Robust, Secure Industrial Wireless ...

ELPRO TECHNOLOGIES

- 25+ years industrial wireless design and manufacturing experience
- The most comprehensive suite of industrial wireless products available
- Robust, reliable operation with embedded security to military standards
- Licensed and unlicensed frequency options to global standards
- Global technical support and lifetime product warranty

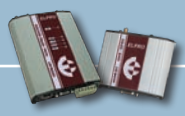
Free Industrial Wireless Handbook: sales@elprotech.com

Wireless Ethernet

Wireless Serial

Wireless I/O & Gateways

Unidirectional & Expansion I/O



GSM/GPRS Modem & Router

ELPRO Technologies

COOPER Bussmann

Reliable, Secure, Industrial Wireless Solutions

ELPRO Technologies specialises in the design and manufacture of industrial wireless products for instrumentation, process control and factory automation applications.

Now part of Cooper Bussmann, ELPRO offers the most complete range of industrial wireless products available today. ELPRO's products are sold in over 60 countries, across all continents and industries, including:

- Process Industries
- Factory Automation
- Mining
- Transport (road, rail & air)
- Petrochemical
- Water and Utilities Management
- Warehouse Automation
- Building Management

ELPRO is proud to offer our customers:

- 25+ years industrial wireless technology design /manufacturing experience.
- The most comprehensive range of wireless products available.
- Robust, reliable products with embedded security to military standards.
- Licensed /unlicensed frequency options conforming to global regulations.
- Global technical support by our application engineers.
- Lifetime warranty on our products.
- Market leading diagnostic and utilities software.

A Solution For Your Application Need

With our industrial wireless experience, ELPRO understands that multiple approaches to wireless technology are required to meet the diversity of industrial applications today. For this reason, ELPRO's design engineers have developed a suite of products ranging in breadth of radio communications and product suitability to site application needs.

Wireless I/O Products

Wireless I/O products connect directly to transducer and/or control signals and transmit signal values by radio to a receiving device. The receiving device either re-creates the signal value (eg 4 – 20 mA) or via ELPRO gateways, outputs a data-bus register value (eg EtherNet/IP, Profibus, Modbus etc).

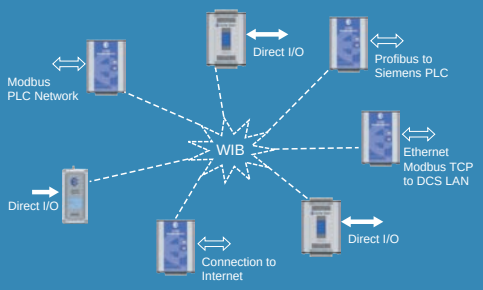
Wireless I/O products differ in terms of the number and type of on-board I/O points (analogue, digital, pulse, thermocouple) and one or two way communication between sending and receiving devices. Our wireless I/O product has been designed to provide I/O flexibility as the application requirements grow over time.

• Low Power, Small I/O Count, One Way Communication

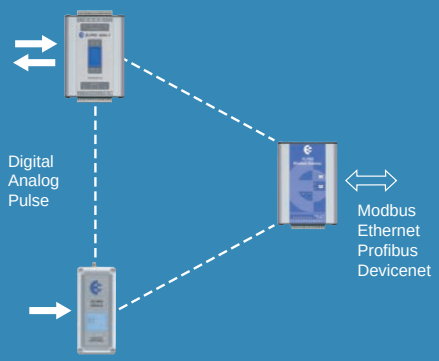
The 905U-K or 505U-K ultra low power consumption products have a smaller I/O input capability for transmitting to other ELPRO I/O and/or Gateway modules. This product reverts to a 'sleep mode' between transmissions to conserve power and can reliably run on battery power for extended periods of time.

Capable of thousands of units in a network, these products can also power a loop powered device to 24VDC, 50mA (eg level device). Housed in an aluminium enclosure (IP66, NEMA 4), these products are ideal for remote applications with small I/O needs and where power constraints may be an issue.

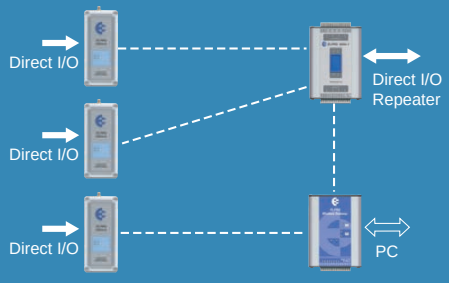
A sample of ELPRO's many product options



ELPRO's WIB-Net creates opportunities where hardwired solutions typically fail



Field I/O can be linked to other I/O or Gateway products

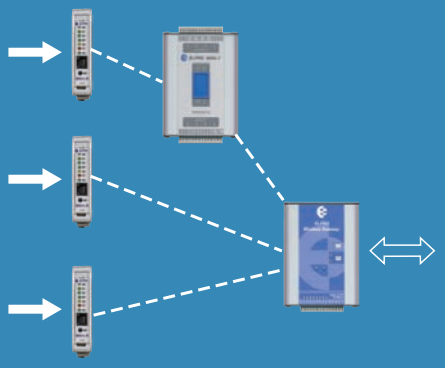


The 905U-K/505U (left) can report to either another I/O or Gateway product

• Easy Installation, Small I/O Count, One Way Communication

The ELPRO 105U-L and 905U-L products are a small I/O count transmitter and receiver pair delivered pre-configured for ease of installation. Flexible by design, the L series products may be readily incorporated into a wider ELPRO I/O or Gateway network as application needs grow.

Din rail mounted and mains powered, the 105U-L and 905U-L can also power a loop powered device (24VDC, 35mA) and form a ready replacement for costly hard wired solutions.

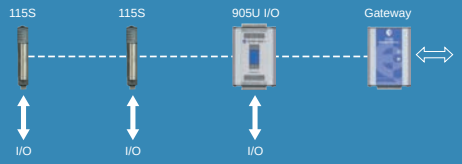


The L series comes pre-configured and can be incorporated as needs grow

• Multi I/O Count, Two Way Communications

The 105U and 905U products provide multiple I/O channels with two way communication between sending and receiving devices. Four different versions of 105U and 905U are available depending on the applications I/O count.

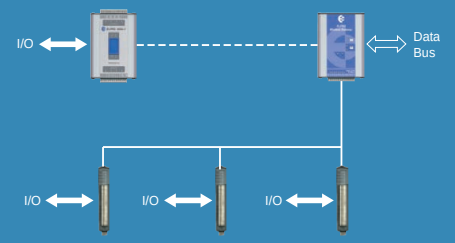
To increase communication reach, each 105U or 905U product can multi-hop and repeat signals up to 5 times and loop power transducers (24VDC, 150mA). Combining the 105U or 905U product with the 115S series expansion product ensures flexibility as application needs grow.



Multi I/O can be expanded as needs grow

• I/O Expansion Products

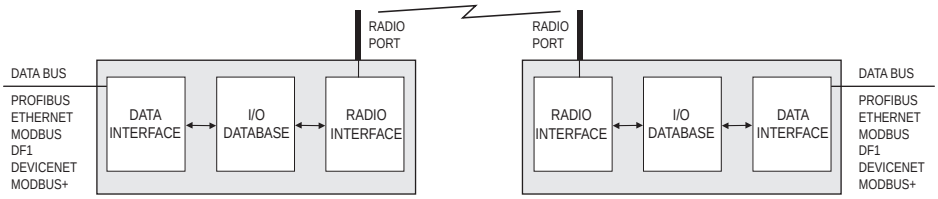
The 115S series products are designed to expand I/O capability of ELPRO multi I/O, Gateway and modem products or act as stand alone slave Modbus I/O devices. Communicating ELPRO or Modbus RTU protocols, the 115S series offers multiple I/O channel combinations. Up to 10 x 115S units can be connected to a single radio using ELPRO protocol or 99 x 115S units using Modbus RTU.



Expanding the I/O count of an ELPRO Gateway

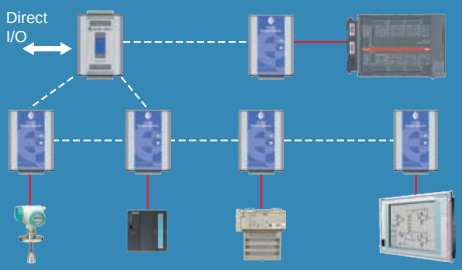
• Wireless Gateway Products

Wireless gateways provide connectivity between similar and dissimilar data-buses and/or field device I/O (eg Modbus to EtherNet/IP to Profibus etc). Connected via RS232/485 and RJ45, data-bus values are transmitted and received by radio, passed to and from registers to receiving devices such as PLC's, HMI's etc – see Gateway Overview diagram below.



ELPRO Gateway Product A ELPRO Gateway Product B

ELPRO Gateway module A passes information from its data-bus interface to its I/O database. Information is then sent out via the radio port to Gateway B. The recieving Gateway then passes information to its I/O database and onto its data-bus interface.

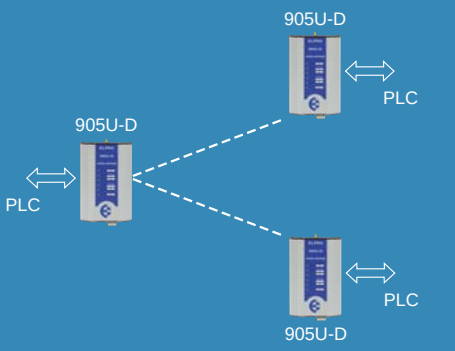


Differing data-bus and I/O can be incorporated in an ELPRO solution

Wireless Modem Products

Wireless modem products transmit serial or Ethernet data which remains largely unaltered between the sending and receiving of device communications; commonly referred to as 'transparent' communication. While transparent, they are typically routed between devices being 'addressed' in one of two ways:

- Broadcast communication results in the same message being simultaneously received by all modems in the network. Generally, this is used where the protocol communicated and/or the field device itself is addressable (eg PLC's or Modbus).



Broadcast - simultaneous transmission of message

- Specific unit addressing or controlled mode communication individually sends data to a specified unit within the network. This is generally applied to applications where the protocol and/or field device cannot be addressed and the modem performs this function (eg datalogger applications).

ELPRO's wireless modems range from serial to Ethernet to GSM/GPRS with a variety of frequency and RF powered options.

• Wireless Serial Modems

Wireless serial modems connect via RS232/485 transmitting serial data between host and field devices such as PLC's, dataloggers. ELPRO's serial modems can operate in either broadcast or controlled mode with each unit acting as both a modem and repeater for other modems in the network. An I/O capability may be incorporated when the modem range is combined with the 115S product.

• Wireless Ethernet Modems

Wireless Ethernet modems connect via RJ45 providing transparent Ethernet communications between LAN's and/or field devices such as PLC's. These products offer both broadcast and controlled communication modes with repeatability between 2.4 Ghz units via AP - AP (WDS mesh) capability.

ELPRO's Ethernet modems are capable of being programmed to act in Router/Bridge, AP/Client and serial server (RJ45-RS232/485) modes. Additional I/O flexibility can be achieved when combining the 115S expansion products. Security measures include MAC address and IP filtering and encryption to WPA-PSK (AES) military standards.

• Wireless GSM/GPRS Modems

Wireless GSM/GPRS modems utilise existing GSM/GPRS mobile networks to communicate serially between field and control room devices.

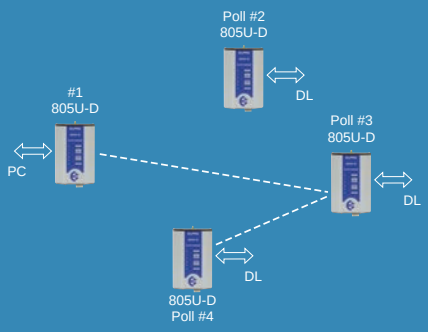
Quad band capable, ELPRO's GSM/GPRS modem may be operated in isolation or combined with the GSM/GPRS router.

In isolation, the GSM/GPRS modem extends communication reach and is suited to applications where the field device initiates communication.

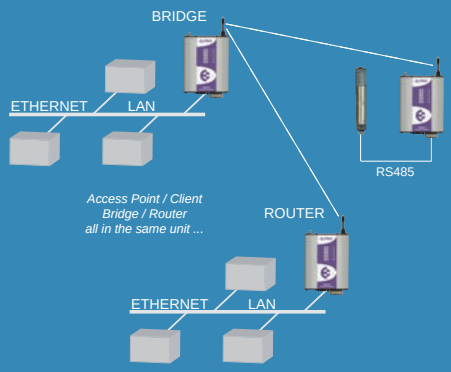
Combining the ELPRO GSM/GPRS router, two additional modes (Master-slave and Modbus Aware) remove the need for costly static IP addressing or proprietary database design /installation; while reducing telecommunication service costs.

For further details on ELPRO's range or enquiries

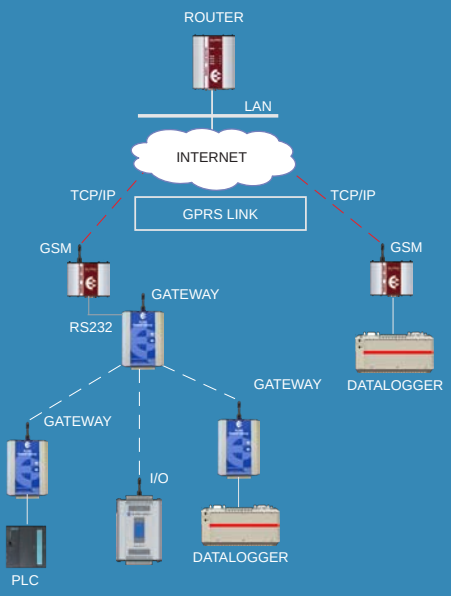
www.elprotech.com
sales@elprotech.com



Controlled mode - specific addressing of individual modems featuring repeatability.



ELPRO's Ethernet range is a Router/Bridge, AP/Client and serial server in one.



Combining the GSM/GPRS modem & router reduces service costs and increases reach.

THINK WIRELESS...*THINK ELPRO*

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