



905U-K-IP Transmitter IP Enclosure

One Way battery powered transmitter with weatherproof enclosure and solar regulator



905U-K-IP

Features

- Input-only transmitter unit (2 or 4 DI/PI, 1 AI) that can be connected to multiple I/O and/or gateway units, with up to 3000 units in a system
- Integrated solar MPPT solar regulator and 3Ahr Lithium Iron (LFP) battery
- 902–928 MHz frequency and up to 1W RF power
- Link process inputs to single or multiple outputs (peer to peer)
- Flexible power supply/solar options, including battery-only supply with ultra-low power consumption (reverts to sleep mode)
- Peer-to-peer communications with exception reporting, reliable self-checking via update time and secure data encryption
- External inputs plus internally calculated values, including analog set point status, pulse rate and pulse total, power/battery supply voltage, and power supply alarm
- Can connect to up/down counter transducers, such as shaft encoders
- Configurable repeat transmissions to enhance message reliability
- Set point, pulse count, and rate available.
- Internal input points provided for health monitoring

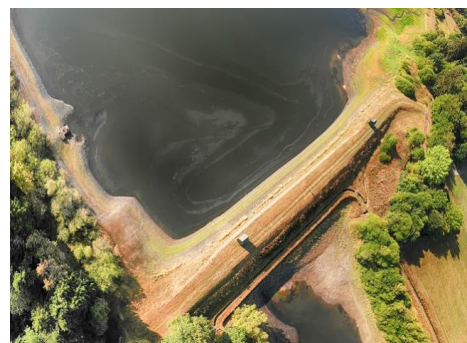
Description

ELPRO's Industrial Wireless Solutions has 30 years of expertise in solving critical industrial communications applications. The 905U-K-IP provides an integrated solar and battery solution for the successful 905U-K ultra-low power 900MHz transmitter.

The ELPRO 905U-K Wireless I/O is a small I/O transmitter that extends long-range, license-free communications to sensors in local, remote, or difficult-to-reach locations.

Designed for very low power consumption and integrated solar regulator with internal battery, the ELPRO 905U-K provides reliable continuity in environments typical of industrial applications with power constraints.

Capable of transferring sensors with analog, pulse, or discrete inputs, and will power a loop-powered analog device (24 Vdc, 50 mA), the ELPRO 905U-K offers a simple-to-deploy and highly reliable solution.



Technical Data

December 2020

SPECIFICATION	DESCRIPTION
Operation	
Modes-Topology	Peer to Peer, point to multi-point
Input and Output	
Discrete input	TTL voltage 0–1.5 Vdc (on), 3.5–13 Vdc (off) Surge protected, not isolated Voltage-free/NPN contacts 2 DI (external, status)
Analog Inputs	0–24 mA or 0–10V (selectable, over range indication 0–25 mA) Floating differential inputs, common mode voltage 27V, Resolution 12-bit, accuracy <0.1% 24 Vdc @ 50 mA for external loops provided
Pulsed Inputs	As per digital input specifications Above. Maximum pulse rate 10 kHz (50 kHz possible on PI1 using a configurable divider) Pulse width minimum 0.2 ms, volt-free contacts 300 Hz 2 PI (pulse total, count, rate)
Protocols and Configuration	
User configuration	ELPRO E Series Configuration Utility
Configurable Parameters	Individual I/O mappings, analog and digital debounce, update time, analog set points and sensitivities
Protocols	ELPRO WIBnet™ up to 4 retries, CRC error checking
RS-232	9-pin DB-9 female connector (used for programming only)
Security*	64-bit encryption on radio
LED Indications & Diagnostics	
LED Indication	OK/active, TX/link (refer to product manual for further information)
Reported Diagnostics	I/O status
Connections	
Inputs/Sensors/Power/Solar	M20 cable gland 5-13mm cable dia UL/VDE M20 threaded to adaptor to ½" NPT or conduit
Terminals	Internal wiring terminals (push connect) 0.20 - 1.5 mm ² (24 - 16 AWG) Wire Strip Length 8mm (0.3")
Primary Antenna	N-Type Female
Communications	
Frequency	902-928MHz (Note 1) 915-928MHz (Note 1)
Transmitter RF Power	1W
Transmission	Frequency hopping spread spectrum (FHSS)
Data rate	19.2 kbps with forward error correction
Range (LoS)	20 miles (32 km) @ 4W a c EIRP 9.3 miles (15+km) @ 1W EIRP (other countries)
Compliance	
Regulatory	Australia: RCM, Europe: USA: FCC, Canada: IC
EMC	FCC CFR47 Part 15; AS 3548
Safety	EN/IEC 60950 (RoHS compliant)
Power Supply	
Nominal supply	6–30 Vdc, under/over voltage protection 11-15Vdc into battery connection alternate
Solar/Supply Input	16-30Vdc. MPPT charger opt point 16.5Vdc Charge internal Battery
Battery Options	Lithium Iron Phosphate(LFP): Internal rechargeable Lead Acid (Pb): 12V Battery externally connected
Battery Charger or Solar Regulator	External supply/MPPT solar panel supply Internal lithium (LFP) or external battery Up to 2A charge optimized for 10-30W panel (No maximum limit on panel size)

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Average current	10 mA @ 12 Vdc (idle) + analog loop 2 (internally generated, 24 Vdc/50 mA)
Idle current draw	120µA average @ 13Vdc
Transmit current	300 mA @ 12 Vdc
Battery Life discrete input only	Lithium Primary (LiP): 4.5 years Lithium Phosphate (LFP): 2.3 years
Battery Life Analog-60min samp	Lithium Primary (LiP): 3.8 years Lithium Phosphate (LFP): 2 years
General	
Size	190mm x 197mm x 98mm (7.5" x 7.8" x 3.8")
Housing	Aluminum cast enclosure with removable door IP66 rated
Mounting	Panel mount standard, pole mount option
Temperature rating	-40 to +70°C (-40 to +158°F) LFP rechargeable battery -20 to +40°C (-40 to +140°F) 0-99% RH noncondensing
Weight	1.8 kg (4.0lb) – not including internal battery
Altitude	0-3000m (0-10000ft)
Pollution Degree	4

Accessories

DG900-1	Bracket to allow unit to be mounted inside 300mm Aluminum Tube (Tree-Standpipe), includes cable restraint, mounting hardware and carabiner
WH900-SMA	Whip antenna, SMA male, –2 dBi gain
CFD890EL	Dipole antenna, SMA male, mounting bracket, 2 dBi gain, 16' (5m) coaxial cable
SG900EL	Collinear antenna, N-type female, 5 dBi gain
SG900-6	Collinear antenna, N-type female, 8 dBi gain
YU6-900	Yagi antenna, N-type female, 9 dBi gain
YU16-900	Yagi antenna, N-type female, 15 dBi gain
RF-ADP-NM-SMAF	RF Adaptor N-type male to SMA female, use with DG900-1, WH900-SMA and SFD890EL
BATS-ERTA2-LFP	Lithium iron phosphate (LFP), rechargeable high power long life 3.0Ahr battery for ERT-A2 pack with cable and connector
BATS-ERTA2-LIP	Lithium-thionyl Chloride Primary (LiP), non-rechargeable high power long life 5.8Ahr battery for ERT-A2 pack with cable and connector
CC3/10/20-SMA/ BNC	Coaxial cable kit, 9.8' (3m)/32' (10m)/65' (20m), N-type to N-type/SMA male/BNC male
SURCSD-N-6000MF	Coaxial Surge Divertor, Bulkhead N Female to N Male DC-6GHz 30W WITHOUT earth tail
BR-COL-KIT	Mounting bracket kit for collinear antenna
BR-YAG-KIT	Mounting bracket kit for Yagi antenna
SER-DB9	Serial RS-232 cable, DB-9 male to DB-9 female, straight through

Notes:

1. Available RF power and frequency may vary depending on country of application. Please confirm with local regulatory body.
2. Typical line of site transmission distance
3. Specifications are subject to change.

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