iSeries BiG Display

ΩEMONOGRAM®

57 mm (2.25") and 101 mm (4")
Displays Available!

Meters shown smaller than actual size.

iLD Series

5 YEAR WARRANTY

- ✔ **BIG, Bright 57 mm (2.25") or 101 mm (4") LED Digits**
- ✔ **Program to Change Colors: RED, AMBER, GREEN**
- ✔ **Many Input Choices**
- ✔ **Optional Relays for Alarm and Full PID Control**
- ✔ **Communications Via Ethernet, RS232, RS485, and MODBUS**
- ✔ **Embedded Web Server**
- ✔ **Free Software, Active X Controls**

PATENTED

The award-winning iSeries meters and controllers now features a **BIG** display.

Like all iSeries meters, the **BIG** display can be programmed to change colors between **RED, AMBER,** and **GREEN** at any set point or alarm point. For example, the instrument can be programmed to display the process value in **GREEN** during warm-up, switching to **AMBER** to signal the normal operating range, and in **RED** to signal an alarm condition.

The **BIG** display can be mounted flush in a panel or surface mounted with the included brackets. The entire **RED** Display enclosure provides NEMA 4 (IP65) protection. Whether panel-mounted or surface-mounted, the **BIG** display does not need to go inside a bulky and expensive NEMA enclosure.

Universal Temperature and Process Input (Model UTP)

Accuracy: ±0.5°C temp; 0.03% reading process

Resolution: 1°/0.1°; 10 µV process

Temperature Stability:
  RTD: 0.04°C/°C
  Thermcouple @ 25°C (77°F): 0.05°C/°C—cold junction

Compensation

Process: 50 ppm/°C

NMRR: 60 dB, CMRR: 120 dB

A/D Conversion: Dual slope

Reading Rate: 3 samples per second

Digital Filter: Programmable

Display: 4-digit or 6-digit, 7-segment LED 57.2 mm (2.25") or 101.6 mm (4.00") red, green and amber programmable colors for process variable, set point and temperature units

Input Types: Thermocouple, RTD, analog voltage, analog current

Thermocouple Lead Res: 100 Ω max

Thermocouple Type (ITS 90): J, K, T, E, R, S, B, C, N, L

RTD Input (ITS 68): 100/500/1000 Ω Pt sensor, 2-, 3- or 4-wire; 0.00385 or 0.00392 curve

Voltage Input: 0 to 100 mV, 0 to 1 V, 0 to 10 Vdc

Input Impedance: 10 MΩ for 100 mV 1 MΩ for 1 or 10 Vdc

Current Input: 0 to 20 mA (5 Ω load)

Configuration: Single-ended

Polarity: Unipolar

Step Response: 0.7 sec for 99.9%

Decimal Selection:
  Temperature: None, 0.1
  Process: None, 0.1, 0.01 or 0.001

Setpoint Adjustment: -1999 to 9999 cts

Span Adjustment: 0.001 to 9999 cts

Offset Adjustment: -1999 to +9999

Excitation (Optional in Place of Comunication): 24 Vdc @ 25 mA

Universal Strain and Process Input (Model SP)

Accuracy: 0.03% reading

Resolution: 10/1µV

Temperature Stability: 50 ppm/°C

NMRR: 60 dB, CMRR: 120 dB

A/D Conversion: Dual slope

Reading Rate: 3 samples per second

Digital Filter: Programmable

Input Types: Analog voltage, analog current

Voltage Input: 0 to 100 mVdc, -100 mVdc to 1 Vdc, 0 to 10 Vdc

Input Impedance: 10 MΩ for 100 mV; 1 MΩ for 1 V or 10 Vdc

Current Input: 0 to 20 mA (5 Ω load)

Linearization Points: Up to 10

Linearization Points Configuration: Single-ended

Polarity: Unipolar

Step Response: 0.7 sec for 99.9%

Decimal Selection: None, 0.1, 0.01 or 0.001

Setpoint Adjustment: -1999 to 9999cts

Span Adjustment: 0.001 to 9999 cts

Offset Adjustment: -1999 to ±9999

Excitation (Optional in Place of Comunication): 5 Vdc @ 40 mA; 10 Vdc @ 60 mA

Ethernet, Serial Communications Input (Model EI)

Temperature Stability: 50 ppm/°C

Alarm: Alarm 1 and 2 programmable, latch/unlatch, high, low, high/low

Standards Compliance: IEEE 802.3, 10 Base-T

Supported Protocols: TCP/IP, ARP, HTTPGET

Serial Interface

Communication Standard: RS485, RS422

Transfer Speed (Baud Rate): 300, 600, 1200, 2400, 4800, 9600, 19200 bps

Data Format:
  7O1-7 Bit: Odd, 1 stop bit
  7E1-7 Bit: Even, 1 stop bit
  8N1-8 Bit: No parity, 1 stop bit

Multi-Point Address (RS485): 0 to 199

Flow Control: No flow control

Screw Terminals: For RS232/485/422 interface

Network Interface: 10 Base-T port (RJ45 connector)

Socket Port Number: 1000

HTTP Port Number: 80

AC Current Input (Model ACC)

Input Ranges: 10 mA, 100 mA, 1 A, 5 A AC current dedicated input terminals for (10, 100 mA same input),1 A and 5 A; return terminal common to all ranges

Frequency Range: 30Hz to 1 KHz

Input Impedance: 3.3 Ωs for 10, 100 mA input; 0.2 Ωs for 1 A input; 0.04 Ωs for 5 A input

Isolation: Dielectric strength to 1000 Vrms transient per 1 min test based on EN 61010 for 50 Vdc or Vrms working voltage

3-Way Isolation: Power to input; power to analog output/communication; input to analog output/communication

Input Over-Current Protection: 10% above full scale continuously; 100% above full scale for 10 s

A to D Technique: Dual slope

Read Rate: 3 readings/sec.

Accuracy At 25°C: ±0.2% of FS; 30 Hz to 1Hz

Temperature Stability: 10, 100 mA Range 100 ppm/°C typical; 1 A range 150 ppm/°C typical; 5 A range 200 ppm/°C typical

Step Response: 2 s to 99% of the final value (filter time constant = 64)

AC Voltage Input (Model ACV)

Input Ranges: 400 mV, 4V, 40 V, 400 V

Frequency Range: 30 Hz to 1 KHz

Input Impedance: 2.1 MB for all ranges

Isolation: Dielectric strength to 1000 Vrms transient per 1 min test based on EN61010 for 50 Vdc or Vrms working voltage

Input Over-Voltage Protection: 10% above full scale continuously; 100% above full scale for 10 s

A to D Technique: Dual slope

Read Rate: 3 readings/s

Accuracy at 25°C: 400 mV, 4V, 40V and 400 V ranges; 49 Hz to 500 Hz ±0.2% of FS; 30 Hz to 1KHz ±0.2% of FS ±10 cts

Temperature Stability: 400 mV and 40 V range, 150 ppm/°C typical; 4 V and 400 V range, 100 ppm/°C typical

Step Response: 2 s to 99% of the final value (filter time constant = 64)

Frequency Pulse Input (Model FP)

Input Types [Min Low-Level Signal Input (Magnetic Pickups) From 0 mV to 120 mV:
  • Open Collector NPN
  • Open Collector PNP
  • TTL/CMOS Input
  • NAMUR Sensors: 8.2 V Excitation

Operating Modes

Frequency: Range = 0.2 Hz to 50 KHz

Frequency	Resolution
0 to 9.99999 Hz	0.00001 Hz
10 to 99.9999 Hz	0.0001 Hz
100 to 999.999 Hz	0.001 Hz
1000 to 9999.99 Hz	0.01 Hz
10000 to 50000.0 Hz	0.1 Hz
0 to 50000 Hz	1 Hz

Totalize with Reset: Range = 0 to 999999*

A-B Totalize (Reset Input Used As A +A Input): Range = -99999 to 999999*

Quadrature (Reset Input Used As A Second Input): Range = -99999 to 999999*

Resolution is 1 count

Input Impedance:
  Input: 1 MΩ to +EXC
  Reset: 100 K to 5 V

Isolation: Dielectric strength to 1000 Vrms transient per 1 min test based on EN61010 for 50 Vdc or Vrms working voltage

Input Over-Voltage Protection:
  With 1 K Pull Down: 14 V
  With 3K Pull Up: 20 V
  Without Pull Up/Down: 60 V

Excitation: 5, 8.2 or 12.5 V at 25 mA, programmable

Accuracy At 25°C: ±0.1% of FS crystal time-based accuracy: ± 50 ppm

Temperature Stability: ±50 ppm/°C typical; time base stability: ±1 ppm/°C

Step Response for RS485 Output: 0.1 s to 99% of the final value (filter time constant = 0, gate time = 0.05 s)

Network and Communications For All Models (Optional -C24, -C4EI, -EI)

Ethernet: Standards compliance IEEE 802.3 10Base-T

Supported Protocols: TCP/IP, ARP, HTTPGET

RS232/RS422/RS485/MODBUS: Selectable from menu; both ASCII and MODBUS protocol selectable from menu; programmable 300 to 19.2 K baud; complete programmable setup capability; program to transmit current display, alarm status, min/max, actual measured input value and status

RS485: Addressable from 0 to 199

Connection: Screw terminals

Control for UTP, SP Action: Reverse (heat) or direct (cool)

ALARM 1 and 2 (Programmable)

Operation: High/low, above/below, band, latch/unlatch, normally open/normally closed and process/deviation; front panel configurations

Isolation

Power to Input/Output: 2300 Vac per 1 min test (RS232/485, input or output)

Between Inputs: 500 Vac per 1 min test

General

Power: 100 to 240 Vac ±10%, 50/60 Hz 22.5 W

Environmental Conditions: 0 to 40°C (32 to 104°F), 90% RH non-condensing

Warm-Up to Rated Accuracy: UTP, SP, FP, ACC, ACV = 60 minutes

Protection: NEMA 4 (IP65) front bezel

ΩΞ OMEGA®

1
2
°C

101 mm (4")

70 mm (2.75")

BIG, Bright 101 mm (4") Digit Display
Display Shown Actual Size!

iLD iSeries
Big Display
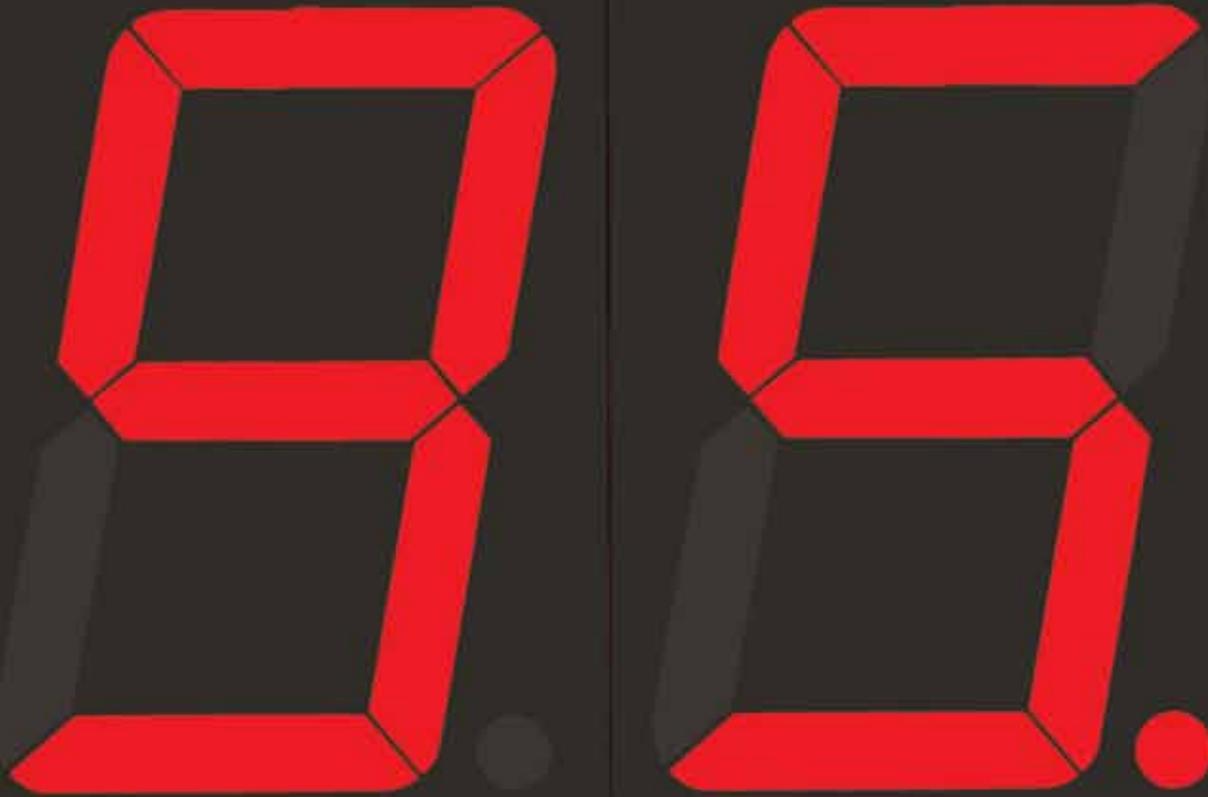
Available with 4 or 6 Digits!

Program to Change Colors:
RED, AMBER, GREEN

iSeries iLD Big Display

Bright 57 mm (2.25") Digit Display
Available With a 4- or 6-Digit LED Display

Display Shown Actual Size!

5 YEAR WARRANTY
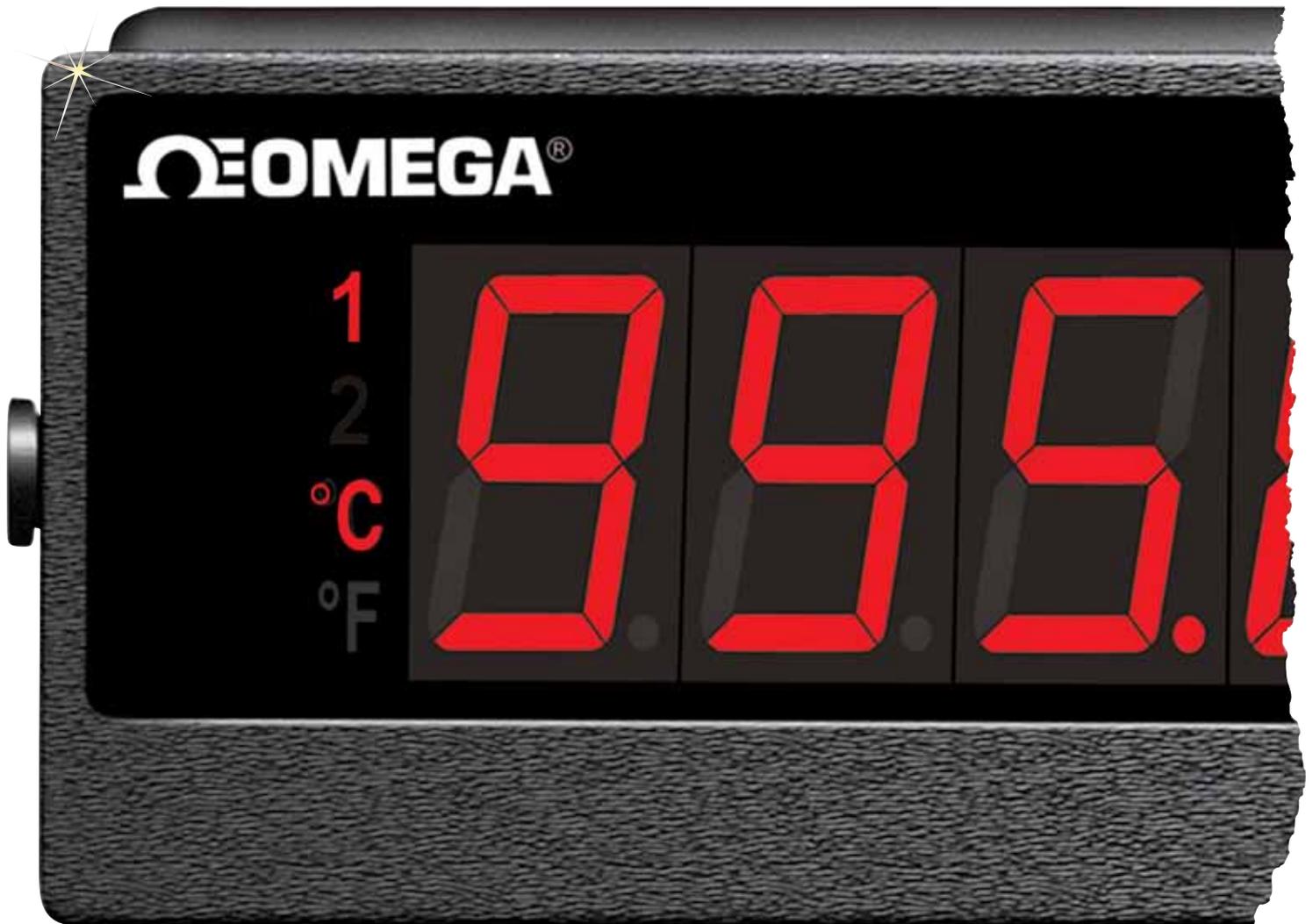
Totally Programmable Color Display!

Changes in color between **RED**, **AMBER**, and **GREEN**, at any set point or alarm point can be quickly seen from a distance, and equipment operators can intuitively react to changing conditions!

RED
AMBER
GREEN

M-91

Dimensions: mm (in)
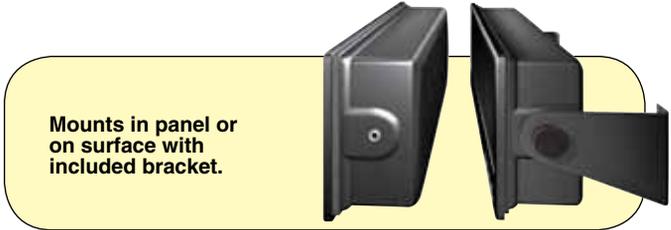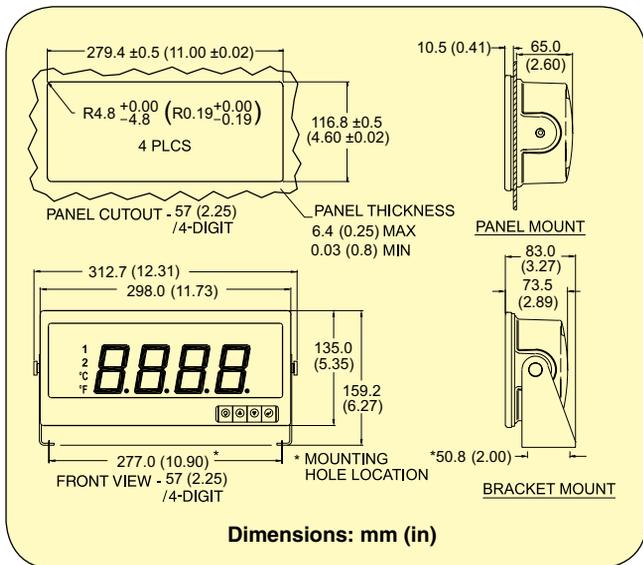
Mounts in panel or on surface with included bracket.

PANEL MOUNT

BRACKET MOUNT

279.4 ±0.5 (11.00 ±0.02)

R4.8 $^{+0.00}_{-4.8}$ (R0.19 $^{+0.00}_{-0.19}$)
4 PLCS

116.8 ±0.5 (4.60 ±0.02)

10.5 (0.41)

65.0 (2.60)

PANEL CUTOUT - 57 (2.25) /4-DIGIT

PANEL THICKNESS
6.4 (0.25) MAX
0.03 (0.8) MIN

312.7 (12.31)
298.0 (11.73)

135.0 (5.35)
159.2 (6.27)

83.0 (3.27)
73.5 (2.89)

277.0 (10.90) *
FRONT VIEW - 57 (2.25) /4-DIGIT

* MOUNTING HOLE LOCATION

*50.8 (2.00)

	Ordering Matrix—Optional Outputs		
	2 Relays	**Serial Output**	**Ethernet**
-UTP	X	X	X
-SP	X	X	X
-FP		X	X
-ACC		X	X
-ACV		X	X
-EI			
-C2			

To Order *Visit omega.com/ild_series for Pricing and Details*

Basic Model	Description
Universal Temperature Thermocouple, RTD and Process Input	
iLD24-UTP	57 mm (2.25") 4-digit display, universal temperature/process, monitor/controller
iLD44-UTP	101 mm (4") 4-digit display, universal temperature/process, monitor/controller
Strain Gage and Process Input	
iLD24-SP	57 mm (2.25") 4-digit display, strain gage/process, monitor/controller
iLD44-SP	101 mm (4") 4-digit display, strain gage/process, monitor/controller
Control Outputs for UTP and SP Instruments	
-33	2 relays—form "C" SPDT 3 A @ 120/240 Vac (available on UTP and SP models only)
Network Options for UTP and SP Instruments*	
-C24	Output: isolated RS232 and RS485/422 with baud rate from 300 to 19.2 kB
-C4EI	Output: ethernet with embedded Web server + RS485/422 hub for up to 31 devices
-FS	Factory scaling (example: iLD24-SP, FS for input 4-20 mA = 0-99.99)
Frequency/Pulse/Rate/Total Input	
iLD24-FP	57 mm (2.25") 4-digit display with frequency/pulse totalize input, RS485 output
iLD26-FP	57 mm (2.25") 6-digit display with frequency/pulse totalize input, RS485 output
iLD44-FP	101 mm (4") 4-digit display with frequency/pulse totalize input, RS485 output
iLD46-FP	101 mm (4") 6-digit display with frequency/pulse totalize input, RS485 output
AC Current and Voltage Input	
iLD24-ACC	57 mm (2.25") 4-digit display with AC current input, RS485 output
iLD44-ACC	101 mm (4") 4-digit display with AC current input, RS485 output
iLD24-ACV	57 mm (2.25") 4-digit display with AC voltage input, RS485 output
iLD44-ACV	101 mm (4") 4-digit display with AC voltage input, RS485 output
Network Options for FP and AC Instruments*	
-EI	Ethernet, RS232, RS485/422 output
-FS	Factory scaling
Remote Displays	
iLD24-C2	57 mm (2.25") 4-digit display with RS232, RS485/422, ethernet input
iLD44-C2	101 mm (4") 4-digit display RS232, RS485/422, ethernet input
iLD26-C2	57 mm (2.25") 6-digit display with RS232, RS485/422, ethernet input
iLD46-C2	101 mm (4") 6-digit display with RS232, RS485/422, ethernet input
iLD24-EI	57 mm (2.25") 4-digit display with ethernet input
iLD44-EI	101 mm (4") 4-digit display with ethernet input
iLD26-EI	57 mm (2.25") 6-digit display with ethernet input
iLD46-EI	101 mm (4") 6-digit display with ethernet input

Ordering Examples: iLD24-UTP, large 57.2 mm (2.25") 4-digit display, universal temperature/process monitor.
iLD44-SP, large 101 mm (4") 4-digit display, strain/process monitor/controller.
iLD46-FP, large 101 mm (4") 6-digit display with frequency/pulse totalize input.

*Network Options cannot be combined.
Contact Sales for Custom Control or Alarm Outputs.

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