HFW-W2W-01
WIRE TO WIRELESS TRANSLATOR MODULE

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GENERAL DESCRIPTION

The Argus Vega Wire to Wireless Translator Module (HFW-W2W-01) (TXLTR) is a device that interfaces wireless devices on to an analogue fire detection loop. This permits the addition of wireless trigger and alarm devices on the loop. The TXLTR is powered directly from the fire detection loop and is compatible with a Fire Control Panel (FCP) employing the Vega protocol. Full monitoring and control of the wireless field devices is possible.

Communication between the TXLTR, additional Expander Modules (HFW-EM-01) and field devices is wireless via a bi-directional, analogue-intelligent protocol. The radio communication meets the requirements of European Standard EN54-25.

Configuration of the TXLTR is achieved using the Wirelex configuration software supplied with the TXLTR or via local programming buttons.

TECHNICAL SPECIFICATIONS

Loop power supply range	from 15Vdc – 40Vdc
Typical current consumption	20mA (@24Vdc)
Operating frequency range	868.15 MHz - 869.85 MHz
Max radiated power	5 dBm (3 mW)
Radio signal's modulation type	FSK
Operating frequency channels	7
Communication range with the Expander Module *	≤ 250m (in open space)
Communication range with wireless field devices *	≤ 150m (in open space)
Maximum number of child devices (per TXLTR)	32 **
Maximum number of child Expander Modules	7 ***
Temperature range	-30°C to 50°C
Humidity range (non condensing)	5% to 95% (Relative Humidity)
IP rating	65
Cable entry knockout holes specifications	4 x M16/20
Applicable wire gauge range	from 0.5 mm^2 to 2.5 mm^2
Dimensions (without antennae)	120 mm x 160 mm x 51 mm
Number of antennae	2
External antenna length	74mm
Short Circuit Isolators	2 (on the negatives of the detection loop)
Weight	330 g

*   Ideal operating range: may vary according to environmental conditions.
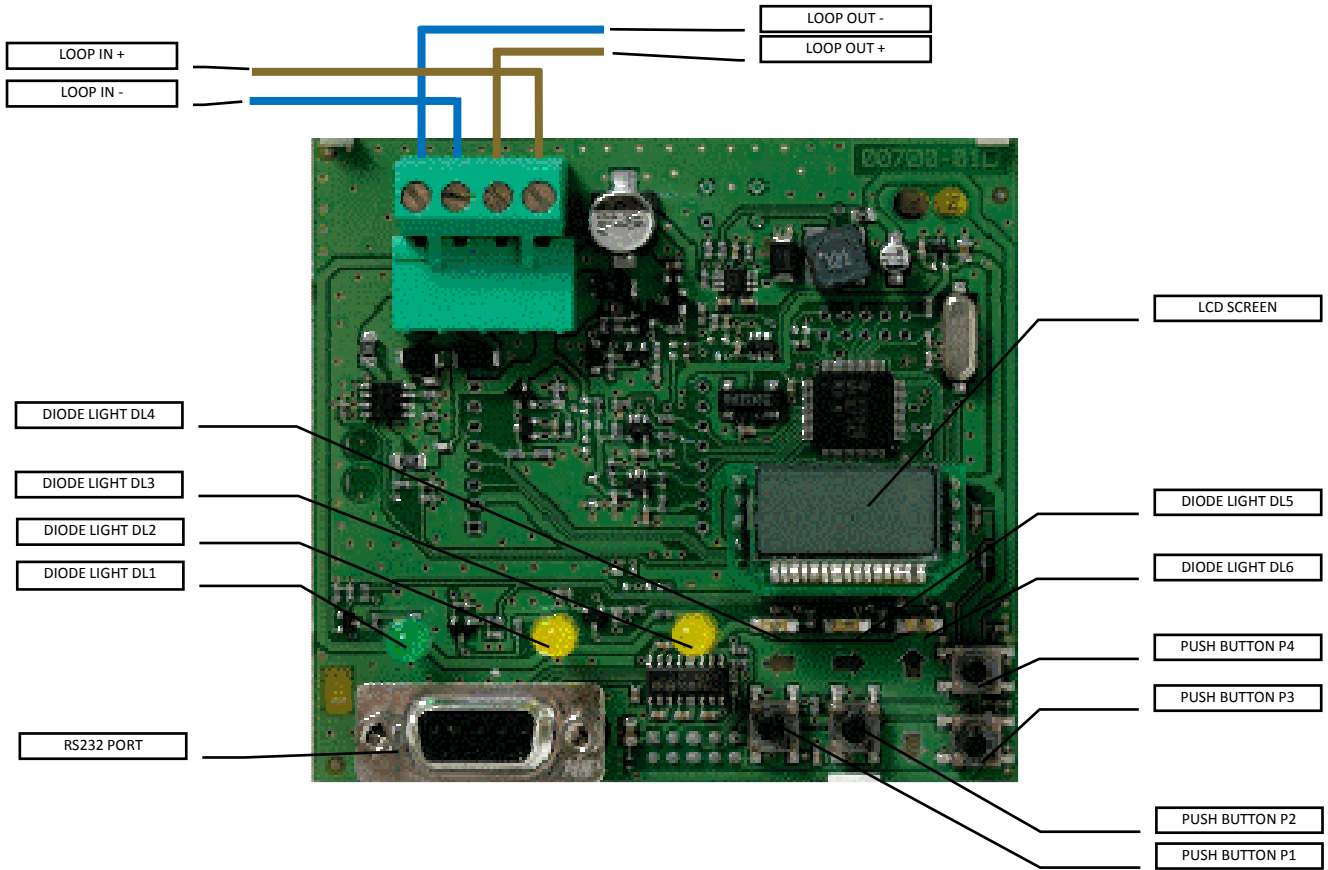
**   Maximum of 16 output devices (AV devices, Output Modules).

***   Maximum of 5 child Expander Modules connected in cascade
        Maximum of 3 child Expander Modules connected directly to the TXLTR or to another child Expander Module.

NORMATIVE COMPLIANCES

EN 300 220-2 v2.1.1 (04/2006)
EN301 489-03 v1.4.1 (08/2002)
EN60950-1:2001+A11:2004 / EN50371:2002
EN54-17:2006
EN54-25:2008
Electromagnetic Compatibility Directive 89/336/EEC
Electromagnetic Compatibility Directive 92/31/EEC
Electromagnetic Compatibility Directive 93/68/EEC
Low Voltage Directive 73/23/EEC
Low Voltage Directive 93/68/EEC

TXLTR LAYOUT

LOOP OUT -
LOOP OUT +
LOOP IN +
LOOP IN -
LCD SCREEN
DIODE LIGHT DL4
DIODE LIGHT DL3
DIODE LIGHT DL2
DIODE LIGHT DL1
DIODE LIGHT DL5
DIODE LIGHT DL6
PUSH BUTTON P4
PUSH BUTTON P3
RS232 PORT
PUSH BUTTON P2
PUSH BUTTON P1

TXLTR PROGRAMMING

The TXLTR can be programmed locally using Push Buttons, P1 – P4, if the devices are to be used in the default state and if there are no child RSM-EXP Expander Modules to be added. If device parameters are to be modified and/or child Expander Modules are to be added, this can only be achieved by using the Wirelex Configuration Tool. See appropriate manuals for each process.

NOTE: Programming using the Wirelex Configuration Tool is considered to be successful only if there is an indication of programming success on the Wirelex Configuration Tool – seen on the *"Configuration"* tab of the Wirelex program (a *"+"* will appear in the *"Prog"* column along with a small window stating *"Successful programming"*)

COMMUNICATION QUALITY ASSESSMENT

It is possible to assess the wireless communication quality between the TXLTR and fitted field devices and between the TXLTR and fitted child Expander Modules.

By selecting the "*LINK QUALITY*" tab on the Wirelex Configuration Tool, the signal level between the TXLTR and any other device can be monitored directly. In the *"Mark"* column, there will be a figure of 2, 3, 4 or 5.

 After a successful programming procedure, changing the *"Program"* switch to the *"ON"* position, the device LED will start blinking according to the table below.

Communication quality	Assessment	Software Indication
Link margin is less than 10 dB	Fail	2
Link margin is from 10 dB to 20 dB	Poor	3
Robust communication with link margin from 20 dB to 30 dB	Good	4
Robust communication with link margin over 30 dB	Excellent	5

MODULE DIMENSIONS (measured in mm)
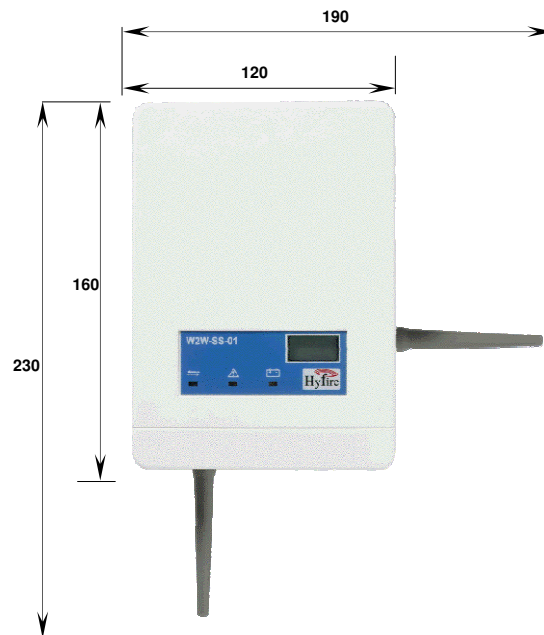
TESTING

In order to test the functionality of the TXLTR, the test should allow the TXLTR to send data packages to the FCP. This can be achieved by activating a trigger device that is directly linked to the TXLTR under test. This will generate an alarm detection message that will be sent to the TXLTR and onward to the FCP. The FCP will then generate a normal alarm condition on receipt of the signal. The FCP will generate an "ACTIVATE SOUNDERS" message and this message will be transmitted to the TXLTR child alarm devices.

After each test the FCP must be reset by its specific command.

All devices must be tested after installation and, successively, on a periodic basis.

DEVICE REMOVAL

To remove the TXLTR from the detection loop, the loop wiring should first be disconnected and "linked through" to continue the detection loop. If the device is being replaced, the two installed PCBs need to be removed and the two antennae disconnected before fitting new PCBs. The antennae can then be reconnected. If the TXLTR is no longer required, the whole unit should be removed from its fixings. If the associated child devices are no longer required they should be removed at the same time. If the child devices are to be moved to a different TXLTR or EXP, the devices will need to be re-programmed. Additional remedial action will be required to eliminate the faults at the FCP.

FAULT RESET

After testing and/or servicing child devices, soft faults may appear on the LCD screen of the TXLTR. The soft faults can be cleared by carrying out a RESET of the TXLTR (see Configuration and Commissioning Manual for further details). A RESET can also be used to assist Service/Installation/Commissioning Engineers in diagnosing system faults by clearing all soft faults leaving hard faults on the TXLTR.

DEVICE PLACEMENT

When mounting the TXLTR, it should be mounted with minimum back-box distortion as possible. This will ensure that the IP integrity of the TXLTR is maintained and that the front cover of the device will secure correctly. The device should be mounted such that the antennae are pointing down and to the right.

MAINTENANCE

Before starting any maintenance work on a TXLTR or its associated devices, the devices should be isolated or disabled at the FCP. After all disablements have been put in place, remove the front cover of the TXLTR, carry out the maintenance work ensuring the TXLTR front cover is fitted on completion.

<u>WARNINGS AND LIMITATIONS</u>

1) The TXLTR uses high quality electronic components and plastic materials that are highly resistant to environmental deterioration. However, after 10 years of continuous operation, it is advisable to replace the devices in order to minimize the risk of reduced performance caused by external factors. Ensure that this device is only used with compatible control panels.

2) Detection systems must be checked, serviced and maintained on a regular basis to confirm correct operation.

3) Refer to and follow national codes of practice and other internationally recognised fire engineering standards.

4) Appropriate risk assessment should be carried out initially to determine correct design criteria and updated periodically.

<u>WARRANTY</u>

All devices are supplied with the benefit of a limited 3 year warranty relating to faulty materials or manufacturing defects, effective from the production date indicated on each product.

This warranty is invalidated by mechanical or electrical damage caused in the field by incorrect handling or usage.

Product must be returned via your authorised supplier for repair or replacement together with full information on any problem identified.