B00012-02

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 SWA and SWS 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
Zone 1, 2, 21 & 22

I M2(M1) Ex db mb [ia Ma] I Mb (SWS only)
II 2(1) G Ex db mb [ia Ga] IIC T6...T5 Gb
II 2(1) D Ex mb tb [ia Da] IIIC T80°C...T100°C Db

NOMENCLATURE

SWA	512	01	-	42	0	X0
a	b	c		d		e

a - Enclosure
SWA Aluminum polyester powder coated
SWS 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 (1)
03 n° 1 RXN antenna coupler (N Female) (2)
04 n° 1 RXF antenna coupler (RP-SMA Female) (2)

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
X0 IECEx & ATEX Gas and Dust (SWA only) (3)
M0 IECEx & ATEX Gas, Dust and Mining (SWS only) (3)

Notes:
(1) *Antenna not included*
(2) *Layout 2 (consult dimensional drawings for specific layout)*
(3) *Zone 1, 2, 21 & 22*

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RS232 / RS485
plus Digital Input
and Relay Output

RS232 / RS485
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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 I 25 I 50 kHz	
Modulation	9K00F1D or 18K0F1D	
Radio data rate (Tx/Rx)	4800 bps @ 12.5 kHz I 9600 bps @ 25 kHz I 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	SWA series: -30°C (-22°F) +63°C (+145°F) SWS series: -30°C (-22°F) +57°C (+134°F)	
Housing material	SWA series: Die cast aluminum polyester powder coated SWS series: AISI 316 (CF8M) electropolished	
Weather proof	IP 66/68	
Weight	SWA: 2,3 kg (without antenna) SWS: 5,0 kg (without antenna)	

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	

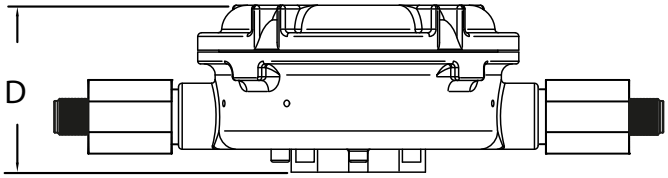
RECEIVER		**512**	**542**
Type		CLASS 1 - LBT and AGILITY	CLASS 2 - LBT and AGILITY
Sensibility @ BER < 10^{-2}	12.5 kHz 25 kHz 50 kHz	< -110 dBm < -107 dBm < -105 dBm	 < -107 dBm < -105 dBm

INTERFACE	**512**	**542**
Type	RS232 and RS485	
Data rate	From 1200 to 57600 bps	
Data format	Asyncrhronous 8, N, 1 - 8, E, 1 - 8, O, 1 - 7, E, 1 - 7, O, 1 - 7, N, 2	
Operative modality	Simplex or half-duplex	

AVAILABLE ACCESSORIES

MOUNTING BRACKET: KM-01: mounting kit for 2" pipe
(see dedicated data sheet) KM-02: universal mounting kit

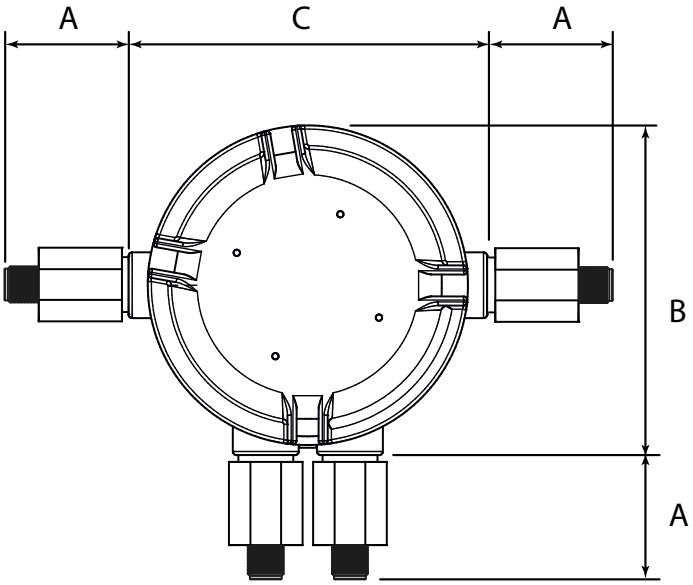
DIMENSIONAL DRAWINGS

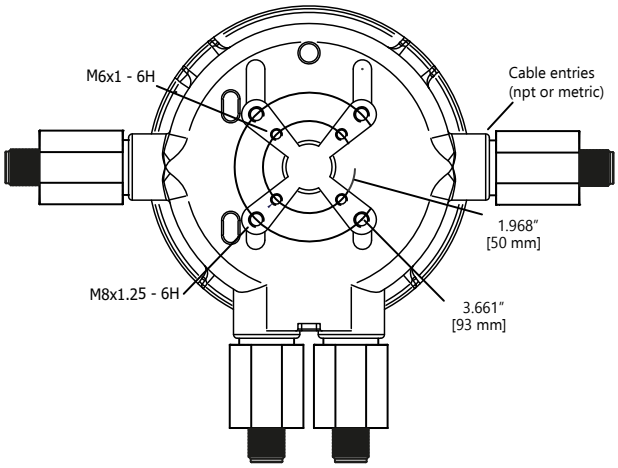


In order to determine overall dimension of a specific unit pls follow instructions:

1) Select the specific layout (you can find it in the product nomenclature)

2) Consider only the antenna coupler dimension (A) that you find in the layout



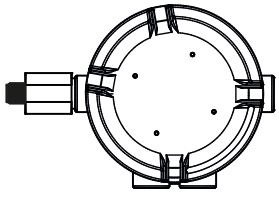


Model	A (*)	B	C	D
SWA HWA	58,5 mm [2.30"] metric coupler 70 mm [2.76"] npt coupler	179,8 mm [7.08"]	180 mm [7.09"]	89,5 mm [3.52"]
SWS HWS	58,5 mm [2.30"] metric coupler 70 mm [2.76"] npt coupler	180,5 mm [7.11"]	196 mm [7.72"]	90 mm [3.54"]

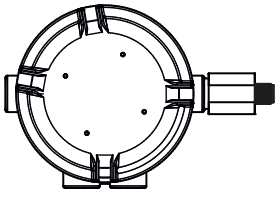
(*) max dimension related to RX or SX coupler with N female antenna connector

TYPICAL LAYOUTS **

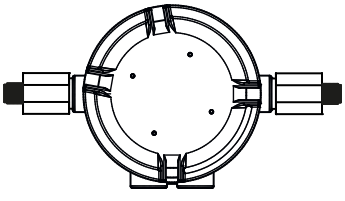
Layout 1



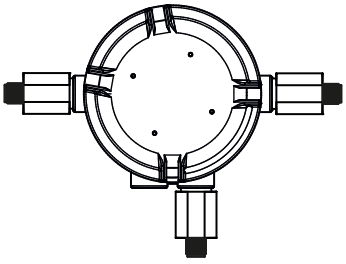
Layout 2



Layout 3



Layout 4



(**) layout type specified in device datasheet