Wi-Pulse L or XL

The Wi-Pulse L or XL series is a dual input pulse counter used to transmit values form electric [2], gas [1) 2)], or water meters [2] within the Wi-LEM network.

[3]

Sensor characteristic

	Maximum pulse input voltage	3.3		V
		Min	Max	
V_{T+}	Positive-going input threshold voltage (Pulse “off”)	1.3	2.2	V
V_{T-}	Negative-going input threshold voltage (Pulse “on”)	0.45	1.3	V
	Pulse width (closure time)	10	100	ms
	Input impedance (pull up resistor) selectable [4]	1.5		kΩ
		10		kΩ
		100		kΩ

Power

External DC input voltage	4.5 to 30	V
Internal DC input voltage	4.5	V

Pulse counting

Maximum cumulative pulse count capacity [5) 6)]	32	bits
Maximum Interval pulse count capacity [5) 6)]	16	bits
Interval setting	5 .. 30	minutes

Radio characteristic

RF frequency range	2405 .. 2480	MHz
Standards	IEEE 802.15.4	
♦ Programmable in 16 channels		
♦ Channel spacing 5 MHz		
♦ Unlicensed ISM band worldwide		
♦ Data rate	250	kbps
(WI-Pulse L) range to Mesh Gate or Mesh Node (indoor, line of sight)	140	m
(WI-Pulse XL) range to Mesh Gate or Mesh Node (indoor, line of sight)	260	m

General data

T_A	Ambient operating temperature (90 % rH)	- 10 .. + 55	°C
T_S	Ambient storage temperature	- 25 .. + 85	°C
m	Mass with 3 x AA batteries	170	g
	without batteries	80	g
	RF certification	CE, FCC, IC, Japan (pending)	

Notes: [1)] An additional intrinsic safety barrier module is needed
[2)] For pulse output equiped meter
[3)] Batteries are not included in the 5 year warranty.
LEM is not liable for any improper use of the batteries (i.e. leakage etc.)
[4)] By mean of jumpers
[5)] Resetable by Modbus command
[6)] Stored in EEPROM (non volatile memory).

Features

- Wireless communication on license free 2.4 GHz-transmit RF power maximum
  EIRP: 10 dBm (10 mW) for L
  18 dBm (60 mW) for XL
- Connections : dual 6 pins modular RJ14 jack.

Advantages

- Fast & easy mounting
- Compact
- Ideal for retrofit applications
- Battery powered: 3 X AA size
- Gateway interface: RS 232/485 Modbus RTU
- Internal integrated antenna
- Easy interfacing with dry contact or open collector / drain transistor.

Applications

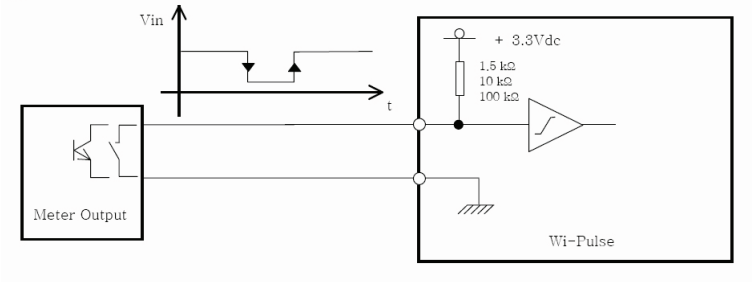
- All energy sub-metering
- Energy audit & diagnostic
- Building energy management.

Application domain

- Energy & Automation.

Wi-Pulse L or XL

Typical battery interface



Typical battery life time

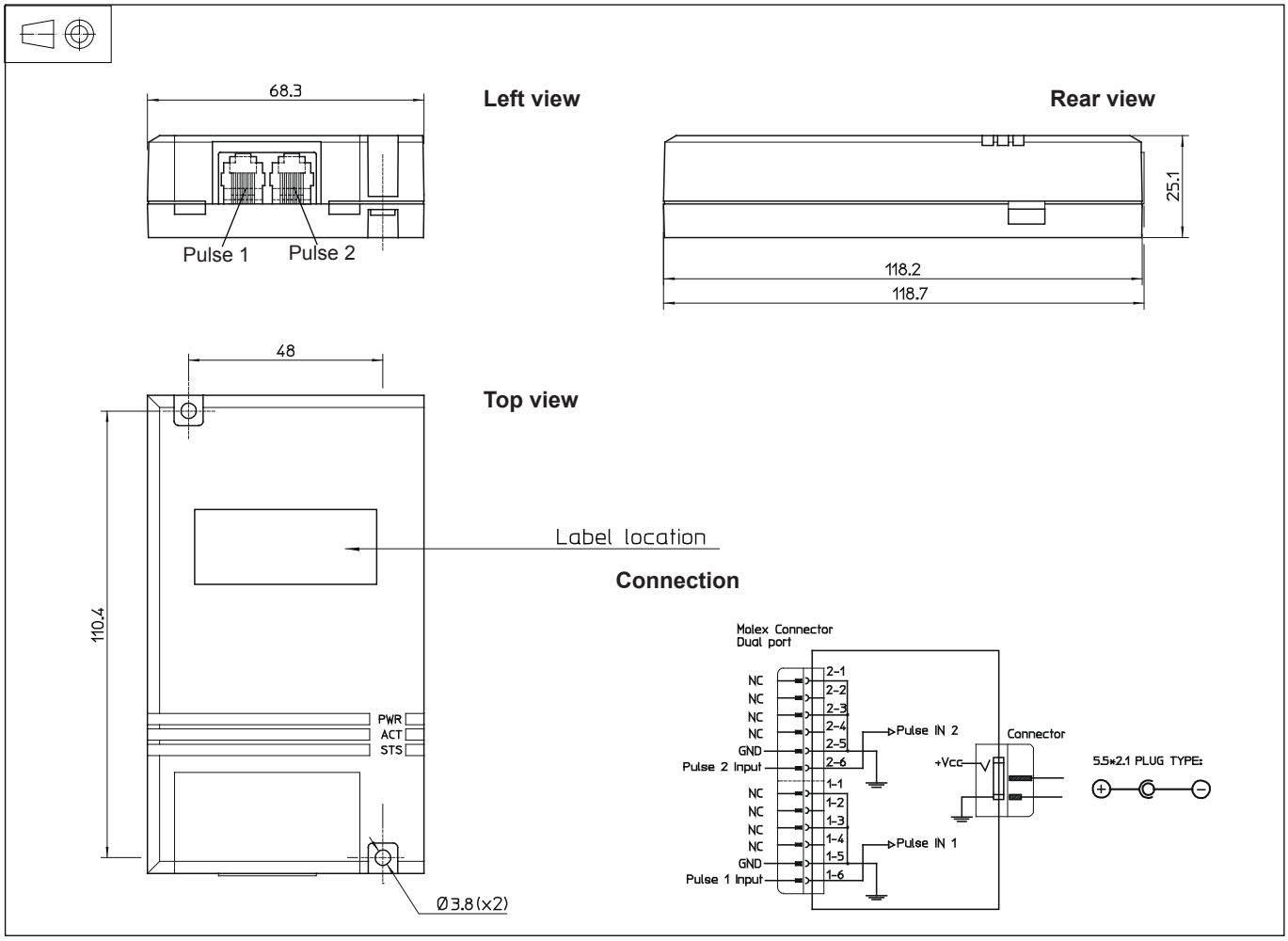
The battery life depends on Interval setting, frequency of incoming pulses and other environmental parameters.
The values below are indicative and may change according to usage conditions and battery choice.

Interval setting: 300 s (5')
Battery capacity: 2700 mAh (AA size Alkaline)
Pulse rate: input 1 + input 2

Pulse Rate (Hz)	Battery Life time(years)
10	0.75
1	4
0.1	8
0.01	9

Important notice: alkaline batteries have typical shelf life of 7 years @ 21°C, 80 % of initial capacity.
For longer-term applications, Lithium batteries may be substituted for improved battery life.
(typical shelf life of 15 years @ 21°C, 90 % of initial capacity).

Dimensions Wi-Pulse L or XL (in mm. 1 mm = 0.0394 inch)



Power Supply: AC Adaptor

Please order separately the AC Power Supply according to the table below.

Reference name	Description	LEM code
AC Adaptor EU	AC Power Supply for EU	90.D2.98.004.0
AC Adaptor UK	AC Power Supply for UK	90.D2.98.005.0
AC Adaptor US/JP	AC Power Supply for US & Japan	90.D2.98.003.0