Level Plus®

Magnetostrictive Liquid-Level Sensors
with Temposonics® Technology

M-Series LCD Modbus Terminal
Modbus RTU Input

Product Specification

FEATURES

- ■ **RS-485, Modbus RTU Input**
- ■ **NEMA 4X Rated Enclosure and Display**
- ■ **UV Rated Overlay for Outdoor Use**
- ■ **Numerical Display**
- ■ **Calibrate Transmitter From Display**
- ■ **Hazardous Area Approved115 Vac Input Power**
- ■ **24 Vdc Transmitter and Terminal Power Supply**
- ■ **Options:**
  - **- Relays (6 per module)**
  - **- 4 to 20 mA Outputs (4 per module)**

APPLICATIONS

- ■ **Field Indication**
- ■ **Controller**

MARKETS

- ■ **Petroleum and Petrochemical**
- ■ **LPG Terminals**
- ■ **Water and Wastewater**

Product Overview

The LCD Modbus Terminal is a fully programmed remote terminal that can be placed in the field or in a control room. The Terminal accepts Modbus RTU, displays tank information, and can output Modbus RTU to a plant wide system (PLC, DCS, SCADA).

The Terminal features calibration ability, audible alarms and visual diagnostics. Relays and 4 to 20 mA output signals are optional for each Terminal.

The LCD Modbus Terminal can display up to 8 tanks showing product level, interface level, and temperature. If the user would like to also display volume information, up to 4 tanks can be shown.

The LCD Modbus Terminal includes a NEMA 4X rated enclosure. The front overlay for the Terminal is designed for outdoor use with a UV rated material. The front panel of the display also has a NEMA 4X rating.

Level Plus® LCD Modbus Terminal
(part number 280494-X)

Level Plus® M-Series LCD Modbus Terminal
Product Specifications / Agency Approvals

Product specifications

Parameters	Specifications
INPUT	
Modbus RTU:	RS-485 port
OUTPUT	
Modbus RTU:	1 RS-485 port 1 Ethernet Port
Optional Outputs:	Relays (6 per module) 4 to 20 mA outputs (4 per module)
ELECTRONICS	
Input voltage:	115 Vdc ±10%
Transmitter supply:	24 Vdc ±20% supply
Display:	Decimal format 3.2 inch, 128 x 64 PPI LCD with yellow LED backlight
ENVIRONMENTAL	
Enclosure rating:	NEMA 4X
Front panel:	NEMA 4X (Front panel overlay - UV rated)
Humidity:	0 to 80% relative humidity, non condensing
Operating temperatures:	**Electronics:** 0 °C (32 °F) to 50 °C (122 °F) **Storage temperature:** -30 °C (-22 °F) to 70 °C (158 °F)
Altitude:	2000 meters
FIELD INSTALLATION	
Enclosure mounting hole dimensions:	**Height:** 324 mm (12.75 in.) **Width:** 203 mm (8.01 in.)
Enclosure dimensions	**Height:** 343 mm (13.51 in.) **Width:** 207 mm (11.29 in.) **Depth:** 142 mm (5.58 in.)

Agency Approvals

Parameters	Specifications
Hazardous Approvals :	Class I, Division 2, Groups A, B, C, and D Class II, Division 2, Groups F and G Class III, Division 2 *Approvals are obtained by original manufacturers for individual components. MTS does not maintain any approval for the Modbus terminal final assembly.*

## Level Plus M-Series LCD Modbus Terminal Dimension References

The following drawing is for reference only.

203 mm (8.01 in.)

343 mm
(13.51 in.)

324 mm
(12.75 in.)

142 mm
(5.58 in.)

203 mm (8.01 in.)

Mounting holes
8 mm (0.32 in.) dia. (4X)

287 mm (11.29 in.)

Panel size
273 x 226 mm (10.75 x 8.88 in.)
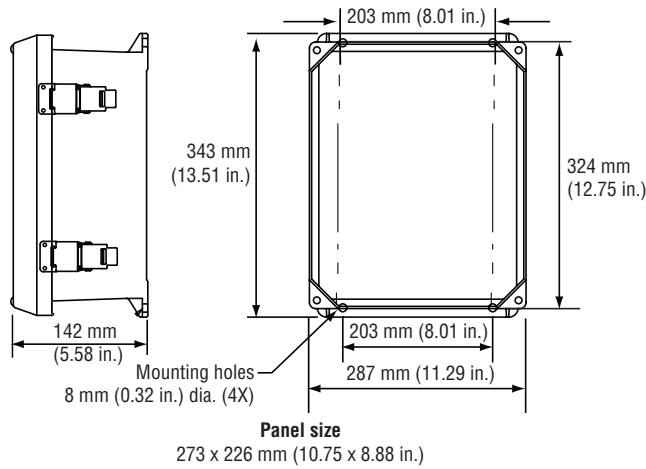
Installation Examples

Control Room Installation

The following illustration shows an example of the Touchscreen Modbus Terminal used as a controller in a plant-wide automation application. The following illustration shows an example of the Touchscreen Modbus Terminal used as a controller in a plant-wide automation application. This example is for reference only. Actual configurations are dependent on the hazardous location and type of protection used at a Modbus terminal installation site. For information specific to your application, contact MTS.
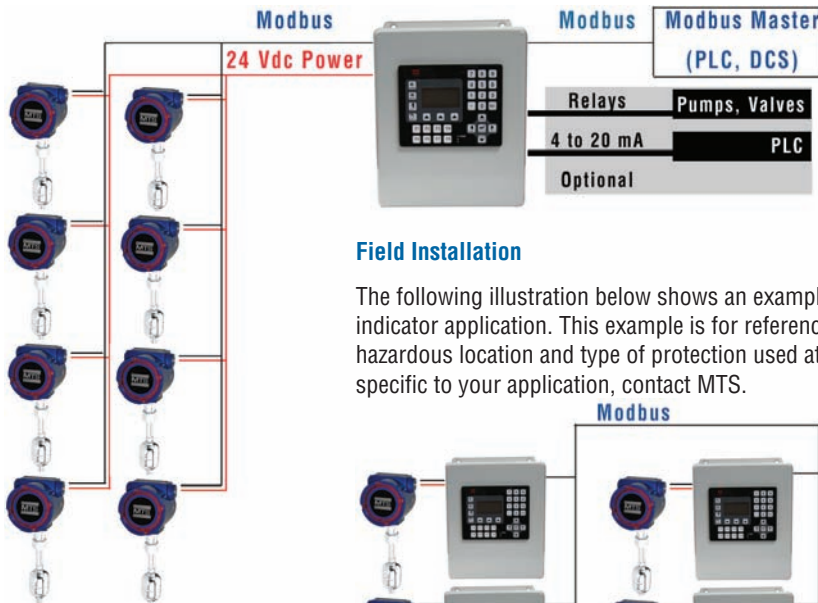
Field Installation

The following illustration below shows an example of the LCD Modbus Terminal used as a remote field indicator application. This example is for reference only. Actual configurations are dependent on the hazardous location and type of protection used at a Modbus terminal installation site. For information specific to your application, contact MTS.
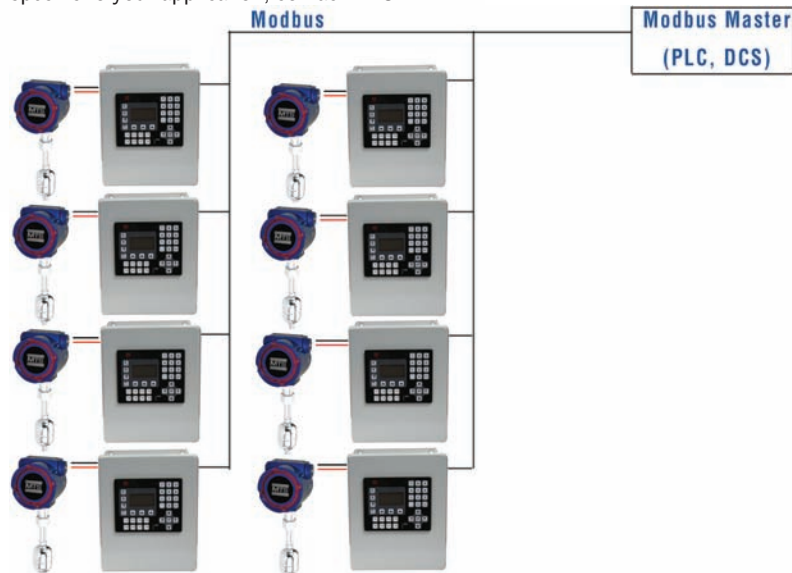
Ordering information

The table below lists standard product and optional selections. For detailed information about all liquid-level product accessories, refer to the *'Level Plus Accessories Catalog, document Number 551103'* from a link on the following MTS Level Product Support page:

http://www.mtssensors.com/products/liquid-level-sensors/accessories/index.html

LCD MODBUS TERMINAL	Part Number
The LCD Modbus Terminal includes: NEMA 4X Rated enclosure 24 Vdc Transmitter power supply Custom programming	280494-X

RELAYS	Part Number
Optional, 6 per module	380101

4 TO 20 MA OUTPUTS	Part Number
Optional, 4 per module	380100

ISO 9001
C E R T I F I E D

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