

# PROGRAMMABLE LOGIC TELEMETRY UNIT (PLTU)

THE PERFECT FIT FOR ANY APPLICATION

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The USFilter Control Systems PLTU is a simple, reliable control unit that can implement complex control and telemetry systems and adapts easily to almost any application requirement. An innovative blend between a PLC (programmable logic controller) and an RTU (remote telemetry unit), the PLTU can function as a stand-alone master control unit or as the foundation for a complex SCADA system.

The PLTU takes modularity to a new level. The hardware is designed so that the central, or master, PLTU is identical to the remote, or slave, units. The only difference is the address.

Modular peripheral devices interface directly to the PLTU to enhance your system and meet your control needs. These modular devices include digital displays, thumbwheel setpoint stations, microprocessor-based keypad operator interface units and input/output modules.

This modular design allows us to provide for the individual requirements of your system, without the headaches and expense associated with numerous spare parts and costly service calls. The easily expandable PLTU allows you to build a custom system for your application – one piece at a time.



The PLTU is extremely reliable. For example, the device incorporates “gas-tight,” metal-to-metal, pull-apart terminals for all connections, greatly reducing failures caused by faulty terminations. Repairs are simple. Because each PLTU controller is the same, only one spare board is required for backup in all locations. The operator can identify the failed component by inspecting the on-board alarm LED. Replacement parts are just a phone call away and can easily be switched into the PLTU by the operator.

PLTU TECHNICAL DATA

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## Main Processor

- 16 bit, 8 Mhz, NEC V25 microprocessor
- 128K EPROM
- 256K RAM
  - Power capacitor RAM backup
  - Lithium battery backup available
  - Non-volatile configuration storage

## Power Supply

- 120 VAC, 25 VA, transient protected
- Two 12 VDC power supplies at 300 ma for off-board use
- AC power monitor and power fail alarm detection
- DC supply light, monitor and low voltage alarm
- Battery charger
  - Weak battery test circuit and alarm
  - Short circuit protected
  - Reverse polarity protected
  - Low voltage cutoff to prevent deep battery discharge
  - External battery optionally provided

## On-Board I/O

- Discrete inputs: 10 points
  - Four suited for high-speed inputs, up to 50 Hz, programmable as discrete, counters, or flow converters when interfaced to a pulse transmitter
  - Two dedicated to on-board push-buttons
- Discrete outputs: 8 points
  - Open collector, 500 ma, up to 30 VDC
  - Two dedicated for watchdog failure and telemetry control
- Analog inputs: 8 channels
  - 12-bit, 0-5 V, or 4-20 mA range, 0.1% accuracy
  - Three dedicated to battery voltage, battery current and on-board temperature

**USFilter**

DESCRIPTION	PART NO.
<b>Base Cards</b>	
Programmable Logic Telemetry Unit – PLTU	1046410
<b>I/O Expansion Cards</b>	
I/O node board (4 max) supports 8 termination boards each or 10 thumbwheel sets	1046420
Termination board required for each I/O expansion module	1046430
Model LLDI-32-5 discrete input module 5 VDC (32 points contact closure or low voltage)	1046440
Model LLDI-32-12 discrete input module 12 VDC (32 points contact closure or low voltage)	1046441
Model LLDI-32-24 discrete input module 24 VDC (32 points contact closure or low voltage)	1046442
Model LLSDO-32 discrete output module 5-30 VDC @ 500 mA (32 points open collector outputs to common, with inductive transient protection)	1045460
Model AI-4 quad analog input module 1-5 VDC, 4-20 mA, 16-bit resolution, electrically isolated, 0.2% accuracy	1046510
Model AO-2 dual analog output module 4-20 mA, 0-20 mA, 0-5 VDC, 0-10 VDC, electrically isolated, 1000 ohm load with external 30 VDC supply	1046520
<b>Operator Interface Modules</b>	
Operator console with 4 x 20 character, 1" x 3" backlit display with 24 point membrane keypad, -10 to 60° C operation. Operator friendly, site specific displays and menu system. Can be panel mounted or portable	96097444
Model IND-4½ process digital module, 4.5 digits, 0.57" high, displays 0-19999, NEMA 1 mounting bezel with red filter	1046490
Model IND-8 counter digital display module, 8 digits, 0.3" high, displays 0-99999999, NEMA 1 mounting bezel with red filter	1046491
Model TWIM-8 thumbwheel module, single, 4.5 digits, allows input selection of 0-19999, NEMA 1 mounting bezel	1046500

PLTU TECHNICAL DATA (CONTINUED)

**Communications**

- One 9 pin RS232 programmer port
- One RS232 or RS485 port for interfacing to external devices
- One RS485 port for interfacing to external devices
- Four RS485 LAN ports
- Bell 202T modem for phone line and radio applications
  - “Push to talk” telemetry control output
  - Transient and ground isolated
  - Modem loudspeaker for telemetry diagnostics
  - Modem status lights
  - Integral modem and telemetry test routine

**Housekeeping Functions**

- Watchdog circuit, automatic reset and alarm output
- Control enclosure temperature transmitter

**Physical Specifications**

- All connections gas tight, pull apart terminals
- 13.5" wide x 8.5" high x 2.2" deep
- DIP switches allow addressing up to 127 units

**Local Area Network (LAN) Nodes, I/O Node**

- Remote I/O expansion up to 4000 feet from main processor
- Four nodes maximum, each with 8 expansion slot
- Expansion slot supports one module or 10 thumbwheel sets

- Watchdog monitor
- Optically isolated, transient protected LAN port

**Expansion Modules**

The PLTU supports a wide selection of peripheral I/O and operator interface devices. Each I/O expansion module is equipped with a “happy light” that burns steady when operation is normal and flashes when communication fails with the I/O node. Each digital or analog input or output module has a keyed, plug-in termination board to allow replacement of active components without disturbing the wiring. See table above for available I/O expansion modules.



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