

Industrial Wireless I/O

ELPRO 105U-L

Performance, Integrity, Security



Powerful, flexible, easy to use

- Small I/O capability - use where a simple one-way link is required.
- Uni-directional, one way communications.
- Transmitter and receiver units factory-configured as a matching pair, or user-configurable as part of a larger wireless I/O network.
- Secure data encryption.
- *WIB-net* intelligent wireless protocol, peer-to-peer communications, immediate exception reporting plus configurable high-scan updates, multi-hop mesh repeater. Up to 3000 wireless units per network
- Power supply 9 – 30VDC, 24VDC analog loop supply internally generated.
- RS232 Configuration and diagnostics port
- Compatible with the 105U Wireless I/O and Wireless Gateway family.

105U-L-T Transmitter unit

- Powerful 869MHz Fixed Frequency Radio
- External inputs – two digital/pulse inputs, one analog input (0-20mA, 4-20mA), and one thermocouple mV input.
- Internally calculated values – analog and thermocouple setpoint status, pulse count, power supply voltage.
- Thermocouple input –20 to +100mV with cold-junction compensation and linearization for J, K, T or E-type.
- Local output for setpoint status: generated by comparing analog input to high and low setpoints.
- RS232 Configuration and diagnostics port.

105U-L-R Receiver unit

- Three digital contact outputs and one analog output (0-20mA, 4-20mA).
- Communications failure indication and configurable output.
- Outputs can be configured as retained or reset (fail-safe) on communications failure.
- LED indication of radio signal strength



Secure Industrial Communications

105U-L Wireless I/O Range

Range Specifications

Different Models

105U-L-T	Input Transmitter unit
105U-L-R	Output Receiver unit

Standards Compliance

Radio: EN 300 220,
EMC EN 301 489
Hazardous rating: ATEX one 2, IECEx nA IIC
Electrical: EN60950

General Specifications

Environmental -40 to 60°C / -40 to 140°F, 0–99% RH (non-con-densing)
Housing -DIN-rail thermo-plastic enclosure.
100 x 22 x 120 mm / 3.9 x 0.9 x 4.7 inches.
SMA connector for antenna or coaxial cable connection.
Power Supply 9 – 30 VDC.
Power consumption @12VDC – Receiver 100mA.
Transmitter 40mA quiescent, during radio transmission (30 msec)
300mA.
Periodically scans AI to save power.
Analog loop supply internally generated, 24VDC 30mA.

Internal monitoring of supply voltage – may be transmitted as an “input” (Transmitter unit only)

Transmitter Inputs

Digital/Pulse Input, two inputs, suitable for voltage free contacts / NPN, or voltage input 0-1 VDC on / >3 VDC off.

Pulse input max rate 10 Hz, 50 msec on time, pulse input counted as 2 x 16 bit register.

Analog input, 0-20 mA, 4-20mA, span and zero configurable (default 4-20mA), “floating” differential input, resolution 16 bit, accuracy < 0.1 %.

Thermocouple input, -20mV to +100mV, J, K or T type linearization with on-board cold-junction compensation, accuracy better than 1degC.

Analog & thermocouple setpoint status, setpoint status sets (on) when input value < low setpoint and resets (off) when input value

> high setpoint, status transmitted as per digital input, setpoint values are settable via front-panel rotary switch or configuration software.

Receiver Outputs

Digital Output, three relay contact outputs, 260VAC, 1A rating.

Analog Output, 0-20mA, 4-20mA, configurable span and zero (default 4-20mA), source output, 12-bit resolution, 0.1% accuracy.

Comms-Fail, internal status based on configurable time-out value. Comms-fail output. ok output, FET, 30VDC, 500mA.

Fail-safe, on “comms-fail”, outputs user-configurable as retained (last correct value) or reset (fail-safe).

Wireless

Fixed Frequency Radio 869.525MHz @500mW or 869.875MH @ 5mW RF Power.

Line of sight range Non obstructed - 500mW - 5km; 5mW - 1km

Obstructed - 500mW - 1km; 5mW - 300m

Radio distances can be increased by up to 5 intermediate 105U Multi I/O repeater units.

Each transmission may be configured to be sent 1 to 5 times.

Communications

ELPRO *WIB-net* wireless protocol, enabling peer-to-peer communications. Input values are transmitted on immediate change plus timed updates (maximum rate 5 times per second).

Wireless messages are data encrypted for security protection.

Serial Port

RS232 RJ45 female DCE, used for configuration and diagnostics.

LED Indication

Transmitter unit.

Power/OK, Radio TX, DIN1, DIN2, Analog Setpoint status.

Receiver unit.

Power/OK, Radio RX, DO1, DO2, DO3, Communications fail LED's also used to provide radio signal strength indication.

Configuration and Diagnostics

Factory configuration transmitter/receiver matched pair.

User configuration via serial port. Unidirectional units can be configured to network with Mult-I/O and Gateway units.

Diagnostics features – read input values, write output values, radio signal strength, monitor communication messages.

Specifications subject to change without notice



Pericom AG

Moskau 314B CH 8262 Ramsen t 052 740 00 55

Waldstr. 7 D - 78262 Gailingen t 07734 48 70 343

www.pericom.biz
info@pericom.biz

YOUR LOCAL PARTNER:

peri com.