DISPLAY ABBREVIATIONS

ALR1	Alarm 1 Status		
OFF	Alarm 1 set Off	**ON**	Alarm 1 set On
A1Md	Alarm 1 Mode		
A1LO	Alarm 1 Low	**A1HI**	Alarm 1 High
A1LH	Alarm 1 Low/High		
LO-1	Alarm 1 Low	**-999.. ..9999**	Alarm 1 Low Value
HI-1	Alarm 1 High	**-999.. ..9999**	Alarm 1 High Value
A1CR	Display color when Alarm 1 triggered		
GRN	Green Color	**REd**	Red Color
AMbR	Amber Color		
ALR2	Alarm 2 Status		
OFF	Alarm 2 set Off	**ON**	Alarm 2 set On
A2Md	Alarm 2 Mode		
A2LO	Alarm 2 Low	**A2HI**	Alarm 2 High
A2LH	Alarm 2 Low/High		
LO-2	Alarm 2 Low	**-999.. ..9999**	Alarm 2 Low Value
HI-2	Alarm 2 High	**-999.. ..9999**	Alarm 2 High Value
A2CR	Display color when Alarm 2 triggered		
GRN	Green Color	**REd**	Red Color
AMbR	Amber Color		
OUt	Alarm Latched/Unlatched selection		
LAtC	Latched	**UNLA**	Unlatched
NO.CR	Display Color in Normal condition		
GRN	Green Color	**REd**	Red Color
AMbR	Amber Color		
MOdE	Data Flow Mode		
HOSt	Host Mode	**SLAV**	Slave Mode
bAUd	Baud Rate	**300.. ..19200**	Baud Rate Value
FORM	Data Format		
7O1	7 Bit, Odd, 1 Stop Bit	**7E1**	7 Bit, Even, 1 Stop Bit
8N1	8 Bit, No parity, 1 Stop Bit		
COMM	Communication Standard		
232	RS-232 Standard	**485**	RS-485 Standard
AddR	Device Address	**0000.. ..0099**	Address Value
INtF	Interface Device		
dRNt	DRN with Temperature Input	**dRNP**	DRN with Process Input
Miscellaneous:			
PEAk	Peak Value	**VALL**	Valley Value
PROC	Process Value	**RUN**	Run Mode
OVLd	Input Overload	**StOR**	Stored Message

Note

1. In **Slave** Mode the Remote Display will wait for commands and data from the Serial Bus.
2. In **Host** Mode the Remote Display will send data automatically and continuously into the Serial Bus.
3. When used in **RS-485** Mode, the device must be accessed with an appropriate **Address** Value.
4. **Latched** Mode: Alarm remains latched until reset. To reset already latched alarm select any menu items and then press “up” or “down” button.

OPERATIONS

1. Peak Value (Display in Host Mode)
Press ▲ to request “Peak” value:
a) RS-232 Mode, will send:
*X02 (Interface DRNT), or *X03 (Interface DRNP)
b) RS-485 Mode, will send:
*01X02 (Interface DRNT), or *01X03 (Interface DRNP)

Note In the examples for RS-485 it is assumed that the device address is 01.

2. Valley Value (Display on Host Mode)
Press ▼ to request “Valley” value.
a) RS-232 Mode, will send:
*X03 (Interface DRNT), or *X04 (Interface DRNP)
b) RS-485 Mode, will send:
*01X03 (Interface DRNT), or *01X04 (Interface DRNP)

3. Process Value (Display on Host Mode)
Press ◕ to request “Process” Value.
a) RS-232 Mode, will send: *X01
b) RS-485 Mode, will send: *01X01

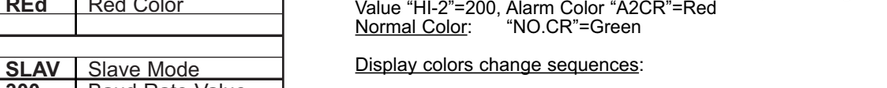
4. Write alphanumeric characters to the Remote Display from the computer (Display in Slave Mode)
a) Single Remote Display: (RS232) write 4(6) characters, then CR (carriage return)
b) Multiple Remote Display: (RS485) write *, device address (2 digit), CR, 4(6) characters, then CR

5. Display Color Setup (Alarm Setup)

This menu allows the user to select the color of the display in normal conditions and when alarm is triggered. If user wants the Display to change color every time when both Alarm 1 and Alarm 2 are triggered, the Alarm values should be set in such a way that Alarm 1 is always on the top of Alarm 2 value, otherwise value of the Alarm 1 will overwrite value of Alarm 2 and Display color would not change when Alarm 2 is triggered.

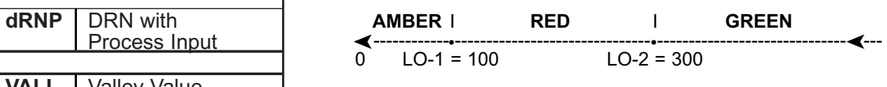
Example 1:
Alarm 1 setup: “ON”, Alarm Mode High “A1HI”, Alarm High Value “HI-1”=400, Alarm Color “A1CR”=Amber
Alarm 2 setup: “ON”, Alarm Mode High “A2HI”, Alarm High Value “HI-2”=200, Alarm Color “A2CR”=Red
Normal Color: “NO.CR”=Green

Display colors change sequences:



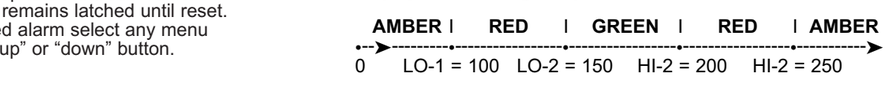
Example 2:
Alarm 1 setup: “ON”, Alarm Mode Low “A1LO”, Alarm Low Value “LO-1”=100, Alarm Color “A1CR”=Amber
Alarm 2 setup: “ON”, Alarm Mode LO “A2LO”, Alarm High Value “LO-2”=300, Alarm Color “A2CR”=Red
Normal Color: “NO.CR”=Green

Display colors change sequences:



Example 3:
Alarm 1 setup: “ON”, Alarm Mode Low/High “A1LH”, Alarm Low Value “LO-1”=100, Alarm High Value “HI-1”=250, Alarm Color “A1CR”=Amber
Alarm 2 setup: “ON”, Alarm Mode Low/High “A2LH”, Alarm Low Value “LO-2”=150, Alarm High value “HI-2”=200, Alarm Color “A2CR”=Red
Normal Color: “NO.CR”=Green

Display colors change sequences:



SPECIFICATION

Temperature Stability:
50 ppm/°C
Display:
4-digit, 7-segment LED, 57.2 mm (2.25”) with red, green and amber programmable colors.
Alarm:
Alarm 1 & 2 programmable, Latch/Unlatch, High, Low, High/Low
Serial Input:
Serial ASCII RS-232 or RS-485 Menu selectable
Input levels:
RS-232 and RS-485 Standard Voltage levels
Baud Rate:
300, 600, 1200, 2400, 4800, 9600, 19200
RS-485 address:
0 to 99
Data Format:
7O1-7 bit, Odd, 1 stop bit, 7E1- 7 bit, even, 1 stop bit
8N1 – 8 bit, No parity, 1 stop bit
Power Supply:
100-240 Vac ±10%, 50/60 Hz, 22.5 W
Operating Temperature:
0 to 40°C
Storage Temperature:
-20 to 60°C
Relative Humidity:
0 to 85%
Protection:
NEMA-4x (IP65)
Dimensions:
298 L x 137 W x 73 D mm (11.75" x 5.375" x 2.875")
Panel Cutout:
279.4 L x 116.8 W mm (11.00” L x 4.60” W)
Weight:
1,360 g (3 lbs)
Approvals:
CE per EN50081-1, EN50082-2, EN61010-1

MQS3722/1101

OPERATION MANUAL

CE MADE IN USA

iLD-RS
Big Display
with Serial Communication

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iLD-RD REMOTE Big Display

DESCRIPTION:

The iLD are 4(6)-digit master/slave displays providing remote readout from instruments such as programmable controllers, digital panel meters and other instruments with serial output. Two communication interfaces are supported in Remote Display: RS-232 and RS-485 standards. Both RS-232 and RS-485 are programmable through front panel buttons.

The Remote Display features a large three color programmable display with the capabitity to change color every time an Alarm is triggered.

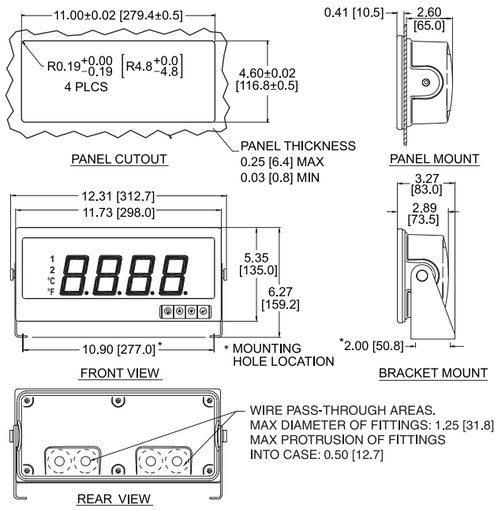
SAFETY:

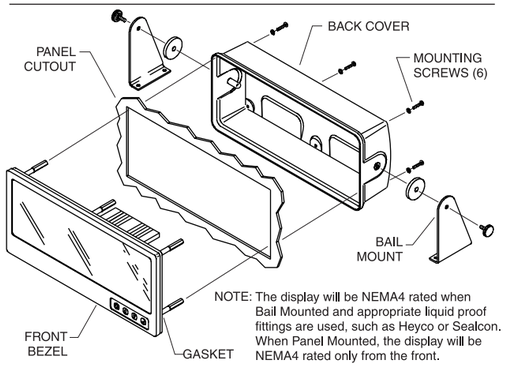
- The instrument is a panel mount device protected in accordance with Class III of IEC 1010.

EMC:

- Whenever EMC is an issue, always use shielded cables.
- Never run signal and power wires in the same conduit.
- Use signal wire connections with twisted-pair cables.
- Install Ferrite Bead(s) on signal wire close to the instrument if EMC problems persist.

MOUNTING





Mounting Remote Display Through Panel:

1. Using the panel cutout diagram shown above, cut an opening in the panel.
2. Remove six screws at the back of remote display to remove back cover.
3. Insert the unit into the opening from the front of the panel, so the gasket seals between the bezel and the front of the panel.
4. Align back cover to remote display and reinstall screws.

Mounting Remote Display on Bail:

1. Use the Remote Display template to mark the location of mounting screws on the flat surface.
2. Be sure to leave enough room around the bail (as noted on the template drawing) to allow for removal and rotation of the display.
3. The display can be rotated for the best viewing angle.

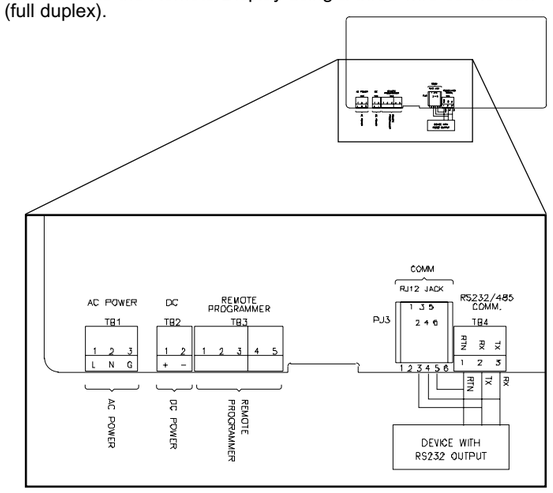
Disassembly Instruction:

Warning: Disconnect all ac power from the unit before proceeding.

1. Remove all wiring connections from the rear of the instrument, by unscrewing the power and input connectors.
2. Remove six screws at the back of remote display and back cover.
3. Remove the Remote Display from the panel.
4. To remove the Remote Display from the bail, unscrew the two knobs at each end of the mounting brackets.

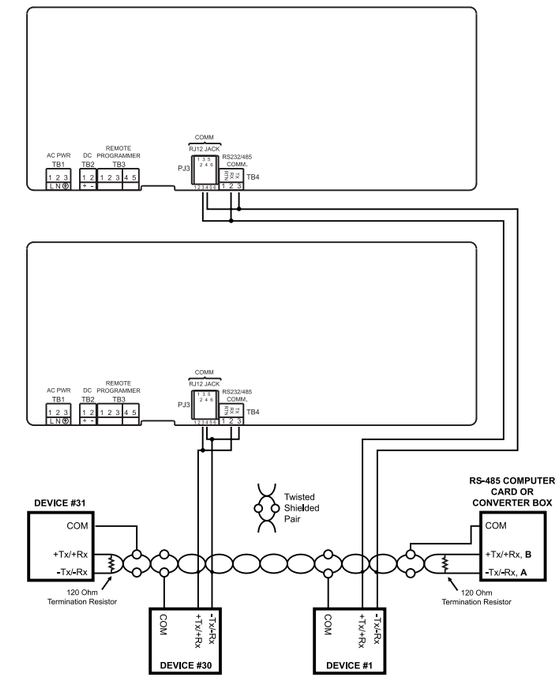
WIRING

1. Wiring RS-232 Interface.
The RS-232 standard (point-to-point) allows a single device to be connected to the Remote Display using a three-wire connection (full duplex).



Device with RS-232 Pin Function	Large Remote Display	
	RJ-12	Screw Terminal
Receive (Rx)	4 (Tx)	3 (Tx)
Transmit (Tx)	3 (Rx)	2 (Rx)
Common Ground (COM)	5	1

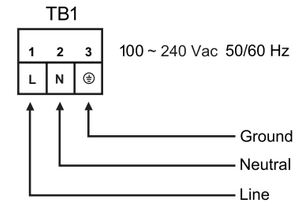
2. Wiring RS-485 Interface.
The RS-485 standard (multipoint) allows a computer, one or more devices and Remote Displays (up to 32) to be connected using a two-wire connection (half-duplex) plus a common wire to connect to the shield of the cable. It is recommended to use shielded cable with one twisted pair for EMI noise protection.



Note Connections to the computer are optional.

Computer Card or Converter Box Pin Function	Device with RS-485 Pin Function	Remote Display	
		RJ-12	Screw Terminal
A, -Tx/-Rx	-Tx/-Rx	4	3
B, +Tx/+Rx	+Tx/+Rx	3	2
COM	COM		1

3. Power Connection.
Connect the main power connections as shown in the figure below.



CONFIGURATION

Button Functions in Configuration Mode

(MENU)	• To enter the Menu, the user must first press button. • Use this button to advance/navigate to the next menu item. The user can navigate through all the top level menus by pressing . • While a parameter is being modified, press to escape without saving the parameter.
(UP)	• Press the up button to scroll through submenu selections. When a numerical value is displayed press this key to increase value of a parameter that is currently being modified. • In the Run Mode pressing causes the display to flash the PEAK value several times before returning to the Run Mode. • In the top menu press causes the display to return to the Run Mode.
(DOWN)	• Press the down button to scroll through submenu selections. When a numerical value is displayed press this key to decrease value of a parameter that is currently being modified. • In the Run Mode press causes the display to flash the Valley value several times before returning to the Run Mode. • In the top menu press causes the display to return to the Run Mode.
(ENTER)	• Press this button to access the submenus from a Top Level Menu item. • Press this button to store a submenu selection or after entering a value – the display will flash a SEOR message to confirm your selection.

Note x, w, z, and some punctuations are non-printable characters.

FLOW CHART

_____Underline denotes factory default setup

Below is a flowchart showing how to navigate through all menus by pressing front buttons.