

EXPLOSION PROOF VHF & UHF RADIOMODEMS



Solexy radiomodem is a VHF/UHF simplex/half-duplex high quality radiomodem operating on 12.5 kHz, 25 kHz or 50 kHz channels available in 169 MHz and 868 MHz band in accordance with European Decision 2005/928/CE.

These products were developed as a **licence free device**.

Solexy radiomodems are supplied complete with a RS232 / RS485 interface, optoisolated input and relay output installed in our explosion proof housing WA and WS series that allows a serial data transmission in classified area Ex.

Solexy radiomodems are fully transparent to the user and configurable from the PC by means of a dedicated software for the desired functions.



FEATURES

- ✓ **LOW POWER**
Low power consumption in both RX and TX mode with selectable power saving mode by software and on/off switching controlled via DTR criteria
- ✓ **STORE AND FORWARD**
Store & Forward mode with 1024 byte maximum buffer size
- ✓ **ADAPTIVE FREQUENCY AGILITY**
Adaptive Frequency Agility on 2 or 3 channels
- ✓ **SOFTWARE CONFIGURATION**
Complete configuration by means of a PC through dedicated software
- ✓ **ADVANCED PROTOCOL**
Point to point, Point to Multipoint, Broadcasting mode or Adresses management, Adresses stored in configuration or from DTE, Digipeater mode, Remote configuration through radio network, Adresses reversing for the answer, Echo function
- ✓ **TRANSPARENT SERIAL TRANSMISSION DATA PLUS EXTRA DIGITAL INPUT/OUTPUT**
Serial trasmission RS232 or RS485 transparent to the user plus optoisolated input and relay output may be used for alarms and/or actuation

APPROVALS

ATEX / IECEX CERTIFICATION

- Ex II 2G Ex db IIC T5-T4 Gb
- II 2D Ex tb IIIC T110°C/T140°C Db
- I M2 Ex db I Mb (WS Only)

NOMENCLATURE

S WA 512 01 - 42 0 X3
a b c d e

a Enclosure

- WA Aluminum polyester powder coated
- WS Stainless steel AISI 316 (CF8M) electropolish

b Device

- 512 Radiomodem VHF 169 MHz, 500 mW RF power output
- 542 Radiomodem UHF 868 MHz, 500 mW RF power output

c Antenna connection

- 03 n° 1 RXN antenna coupler (N Female)
- 04 n° 1 RXF antenna coupler (RP-SMA Female)

d Cable entries

- 42 n° 4 3/4" npt-f
(one used for antenna connection)
- 44 n° 4 M25x1.5
(one used for antenna connection)

e Approvals

- X1 IECEx and ATEX Gas and Dust (WA only)
- X2 IECEx and ATEX Gas, Dust and Mining (WS only)



RS232 / RS485
plus Digital Input
and Relay Output



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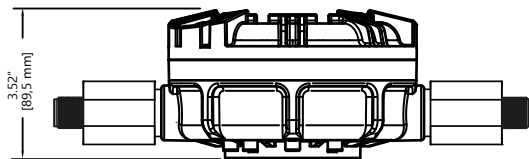
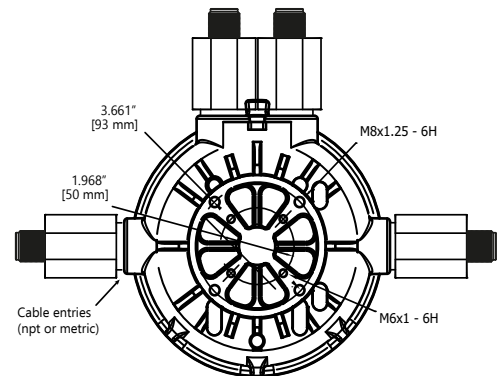
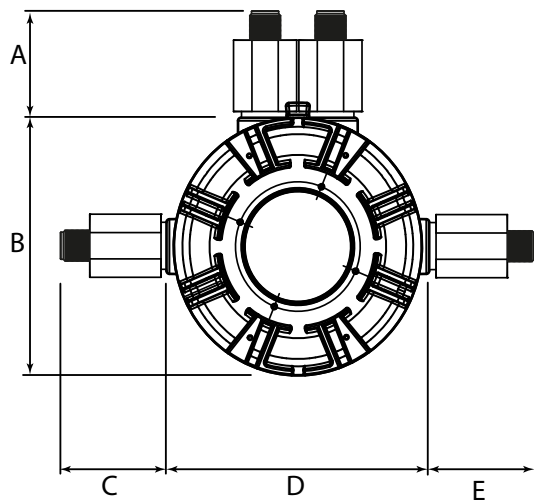
SPECIFICATIONS

		DEVICE	
GENERAL		512	542
Operating band		169.400 MHz 169.475 MHz	868.400 MHz 869.650 MHz
Canalization		12.5 25 50 kHz	
Modulation		9K00F1D or 18K0F1D	
Radio data rate (Tx/Rx)		4800 bps @ 12.5 kHz 9600 bps @ 25 kHz 19200 bps @ 50 kHz	
Frequency stability		±2 ppm	± 1 ppm
Supply voltage		9-32 VDC	
Rx consumption (@12 VDC)		≈ 30 mA	
Tx consumption (@12 VDC)		≈ 200 mA	
Relay output rating		1A@24V AC/DC resistive load (Normally Open)	
Digital input		5-24VDC - 3.5-20VAC Z _{INP} 2.2 kΩ (optoisolated)	
Ambient temp. range	WA series WS series	-30°C (-22°F) +70°C (158°F) -30°C (-22°F) +65°C (149°F)	
Housing material	WA series WS series	Die cast aluminium polyester powder coated AISI 316 (CF8M) electropolished	
Weather proof		IP 66/68	
TRANSMITTER		512	542
Output power		25/150/500 mW	25/150/500 mW
Frequency deviations		± 1.8 kHz @ 12.5 kHz ± 3.6 kHz @ 25 kHz ± 4.8 kHz @ 50 kHz	
Output power stability		± 1.5 dB	
RECEIVER		512	542
Type		CLASS 1 - LBT and AGILITY	CLASS 2 - LBT and AGILITY
Sensibility @ BER < 10 ⁻²	12.5 kHz 25 kHz 50 kHz	< -110 dBm < -107 dBm < -105 dBm	< -107 dBm < -105 dBm
INTERFACE		512	542
Type		RS232 and RS485	
Data rate		From 1200 to 57600 bps	
Data format		Asynchronous 8, N, 1 - 8, E, 1 - 8, O, 1 - 7, E, 1 - 7, O, 1 - 7, N, 2	
Operative modality		Simplex or half-duplex	

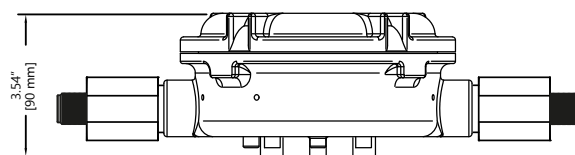
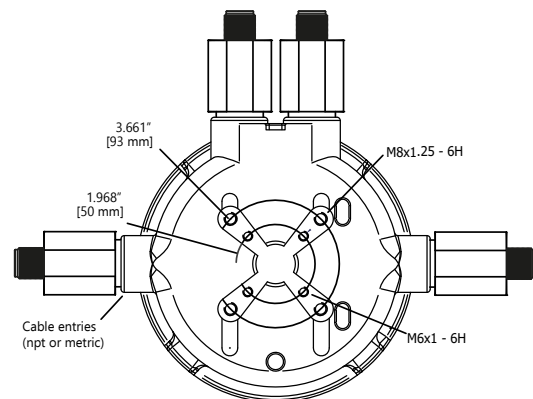
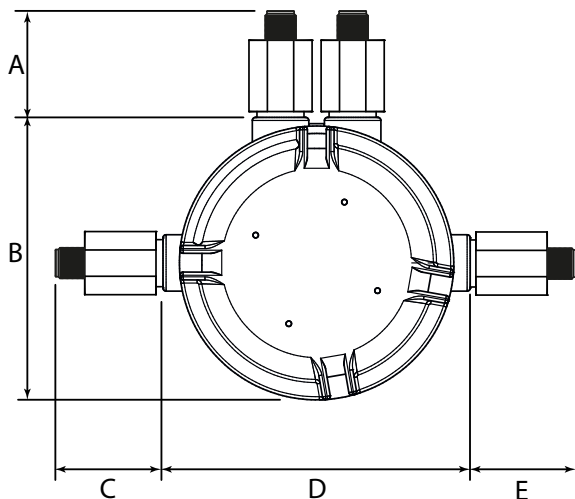
DIMENSIONAL DRAWINGS



WA



WS



SPECIFICATIONS

Device	Model	A (*)	B (*)	C (*)	D (*)	E (*)
Explosion proof VHF & UHF radiomodems						
512 542	S WA	-	179,8 mm [7.08"]	58,5 mm [2.30"]	180 mm [7.09"]	-
	S WS	-	180,5 mm [7.11"]	58,5 mm [2.30"]	196 mm [7.72"]	-
Explosion proof Modbus RTU radiomodems						
510 540	S WA	-	179,8 mm [7.08"]	58,5 mm [2.30"]	180 mm [7.09"]	-
	S WS	-	180,5 mm [7.11"]	58,5 mm [2.30"]	196 mm [7.72"]	-
51E 54E	S WA	-	179,8 mm [7.08"]	70 mm [2.76"]	180 mm [7.09"]	-
	S WS	-	180,5 mm [7.11"]	70 mm [2.76"]	196 mm [7.72"]	-
Explosion proof Router WiFi access point						
U_0 L_0 M_0 H_0 G_0	S WA	58,5 mm [2.30"]	179,8 mm [7.08"]	-	180 mm [7.09"]	-
	S WS	58,5 mm [2.30"]	180,5 mm [7.11"]	-	196 mm [7.72"]	-
U_1 L_1 M_1 H_1 G_1	S WA	58,5 mm [2.30"]	179,8 mm [7.08"]	-	180 mm [7.09"]	-
	S WS	58,5 mm [2.30"]	180,5 mm [7.11"]	-	196 mm [7.72"]	-
Explosion proof WiFi access point						
A01	S WA	-	179,8 mm [7.08"]	70 mm [2.76"]	180 mm [7.09"]	-
	S WS	-	180,5 mm [7.11"]	70 mm [2.76"]	196 mm [7.72"]	-
Explosion proof WiFi MIMO access point						
A02	S WA	-	179,8 mm [7.08"]	70 mm [2.76"]	180 mm [7.09"]	70 mm [2.76"]
	S WS	-	180,5 mm [7.11"]	70 mm [2.76"]	196 mm [7.72"]	70 mm [2.76"]
Explosion proof Bluetooth serial adapter						
B10 B11	S WA	-	179,8 mm [7.08"]	58,5 mm [2.30"]	180 mm [7.09"]	-
	S WS	-	180,5 mm [7.11"]	58,5 mm [2.30"]	196 mm [7.72"]	-
Explosion proof RF junction box						
001 002 003 004 007 008 009 010 011 012	H WA	-	179,8 mm [7.08"]	70 mm [2.76"]	180 mm [7.09"]	-
	H WS	-	180,5 mm [7.11"]	70 mm [2.76"]	196 mm [7.72"]	-

(*) dimension related to N female antenna connector

