



IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: **IECEx EXA 14.0001**

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Status: **Current**

Issue No: 5

Date of Issue: **2022-10-07**

Certificate history:

Issue 4 (2021-05-17)
Issue 3 (2020-08-06)
Issue 2 (2017-09-22)
Issue 1 (2015-10-20)
Issue 0 (2014-07-21)

Applicant: **SOLEXY srl**
Via Enrico Fermi 2
25015 Desenzano del Garda (BS)
Italy

Equipment: **Control unit type WA... and WS...**

Optional accessory:

Type of Protection: **Flameproof enclosure 'db', Intrinsic safety 'ia', Encapsulation 'mb', Protection by enclosure 'tb'**

Marking: Units without antenna coupler:

Ex db I Mb

Ex db IIA/IIB/IIC T6...T4 Gb

Ex tb IIC T110°C...T140°C Db

Units with antenna coupler:

Ex db mb [ia Ma] I Mb

Ex db mb [ia Ga] IIA/IIB/IIC T6...T5 Gb

Ex mb tb [ia Da] IIC T80°C...T100°C Db

Approved for issue on behalf of the IECEx
Certification Body:

Marino Kelava



Position:

Certification Signatory

Signature:
(for printed version)

Date:
(for printed version)

2022-10-07

1. This certificate and schedule may only be reproduced in full.
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Certificate issued by:

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Fiditas
explosion safety solutions



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Manufacturer: **SOLEXY srl**
Via Enrico Fermi 2
25015 Desenzano del Garda (BS)
Italy

Manufacturing
locations:

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

STANDARDS :

The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

IEC 60079-0:2017 Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

IEC 60079-1:2014-06 Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
Edition:7.0

IEC 60079-11:2011 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition:6.0

IEC 60079-18:2017 Explosive atmospheres - Part 18: Protection by encapsulation "m"
Edition:4.1

IEC 60079-31:2013 Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"
Edition:2

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Reports:

CA/LC/ExTR20.0002/00
HR/EXA/ExTR14.0005/01

CA/LC/ExTR20.0002/01
HR/FIDI/ExTR22.0012/00

HR/EXA/ExTR14.0005/00

Quality Assessment Report:

GB/ITS/QAR17.0007/03



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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

The WA and WS type control units are designed in three versions, one is control unit without antenna coupler, the other is control unit with Antenna coupler RX, SX or UX series and third is control unit with terminals or RF connectors.

For details see annex of this certificate.

SPECIFIC CONDITIONS OF USE: NO



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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

New issue covers adding of:

- a new electronic device to the devices listed,
- new antenna barrier UX series (IECEX MSC 19.0001X) and
- review the enclosure's thermal evaluation.

Annex:

IECEX EXA 14.0001_05 Solexy Control units Annex1-final.pdf

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1. Product description

The control units WA and WS consist of an Ex db / Ex tb enclosure with threaded cover, made of aluminum for WA type or stainless steel for WS type. They can be used to enclose a wide range of electronic devices, such as radio modems, transceivers, repeaters, ethernet access point, ethernet switches, terminals, RF connectors, etc...

Enclosures have max 4 cable/conduit entries. To provide IP6X for 'Ex tb', an elastomeric O-ring is placed between the cover and the body of the enclosure.

Only WS type is suitable for underground mining applications.

As an option, WA and WS units can be completed with certified Antenna Coupler RX, SX and UX series (IECEX MSC 19.0001X; Ex db mb [ia Ma] I Mb; Ex db mb [ia Ga] IIA/IIB/IIC T5...T6 Gb; Ex mb tb [ia Da] IIC T80°C...T100°C Db).

2. Marking

X	WA	xxx	xx	-	xx	x	xx	-	xxxxx
1	2	3	4		5	6	7		8

- | | |
|------------------------------------|--|
| 1 – Family, (1 digit) | H - Enclosure completed of terminals / connectors
S - Enclosure supplied with electronics device |
| 2 – Housing, (2 digits) | WA - WA series made in aluminum
WS - WS series made in stainless steel |
| 3 – Device, (3 digits) | 1 digit for device type installed (S family) or terminals / connectors type (H family)
2 digits for device / terminal version |
| 4 – Antenna coupler, (2 digits) | 2 digits for Solexy antenna barrier used (optional components)
00 - for unit without Solexy antenna barrier |
| 5 – Cable Entries, (2 digits) | 2 digits for cable entries combination |
| 6 – Color Brand, (1 digit) | 1 digit for housing's color and/or brand in case of private label |
| 7 – Standard Reference, (2 digits) | 2 digits for certification marking:
X0 - ATEX and IECEx (group II)
M0 - ATEX and IECEx (group I and group II)
X* - ATEX and IECEx (group II) + a second standard marking
M* - ATEX and IECEx (group I and group II) + a second standard marking (* any alphanumeric digit) |
| 8 – Special, (up to 5 digits) | Up to 5 digits for special execution in terms of marking, labelling, instruction, execution package, etc.... |

Marking of electronics new devices

- **Invenio GW-1 industrial gateway unit:**
The devices will be bear mark **G01 - G38** or **G51 - G88** in device designation code,
- **Rajant Cooperation device HazLoc Wireless Mesh Network Node**
The devices will be bear mark **J25** in device designation code.

3. Technical data:

Max. input voltage:	125 Vdc /250 Vac
Max input frequency:	60 Hz
Max. current:	16 A
Max. dissipation:	24 W
Mechanical protection	IP66 / IP68
Ambient temperature range:	-60°C to +105°C for S - type without antenna coupler -40°C to +85°C for S - type with antenna coupler -60°C to +80°C for H - type without antenna coupler -40°C to +80°C for H - type with antenna coupler Ambient temperature range for each unit will be determined on the basis of thermal calculation and specification of installed components.

Technical data of version of the unit with Invenio GW-1 (device code G01 - G38 and G51 - G88):

Input voltage:	230Vac or 24 Vdc or 5 Vdc		
Max. dissipation:	4.9 W		
Mechanical protection	IP66 / IP68		
Ambient temperature range:	SWA	G01 ... G38	-40°C to +78°C
	SWS		-40°C to +71°C
	SWA	G51 ...G88	-20°C to +53°C
	SWS		-20°C to +46°C

Ambient temperature range for each unit will be determined on the basis of thermal calculation and specification of installed components.

Technical data of version of the unit with Rajant Cooperation device HazLoc Wireless Mesh Network Node J25:

Input voltage:	9 - 30 Vdc
Power consumption:	5 W max
RF Port Impedance:	50 Ω
RF Power Output (each)	13 dBm +2 dB
Ambient temperature range:	-40°C to +85°C Ambient temperature range for each unit will be determined on the basis of thermal calculation and specification of installed components.

Temperature class (T6 ... T4) and maximum surface temperature (T110°C...T140°C) depend on maximum ambient temperature and internal dissipation of control unit. Manufacturer will for each unit calculate internal dissipation and based on thermal coefficient of the enclosures define overtemperature of external surface to define temperature class for gas atmosphere and/or maximum surface temperature for dust atmosphere.

In case of unit complete of radio device maximum radio transmitting power of installed radio equipment and antenna gain is chosen so that Table 5 from EN IEC 60079-0 is satisfied. In case of device with multiple antennas, maximum threshold powers of each antenna are considered separately due to different working frequency of each antenna circuit. Based on below values, control units will be marked with specific equipment group.

Equipment Group	Threshold power (W)
I, IIA and III	6
IIB	3,5
IIC	2

4. Manufacturing conditions for version with Antenna coupler

- Solexy RX, SX and UX series antenna couplers must be connected to an RF source with a minimum internal impedance of 50 Ω.
- It is considered inappropriate to provide conventional IS parameters for this equipment. For connection to external antenna, refer to the Instruction and Operating Manual for clarification of the antenna requirements and calculation of the RF power.
- Solexy RX, SX and UX antenna coupler does not provide any RF power limitation. The threshold power must be limited by the user to achieve the levels defined in IEC 60079-0, Table 5.
- Antenna coupler marked with an ambient temperature of -40°C to +70°C/+85°C is limited to a max RF input of 2 W.