Large Display
Meters and Controllers

**iLD-UTP and
iLD-SP Series**

5 YEAR WARRANTY CE
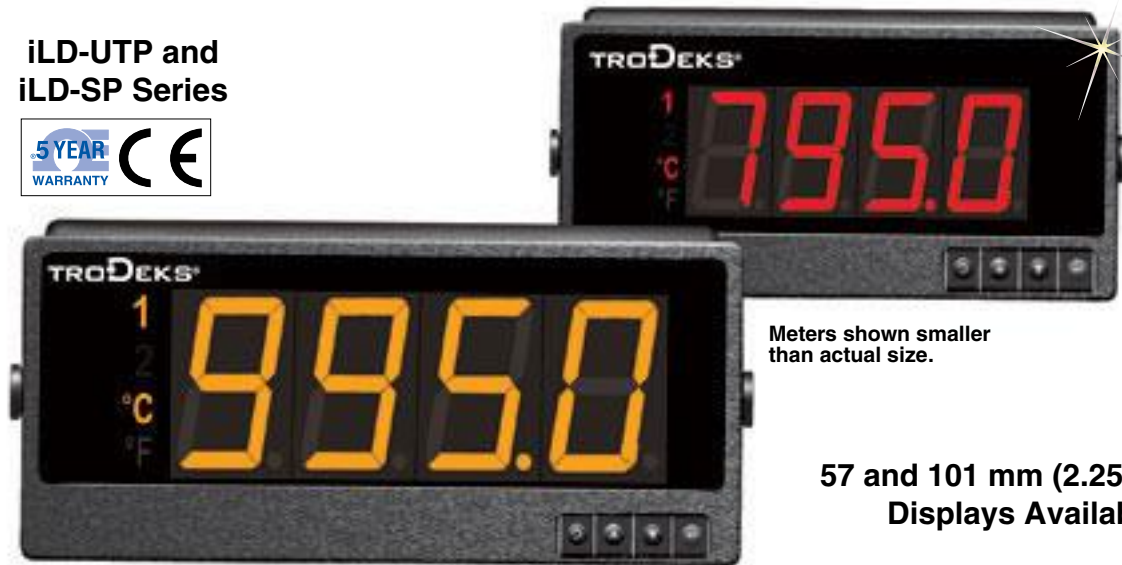
**Meters shown smaller
than actual size.**

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

✔ **UL and cUL Certified**
✔ **Big Bright LED 4-Digits**
✔ **Program to Change Colors:**
  RED, AMBER, GREEN
✔ **Temperature and Process Input Models**
✔ **Strain and Process Input Models**
✔ **Optional Relays, DC Pulse, and Analog
  Outputs for Alarm and Full PID Control**
✔ **Communications Via Ethernet,
  RS232, RS485, and MODBUS®**
✔ **Embedded Web Server**

The Large Displays can handle a wide variety of signal inputs direct from transducer or process transmitters and offer multiple control output options and serial or Ethernet connectivity for logging the data.

The "**Universal Temperature+Process Large Display**" **(iLD-UTP)** is designed for Thermocouples, RTD's, and Process (DC) Voltage or Current. It handles TEN (10) thermocouple types: K, J, T, E, R, S, B, C, N, & J DIN.
It works with a wide selection of RTD's, both Pt. 0.00385 and 0.00392 curves for 100 Ω, 500 Ω, and 1000 Ω and it measures with 2, 3, or 4 wire connections for the highest accuracy. This model also measures process voltage: 0 to 100 mV, 0 to 1V, 0 to 10V ranges and process current, 0 to 20 mA (4 to 20 mA) with built-in excitation of 24 Vdc standard.

The "**Universal Strain+Process Large Display**" **(iLD-SP)** handles a wide variety of DC voltage and current outputs from all common load cells, pressure transducers, and most any strain gage type of transducer. The meter measures input ranges of 0 to 100 mV, -100 mV to 1V, 0 to 10V, 0 to 20 mA (4 to 20 mA) with built-in excitation of 5 Vdc and 10 Vdc standard. This model also features 10 point linearization enabling accurate measurements from a wide assortment of unique and nonlinear transducers.

The Large Displays are easy to configure and scale to virtually any engineering units with the push buttons on the front panel, or with a personal computer using the free configuration software and the optional Ethernet connectivity or Serial Communications. The Ethernet option allows the device to be connected on a standard Ethernet network and communicates using standard TCP/IP protocol. The Ethernet option **(-C4EI)** also includes RS485 (and RS422) Serial Communications. The serial communications option **(-C24)** includes both RS232 and RS485 (and RS422) on one instrument. It communicates with a straightforward ASCII communications protocol, as well as MODBUS protocol.

Control Functions
The Universal Large Displays features a choice of two optional outputs: Form C SPDT (single pole double throw) mechanical relays **(-3)**, Solid State Relays **(-2)**, DC pulse **(-4)**, and/or programmable analog output **(-5)** selectable as either a controlling function or as retransmission of the process value.

The Universal Large Displays can control simple manual operation to ON-OFF and full Autotune PID control. (Selectable preset tune, adaptive tune, PID, PI, PD control modes.) The dual control outputs can be configured for a variety of independent control and alarm applications. The ramp-to-setpoint feature allows the user to define the rate of rise to setpoint, minimizing thermal shock to the load during start-up. Maximum ramp time: 99.59 (HH.MM), Soak: 00.00 to 99.59 (HH.MM), Damping: 1 to 8 in unit steps. Input types: 0 to 20 mA, 0 to 100 mV, 0 to 1 V and 0 to 10 Vdc.

For applications that do not require PID control, Universal Large Displays controllers are available in a special model that offer simplified programming. The Universal Large Displays "Simplified Menu" model (specify **-SM** option) offers simplified programming. The menu flowchart is similar to programmable digital panel meters that are used for on/off control or alarms. (Please see the Universal Large Displays operator's manuals for programming details.)

Programmable Color Display

The Large Display can be programmed to change colors between **RED**, **AMBER**, and **GREEN** at any set point or alarm point. The Large Display has a wide range of signal inputs as well as control, alarm, and communication outputs including: RS232, RS485, MODBUS®, and Ethernet. The device with an embedded Web Server can connect directly to Ethernet/Internet. You can "see" your meter and control your process through a web browser over the Internet from halfway around the world. With the Large Display, you can also see your meter from a hundred feet.

The Large Display can be mounted flush in a panel or surface mounted with the included brackets. The entire Large Display enclosure provides NEMA 1 protection.

Configuration of the **iLD-UTP** or **iLD-SP** can be performed by using either **-C24** or **-C4EI** options and the configuration software that is available on our website.

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
  Thermocouple @ 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, 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 Communication): 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 9999 cts
Span Adjustment: 0.001 to 9999 cts
Offset Adjustment: -1999 to 9999
Excitation (Optional in Place of Communication): 5 Vdc @ 40 mA; 10 Vdc @ 60 mA

Communication Options

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, minimum/maximum, 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 or RS485, 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: 60 minutes
Protection: NEMA 1 (IP65) front bezel
Dimensions
  iLD24: 289 L x 137 W x 73 mm D (11.75 x 5.375 x 2.875")
  iLD44: 480 L x 211 W x 95 mm D (18.11 x 8.31 x 3.76")

Factory Scaling **(-FS)** is available if you prefer the unit to be fully configured before shipment.

Please provide your selections for Factory Scaling settings:

iLD-UTP-FS	iLD-SP-FS
Input Range = Display Range	Input Range = Display Range
Excitation: 24 V	**Excitation:** 5 V or 10 V
Example: 4-20 mA = 0 to 100.0	**Example:** 0-30 mVdc = 0 to 100.0; Exc: 10 Vdc

To Order

Basic Model	Description
Universal Temperature Thermocouple, RTD and Process Input	
iLD24-UTP	57 mm (2.25") 4-digit display, universal temperature/process, monitor
iLD44-UTP	101 mm (4") 4-digit display, universal temperature/process, monitor
Strain Gage and Process Input	
iLD24-SP	57 mm (2.25") 4-digit display, strain gage/process, monitor
iLD44-SP	101 mm (4") 4-digit display, strain gage/process, monitor
Control Outputs*	
-33	2 relays—form "C" SPDT 3 A @ 120/240 Vac
Communication Options	
-C24	Isolated RS232 and RS485/RS422
-C4EI	Ethernet with embedded Web server + RS485/RS422
-FS	Factory scaling (no charge, see factory scaling table above for required information)

Contact Sales for Custom Control or Alarm Outputs.
Ordering Example: iLD24-UTP-33-C24, large 57.2 mm (2.25") 4-digit controller with temperature/process input, 2 relays and serial communication.