Industrial Wireless I/O

ELPRO 105U-L

Performance, Integrité, Securité.

Rentabilité des coûts d'Entrée /
Sortie pour applications unidirectionnelles.

Powerful, flexible, easy to use

Reliable License-free radio bands

● 105U-L 869MHz FF 500mW for Europe

Easy to use with powerful features

● Standard transmitter-receiver pair configuration or user-configured using ELPRO's WIB-net communications.

● Secure wireless encryption.

● Peer-to-peer, exception-reporting communications for fast, highly efficient wireless networks.

● Simple "back-to-back" system or large multi-node networks.

● Multiple interfaces to different data-buses.

Compact Wireless I/O

● Two digital/pulse inputs, one analog input, one thermocouple

● Analog input suitable for 0-20/4-20mA or 0-5V thermocoupletype J, K, T with cold-junction compensation fail-safe outputs.

● Setpoint functions on analog and thermocouple inputs

Powerful Diagnostics

● Wireless signal strength indication on front of receiver unit

General

Environmental   -40 to 60ºC / -40 to 140 ºF 0 - 99% RH.

EMC compliant 89/336 EEC, EN 300 683, AS3548, FCC Part 15.

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
(50 msec) 300mA

Analogue loop supply internally generated, 24VDC 30mA
low power mode may be configured to cycle loop supply

Internal monitoring of supply voltage - may be transmitted as an "input"
(Transmitter unit only)

Transmitter Inputs

Digital	external	status
Pulse total	external	value
Analog	external	value
Thermocouple	external	value
Setpoint - analog	internal	status
Setpoint - thermocouple	internal	status
Pulse rate	internal	value
Supply voltage	internal	value
Setpoint - supply	internal	status

Input values transmitted as per WIB-net protocol - exception reporting on signal change, and update time. Up to 5 repeater addresses configurable.

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 counted as 2 x 16 bit register.

Analog input

0-20 mA (4-20mA, 0-10mA) / 0-5V
 "floating" differential input, resolution 16 bit, accuracy < 0.1 %

Thermocouple input

Millivolt (-100mV to +100mV), J, K or T type linearization with on-board cold-junction compensation

Accuracy better than 1degC

Setpoint Status

High and low setpoints generate internal digital status
setpoint status sets (on) when analogue value < low setpoint and resets (off) when analogue value > highsetpoint status transmitted as per digital input

Setpoint values are settable via front-panel rotary switch or configurtion software

Receiver Outputs

Digital Output
Three relay contact outputs, 260V 1A

Analog Output
0-20mA, source output, 12-bit resolution, 0.1% accuracy

Comms-Fail
Internal status based on configurable time-out value.
Comms-fail status can be configured to a local output

Fail-safe
On "comms-fail", outputs user-configurable as retained (last correct value) or reset (fail-safe)

Serial Port
RS232 RJ45 female DCE, used for configuration and diagnostics

LED Indication

Transmitter unit
Power/OK, Radio TX, DIN1, DIN2, Analogue setpoint status.

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

Radio Transmitter
105U-L
Frequency 869.4MHz, transmitter power 500mW
Approved to EN 300 220
Line of sight range 5 km; 500 m in obstructed industrial environments.

Radio distances can be increased by up to 5 intermediate repeater units.

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

Configuration and Diagnostics
Factory configuration transmitter/receiver matched pair, AI to AO, 2DI to 2DO, SP status to DO3.

User configuration via serial port. Unidirectional units can be configured to network with Multi-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