SOLEXY
WIRELESS

HAZARDOUS LOCATIONS
TELEMETRY EQUIPMENT

WIRELESS & SYSTEMS
ACCESSORIES

COMPANY

SOLEXY specializes in **devices and patented technology for radio and buss transmissions in hazardous classified areas** such as refineries, chemical plants, mines, off shore rigs and other hazardous rated areas.

Our flameproof intrinsically safe barriers for radios and busses allowed transmission of RF signals into classified "Hazardous Areas".

Expanding on the need of this technology in industrial environments, we developed a **line of industrial antennas** that meet the demanding requirements and hostility of the process environment.
Expanding our patented technology and realizing the demand to protect other signals, we developed a **solution for Ethernet**.
It is now possible to transmit Ethernet signals from explosion proof enclosures or purge panel systems into a hazardous area with the use of our Passive Ethernet barrier, without the cost of additional sealing devices, area rated conduit systems, or additional power.

The italian Solexy headquarter in Desenzano del Garda (Brescia) and the USA R&D department, located in Cincinnati (Ohio)

APPROVALS

Our product range is totally designed and manufactured according to the stringent specifications of both European and North American standards.

Our technical department works with highly sophisticated systems, which include state-of-the-art 3D design software, finite element analysis, vector network analyzers, and other electronic equipment.

HAZARDOUS AREA WIRELESS SYSTEMS CATAGLOGUE

SWS and SWA series hazardous area enclosures are available as **Junction boxes**, **Wi-Fi hotspots** configured as a master, client or repeater, **Radio Modems** that can be used to interface remote serial ports and digital and analog I/O from the field to remote locations and totally wire free transmission of RF signals.

Optional intrinsically safe ethernet signals **can be added** with minimal cost of installation.

Radio modems with remote I/O can transmit and receive using **Modbus protocol** as a standard option or can be transparent.
Available in either a stainless steel (WS) or powder coated aluminum (SWA) explosion proof rated enclosure.

Explosion proof Ex d IIC enclosure made in alluminum (SWA series) or stainless steel (SWS series) weather proof IP66/68

All Approved for ATEX, IECEx and USA & Canada.

Hazardous Locations Radio Solutions

EXPLOSION PROOF WIFI MIMO DUAL RADIO ACCESS POINT

The Solexy SWA/SWS A1* is the most compact industrial WiFi MIMO 2x2 access point rated for installation in Zone 1 rated hazardous locations and harsh environments.
It is completely configurable through its Ethernet or WiFi port via your internet browser or through a dedicated configuration software and offers routing, filtering and advanced security features including 802.11i (EAP authentication with Radius server/WPA/WPA2 Enterprise), tunnels with fully encrypted data, firewall, VLAN...

The SWA/SWS A1* features several operating functions: WiFi access point, client, repeater & MESH point modes. It is available with three different radio configurations all of them 2.4/5GHz: 802.11/n MIMO 2x2 (A10) or 802.11/ac MIMO 2x2 (A11) or in a unique dual radio configuration 802.11/n MIMO 2x2 (WiFi1) + 802.11/ac (WiFi2) that allows all the different operating modes to be active simultaneously (A12). For instance one radio is used to maintain the connectivity backbone and the other radio is used as local access point.

It can be powered using the same Ethernet cable used for data (POE or PPOE) or independently through dedicated terminals.

With Solexy's SWA and SWS enclosures and their rugged construction water proof IP66, IP68, Nema 4 and 4X combined with Atex, IECEx and North America certificates, Solexy offers a wireless device solution for installation in classified Ex areas (gas, dust and mining) and harsh environments, including temporary submersion.

FEATURES

✓ **OPERATING FUNCTIONS**
WiFi Access Point, WiFi Client, Repeater & MESH (A10 and A12 only)

✓ **WiFi**
A10: 802.11a/b/g/n, MIMO 2x2, 2.4/5GHz, ANI *(Adaptive Noise Immunity)*
A11: 802.11a/b/g/n/ac, MIMO 2x2, 2.4/5GHz, ANI *(Adaptive Noise Immunity)*
A12: 802.11a/b/g/n, MIMO 2x2, 2.4/5GHz, plus 802.11a/b/g/n/ac, 2.4/5GHz

✓ **ETHERNET CONNECTION**
1-port Gigabit Ethernet 10/100/1000 Base TX auto-sensing, auto MDI/MDIX cross-over, RJ45

✓ **HEAVY DUTY CONSTRUCTION**
Explosion proof enclosure made of alluminum (SWA series) or stainless steel (SWS series) weather proof IP66/68.

APPROVALS

ATEX / IECEX CERTIFICATION
Zone 1, 2, 21 & 22
II 2G Ex db IIC T5-T4 Gb
II 2D Ex tb IIIC T110°C/T140°C Db
I M2 Ex db I Mb (SWS only)

USA & CANADA CERTIFICATION
Class I, Division 1, Groups B, C and D
Class II, Division 1, Groups E, F and G
Class I, Zone 1, Groups IIB+H2 [For U.S. only]
Zone 21, Groups IIIC [For U.S. only]

AVAILABLE ACCESSORIES

ANTENNAS:
ANF72: flexible dipole (2.4GHz/2dBi)
ANH73: heavy duty J-Pole (2.4GHz/4.35dBi)
ANH92: heavy duty dipole (2.4GHz/2dBi-5GHz/2dBi)

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

SPECIFICATIONS

GENERAL	
Ethernet interface	1-port Gigabit Ethernet 10/100/1000 Base TX auto-sensing, auto MDI/MDIX cross-over, RJ45
WiFi interfaces	A10 (WiFi1) : 802.11a/b/g/n, MIMO 2x2, 2.4/5 GHz, ANI (Adaptive Noise Immunity) A11 (WiFi2): 802.11a/b/g/n/ac, MIMO 3T3R, 2.4/5 GHz, ANI (Adaptive Noise Immunity) A12 (WiFi1+ WiFi2,1 stream): 802.11n, MIMO 2x2, 2.4/5 GHz, plus 802.11a/b/g/n/ac, 2.4/5 GHz
WiFi radio data rate	A10 (WiFi1): up to 250 Mbps A11 (WiFi2): up to 600 Mbps A12 (WiFi1+ WiFi2): up to 250 Mbps (WiFi1) and up to 360 Mbps (WiFi2)
Operating frequencies	802.11a/n : 5GHz (5.170 to 5.835) 802.11b/g/n : 2.4GHz (2.42 to 2.494)
Output power	A10: (WiFi1) 2.4 GHz : up to 23.5 dBm (aggregate) / 5 GHz : up to 21 dBm (aggregate) $\pm$ 2 dB A11: (WiFi2) 2.4 GHz : up to 23.8 dBm (aggregate) / 5 GHz : up to 21 dBm (aggregate) $\pm$ 2 dB A12: (WiFi1) 2.4 GHz : up to 23.5 dBm (aggregate) / 5 GHz : up to 21 dBm (aggregate) $\pm$ 2 dB (WiFi2) 2.4 GHz : up to 20.8 dBm (aggregate) / 5 GHz : up to 18 dBm (aggregate) $\pm$ 2 dB
Security	Firewall, DoS, https, MAC filtering, WPA/WPA2-Personal & Enterprise (IEEE 802.1X/RADIUS), WEP, tunnels L2 (GRE), VPN (OpenVPN), SNMP V3
WiFi modes	Access point, client, MESH (IEEE 802.11s), infrastructure, AD-HOC, fast roaming (less than 30 ms), WMM QoS
Ethernet networking	Frames filtering, bridging, repeater, STP/RSTP, VLAN, DHCP (server & client), DNS relay
Ethernet routing	Multicast (PIM), IP redundancy (VRRP), static routes, NAT router, router
Administration	http, https, SNMP agent (V1, V2C, V3), WaveManager administration software
Power supply	18-60 VDC Power Method: Dedicated terminals or POE or PPOE (Passive Power over Ehternet)
Power consumpion	8W

Ambient Temp Range	USA & CANADA SWA series -40°C (-40°F) +70°C (+158°F)
	                    SWS series -40°C (-40°F) +70°C (+158°F)
	ATEX & IECEx
	                    SWA series -40°C (-40°F) +60°C (+140°F)
	                    SWS series -40°C (-40°F) +50°C (+122°F)

NOMENCLATURE

SWA	A10	33	-	42	0	X0
a	b	c		d		e

a - Enclosure
SWA   Aluminum polyester powder coated
SWS   Stainless steel AISI 316 (CF8M) electropolish

b - Device
A10   802.11n, MIMO 2x2
A11   802.11ac, MIMO 2x2
A12   802.11n, MIMO 2x2 plus 802.11ac (1 stream)

c - Antenna connection [1]
30   n° 3 RXN antenna coupler (N Female) [2]
33   n° 2 RXN antenna coupler (N Female) [3]
40   n° 3 RXF antenna coupler (RP-SMA Female) [2]
44   n° 2 RXF antenna coupler (RP-SMA Female) [3]
50   n° 3 RXS antenna barrier (SMA Female) [2]
55   n° 2 RXS antenna barrier (SMA Female) [3]

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

e - Approvals
X0   Atex/IECEex Gas and Dust certified [4]
M0   Atex/IECEx Gas, Dust and mining certified [4]
N0   QPS CL1 DIV1 and North American Zones listed
XN   QPS CL1 DIV1 and North American Zones listed +
       Atex/IECEx Gas and Dust certified (WA series only) [4]
MN   QPS CL1 DIV1 and North American Zones listed +
       Atex/IECEx Gas,Dust and Mining certified (WS series only) [4]

Notes:

[1] *Antenna not included*
[2] *Layout 4 (consult dimensional drawings for specific layout)*
[3] *Layout 3 (consult dimensional drawings for specific layout)*
[4] *Zone 1, 2, 21 & 22*

B00021-01

EXPLOSION PROOF CELLULAR ROUTER AND ACCESS POINT

The Solexy SWA/SWS R0* is a compact, cost-effective and secure industrial 4G/LTE Wi-Fi router for installation in harsh environments and hazardous locations. It is used to create a WiFi Hotspot based on a cellular connectivity. External N or SMA/RP-SMA antenna connectors make it possible to attach desired antennas and easily find the best signal location. SWA/SWSR0* Industrial LTE router have industry leading security features and widely used for 4G backup, Remote Connection, Out-of-Band Management, Advanced VPN and tunneling services in IoT networking solutions.

With Solexy's SWA and SWS enclosures and their rugged construction combined with Atex, IECEx and North America certificates, Solexy offers a wireless device solution for installation in classified Ex areas (gas, dust and mining) and harsh environments.

FEATURES

- **OPERATING FUNCTIONS**
  WiFi access point (Wifi to LAN or WiFi to 2G/3G/4G)
  WiFi client (LAN to WiFi)

- **DATA RATE**
  4G (LTE) Cat 4 up to 150 Mbps
  3G up to 42 Mbps and 2G up to 236.8 kbps

- **WIRELESS**
  IEEE 802.11 b/g/n Access Point (AP) and Station (STA)

- **SMS TOOLS**
  SMS status, SMS configuration, send/read SMS
  via HTTP POST/GET

- **HEAVY DUTY CONSTRUCTION**
  Explosion proof enclosure made in alluminum (SWA series)
  or stainless steel (SWS series) weather proof IP66/68

■ APPROVALS

ATEX / IECEX CERTIFICATION
Zone 1, 2, 21 & 22

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

USA & CANADA CERTIFICATION
Class I, Division 1, Groups B, C and D
Class II, Division 1, Groups E, F and G
Class I, Zone 1, Groups IIB+H2 [For U.S. only]
Zone 21, Groups IIIC [For U.S. only]

SPECIFICATIONS

GENERAL			
Power supply	9 - 30 VDC, Passive PoE		
Power consumption	5W		
Ambient temp. range	USA & CANADA	SWA series -40°C (-40°F) +75°C (+158°F) SWS series -40°C (-40°F) +75°C (+158°F)	
	ATEX & IECEx	SWA series -40°C (-40°F) +68°C (+154°F) SWS series -40°C (-40°F) +61°C (+141°F)	

HARDWARE		
CPU	Atheros Hornet, MIPS 24Kc, 400 MHz	
Memory	RAM 64MB, DDR2, Flash 16MB SPI	
I/O	1 x Digital Input, 1 x Digital Output	
Ethernet	2 x RJ45 ports, 10/100 Mbps	
Network connection	4G	Cat 4 up to 150 Mbps
	3G	Up to 42 Mbps
	2G	Up to 236.8 kbps
Supported bands* * in function of device installed	4G (LTE-FDD)	B1, B2, B3, B4, B5, B7, B8, B12, B13, B18, B19, B20, B26, B28
	4G (LTE-FDD)	B38, B39, B40, B41z
	3G	B1, B2, B4, B5, B6, B8, B19
	2G	B2, B3, B5, B8
WiFi	802.11 b/g/n - Up to 50 simultaneuos connection	

SOFTWARE		
Management	WEB UI	HTTP/HTTPS, status, configuration, FW update, CLI, troubleshoot, event log, system log, kernel log
	FOTA	Firmware update from sever, automatic notification
	SSH	SSH (v1, v2)
	SMS	SMS status, SMS configuration, send/read SMS via HTTP POST/GET
	SNMP	SNMP (v1, v2, v3), SNMP trap
	JSON-RPC	Management API over HTTP/HTTPS
	MODBUS	MODBUS TCP status/control
	RMS	Remote Management System (RMS)
VPN	OpenVPN	Multiple clients and server can be running simultaneously, 12 encryption methods
	IPsec	IKEv1, IKEv2, supports up to 4x VPN IPsec tunnels (instances), with encryption
	GRE	GRE tunnel
	PPTP, L2TP	Client/Server services can run simultaneously
	Stunnel	Proxy designed to add TLS encryption functionality to existing clients and servers without any changes in the programs' code.
	SSTP	SSTP client instance support

NOMENCLATURE

SWA	R00	33	-	42	0	X0
a	b	c		d		e

a - Enclosure
SWA   Aluminum polyester powder coated
SWS   Stainless steel AISI 316 (CF8M) electropolish

b - Device
R00   Europe, the Middle East, Africa, Korea,
            Thailand, India
R01   North America (AT&T, T-Mobile)[1]
R02   North America (Verizon)
R03   Australia (Telstra)
R04   South America, Australia, New Zealand, Taiwan

c - Antenna connection [2]
30   n° 3 RXN antenna coupler (N Female) [3]
33   n° 2 RXN antenna coupler (N Female) [4]
54   n° 2 RXS antenna coupler (SMA Female) for Mobile [4]
            n° 1 RXF antenna coupler (RP-SMA Female) for WiFi [4]
45   n° 1 RXS antenna coupler (SMA Female) for Mobile [3]
            n° 1 RXF antenna coupler (RP-SMA Female) for Wifi [3]

d - Cable entries
42   n° 4 3/4" npt-f
44   n° 4 M25x1.5

e - Approvals
X0   Atex/IECEex Gas and Dust certified [5]
M0   Atex/IECEx Gas, Dust and mining certified [5]
N0   QPS CL1 DIV1 and North American Zones listed
XN   QPS CL1 DIV1 and North American Zones listed + Atex/IECEx Gas and Dust certified (WA series only) [5]
MN   QPS CL1 DIV1 and North American Zones listed + Atex/IECEx Gas,Dust and Mining certified (WS series only) [5]

Notes:

[1] AT&T and T-Mobile approval in progress
[2] Antenna not included
[3] Layout 4
[4] Layout 3 (consult dimensional drawings for specific layout)
[5] Zone 1, 2, 21 & 22

AVAILABLE ACCESSORIES

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

B00022-00

EXPLOSION PROOF CELLULAR GATEWAY WITH WIFI

The Solexy SWA/SWS D0* is a compact, cost-effective and high-performance Cellular Dual Ethernet Gateway with WiFi for installation in harsh environments and hazardous locations.
It utilizes the cellular infrastructure to provide network access to wired or wireless devices anywhere cellular coverage is supported by a cellular carrier.
SWA/SWS D0* supports 4G/LTE connections with blazing fast speeds.

External N or SMA/RP-SMA antenna connectors make it possible to attach desired antennas and easily find the best signal location.
With Solexy's SWA and SWS enclosures and their rugged construction combined with Atex, IECEx and North America certificates, Solexy offers a wireless device solution for installation in classified Ex areas (gas, dust and mining) and harsh environments.

FEATURES

✔ **OPERATING FUNCTIONS**
Cellular Ethernet bridge
Gateway service for equipment with RJ45 or WiFi interface
WiFi access point to LAN or to 3G/4G

✔ **DATA RATE**
4G (LTE) Cat 4 up to 150 Mbps
3G up to 42 Mbps

✔ **WIRELESS**
IEEE 802.11 b/g/n up to 150 Mbps

✔ **VPN AND FIREWALL**
VPN tunneling and customizable Firewall rules with ACL

✔ **DATA USAGES ALERTS**
via e-mail and SMS

✔ **HEAVY DUTY CONSTRUCTION**
Explosion proof enclosure made in alluminum (SWA series) or stainless steel (SWS series) weather proof IP66/68

APPROVALS

ATEX / IECEX CERTIFICATION
Zone 1, 2, 21 & 22

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

USA & CANADA CERTIFICATION
Class I, Division 1, Groups B, C and D
Class II, Division 1, Groups E, F and G
Class I, Zone 1, Groups IIB+H2 [For U.S. only]
Zone 21, Groups IIIC [For U.S. only]

SPECIFICATIONS

GENERAL			
Power supply	7 - 30VDC or Passive PoE Reverse polarity protection		
Current Consumption (@12VDC)	Idle (LTE Connected): 93~120 mA	WiFi (AP mode+LTE): 170 mA	Max Peak: 320 mA
Approvals	FCC / IC | PTCRB | AT&T, Verizon (D01 only)		
Humidity	5-95%, non-condensing		
Ambient temp. range	**USA & CANADA** SWA series -40°C (-40°F) +85°C (+185°F) SWS series -40°C (-40°F) +85°C (+185°F)	**ATEX & IECEx** SWA series -40°C (-40°F) +74°C (+165°F) SWS series -40°C (-40°F) +69°C (+156°F)	

HARDWARE			
	D01	**D02**	**D03**
Cellular Supported Bands	**North America** LTE FDD (Bands 2,4,5,12/17,13) UMTS | HSPA+ (Bands 2,5) 3GPP Protocol Stack Release 9	**China** LTE FDD: B1,3,8 LTE TDD: B38,39,40,41 DC-HSPA+/HSPA+/HSPA/UMTS: B1,5,8,9 TD-SCDMA: B34,39 GSM/GPRS/EDGE: 900/1800 MHz	LTE FDD: B1,B2,B3,B4,B5,B7,B8,B12,B13, B18,B19,B20,B26,B28 TDD: B38,B39,B40,B41 WCDMA: B1,B2,B4,B5,B8,B6,B19 GSM: B2/B3/B5/B8
Cellular Data Features *(Module Standalone Laboratory Performance)*	**North America** LTE: DL 150 Mbps, UL 50 Mbps DC-HSPA+: DL 42 Mbps, UL 5.7 Mbps	**China** LTE FDD: UL 50Mbit/s, DL 150Mbit/s @20M BW LTE TDD: UL 10Mbit/s; DL 112Mbit/s @20M BW DC-HSPA+: UL 5.76 Mbit/s; DL 42 Mbit/s	LTE FDD: Up to 150 Mbps DL, 50 Mbps UL LTE TDD: Up to 130 Mbps DL, 35 Mbps UL DC-HSPA+: Up to 42 Mbps DL, 5.7 Mbps UL WCDMA: Up to 384 Kbps DL, 384 Kbps UL EDGE: Up to 296 Kbps DL, 236.8 Kbps UL GSM: Up to 107 Kbps DL, 85.6 Kbps UL
WiFi Features	802.11b/g/n (2.4GHz)		

WiFi Performance	RATE	MODE	Tx (dBm)	Rx (dBm)	RATE	MODE	Tx (dBm)	Rx (dBm)
	1 Mbps	b	30	-97 ± 1	MCS0	n (HT20)	30	-96 ± 1
	11 Mbps	b	30	-92 ± 1	MCS7	n (HT20)	26	-75 ± 1
	6 Mbps	g	30	-94 ± 1	MCS0	n (HT40)	30	-94 ± 1
	54 Mbps	g	26	-75 ± 1	MCS7	n (HT40)	26	-73 ± 1

Ethernet	2x 10/100, Auto - MDI/X IEEE 802.3		
USB	USB 2.0 Direct Connect		
Connectors	Data: 2x RJ-45 (Ethernet) 4 PIN Interlock (Vin)	USB: Micro-AB	SIM: 1.8 / 3.0V (Micro - 3FF)

SOFTWARE	
SMS	SMS to/from Ethernet via Telnet | SMS Alerts | SMS Remote Control
Carrier Connection	PAP, CHAP, ICMP Keep Alive, Traffic Watchdog, DDNS, IP pass-through
Network Protocols	TCP, UDP, TCP/IP, ARP, ICMP, DHCP, HTTP, SNMP, FTP, DNS, Serial over IP, Modbus Slave (TCP/Serial)
Security	VPN, IPSec with IKE/ISAKMP; Multiple tunnel support (16); 3DES and up to 256-bit AES Encryption, VPN Tunneling L2TP, GRE, HTTPS, RADIUS
Firewall	NAT, NAT-T VPN tunneling, Port forwarding, VPN/GRE pass-through; Access control lists , DMZ
Management	Telnet, WebUI, SNMP V1/2/3, Wireless Upgrade (HTTP/FTP), AT Command Interface (Serial/Telnet), Microhard NMS Support, Data Usage Alerts, SSH
Diagnostics	RSSI, Ec/No, Voltage, Temperature, Remote diagnostics, UDP Event Reporting, SMS Alerts, Netflow

■ NOMENCLATURE

SWA	D01	33	-	42	0	X0
a	b	c		d	e	f

a - Enclosure
SWA   WA series made in aluminum
SWS   WS series made in stainless steel

b - Device
D01   North America [1]
D02   China
D03   Global

c - Antenna connection [2]
30   n° 3 RXN antenna coupler (N Female) [3]
33   n° 2 RXN antenna coupler (N Female) [4]
54   n° 2 RXS antenna coupler (SMA Female) for Mobile [4]
        n° 1 RXF antenna coupler (RP-SMA Female) for WiFi [4]
45   n° 1 RXS antenna coupler (SMA Female) for Mobile [3]
        n° 1 RXF antenna coupler (RP-SMA Female) for Wifi [3]

d - Cable entries
42   n° 4 3/4" npt-f
44   n° 4 M25x1.5

e - Colour - Brand
0   black polyester powder coating (WA series only)
E   electropolished (WS housings only)

f - Standard references
X0   Atex/IECEex Gas and Dust certified [5]
M0   Atex/IECEx Gas, Dust and mining certified [5]
N0   QPS CL1 DIV1 and North American Zones listed
XN   QPS CL1 DIV1 and North American Zones listed +
        Atex/IECEx Gas and Dust certified (WA series only) [5]
MN   QPS CL1 DIV1 and North American Zones listed +
        Atex/IECEx Gas,Dust and Mining certified (WS series only) [5]

■ AVAILABLE ACCESSORIES

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

EXPLOSION PROOF BLUETOOTH SERIAL ADAPTER

The Solexy Bluetooth wireless serial adapter is a cost effective solution for serial data transmission.

The Class 1 Bluetooth radio can reach wireless transmission distance of 100 meters.

Available for RS232 or RS485/422 serial port, making it a flexible solution for M2M applications.

With Solexy's SWA and SWS enclosures and their rugged construction water proof IP66, IP68, Nema 4 and 4X combined with Atex, IECEx and North America certificates, Solexy offers a wireless device solution for installation in classified Ex areas (gas, dust and mining) and harsh environments, including temporary submersion.

FEATURES

✓ **OPERATING FUNCTIONS**
RS232 or RS485/RS422 serial cable replacement

✓ **BLUETOOTH**
v2.0 + EDR
Supports up to 4 multiple simultaneous connections
Supports Bluetooth profiles SPP (Serial Port Profile)
Interoperability with PDA, laptops, etc...

✓ **CONFIGURATION**
Easy to use Windows configuration tool available
(no external drivers required)

■ APPROVALS

ATEX / IECEX CERTIFICATION
Zone 1, 2, 21 & 22

II 2 (1) G Ex db mb [ia Ga] IIA/IIB/IIC T6 Gb
II 2 (1) D Ex mb tb [ia Da] IIIC T85°C Db
I M2 (M1) Ex db mb [ia Ma] I Mb (SWS only)

USA & CANADA CERTIFICATION
Class I, Division 1, Groups B, C and D
Class II, Division 1, Groups E, F and G
Class I, Zone 1, Groups IIB+H2 [For U.S. only]
Zone 21, Groups IIIC [For U.S. only]

SPECIFICATIONS

GENERAL	
Power supply	5-12VDC
Power consumption	min 2 mA - max 80 mA
Ambient temp. range	USA & CANADA SWA series -40°C (-40°F) +85°C (+185°F) SWS series -40°C (-40°F) +85°C (+185°F) ATEX & IECEx SWA series -40°C (-40°F) +68°C (+154°F) SWS series -40°C (-40°F) +61°C (+141°F)

SERIAL INTERFACE	
Serial speed	up to 921.6 kbps
CTR/RTS flow control DTR/DSR for loop-back & full transfer (B10 type only)	

RADIO	
Max TX power	+18 dBm
Max EDR Transmit power	+6 dBm
Receiver sensitivity	-88 dBm

BLUETOOTH INTERFACE	
Bluetooth	v2.0 + EDR
Class	1
Profile	SPP

NOMENCLATURE

SWA	B10	03	- 42	0	X0
a	b	c	d		e

a - Enclosure
SWA   Aluminum polyester powder coated
SWS   Stainless steel AISI 316 (CF8M) electropolish

b - Device
B10   RS232 Bluetooth serial adpater
B11   RS485/RS422 Bluetooth serial adapter

c - Antenna connection [1]
03   n° 1 RXN antenna barrier (N Female)
04   n° 1 RXF antenna barrier (RP-SMA Female)
05   n° 1 RXS antenna barrier (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
X0   Atex/IECEex Gas and Dust certified [3]
M0   Atex/IECEx Gas, Dust and mining certified [3]
N0   QPS CL1 DIV1 and North American Zones listed
XN   QPS CL1 DIV1 and North American Zones listed +
       Atex/IECEx Gas and Dust certified (WA series only) [3]
MN   QPS CL1 DIV1 and North American Zones listed +
       Atex/IECEx Gas,Dust and Mining certified (WS series only) [3]

Notes:

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

AVAILABLE ACCESSORIES

ANTENNAS:
ANF72: flexible dipole (2.4GHz/2dBi)
ANH73: heavy duty J-Pole (2.4GHz/4.35dBi)

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

B00012-01

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

⟨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 (SWS Only)

◼ 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

RS232 / RS485
plus Digital Input
and Relay Output

RS232 / RS485
plus Digital Input
and Relay Output

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 SWA series SWS series	-30°C (-22°F) +70°C (158°F) -30°C (-22°F) +65°C (149°F)	
Housing material SWA series SWS 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	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

B00013-01

EXPLOSION PROOF MODBUS RTU RADIOMODEMS

The Solexy MODBUS RTU radiomodem is a VHF/UHF high quality 500 mW radiomodem operating on 12,5 or 25 kHz channels available in 169 MHz and 868 MHz band in according to European Decision 2005/928/CE.

These products are develop in order to be a **licence free device.**

The Solexy MODBUS RTU radiomodems are supply complete with 4 digital input, 2 digital output plus 2 analog input and 2 analog output 4-20 mA that allows to has an Modbus RTU node. The RS485 interface permit also the connection up to 4 Modbus module.

The SWA and SWS anclosure thanks to its rugged construction combined to Atex and IECEx certificate achieves to have an Modbus RTU data transmission in classified area Ex.

FEATURES

✔ **MODBUS RTU**
The Solexy MODBUS RTU radiomodem can be used on all Modbus RTU application

✔ **WIDE RANGE OF TRANSMISSION OPTION**
Mirror (point to point), Modbus RTU, Modbus multi master and standard Radiomodem option completely transparent to the user also in case of complex route

✔ **MODBUS RTU NODE**
4 PNP digital input combinet to 2 relay output plus 2 analg input and 2 optoisolated analog output 4-20 mA allows to use the radiomodem as a complete Modbus RTU node.

✔ **LOW POWER**
Low power consumption in both RX and TX mode and bistable relay on digital output allows the Solexy radiomodem suitable to battery operation

✔ **ADAPTIVE FREQUENCY AGILITY**
Adaptive Frequency Agility on 2 or 3 channels

✔ **SOFTWARE CONFIGURATION**
Complete configuration by PC through dedicated software

✔ **ENCRYPTION TRANSMISSION DATA**
Secure transmission data thanks to AES (Advanced Encryption Standard) at 128 bit

APPROVALS

ATEX / IECEX CERTIFICATION
Zone 1, 2, 21 & 22

⟨Ex⟩ II 2 (1) G Ex db mb [ia Ga] IIA/IIB/IIC T6 Gb
II 2 (1) D Ex mb tb [ia Da] IIIC T85°C Db
I M2 (M1) Ex db mb [ia Ma] I Mb (SWS only)

SWA	510	01	-	42	0	X0
a	b	c	d			e

NOMENCLATURE

a - Enclosure
SWA   Aluminum polyester powder coated
SWS   Stainless steel AISI 316 (CF8M) electropolish

b - Device
510   Modbus RTU Radiomodem VHF 169 MHz, 500 mW RF power output
540   Modbus RTU Radiomodem UHF 868 MHz, 500 mW RF power output

c - Antenna connection [1]
01   n° 1 RXN antenna coupler (N Female) [2]
02   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]

MODBUS

4 digital IN
2 digital OUT
2 analog IN 4-20 mA
2 analog OUT 4-20 mA
RS485 Modbus RTU port

4 digital IN
2 digital OUT
2 analog IN 4-20 mA
2 analog OUT 4-20 mA
RS485 Modbus RTU port

SPECIFICATIONS

		DEVICE	
GENERAL		**510**	**540**
Operating band		169.400 MHz 169.475 MHz	868.000 MHz 869.650 MHz
Canalization		12.5 | 25 | 50 kHz	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 or 3.3 - 4.8 battery operated	
Rx consumption (@12 VDC)		≈ 30 mA (RS232/485 relè off)	
Tx consumption (@12 VDC)		≈ 200 mA	
Sleep consumption		Battery operated < 10 µA | 12 VCD operated < 150 µA	
Digital outputs rating		n° 2 1A@24V AC/DC resistive load (Normally Open)	
Digital inputs		n° 4 PNP	
Digital counter		n° 1 PNP (max frequency input 10 Hz)	
Analog inputs		n° 2 4-20 mA (passive)	
Analog outputs		n° 2 4-20 mA (passive)	
Ambient temp. range	SWA series SWS series	-30°C (-22°F) +70°C (+158°F) -30°C (-22°F) +65°C (+149°F)	
Housing material	SWA series SWS series	die cast aluminium polyester powder coated AISI 316 (CF8M) electropolished	
Weather proof		IP 66/68	
TRANSMITTER		**510**	**540**
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		**510**	**540**
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		**510**	**540**
Type		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	

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

◼ AVAILABLE ACCESSORIES ────

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

Data contained in this specification are subject to change without notice

B00019-01

EXPLOSION PROOF ETHERNET RADIOMODEMS

The Solexy Ethernet radiomodems is a VHF/UHF high quality 500 mW radiomodem operating on 12,5 or 25 kHz channels avialable 169 MHz and 868 MHz band.

These products are develop in order to be a licence free device.

The Solexy Ethernet radiomodems are supplied complete with RS485 interface and Ethernet port plus optoisolated input and relay output installed in our explosion proof housing SWA and SWS series that allows a serial data transmission also in classified area Ex.

The SWA and SWS anclosure thanks to its rugged construction combined to Atex and IECEx certificate achieves to have an Modbus RTU data transmission in classified area Ex.

FEATURES

✅ **RS485 AND ETHERNET SERIAL DATA TRANSMISSION**
Serial transmission on RS485 or Ethernet port transparent to the user plus optoisolated input and realy output may used for alarms and/or actuation

✅ **WIDE RANGE OF TRANSMISSION OPTION**
Mirror (point to point), Modbus RTU over TCP, Modbus multi master and standard Radiomodem option completely transparent to the user also in case of complex route

✅ **MODBUS RTU OVER TCP**
Suitable for use as a Modbus RTU over TCP Server

✅ **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

✅ **ADAPTIVE FREQUENCY AGILITY**
Adaptive Frequency Agility on 2 or 3 channels

✅ **WEB SERVER AND RADIO NETWORK STATUS**
Thanks to the web server integrated it is possible to configure the device and check the Radio Network Status through a dedicated utilities

✅ **ENCRYPTION TRANSMISSION DATA**
Secure transmission data thanks to AES (Advanced Encryption Standard) at 128 bit

APPROVALS

ATEX / IECEX CERTIFICATION
Zone 1, 2, 21 & 22

⟨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 (SWS Only)

SWA	51E	01	-	42	0	X0
a	b	c		d		e

NOMENCLATURE

a - Enclosure
SWA Aluminum polyester powder coated
SWS Stainless steel AISI 316 (CF8M) electropolish

b - Device
51E Modbus RTU Radiomodem VHF 169 MHz, 500 mW RF power output
54E Modbus RTU 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]

RS485
Ethernet
1 digital IN
1 digital OUT

RS485
Ethernet
1 digital IN
1 digital OUT

SPECIFICATIONS

	DEVICE	
GENERAL	**51E**	**54E**
Operating band	169.400 MHz 169.475 MHz	868.000 MHz 869.650 MHz
Canalization	12.5 | 25 | 50 kHz	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 (RS232/485 relè off)	
Tx consumption (@12 VDC)	≈ 200 mA	
Relay outputs rating	1A@24V AC/DC resistive load (Normally Open)	
Digital inputs	5-24VDC - 3.5-20VAC Z_{INP} 2.2 kΩ (optoisolated)	
Ambient temp. range SWA series SWS series	-30°C (-22°F) +70°C (+158°F) -30°C (-22°F) +65°C (+149°F)	
Housing material SWA series SWS series	die cast aluminium polyester powder coated AISI 316 (CF8M) electropolished	
Weather proof	IP 66/68	
TRANSMITTER	**51E**	**54E**
Output power	25/150/500 mW	25/150/500 mW
Frequency deviations	± 1.8 kHz @ 12.5 kHz ± 3.6 kHz @ 25 kHz	
Output power stability	± 1.5 dB	
RECEIVER	**51E**	**54E**
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
SERIAL INTERFACE	**51E**	**54E**
Type	RS485	
Data rate	from 1200 to 57600 bps	
ETHERNET INTERFACE	**51E**	**54E**
Standard	IEEE802.3	
Connection	RJ45	
Data transmission	10/100 Mbps Auto-Detection	
DHCP	Server, Client	
Auto MDI/MDI-X	Yes	
Protocols	TCP/IP, Modbus RTU over TCP (server)	
Configuration	WEB Server, Windows Utility	

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

■ AVAILABLE ACCESSORIES

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

EXPLOSION PROOF RF JUNCTION BOX

Solexy's Explosion proof RF junction boxes are specifically designed to allow a radio frequency coax cable junction/extension in hazardous location. There are many installations in Radio Frequency where you are going from a non-rated area to a hazardous area. With the Solexy HWA and HWS series RF Junction boxes there is now a solution to this type of installation.

With our RX series Antenna connection and the HWA/HWS series junction box an hazardous area field connection can now be made.
Utilizing the RX antenna coupler the antenna is not required to be Haz Loc or Ex rated.
This simple solution is available with many options with coax connections and Antennas or as a cable connection to an antenna mounted on a mast.

Solexy's Explosion proof RF junction boxes are available in two configurations, the HWA series is a more cost effective option that is manufactured from corrosion resistant low copper aluminum. The HWA series is powder coated to prevent corrosion in harsher outdoor environments. The HWS series is manufactured in 316 Series Stainless Steel (CF8M).
This box is built for the toughest environments when nothing else but Stainless will do.

FEATURES

- **HEAVY DUTY CONSTRUSTION**
  Explosion proof Ex d IIC enclosure made in alluminum (HWA series) or stainless steel (HWS series)

- **WEATHER PROOF**
  IP66 / IP68

- **CABLE ENTRIES**
  M25x1,5 or 3/4" npt-f

- **TEMPERATURE RANGE**
  -40°C to +80°C

APPROVALS

ENCLOSURE
Atex and IECEx certified

⟨Ex⟩ II 2G Ex db IIC T6-T5-T4 Gb
II 2D Ex tb IIIC T110°C / T110°C / T140°C
I M2 Ex d I Mb (HWS only)

Atex certificate nr. EXA 14 ATEX 0042 and IECEx certificate nr. IECEx EXA 14.0001

ANTENNA BARRIER
Atex and IECEx certified

⟨Ex⟩ I M2 (M1) Ex db mb [ia Ma] I Mb
II 2 (1) G Ex db mb [ia Ga] IIA/IIB/IIC T5/T6 Gb
II 2 (1) D Ex mb tb [ia Da] IIIC T100°C/T80°C Db

Atex certificate nr. EXA 15 ATEX 0042 and IECEx certificate nr. IECEx EXA 15.0005

NOMENCLATURE

HWA	001	00 -	42	0	X0
a	**b**		**c**		**d**

a - Enclosure
HWA   Aluminum polyester powder coated
HWS   Stainless steel AISI 316 (CF8M) electropolish

b - Connector
001   RP-SMA Male
002   RP-SMA Female
003   SMA Male
004   SMA Female
007   N Male
008   N Female
009   TNC Male
010   TNC Female
011   BNC Male
012   BNC Female

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

d - Approvals
X0   IECEx & ATEX Gas and Dust (HWA only) [1]
M0   IECEx & ATEX Gas, Dust and Mining (HWS only) [1]

Notes:
Antenna and Antenna coupler not included
Consult dimensional drawings for specific layout

[1] *Zone 1, 2, 21 & 22*

AVAILABLE ACCESSORIES

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

ANH and ANF series antennas
are hand built and tuned for the best performance.

The rugged construction of the ANH will stand up
to high levels of abuse, and the flexible design of the ANF
"gives" to impacts **to prevent damage
and misalignment of the antenna**.

Their sealed **UV and corrosion resistant** housings and
nickel plated fittings with gold contacts provide a reliable RF
connection in hostile environments.

Accessories

Heavy duty antennas and cables

Heavy duty antennas
DIPOLE ANH SERIES

The range and performance of a RF link is critically dependent upon the antenna and it is one of the more complex aspects of on RF design.
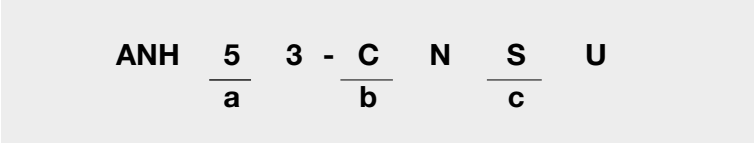
An antenna can make or break a wireless network.
The proper antenna can optimize the range, reliability and performance of a radio network.

FEATURES

✓ **ANH HEAVY DUTY SERIES**
Rugged construction allows the use of our antennas in hostile envinronments where weather and abuse are a factor

✓ **FREQUENCY**
Available for 868 MHz, 900 MHz and 2.4 / 5 GHz

✓ **N MALE CONNECTOR**
Available for vertical or 90° mounting

■ NOMENCLATURE
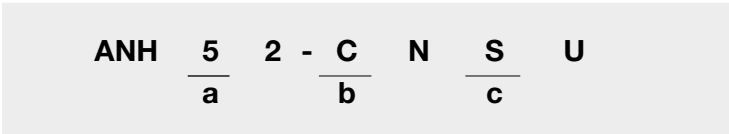
ANH	5	2	-	C	N	S	U
	a			b		c	

a Frequency

4	868 MHz	7	2.4 GHz
5	900 MHz	9	2.4 - 5 GHz

b Antenna connection

3	N Female
C	N Male

c Antenna mounting

S	Straight (vertical)
R	Elbow (90°)

■ DIMENSIONAL DRAWINGS

0.93"
[23.62mm]

0.93"
[23.62mm]

A

B

Models

ANH42-CNSU
ANH52-CNSU
ANH72-CNSU
ANH92-CNSS
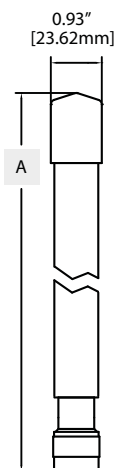
Models

ANH42-CNRU
ANH52-CNRU
ANH72-CNRU
ANH92-CNRS

1.55"
[39.20mm]
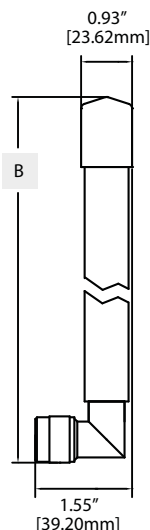
Model	**A** *inch [mm]*
ANH42-CNSU	9.05 [230]
ANH52-CNSU	9.05 [230]
ANH72-CNSU	4.92 [125]
ANH92-CNSS	9.05 [230]

Model	**B** *inch [mm]*
ANH42-CNRU	9.44 [240]
ANH52-CNRU	9.44 [240]
ANH72-CNRU	5.31 [135]
ANH92-CNRS	9.44 [240]

SPECIFICATIONS

Radiation	Omni
Polarization	Vertical
Wave	1/2
Connector	N Male Brass nickel plated
Material	UV resistant ABS
Ambient temp. range	-40°C (-40°F) +80°C (+176°F)

	ANH 42	ANH 52	ANH 72	ANH 92
Frequency Range	855 - 883 MHz	890 - 935 MHz	2.35 - 2.55 GHz	2.4 - 2.485 GHz 5.15 - 5.875 GHz
Impedance (nominal)	50Ω @ 868 MHz	50Ω @ 915 MHz	50Ω @ 2.45 GHz	50Ω @ 2.4 GHz 50Ω @ 5.6 GHz
VSWR (average)	1.14 : 1	1.14 : 1	1.13 : 1	1.7 : 1 @ 2.4 GHz 2 : 1 @ 5 GHz
Gain max	2.00 dBi	2.00 dBi	2.00 dBi	4.7 dBi @ 2.4 GHz 3.4 dBi @ 5 GHz
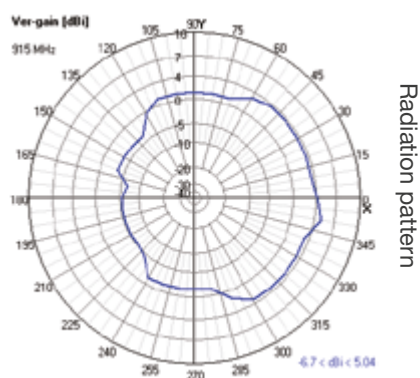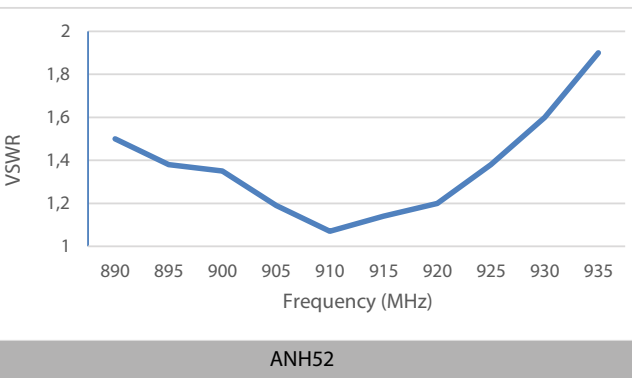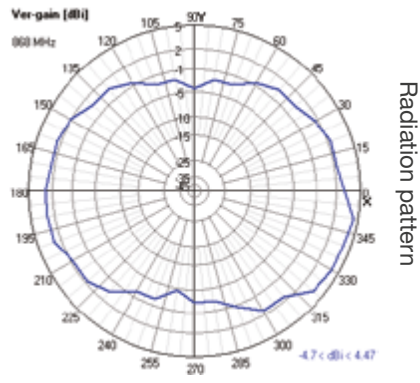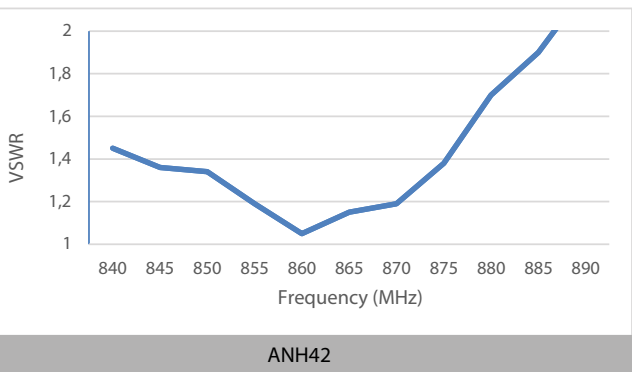
ANH42

ANH52

B00006-03

ANH72

Radiation pattern

ANH92

Radiation pattern

ANH92

Radiation pattern
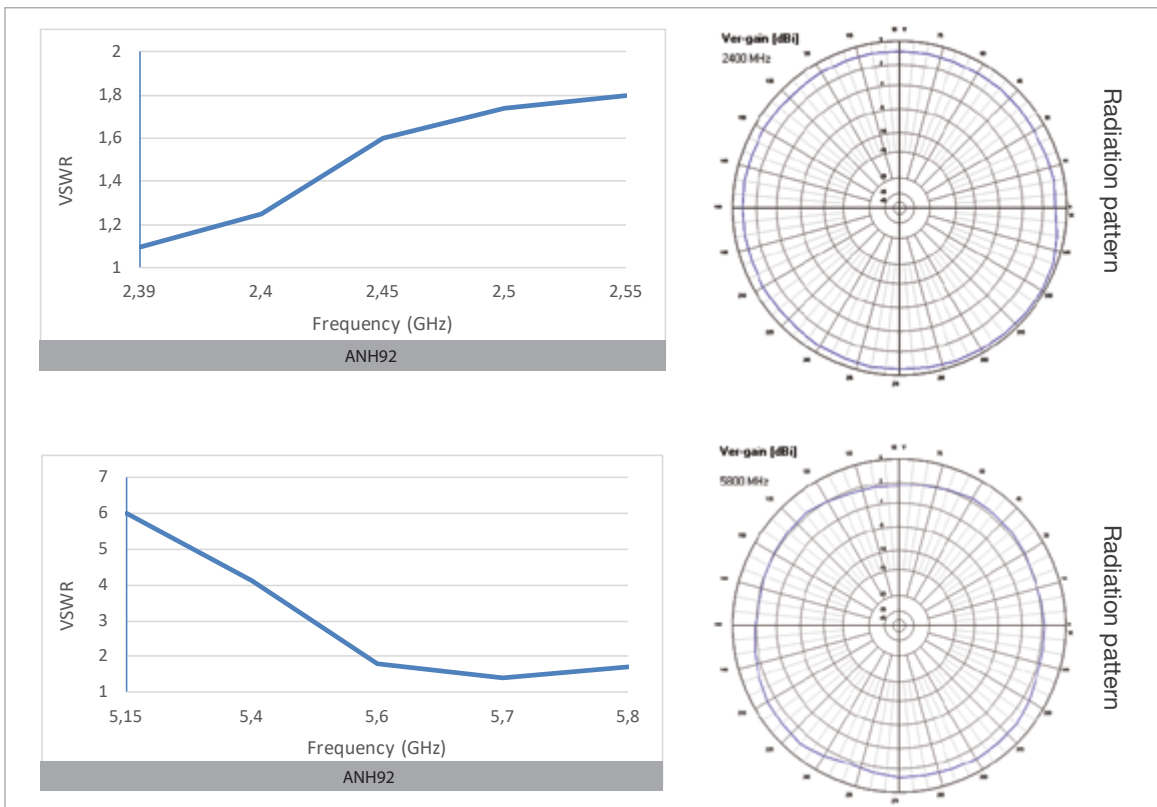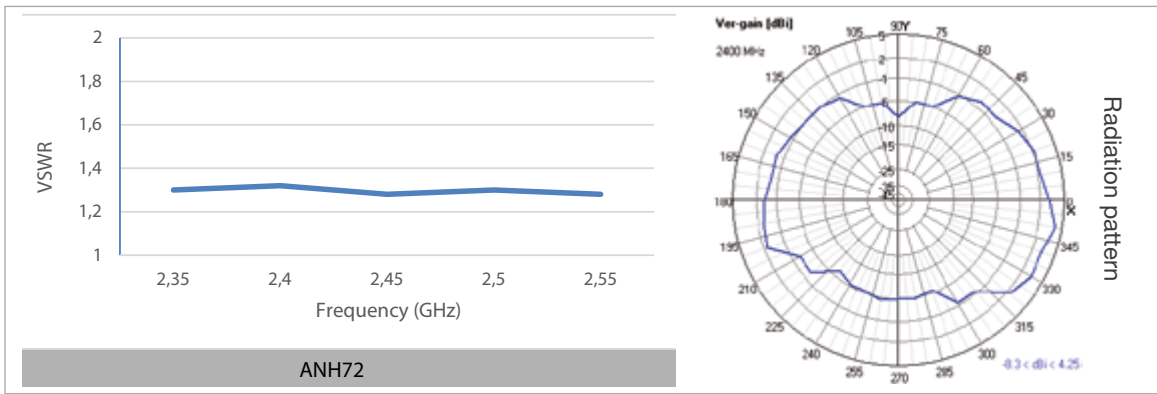
Heavy duty antennas
J-POLE ANH SERIES

The range and performance of a RF link is critically dependent upon the antenna and it is one of the more complex aspects of on RF design.

An antenna can make or break a wireless network. The proper antenna can optimize the range, reliability and performance of a radio network.

FEATURES

✔ **J-POLE TECHNOLOGY**
This highly stable, higher gain antenna goes the distance and is in a smaller package compared to other high gain antennas.
With a higher gain ground plane it is less sensitive to its installed environment ensuring stable communication at longer distances

✔ **ANH HEAVY DUTY SERIES**
Rugged construction allows the use of our antennas in hostile envinronments where weather and abuse are a factor

✔ **FREQUENCY**
Available for 868 MHz, 900 MHz and 2.4 GHz

✔ **N MALE CONNECTOR**
Available for vertical or 90° mounting

NOMENCLATURE

ANH	5	3	-	C	N	S	U
	a			b		c	

a Frequency
4 — 868 MHz
5 — 900 MHz
7 — 2.4 GHz

b Antenna connection
3 — N Female
C — N Male

c Antenna mounting
S — Straight (vertical)
R — Elbow (90°)

DIMENSIONAL DRAWINGS

0.93″ [23.62mm]

A

Models
ANH43-CNSU
ANH53-CNSU
ANH73-CNSU

0.93″ [23.62mm]

B
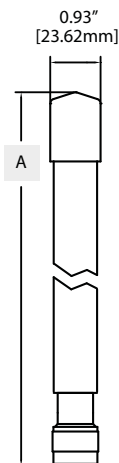
Models
ANH43-CNR
ANH53-CNR
ANH73-CNRU

1.55″ [39.20mm]
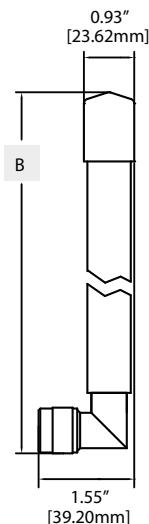
Model	A inch [mm]
ANH43-CNSU	13.55 [344.20]
ANH53-CNSU	13.55 [344.20]
ANH73-CNSU	7.49 [190.20]

Model	B inch [mm]
ANH43-CNRU	13.95 [354.30]
ANH53-CNRU	13.95 [354.30]
ANH73-CNRU	7.89 [200.30]

B00007-03

Data contained in this specification are subject to change without notice

SPECIFICATIONS

Radiation	Omni
Polarization	Vertical
Wave	J-pole configuration
Connector	N Male Brass nickel plated
Material	UV resistant ABS
Ambient temp. range	-40°C (-40°F) +80°C (+176°F)

	ANH 43	ANH 53	ANH 73
Frequency Range	855 - 883 MHz	890 - 935 MHz	2.35 - 2.55 GHz
Impedance (nominal)	50Ω @ 868 MHz	50Ω @ 915 MHz	50Ω @ 2.45 GHz
VSWR (average)	1.4 : 1	1.4 : 1	1.4 : 1
Gain max	3.00 dBi	3.00 dBi	4.35 dBi

ANH43

ANH53

ANH73
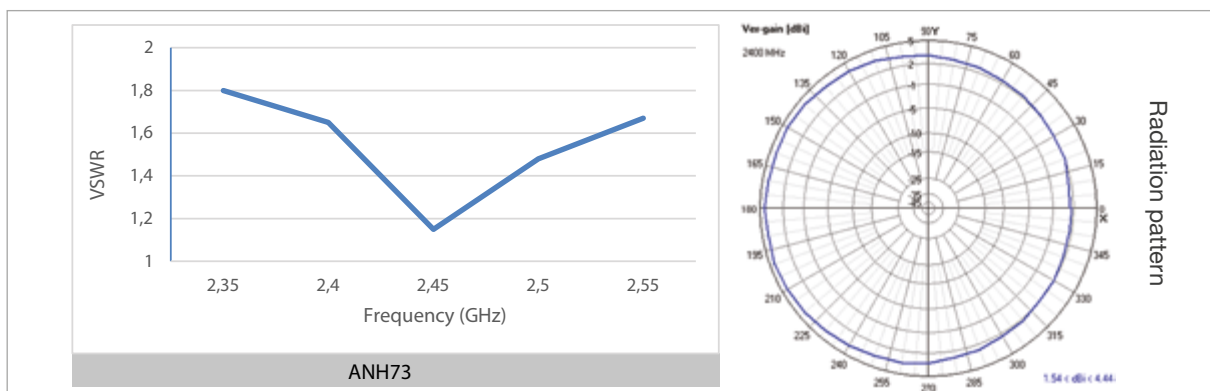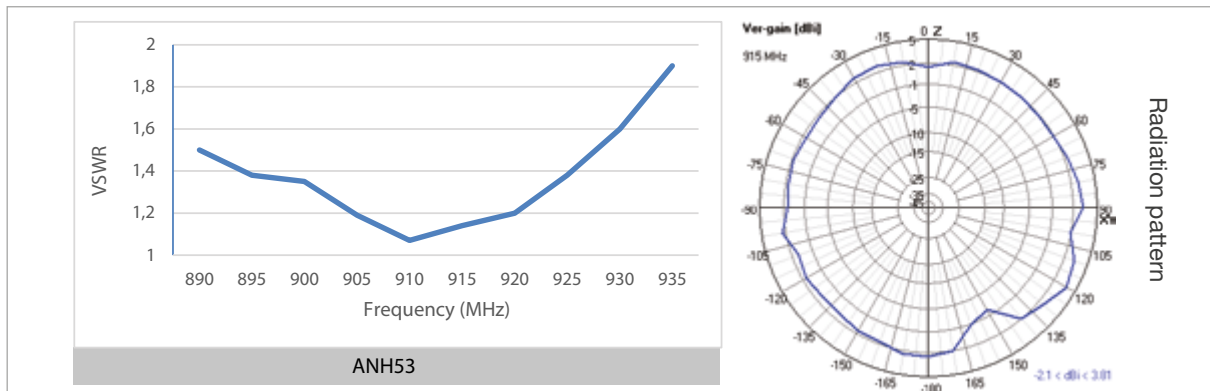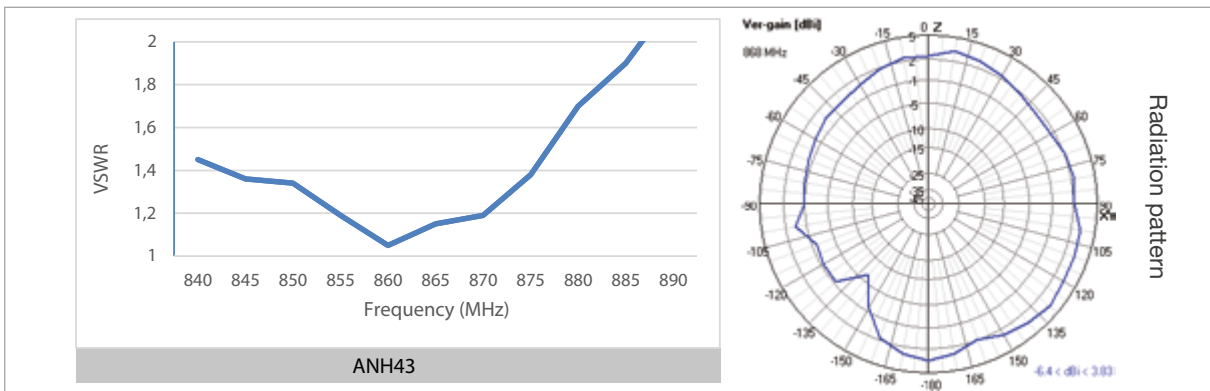
Heavy duty antennas
FLEXIBLE ANF SERIES

The Solexy Highly Flexible Antenna is designed for rough environments, this along with our Heavy Duty Line of antennas meets the demands of the tough applications while being affordable yet durable.

Solexy Antennas have met the demands and are well known throughout the Oil and Gas industries.

FEATURES

✔ **FLEX TECHNOLOGY**
This Highly flexible antenna was designed to meet the requirements of a high traffic environment, one hit and it bounces right back.
It also has over a 25Kg (55 lbs.) pull strength.
This antenna has the signal dependability of a Dipole antenna and the flexibility to bounce back from any hit.

✔ **ANF HEAVY DUTY SERIES**
Rugged construction allows the use of our antennas in hostile envinronments where weather and abuse are a factor.

✔ **FREQUENCY**
Available for 868 MHz, 900 MHz and 2.4 GHz

✔ **N MALE CONNECTOR**
Available for vertical or 90° mounting

■ NOMENCLATURE

ANF 5 2 - C N S U
(a)   (b)   (c)

a	Frequency	
	4	868 MHz
	5	900 MHz
	7	2.4 GHz

b	Antenna connection	
	3	N Female
	C	N Male

b	Antenna mounting	
	S	Straight (vertical)
	R	Elbow (90°)

■ DIMENSIONAL DRAWINGS

Models
ANF52-CNSU
ANF42-CNSU
ANF72-CNSU
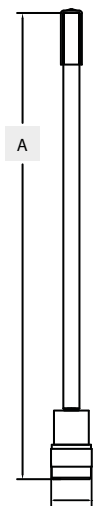
0.87" [22.10mm]

Models
ANF52-CNRU
ANF42-CNRU
ANF72-CNRU
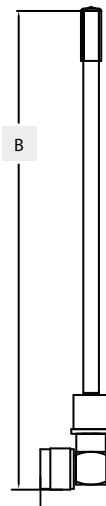
1.55" [39.20mm]

Model	A *inch [mm]*
ANF42-CNSU	11,18 [284]
ANF52-CNSU	11,18 [284]
ANF72-CNSU	7,08 [180]

Model	B *inch [mm]*
ANF42-CNRU	11,65 [296]
ANF52-CNRU	11,65 [296]
ANF72-CNRU	7,4 [187.96]

SPECIFICATIONS

Radiation	Omni
Polarization	Vertical
Wave	1/2
Connector	N Male Brass nickel plated
Antenna Tip	Soft black PVC
Adapter	Black Delrin
Material	UV resistant PUR
Ambient temp. range	-40°C (-40°F) +80°C (+176°F)

	ANF 42	ANF 52	ANF 72
Frequency range	855 - 883 MHz	902 - 928 MHz	2.35 - 2.55 GHz
Impedance (nominal)	50Ω @ 868 MHz	50Ω @ 915 MHz	50Ω @ 2.45 GHz
VSWR (average)	1.14 : 1	1.14 : 1	1.14 : 1
Gain max	2.00 dBi	2.00 dBi	2.00 dBi

ANF42

ANF52

ANF72
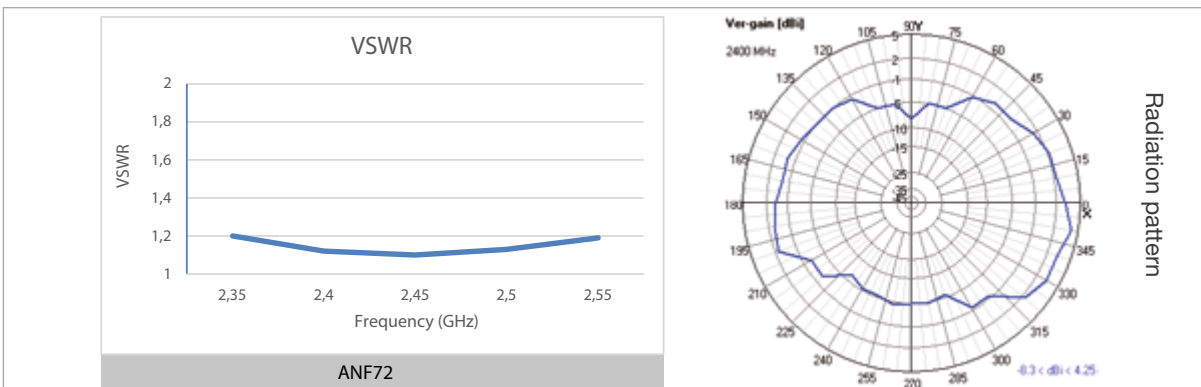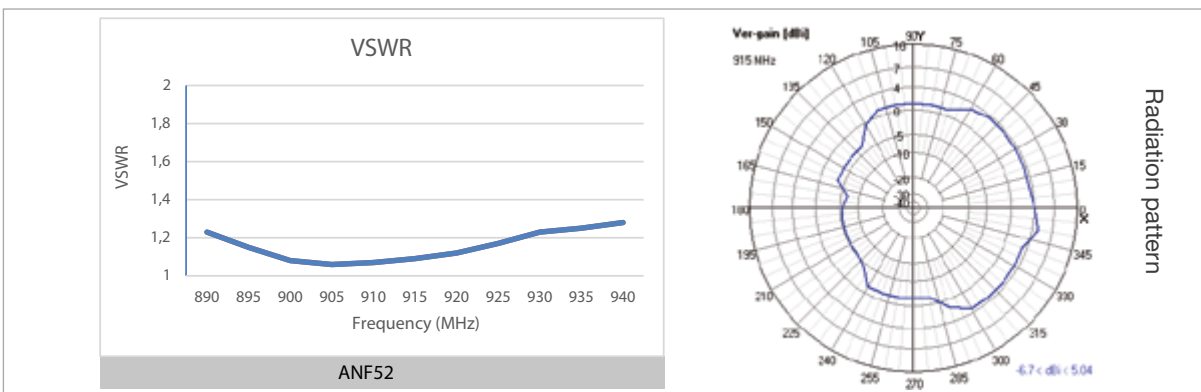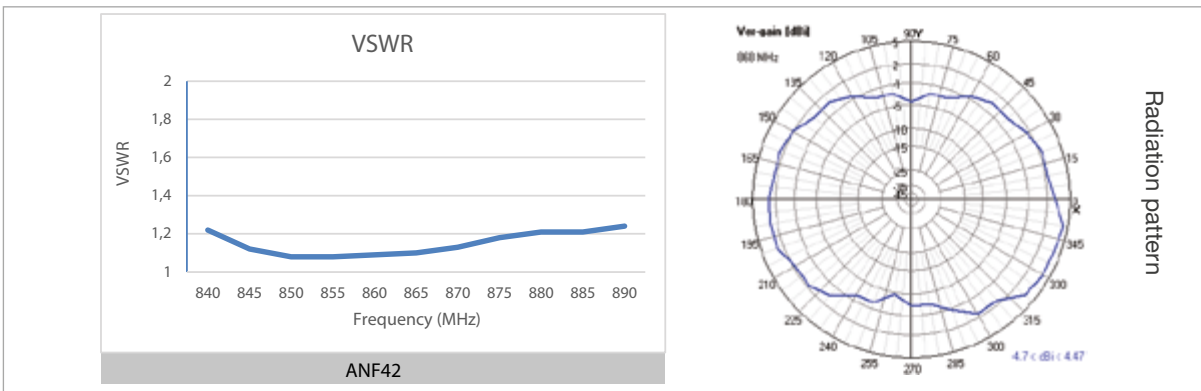
Heavy duty antennas

GPS ANH SERIES

The Solexy's ANHA and ANHB series is a selection of heavy duty antennas specifically designed for satellite applications, covering a wide range of frequency bands including GPS, GLONASS and IRIDIUM.

The ANHA and ANHB series are passive, narrow bandwidth and high gain antennas, perfectly compatible with Solexy's AX and RX intrinsically safe antenna couplers.

The ANHA and ANHB series are RHCP (Right Hand Circular Polarized) in order to be compatible with the propagated GPS signals.

FEATURES

✓ **PASSIVE**
High gain passive execution to be used in cominatiotn with intrinsically safe Solexy antenna couplers

✓ **ANH HEAVY DUTY SERIES**
Rugged construction allows the use of our antennas in hostile envinronments where weather and abuse are a factor

✓ **FREQUENCY**
Available for GPS/GLONASS and IRIDIUM systems

✓ **N CONNECTOR**
Available N Male straight or elbow and N Female stright bulkhead

■ NOMENCLATURE

a	**Frequency / System**		
	A	1575.42 MHz / GPS-GLONASS	
	B	1621 MHz / IRIDIUM	
b	**Antenna connection**		
	3	N Female	
	C	N Male	
c	**Antenna mounting**		
	S	Straight (vertical)	
	R	Elbow (90°, only N Male connector)	

ANH	A	A	-	C	N	S	E
	a			b		c	

SPECIFICATIONS

Polarization	Right Hand Circular (RHCP)
Connector	N Male or Female brass nickel plated
Material	Fiberglass
Ambient temp. range	-40°C (-40°F) +80°C (+176°F)

ANHA Receiving Frequency	1575.42 MHz GPS/GLONASS Systems
ANHB Center Frequency	1621 MHz IRIDIUM Systems

	ANHA	**ANHB**
-10dB Bandwidth	15 MHz	9 MHz
Impedance	50Ω	50Ω
VSWR	1.5	1.5
Gain (@ Zenith)	4.50 dBic	4.00 dBic
Polarization	RHCP	RHCP
Frequency temperature coefficient	20 ppm/°C	20 ppm/°C
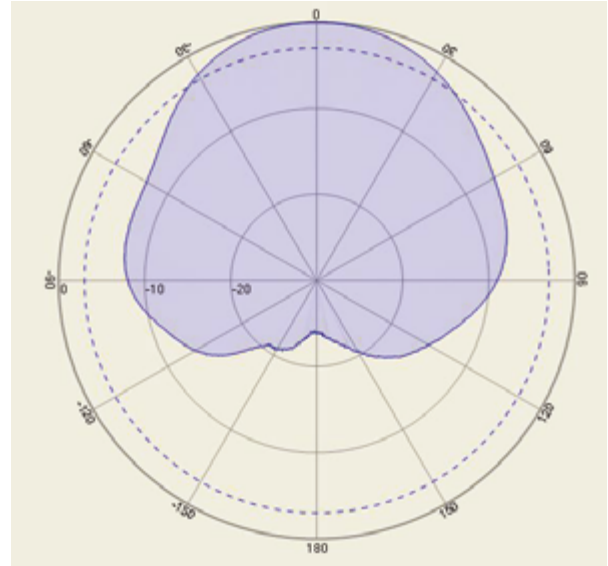
Radiation pattern

■ DIMENSIONAL DRAWINGS

ANHAA-_NSI
ANHBA-_NSI

1.77″
[45.00mm]

3.94″
[100.00mm]
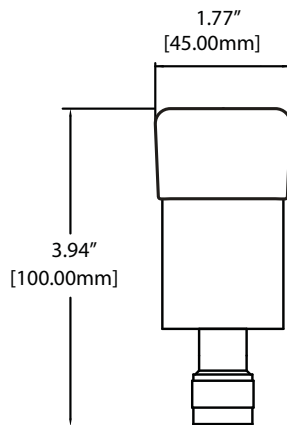
ANHAA-CNRI
ANHBA-CNRI

1.77″
[45.00mm]

3.94″
[100.00mm]

1.97″
[50.00mm]
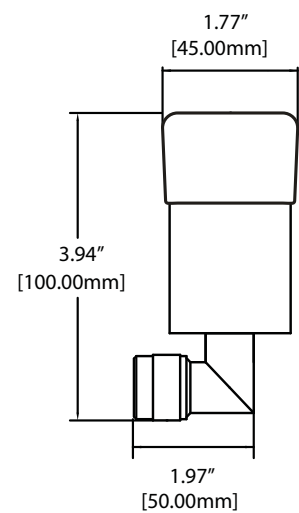
CABLES
COAX CABLE EXTENSION

SPECIFICATIONS

RF CONNECTOR COUPLER SIDE (bb)

01	RP-SMA Male
03	SMA Male

dd

RF CONNECTOR RADIO SIDE (cc)
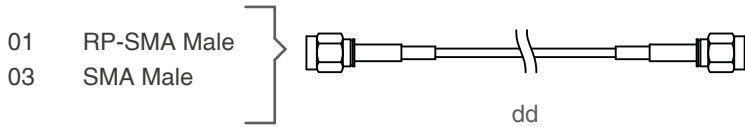
01	RP-SMA Male
02	RP-SMA Female
03	SMA Male
04	SMA Female
07	N Male
08	N Female
09	TNC Male
10	TNC Female
11	BNC Male
12	BNC Female
13	MCX Male 90°
15	MMCX Male 90°
16	RP-SMA Male 90°
18	SMA Male 90°
19	SMB Male
21	RP-TNC Male
23	SMB Female
24	U.FL Female
29	N Female bulkehead
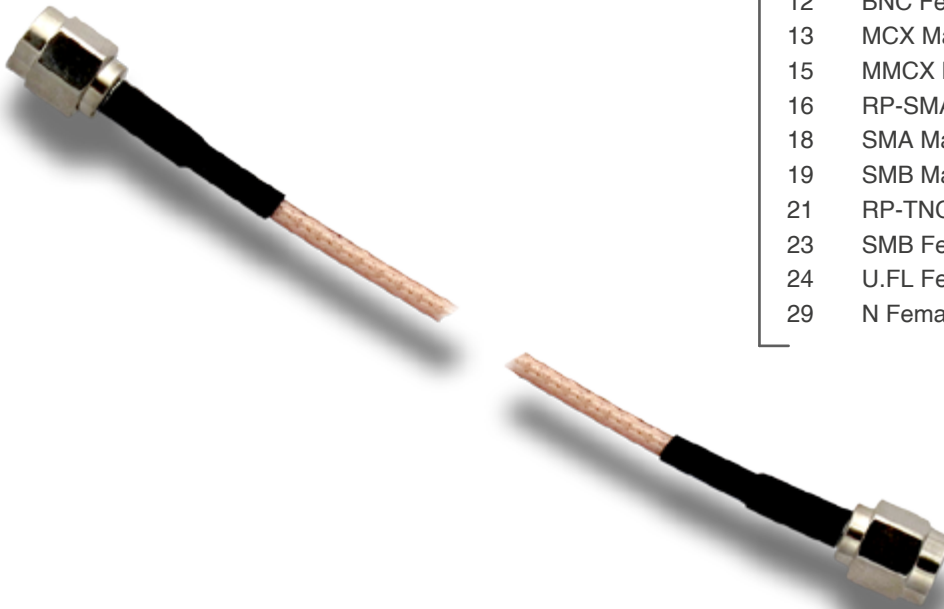
◼ NOMENCLATURE

PT	A	01	03	06
	a	bb	cc	dd

a   **Coax cable type**
A	RG-316
B	LMR-100A-PVC
C	I999

bb   **RF Connector Coupler Side**

cc   **RF Connector Radio Side**
see below

dd   **Coax cable length**
06	06" (15 cm)
12	12" (30 cm)
18	18" (45 cm)
24	24" (60 cm)
30	30" (75 cm)

ENCLOSURE MOUNTING KIT

STAINLESS STEEL POLE MOUNTING KIT (MAX DIAMETER 2", 50 MM)

■ NOMENCLATURE

KM - 01

■ DIMENSIONAL DRAWINGS (mm)
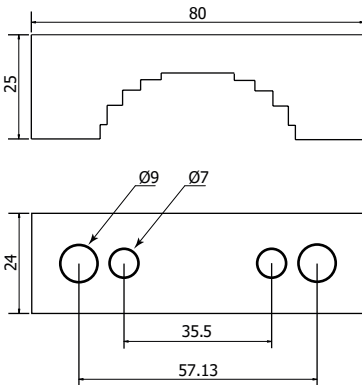
STAINLESS STEEL WALL MOUNTING KIT

■ NOMENCLATURE

KM - 02

■ DIMENSIONAL DRAWINGS (mm)
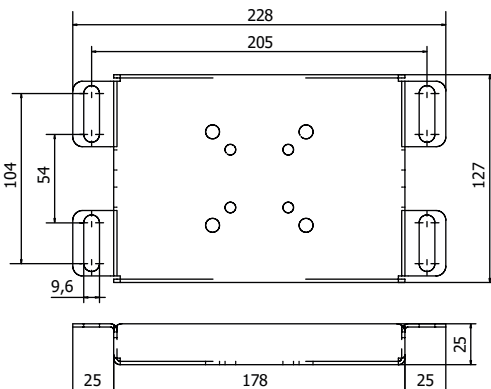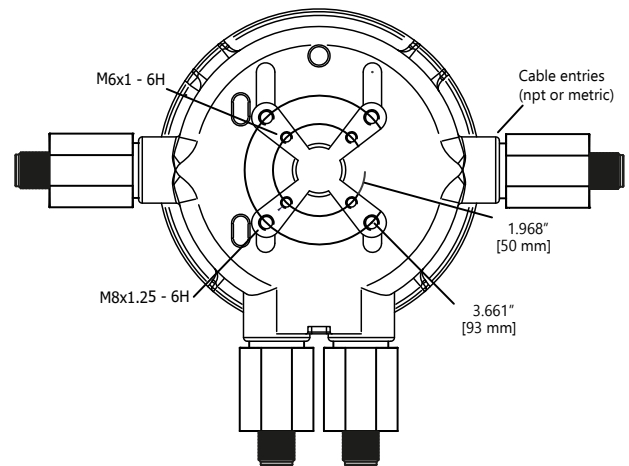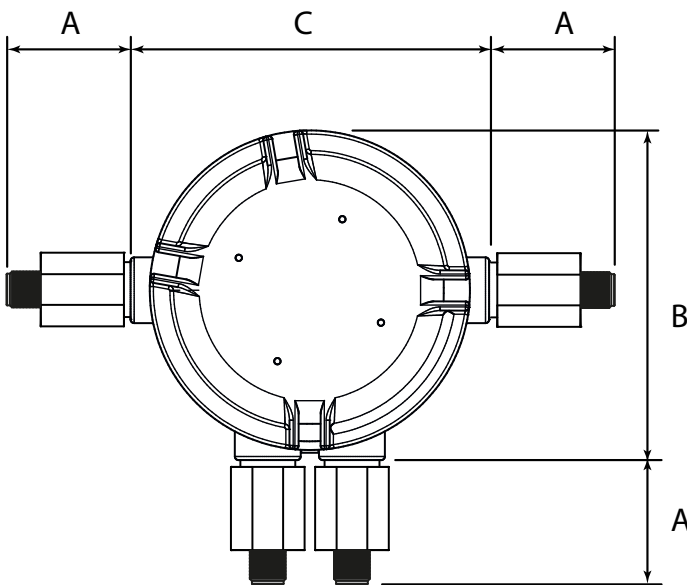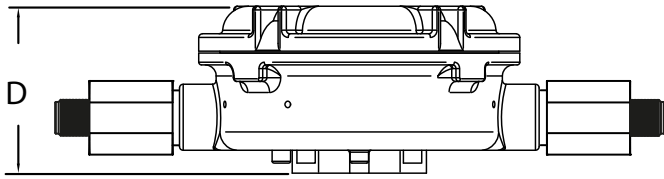
M10

M10

A

T

7.85⁻⁰·⁰²

A

A-A

(1.5)
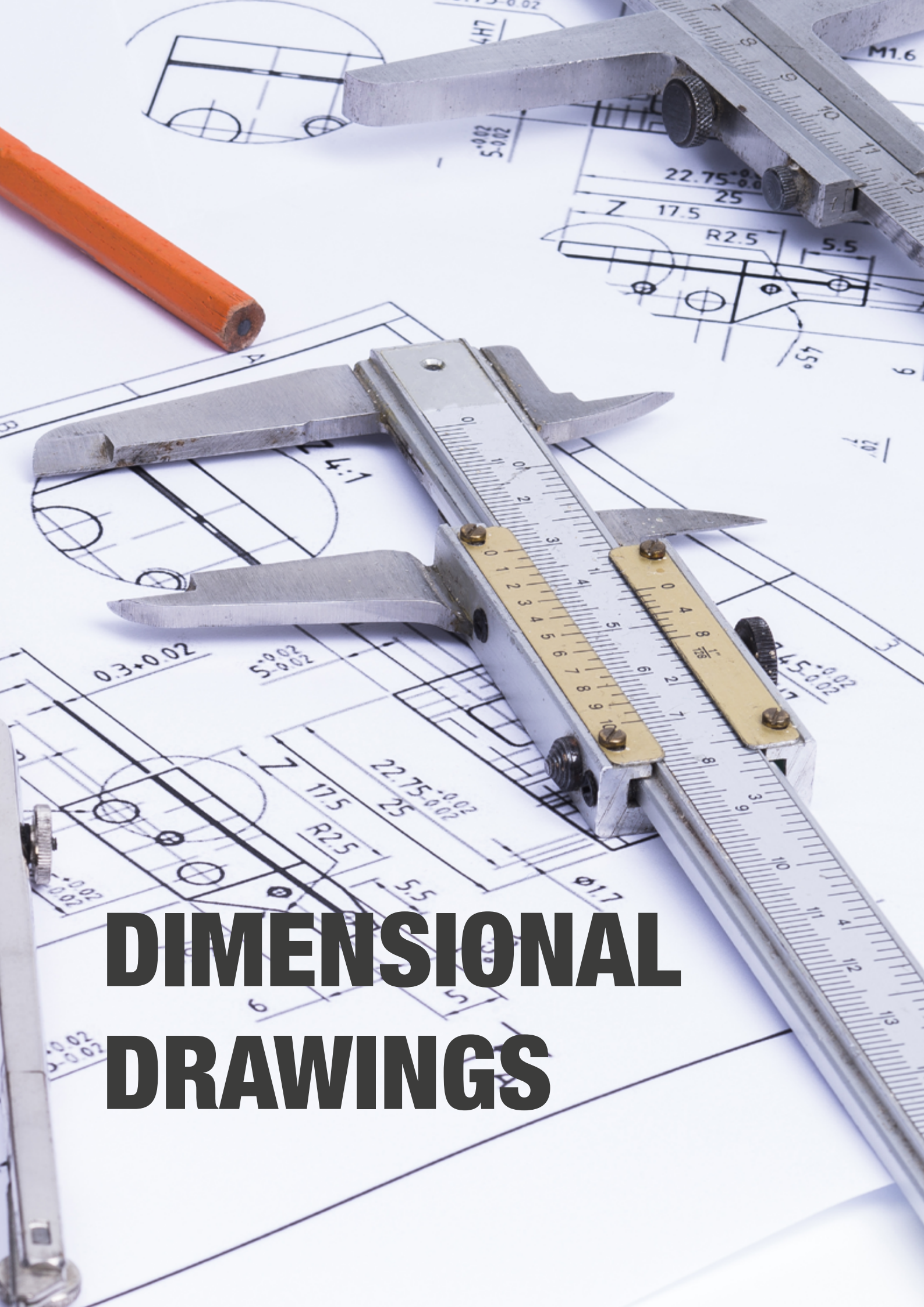
DIMENSIONAL DRAWINGS

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	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"]
WS	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
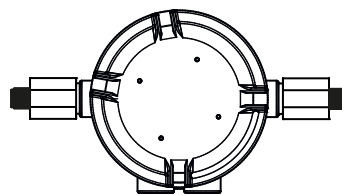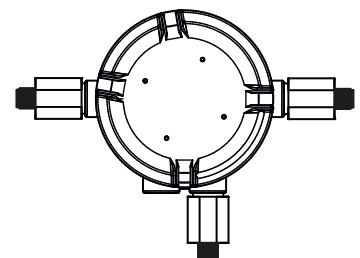
TYPICAL LAYOUTS **
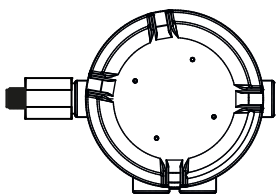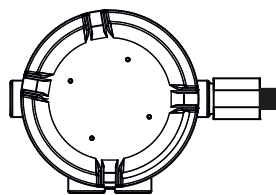
Layout 1 **Layout 2** **Layout 3** **Layout 4**

(**) layout type specified in device datasheet

NOTES

www.SOLEXY.net

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www.solexy.net/RS

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