Quick Start Guide

ELPRO 105U-L Wireless I/O Receiver Unit

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About this document

This document is the ***ELPRO 105U-L Wireless I/O Receiver Unit Quick Start Guide*** and contains the following sections:

Section	Read this section if you want to …
Basic steps for using your unit	Learn the basic steps for installing and using your unit.
Factory default configuration	Understand how the transmitter sends information to the receiver.
Unit components	Understand the different parts of your unit.
Antenna installation	Learn how to install an antenna with your unit.
Resetting factory defaults	Reset your unit to the original factory default settings.
Linking transmitter and receiver units	Link your units to work as a dedicated pair.
Safety information	Understand important safety information related to your unit. **NOTE**: You must read this information before installing your unit.
Specifications	Know technical information about your unit.

For more information, see the next sections.

Basic steps for using your unit

This document describes how to configure your unit using the default factory configuration that lets you easily setup your network as a simple send/receive network using a dedicated pair of transmitter and receiver units.

The basic steps for using your unit are:

1. Connect the antenna power supply and transducer signals using the instructions in this document. Power supply and transducer connection is described in the section ***Unit components and connections***. Antenna connection is described in the section ***Antenna installation***. For more information, see the ***105U-L Installation Manual***.
2. Reset the transmitter and receiver units to the factory default configurations.
3. Link the transmitter and receiver units to work as a dedicated pair.
4. Bench test your configuration before deploying.

NOTE: You can also configure your network using a user-defined customised configuration that lets you set specific information about your network. For more information on setting a user-defined customised configuration, see the ***105U-L User Manual*** on the enclosed CD.

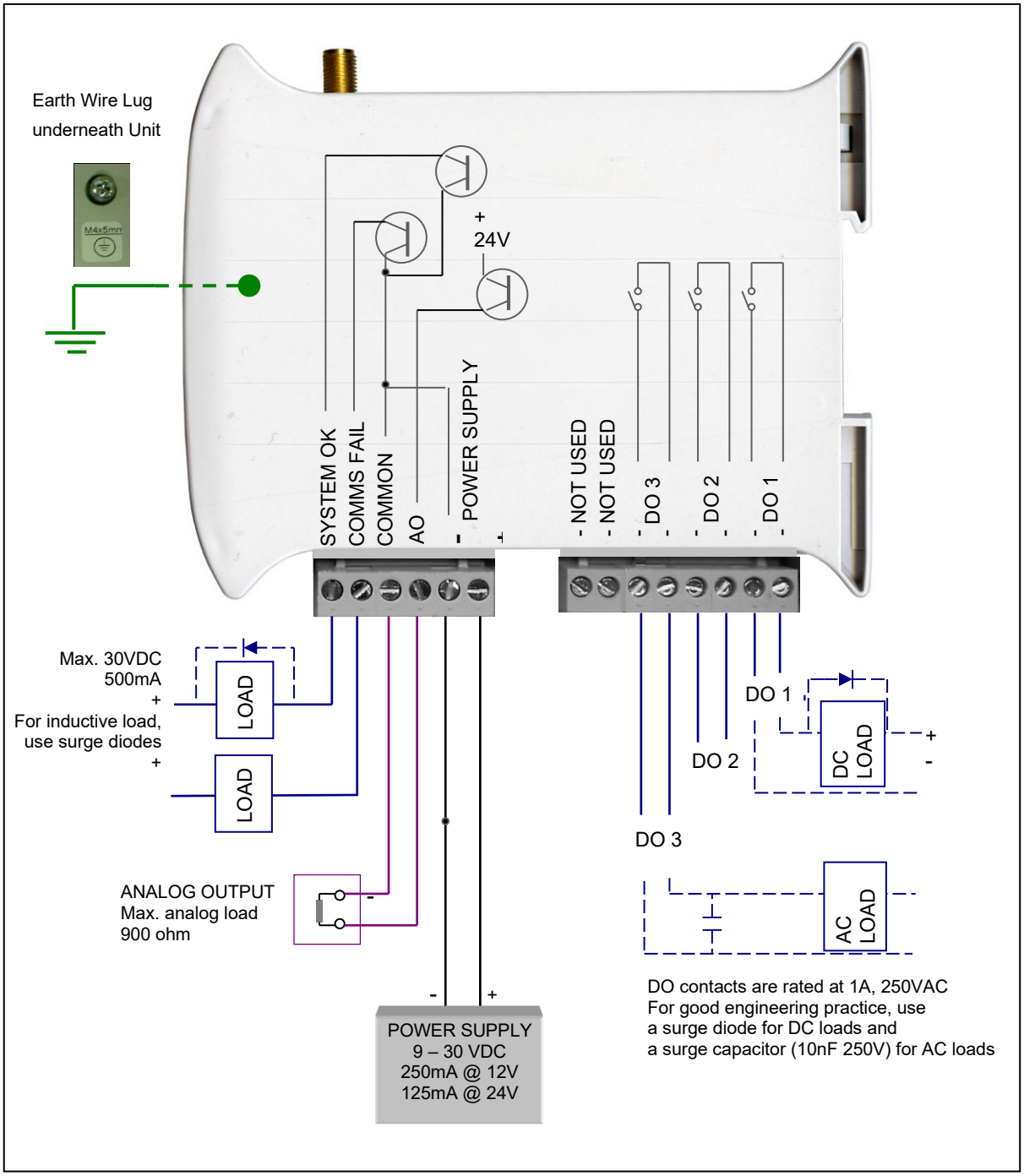
Factory default configuration

When you configure the units using the configuration in this document, the inputs from the transmitter are sent to the outputs at the receiver as follows:

105U-LT(Transmitter)	Sends	105U-LR (Receiver)
Digital Input 1	⇨	Digital Output 1
Digital Input 2	⇨	Digital Output 2
Analogue Setpoint	⇨	Digital Output 3
Analogue input (4-20 mA)	⇨	Analog output (4-20 mA)
Thermocouple Input (Not used)		Communication Failure (Comes on if no messages from 105U-LT)
Setpoint Output (Local indication)		
System OK (On if system OK)		System OK (On if system OK)

Unit components and connections

Your 105U-L receiver unit has the following components and terminal connections:

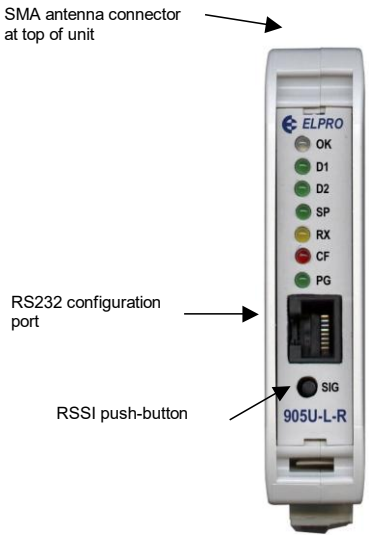


****IMPORTANT ELECTRICAL SAFETY INFORMATION****

In order to comply with Electrical Safety Regulations, this module must be installed in an Electrical AND Fire enclosure. This enclosure may be a single or multiple enclosures. Access to the module is to be made by a Service Person only.

In order to comply with Electrical Safety Standards, when connecting SELV **AND** voltages which are greater than SELV (30VAC or 60VDC) together, then Relay Output 2 must **NOT** be used in order to provide sufficient isolation between the outputs

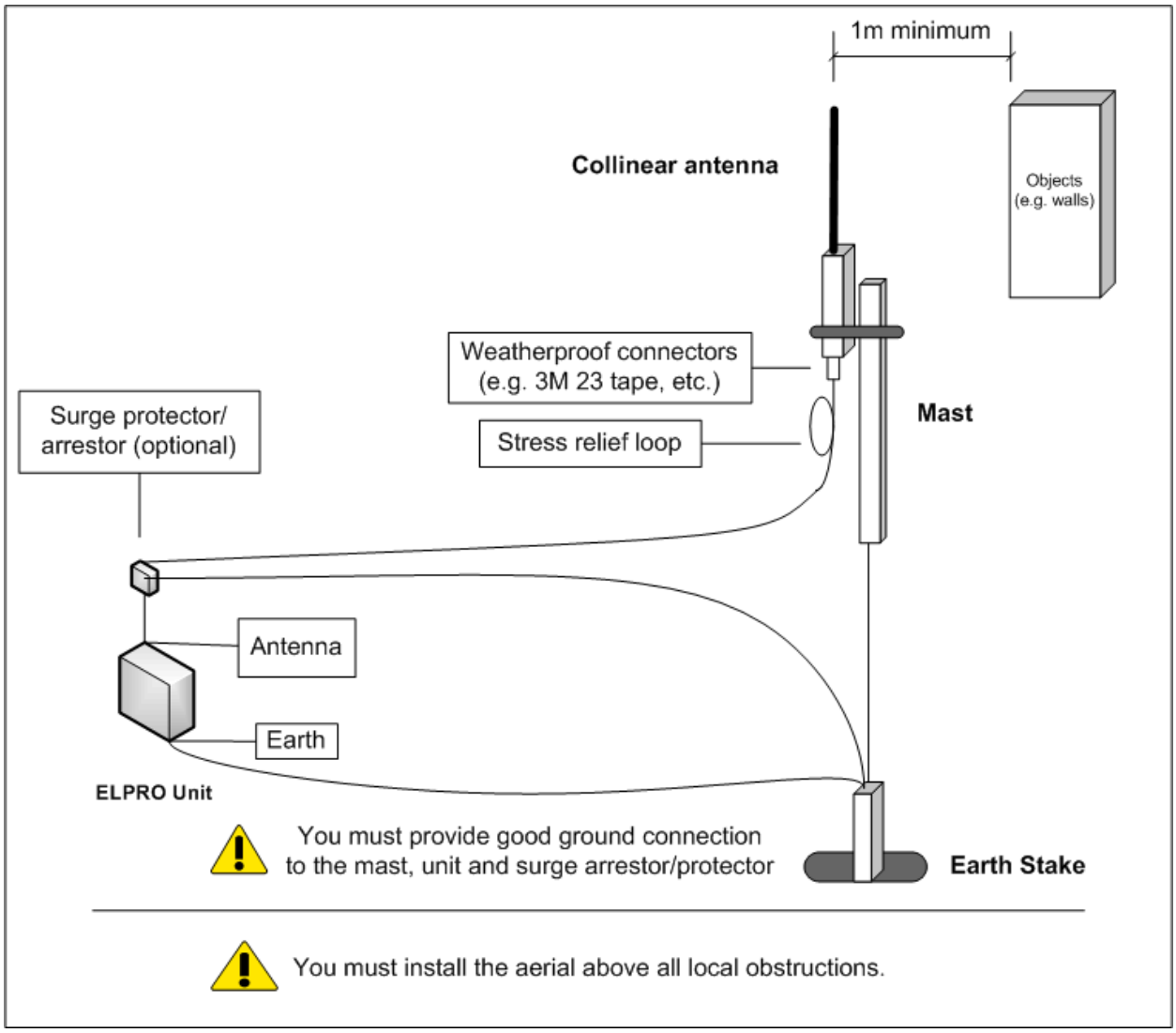
front panel contains the following components:



The LEDs on the front panel indicate the unit status:

LED Status	Indicates			
None	No power supply.			
OK LED Green	Current status of the unit OK.			
OK LED Red	Fault condition detected in unit.			
RX Led Flashes	Receiving Message.			
CF Led ON	Module Communication Failure Output is active.			
PG LED on	Configuration Cable Connected.			
Output LED ON	The Output LEDS (i.e. D1, D2, D3) light when the corresponding output is active.			
	D1	Relay output D1 is ON (Contact Closed).		
	D2	Relay Output D2 is ON.		
	D3	Relay Output D3 is ON.		
LEDs with RSSI Push Button Pressed	When you press the RSSI push button, the unit shows the signal strength by lighting the LEDs from the bottom to the top. Signal strength is the strength of the last message received that was addressed to this station.			
	LED	Signal Strength	LED	Signal Strength
	D1	More than -85 dBm	RX	More than -100 dBm
	D2	More than -90 dBm	CF	More than -105 dBm
	D3	More than -95 dBm	PG	Always on during RSSI test
Output LED flashing quickly	If an output is in communication failure, the corresponding LED flashes at 5 Hz.			
	D1	Relay Output D1 is in communication failure.		
	D2	Relay Output D2 is in communication failure.		
	D3	Relay Output D3 is in communication failure.		
	PG	Analog output is in communications failure.		

Antenna installation



Resetting your unit to factory defaults

You must reset the receiver unit to factory defaults before linking the transmitter and receiver units.

To reset the default factory configuration:

1. Press and hold the RSSI push button.
2. Power on the 105U-L receiver.
3. The 105U-L receiver flashes all LEDs at medium flash (i.e. 1.6 Hz).

NOTE: If the LEDs do not flash, you must repeat steps 1 and 2 until the LEDs flash before continuing.

4. Release the RSSI push button within 5 seconds.
5. Within a further 60 seconds, press and hold the RSSI push button for 5 seconds (until the LEDs stop flashing) and then release.
6. The 105U-L receiver lights all LEDs for 2 seconds before returning to normal operation.

NOTE: If the LEDs do not light, you must repeat the process from step 1 until the LEDs light before continuing.

7. You can now link the transmitter and receiver units.

Linking your transmitter and receiver units

You must reset the transmitter unit to factory defaults (to disable encryption) before linking the transmitter and receiver units. For more information, see the ***105U-L-T Transmitter Quick Start Guide***.

NOTE: You must complete the linking process in 60 seconds.

To link the transmitter and receiver units:

1. Press and hold down the RSSI Pushbutton on the receiver.
2. Power on the receiver while holding down the RSSI Pushbutton
3. Release the RSSI Pushbutton as soon as the Receiver LEDS flash (within 5 seconds of powering the receiver).
4. The receiver will flash all LEDs for a maximum 60 seconds while it tries to link to the transmitter.
5. Power on the transmitter. The transmitter sends a special “Link” message to allow the receiver to recognise the transmitter.
6. When the units link, the receiver lights all LEDs for 2 seconds before returning to normal operation.

NOTE: If the receiver LEDs continue flashing within the 60 seconds, the units are not linked and you should retry the linking process by powering the transmitter off and on again. If you exceed the 60 seconds, you must restart the linking process from step 1.

7. You can now bench test your configuration before deploying.

Safety information

Thank you for selecting the 105U-L receiver for your telemetry needs. We trust it will give you many years of valuable service. To ensure your 105U-L receiver enjoys a long life, double-check **ALL** your connections with the user's manual before powering on the unit.

WARNING: Incorrect termination of supply wires may cause internal damage and will void warranty.

Unit specifications

Input/output	Number	Additional information
Digital outputs	3	Voltage-free contacts rated at 250 VAC 1A, 30VDC 1A. 2 for digital inputs and 1 for setpoint.
Status outputs	2	Separate System OK and communication failure output.
Analog output	1	16-bit resolution, 0.1% accuracy, single-ended source output.
Power supply	1	9-30 VDC 0.25 Amp CSA certified Class 2 power supply. For use in Class I Div 2 explosive areas, the power supply must be approved for Class I Div 2 use. **WARNING**: Explosion hazard - do not disconnect while circuit is live unless area is known to be non-hazardous.
Radio receiver	1	High sensitivity DFSK Fixed Frequency receiver.
Frequency	868.525 MHz 869.875MHz	Actual frequency range depends on Paired Transmitter.
Sensitivity	-111 dBm	At PER 8%.

Document information

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