



## INTRINSICALLY SAFE LORA I/O MODULE

The intrinsically safe Solexy LoRaWAN® I/O module allows the monitoring and control digitals and analog input as well as digital output in hazardous locations.

The LoRa® protocol allows for a long range, up to 10 km, with a low power consumption, leading to the possibility to have battery operated devices.

The wide number of analog and digital inputs available makes the LWI LoRa module a multipurpose solution for the transmission of multiple kind of information like temperature, pressure and anything that can be measured by a 4-20 mA or 0-10 V sensor, RTDs, K probe, through RS485 serial port and more.

The modular design based on a motherboard, with the radio and main components, and interchangeable slaves boards, with different kinds of input, gives to the customer the possibility to have a cost-effective solution, selecting the appropriate input number and type according to the application.

The battery-operated layout ensure an easy and faster installation in any installation where monitoring is required, including temporary installation.

### FEATURES

#### BATTERY OPERATED

Up to 5 years battery life, intrinsically safe battery with power input, can be replaced in the field (classified area)

#### LORA PROTOCOL

Long range with low power consumption  
Available in the 868 MHz and 915 MHz frequencies  
long range

#### WEATHER PROOF

IP 65/67

#### FLEXIBILITY

Input and output selected based on the requirements

#### HEAVY DUTY CONSTRUCTION

Rugged aluminium enclosure suitable for outdoor application

#### INTRINSICALLY SAFE

Device completely EXi

# APPROVALS



## ATEX / IECEx CERTIFICATION



Zone 0, 1, 2, 20, 21 & 22

II 1G Ex ia IIC T4 Ga

II 1D Ex ia IIIC T135°C Da

Ex ia IIC T4 Ga

Ex ia IIIC T135°C Da

# NOMENCLATURE



LWI M 0 04 EU X0 - 05 1  
a b c d e f g

### a - Housing

- M Metal housing
- P Plastic housing

### b - Digital input/output

- 0 RS485
- 1 RS485, 4 digital inputs, 1 digital output

### c - Analog input/output

- 0 None
- 1 Thermocouple type K
- 2 PT 100
- 3 PT 1000
- 4 4-20 mA receiver (ADC module 4-20mA) active
- 5 4-20 mA for existing loop (ADC module 4-20mA)
- 6 0-10 VDC (ADC module 0-10VDC)
- 7 6 PT100/1000, 1 4-20 mA

### d - Operating frequencies

- EU 863-870 MHz (Europe)
- US 902-928 MHz (North America)
- AP 920-923 MHz (Asia-Pacific)
- \*\* Contact Solexy team for specific regions

### e - Certification

- X0 ATEX/IECEx zone 0/20
- 00 Weatherproof

### f - extention (enclosure)

- 05 Aluminium 1
- 06 Plastic 1

### f - extention (battery)

- 0 Qty 1 BL-02
- 1 Qty 2 BL-02

Data contained



# SPECIFICATIONS

GENERAL	
ATEX certification	nr° FIDI 25 ATEX 0024X  Standards: IEC 60079-0:2018, IEC 60079-11:2012
IECEX certification	nr° IECEX FIDI 25.0011X  Standards: IEC 60079-0:2017, IEC 60079-11:2011
Power supply	3.6V / 7200mAh - replaceable lithium battery 9-36V / 500mW - external EX i power supply
Battery packs	BL-02: 3.6V/7200mAh BL-01: 3.6/5200mAh (on request)
Battery life	Up to 5 years
Ambient temp. range	-40°C (-40°F) +60°C (+140°F) with BL-02 (Battery pack 2) -40°C (-40°F) +80°C (+176°F) with BL-01 (Battery pack 1) (on request)
IP Rating	IP65/67
RF TRANSCEIVER	
Frequency of operation	EU: 863-870 MHz      US: 902-928 MHz
Transmit power	+14 dBm      +19dBm
Receiver sensitivity	-137 dBm      -130 dBm
I/O MODULE	
Temperature	Thermocouple Type K PT100 / PT1000
Analog	4-20mA   ~15 Vdc @ 40mA (Ex i) gauge voltage supply 0-10V
Digital	4 digital input   1 digital output (Relay NC/NO)   counting functionality on input n° 4, max frequency 2Hz
Serial	RS485 (for configuration and communication non bi-directional)
FIRMWARE	
Protocol	LoRaWAN®, Class A
Transmission cycles	Configurable from 1 to 2592000sec. (ideal once every hour for better autonomy)
Data compression	Yes (differential coding)
Activation method	Activation by Personalization (ABP) or Over-The-Air Activation (OTAA)
Data encryption	AE128

Data contained in this specification are subject to change without notice





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