



HAZARDOUS LOCATIONS
TELEMETRY EQUIPMENT

WIRELESS
SYSTEMS &
ACCESSORIES



COMPANY

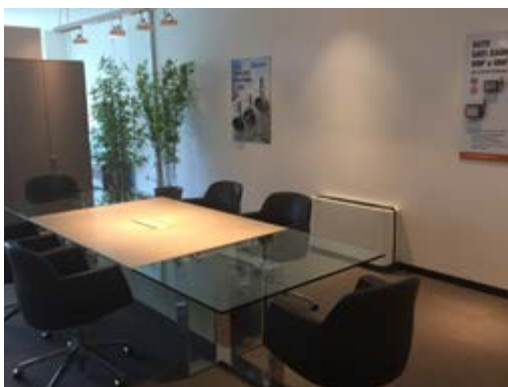
SOLEXY specializes in **devices and patented technology for radio and buss transmissions in hazardous classified areas** such as refineries, chemical plants, mines, off shore rigs and other hazardous rated areas.

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 CATALOGUE

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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 aluminum (SWA series) or stainless steel (SWS series) weather proof IP66/68

All Approved for ATEX, IECEx and USA & Canada.



A photograph of an industrial refinery or chemical plant at sunset. The sky is a mix of blue and orange, with scattered clouds. The foreground and middle ground are filled with complex industrial structures, including tall distillation columns, pipes, and scaffolding. Many of these structures are illuminated with bright yellow lights, creating a high-contrast scene. The overall atmosphere is one of industrial activity during the 'golden hour' of the day.

**Hazardous locations
wireless
communication
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 aluminum (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: KM-01: mounting kit for 2" pipe
(see dedicated data sheet) 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 2x2, 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) ± 2 dB A11: (WiFi2) 2.4 GHz : up to 23.8 dBm (aggregate) / 5 GHz : up to 21 dBm (aggregate) ± 2 dB A12: (WiFi1) 2.4 GHz : up to 23.5 dBm (aggregate) / 5 GHz : up to 21 dBm (aggregate) ± 2 dB (WiFi2) 2.4 GHz : up to 20.8 dBm (aggregate) / 5 GHz : up to 18 dBm (aggregate) ± 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 Ethernet)
Power consumption	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/IECEX Gas and Dust certified ⁽⁴⁾
M0 Atex/IECEX Gas, Dust and mining certified ⁽⁴⁾
N0 QPS CL1 DIV1 and North American Zones listed

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



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 aluminum (SWA series) or stainless steel (SWS series) weather proof IP66/68

APPROVALS

ATEX / IECEx CERTIFICATION

Zone 1, 2, 21 & 22



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* <i>* in function of device installed</i>	4G (LTE-FDD)	B1, B2, B3, B4, B5, B7, B8, B12, B13, B18, B19, B20, B26, B28
	4G (LTE-TDD)	B38, B39, B40, B41
	3G	B1, B2, B4, B5, B6, B8, B19
	2G	B2, B3, B5, B8
WiFi	802.11 b/g/n - Up to 50 simultaneous connections	

SOFTWARE

Management	WEB UI	HTTP/HTTPS, status, configuration, FW update, CLI, troubleshoot, event log, system log, kernel log
	FOTA	Firmware update from server, 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/IECEX Gas and Dust certified ⁽⁵⁾
M0	Atex/IECEX Gas, Dust and mining certified ⁽⁵⁾
N0	QPS CL1 DIV1 and North American Zones listed

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





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 aluminum (SWA series) or stainless steel (SWS series) weather proof IP66/68

■ APPROVALS

ATEX / IECEX CERTIFICATION

Zone 1, 2, 21 & 22



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 <i>(Module Standalone Laboratory Performance)</i>	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	<table border="1"> <thead> <tr> <th>RATE</th> <th>MODE</th> <th>Tx (dBm)</th> <th>Rx (dBm)</th> </tr> </thead> <tbody> <tr> <td>1 Mbps</td> <td>b</td> <td>30</td> <td>-97 ± 1</td> </tr> <tr> <td>11 Mbps</td> <td>b</td> <td>30</td> <td>-92 ± 1</td> </tr> <tr> <td>6 Mbps</td> <td>g</td> <td>30</td> <td>-94 ± 1</td> </tr> <tr> <td>54 Mbps</td> <td>g</td> <td>26</td> <td>-75 ± 1</td> </tr> </tbody> </table>	RATE	MODE	Tx (dBm)	Rx (dBm)	1 Mbps	b	30	-97 ± 1	11 Mbps	b	30	-92 ± 1	6 Mbps	g	30	-94 ± 1	54 Mbps	g	26	-75 ± 1	<table border="1"> <thead> <tr> <th>RATE</th> <th>MODE</th> <th>Tx (dBm)</th> <th>Rx (dBm)</th> </tr> </thead> <tbody> <tr> <td>MCS0</td> <td>n (HT20)</td> <td>30</td> <td>-96 ± 1</td> </tr> <tr> <td>MCS7</td> <td>n (HT20)</td> <td>26</td> <td>-75 ± 1</td> </tr> <tr> <td>MCS0</td> <td>n (HT40)</td> <td>30</td> <td>-94 ± 1</td> </tr> <tr> <td>MCS7</td> <td>n (HT40)</td> <td>26</td> <td>-73 ± 1</td> </tr> </tbody> </table>	RATE	MODE	Tx (dBm)	Rx (dBm)	MCS0	n (HT20)	30	-96 ± 1	MCS7	n (HT20)	26	-75 ± 1	MCS0	n (HT40)	30	-94 ± 1	MCS7	n (HT40)	26	-73 ± 1				
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MCS0	n (HT40)	30	-94 ± 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 - Approvals

- X0 Atex/IECEzx Gas and Dust certified ⁽⁵⁾
- M0 Atex/IECEx Gas, Dust and mining certified ⁽⁵⁾
- N0 QPS CL1 DIV1 and North American Zones listed

Notes:

⁽¹⁾ AT&T and Verizon approved

⁽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







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 [ja Ga] IIA/IIB/IIC T6 Gb
II 2 (1) D Ex mb tb [ja Da] IIIC T85°C Db
I M2 (M1) Ex db mb [ja 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 adapter
 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/IECEX Gas and Dust certified ⁽³⁾
 M0 Atex/IECEX Gas, Dust and mining certified ⁽³⁾
 N0 QPS CL1 DIV1 and North American Zones listed

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



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

- 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

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⁾

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

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 aluminum 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	

AVAILABLE ACCESSORIES

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



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 analog 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)

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⁾

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

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 VDC 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 aluminum 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		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	

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 ETHERNET RADIOMODEMS

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

These products are developed 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 enclosure 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 relay output may be 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

- 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

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⁾

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

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 aluminum 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 CONSTRUCTION**
Explosion proof ATEX, IECEx and North America certified enclosure made in aluminum (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




AVAILABLE ACCESSORIES

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

APPROVALS

ENCLOSURE

Atex and IECEx certified

 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


USA & CANADA CERTIFIED

Class I, Division 1, Groups B, C and D T4
Class II, Division 1, Groups E, F and G T4
Class I, Zone 1, Groups IIB+H2 [For U.S. only]
Zone 21, Groups IIIC [For U.S. only]

cQPSus File LR1504-1

ANTENNA BARRIER

Atex and IECEx certified

 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

USA & CANADA CERTIFIED

Class I, Zone 1, AEx db mb [ia Ga] IIA/IIB/IIC/ T6...T5 Gb
Zone 21, AEx mb tb [ia Da] IIIC T80°C...T100°C Db
Ex db mb [ia Ga] IIA/IIB/IIC T6...T5 Gb
Ex mb tb [ia Da] IIIC T80°C...T100°C Db
Class I, Division 1, Groups ABCD
Class II, Division 1, Groups EFG
[Ex ia Ga] IIC
[Ex ia Da] IIIC

cQPSus File LR1504-3

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 Atex/IECEx Gas and Dust certified (HWA only) ⁽¹⁾
M0 Atex/IECEx Gas, Dust and mining certified (HWS only) ⁽¹⁾
N0 QPS CL1 DIV1 and North American Zones listed
XN QPS CL1 DIV1 and North American Zones listed +
Atex/IECEx Gas and Dust certified (HWA series only) ⁽¹⁾
MN QPS CL1 DIV1 and North American Zones listed +
Atex/IECEx Gas, Dust and Mining certified (HWS series only) ⁽¹⁾

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

⁽¹⁾ Zone 1, 2, 21 & 22

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 environments 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 $\frac{5}{a}$ $\frac{2}{b}$ - $\frac{C}{b}$ **N** $\frac{S}{c}$ **U**

a Frequency

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

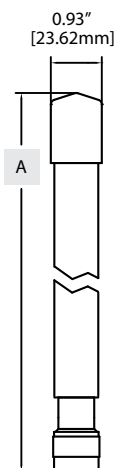
b Antenna connection

3	N Female
C	N Male

c Antenna mounting

S	Straight (vertical)
R	Elbow (90°)

DIMENSIONAL DRAWINGS

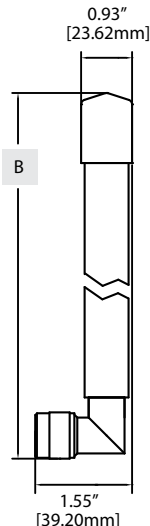


Models

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

Models

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



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

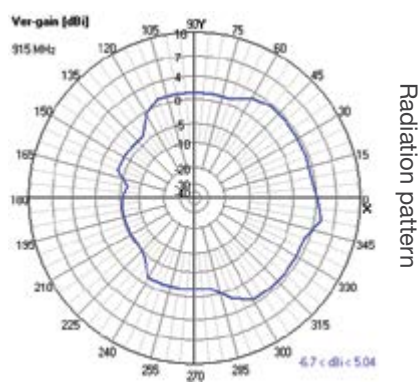
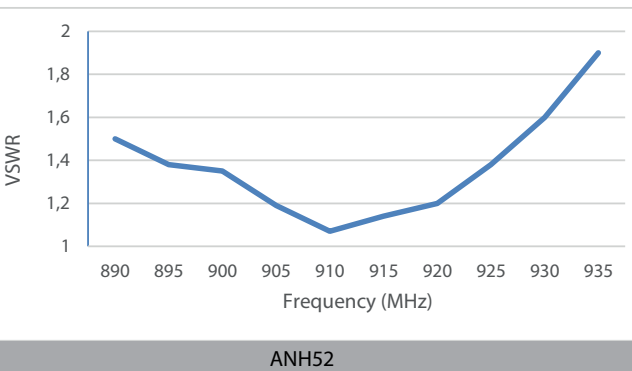
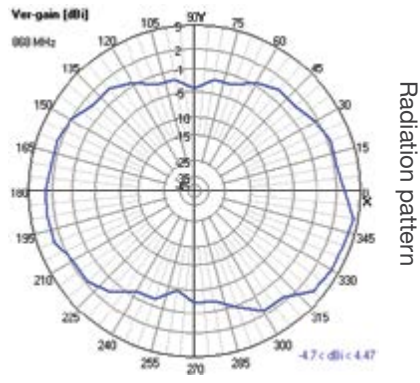
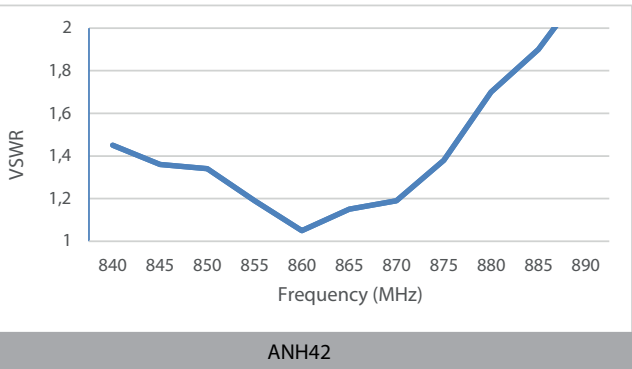
B inch [mm]

ANH42-CNRU	9.44 [240]
ANH52-CNRU	9.44 [240]
ANH72-CNRU	5.31 [135]
ANH92-CNRS	9.44 [240]

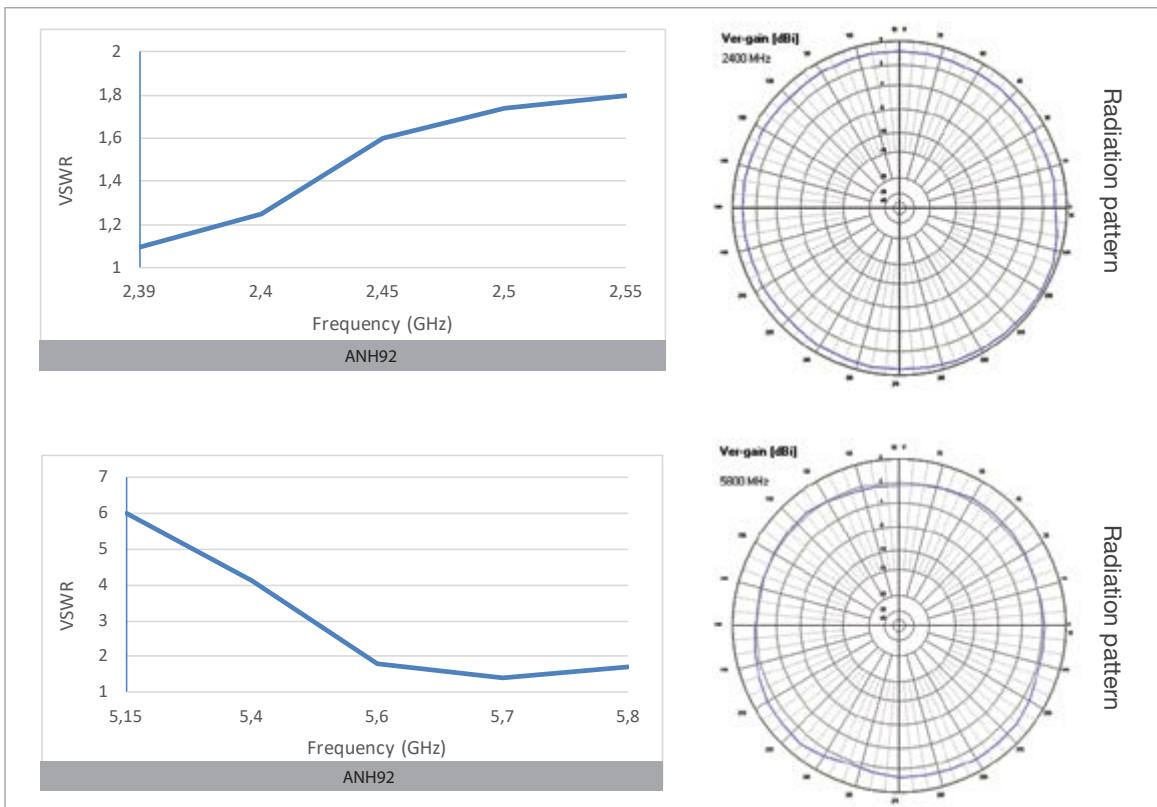
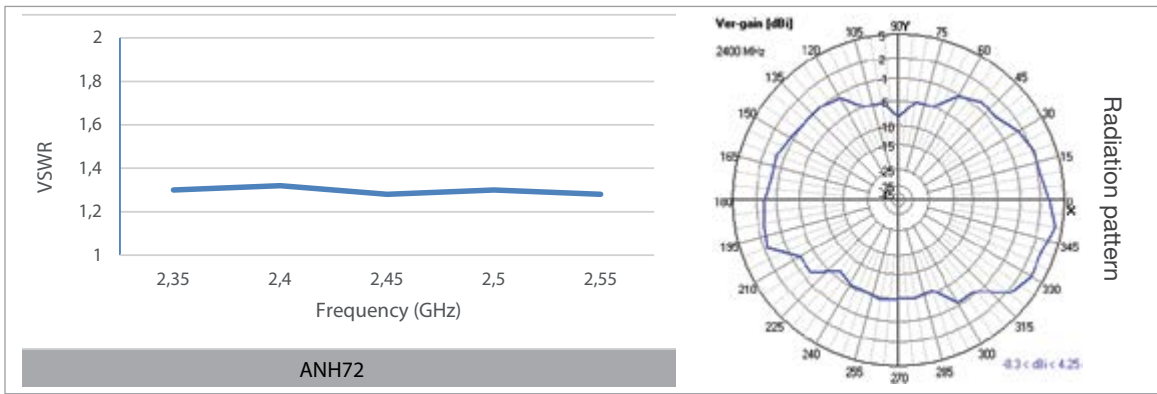
SPECIFICATIONS

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



B00006-03



Data contained in this specification are subject to change without notice



Heavy duty antennas

CELLULAR ANH SERIES



B00024-00



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 environments where weather and abuse are a factor
- ✔ **MULTIBAND CELLULAR ANTENNA**
 Suitable for use in GSM, 3G (UMTS) and 4G-LTE Bands application
- ✔ **N TYPE CONNECTOR**
 Available for vertical or 90° mounting

NOMENCLATURE

ANH	$\frac{C}{a}$	2 -	$\frac{C}{b}$	N	$\frac{S}{c}$	S
-----	---------------	-----	---------------	---	---------------	---

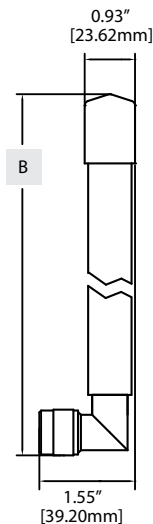
- a Frequency**
 C GSM, 3G (UMTS), 4G-LTE
- b Antenna connection**
 3 N Female
 C N Male
- c Antenna mounting**
 S Straight (vertical)
 R Elbow (90°)

DIMENSIONAL DRAWINGS

Models
ANH C2-CNSS



Models
ANH C2-CNRS



Model **A** inch [mm]
ANH C2-CNSS | 13.55 [344.20]

Model **B** inch [mm]
ANH C2-CNRS | 13.95 [354.30]

Data contained in this specification are subject to change without notice

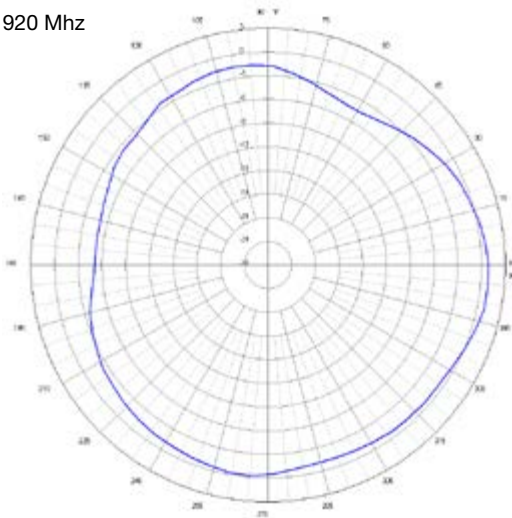
SPECIFICATIONS

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

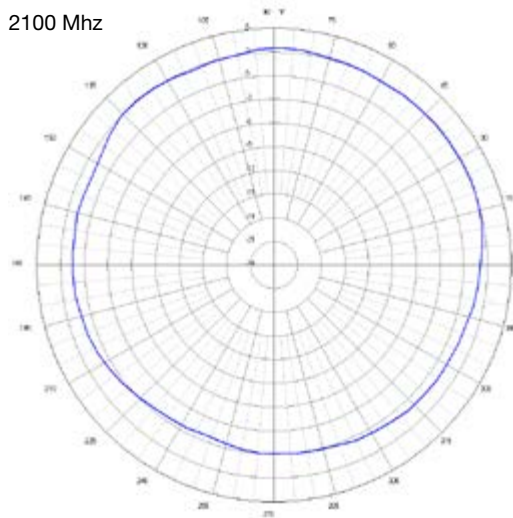
Frequency Range	GSM (850/900/1800/1900) 3G (UMTS) (800-2100) 4G - LTE (Bands 1, 2, 3, 4, 7, 10, 23, 25, 30, 33, 34, 35, 36, 37, 38, 39, 40, 41, 65, 66)
Impedance	50Ω
VSWR	< 4 : 1
Gain max	2.0 dBi

Radiation pattern

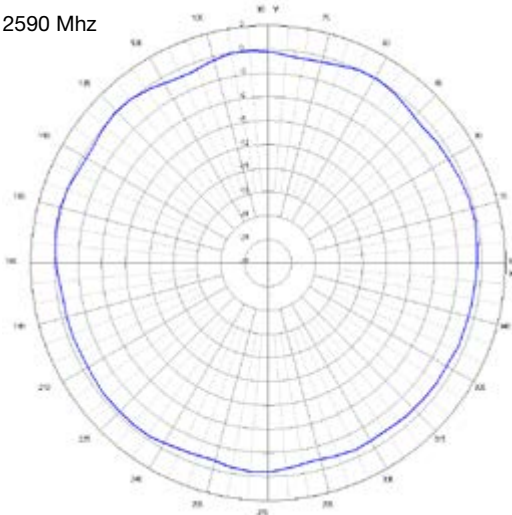
920 Mhz



2100 Mhz



2590 Mhz



Heavy duty antennas



B00007-03

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.

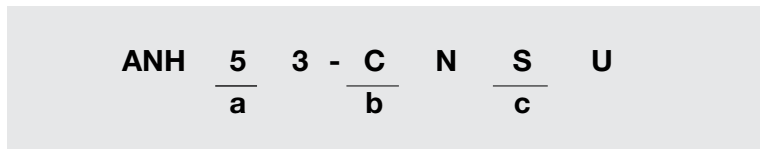
An antenna can make or break a wireless network. The proper antenna can optimize the range, reliability and performance of a radio network.



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 environments 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



a	Frequency	
	4	868 MHz
	5	900 MHz
	7	2.4 GHz

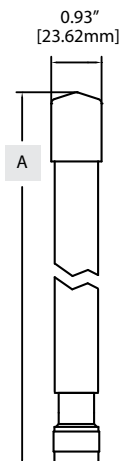
b	Antenna connection	
	3	N Female
	C	N Male

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

DIMENSIONAL DRAWINGS

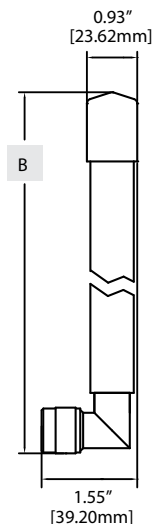
Models

ANH43-CNSU
ANH53-CNSU
ANH73-CNSU



Models

ANH43-CNR
ANH53-CNR
ANH73-CNRU



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

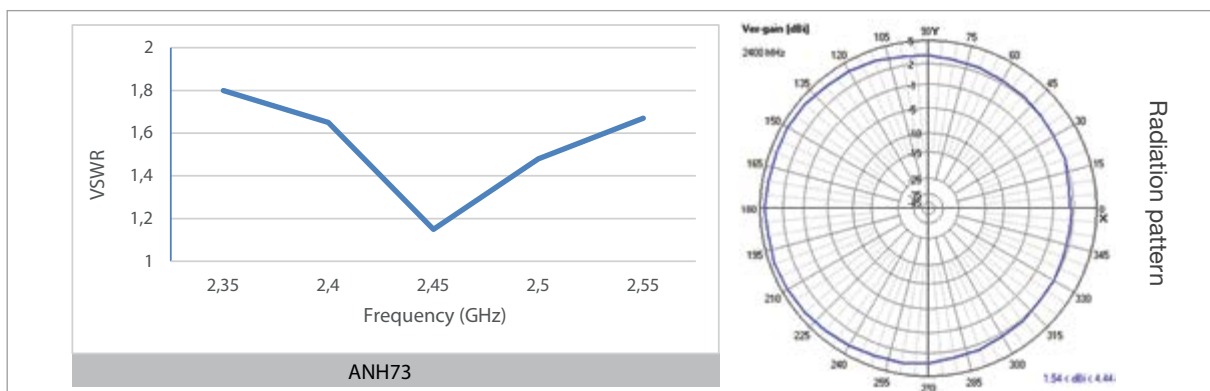
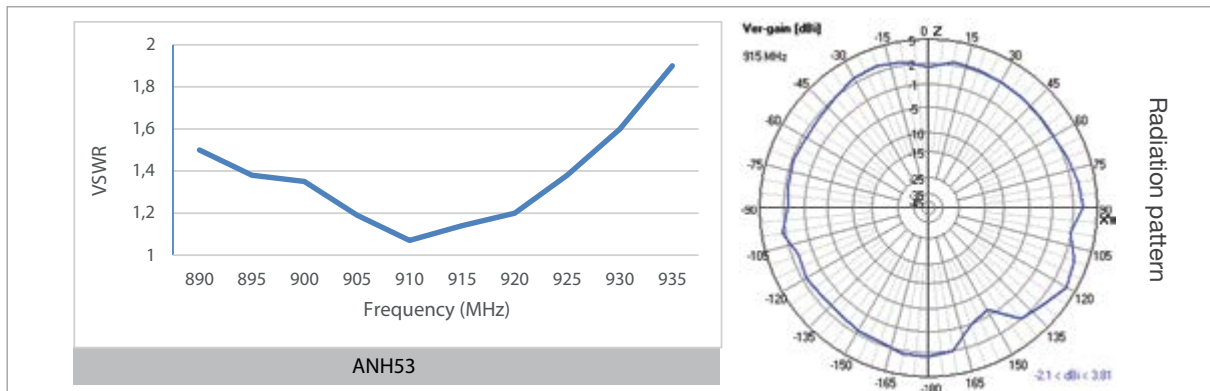
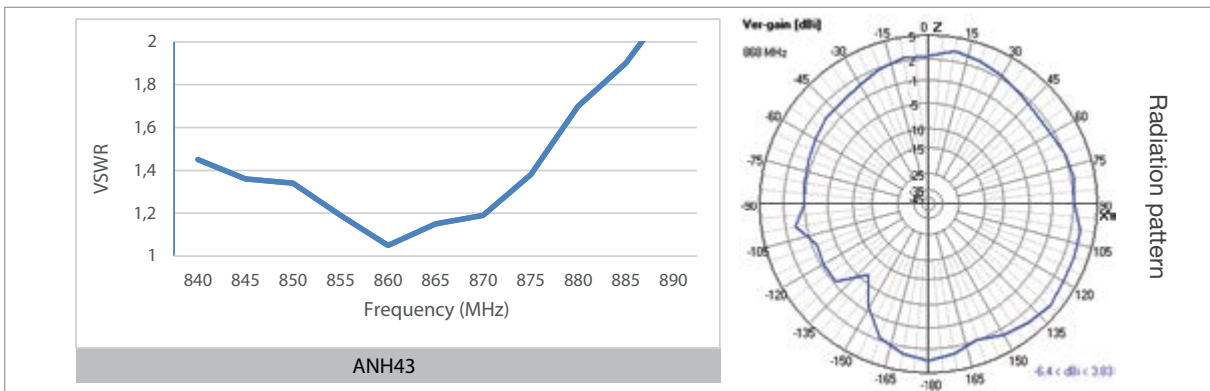
Model	B inch [mm]
ANH43-CNRU	13.95 [354.30]
ANH53-CNRU	13.95 [354.30]
ANH73-CNRU	7.89 [200.30]

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





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 combination with intrinsically safe Solexy antenna couplers
- ✓ **ANH HEAVY DUTY SERIES**
Rugged construction allows the use of our antennas in hostile environments 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 straight 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	$\frac{\mathbf{A}}{\mathbf{a}}$	$\mathbf{A} - \frac{\mathbf{C}}{\mathbf{b}}$	\mathbf{N}	$\frac{\mathbf{S}}{\mathbf{c}}$	\mathbf{E}
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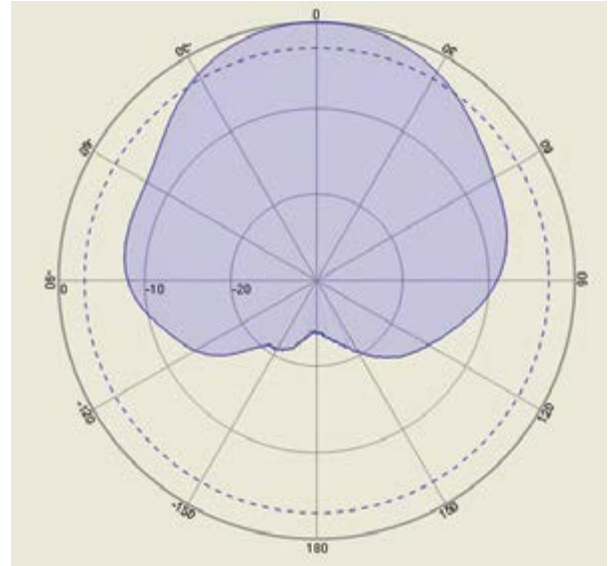
SPECIFICATIONS

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

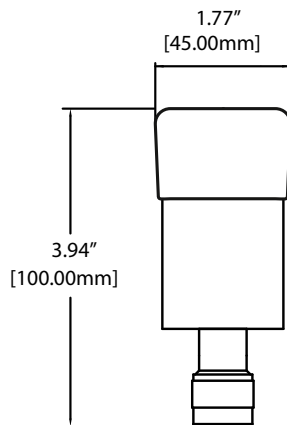
	ANHA	ANHB
-10dB Bandwidth	15 MHz	9 MHz
Impedance	50Ω	50Ω
VSWR	1.5	1.5
Gain (@ Zenith)	4.50 dBic	4.00 dBic
Polarization	RHCP	RHCP
Frequency temperature coefficient	20 ppm/°C	20 ppm/°C



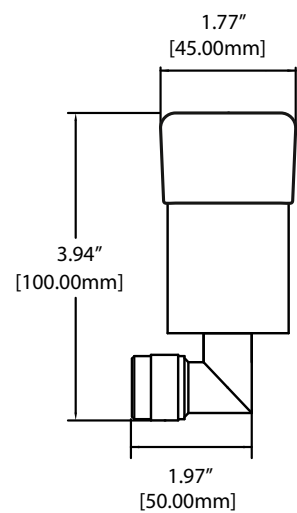
Radiation pattern

DIMENSIONAL DRAWINGS

ANHAA-_NSI
ANHBA-_NSI



ANHAA-CNRI
ANHBA-CNRI



Heavy duty antennas

FLEXIBLE ANF SERIES



B00008-02

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 environments 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

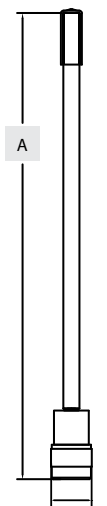
ANF $\frac{5}{a}$ **2** - $\frac{C}{b}$ **N** $\frac{S}{c}$ **U**

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

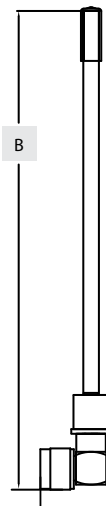
- ANF52-CNSU
- ANF42-CNSU
- ANF72-CNSU



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

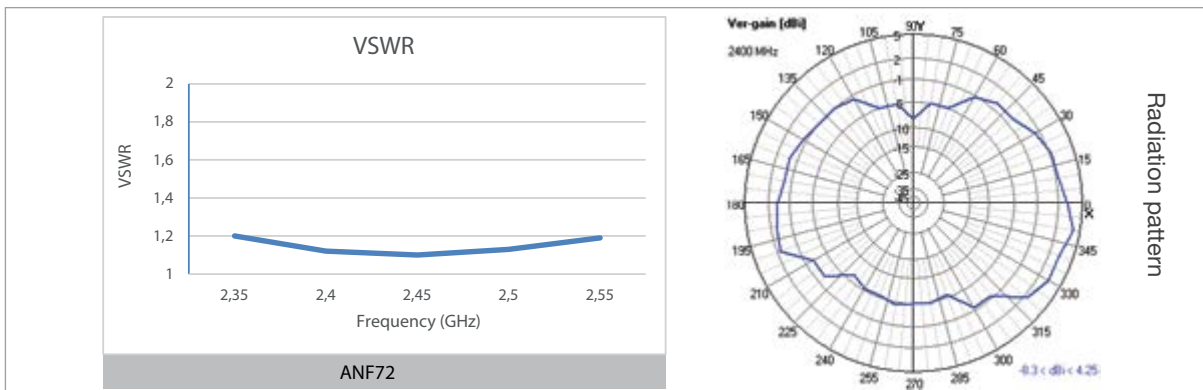
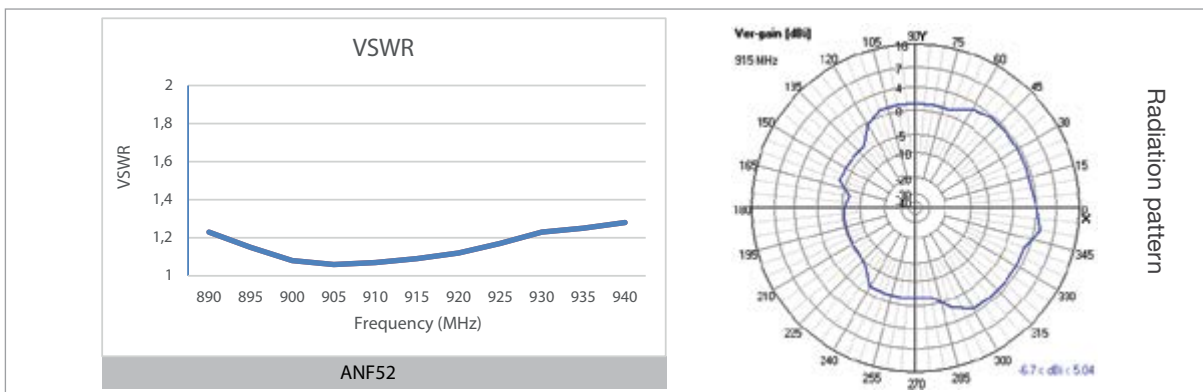
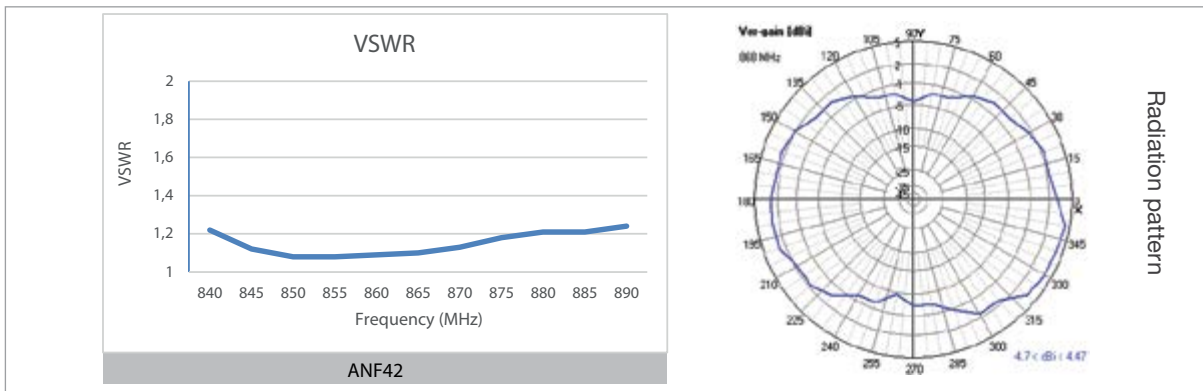
	B inch [mm]
ANF42-CNRU	11,65 [296]
ANF52-CNRU	11,65 [296]
ANF72-CNRU	7,4 [187.96]

Data contained in this specification are subject to change without notice

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





CABLES

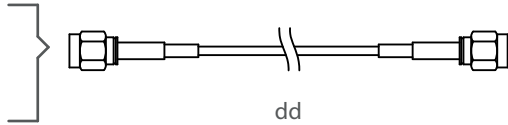
COAX CABLE EXTENSION

B00010-00

SPECIFICATIONS

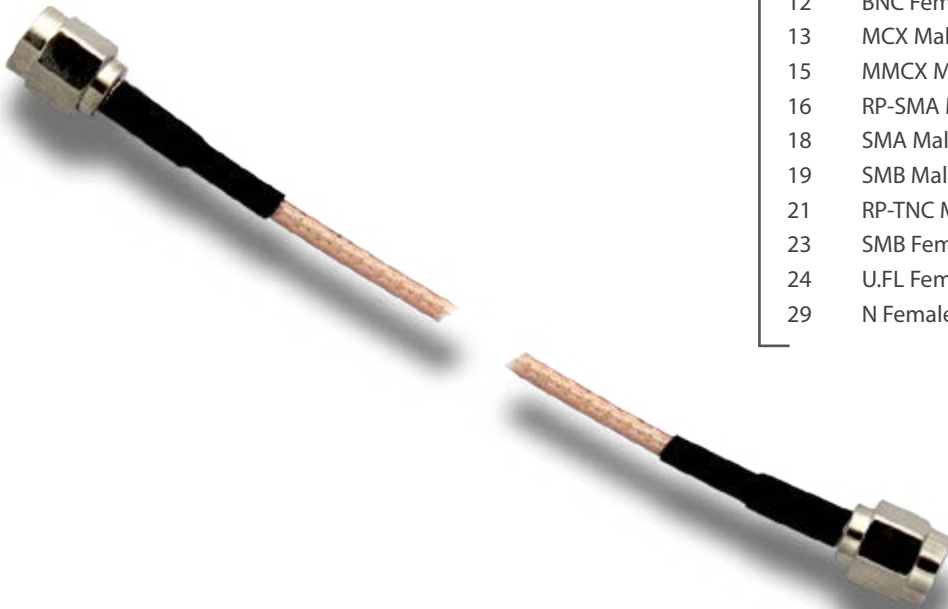
RF CONNECTOR COUPLER SIDE (bb)

- 01 RP-SMA Male
- 03 SMA Male



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 ⁽¹⁾
- 29 N Female bulkhead



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

Notes:
⁽¹⁾ Consult Solexy for product code and feasibility

Data contained in this specification are subject to change without notice

ENCLOSURE MOUNTING KIT

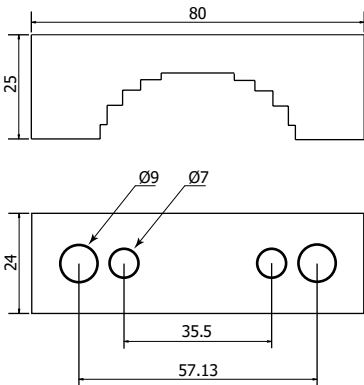
B00023-00

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

■ NOMENCLATURE

KM - 01

■ DIMENSIONAL DRAWINGS (mm)

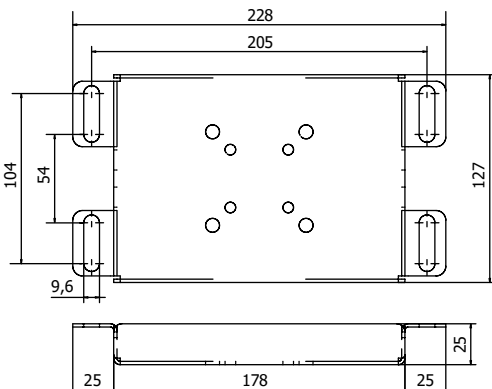


STAINLESS STEEL WALL MOUNTING KIT

■ NOMENCLATURE

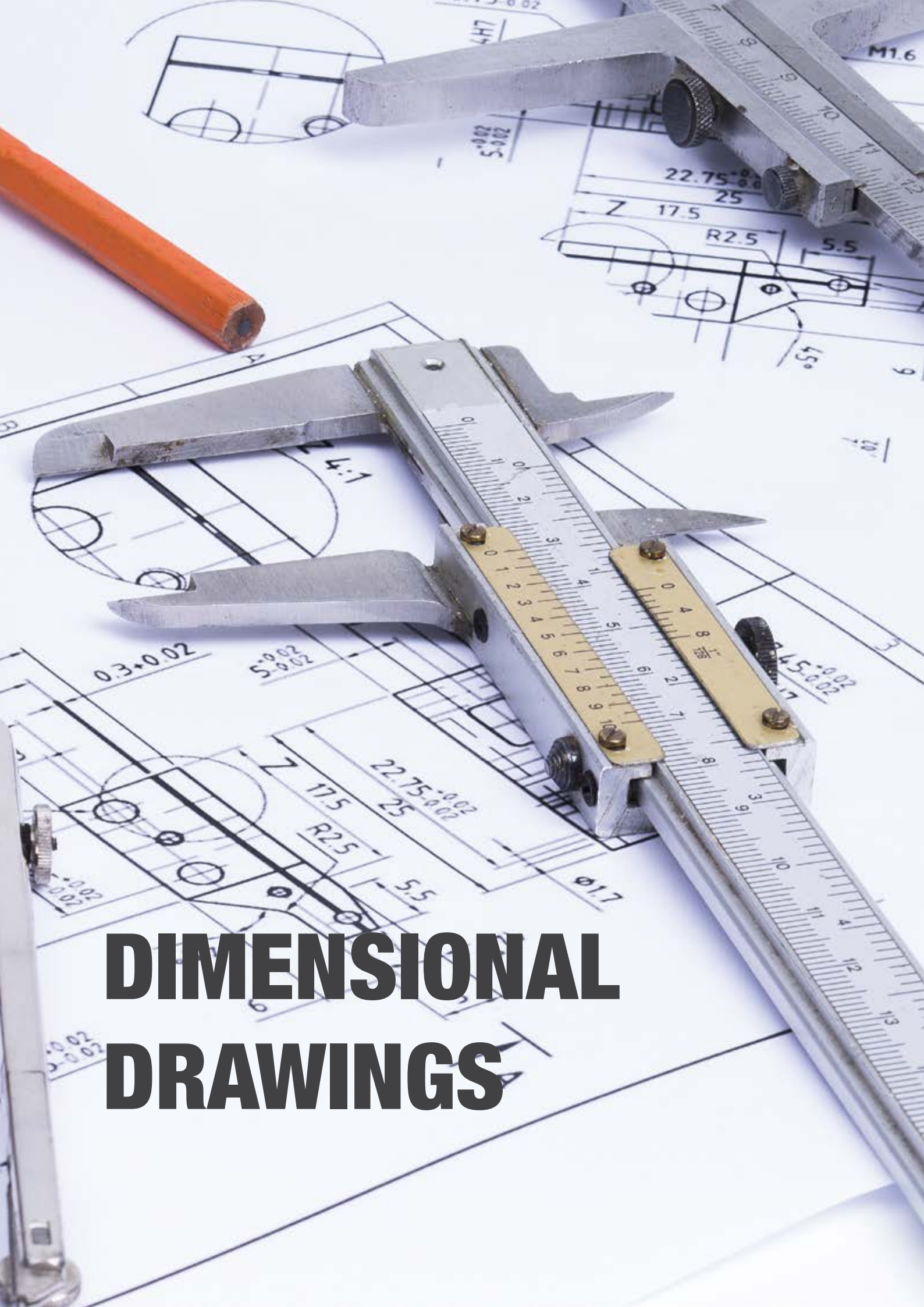
KM - 02

■ DIMENSIONAL DRAWINGS (mm)



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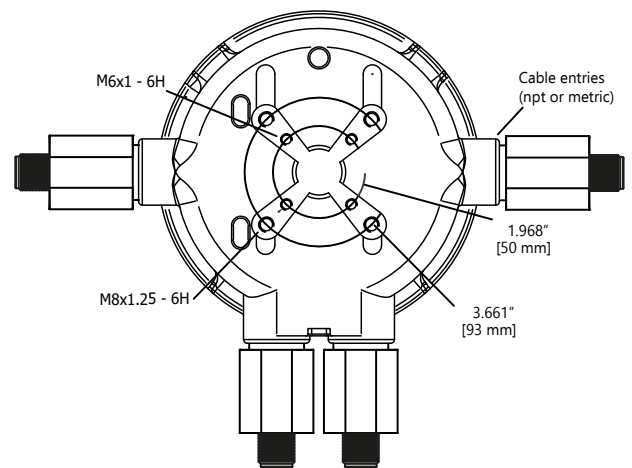
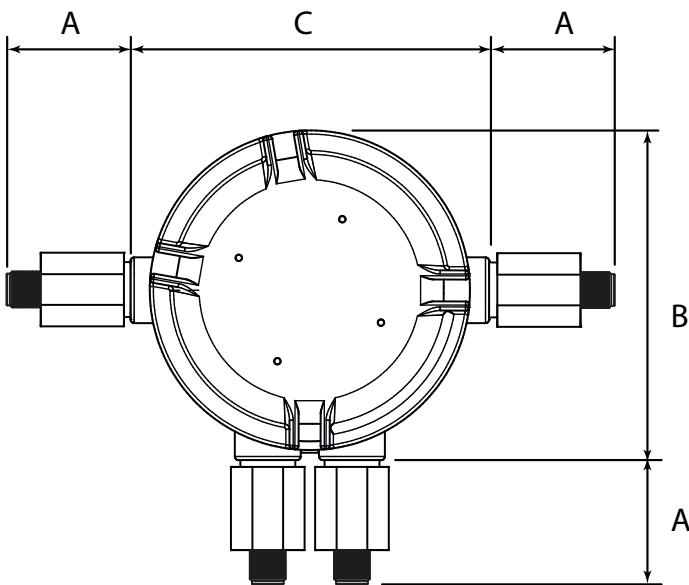
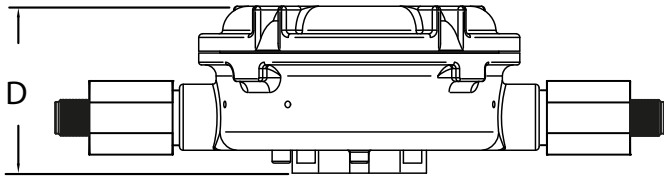
DIMENSIONAL DRAWINGS



DIMENSIONAL DRAWINGS

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

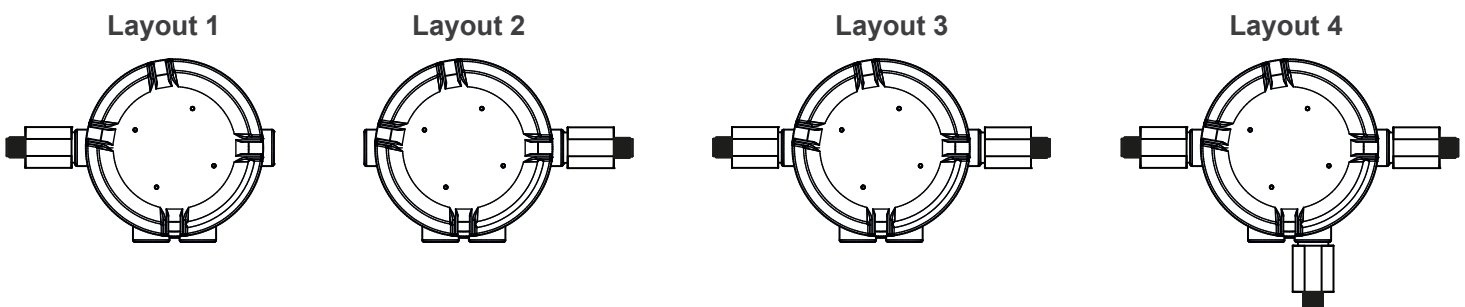
- 1) Select the specific layout (you can find it in the product nomenclature)
- 2) Consider only the antenna coupler dimension (A) that you find in the layout



Model	A (*)	B	C	D
SWA 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 type specified in device datasheet

Data contained in this specification are subject to change without notice



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