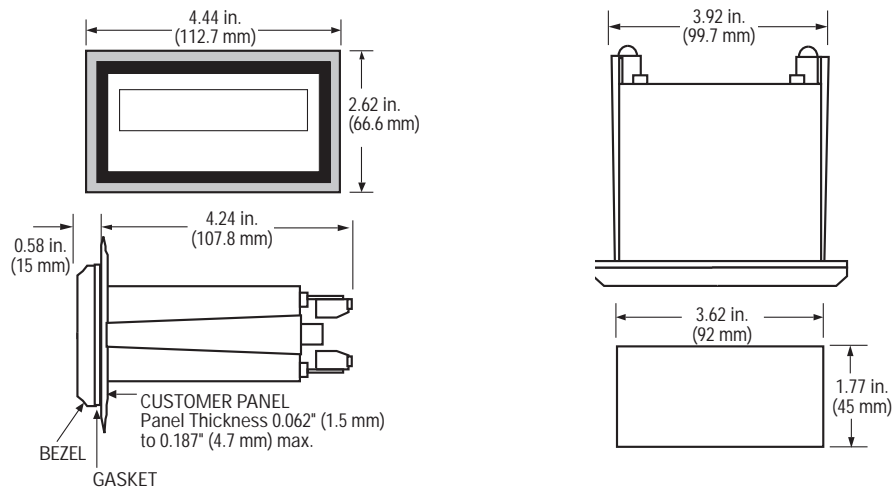
*All specifications are subject to change without notice.
Consult MTS for verification of specifications critical to your needs.*



Product Wiring Diagram



Product Dimensions



How to Order LED Display Meters

Use the part numbers below to order the LED Display Meter. Part numbers are required to place orders and are helpful in identifying installed products.

LED Display Meter by Part Number

- 380046** LED Display Meter
- 380051** LED Display Meter with Analog Output
- 380064** LED Display Meter with Negative Integer Display*
- 380065** LED Display Meter with Analog Output and Negative Integer Display*

Enclosure Options

- 401150** NEMA 4 enclosure for one LED Display Meter
- 401151** NEMA 4 enclosure for two LED Display Meters

*When selecting the temperature output option on Level Plus A8, A9, and A4 gauges, use the negative integer display units.
A NEMA 7 enclosure is available for the LED Display Meter. Please contact the Level Plus Applications Department for more information.

Repairs

To have your LED Display Meter repaired, please contact Kessler-Ellis Products Co. at the following address:

Kessler-Ellis Products Co.
120 First Avenue
Atlantic Heights, NJ 07716
Phone: 908-291-0500
Toll Free: 800-631-2165
Fax: 908-291-8097



MTS Systems Corporation
Sensors Division
3001 Sheldon Drive
Cary, NC 27513
Telephone: 800-457-6620
Fax: 800-943-1145

**MTS Sensor Technologie GmbH
and Co. KG**
Auf dem Schüffel 9
D-58513 Lüdenscheid
Federal Republic of Germany
Telephone: +49-2351-95870
Fax: +49-2351-56491

MTS Sensors Technology Corporation
Izumikan Gobancho
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Chiyoda-ku, Tokyo 102
Japan
Telephone: +3-3239-3003
Fax: +3-3262-7780

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HART is a registered trademark of HART Communication Foundation

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All Level Plus products are covered by US patent number 5,545,984.
Other patents pending.
6/97 550521 REVISION A

