


(1) **EU-Type-Examination Certificate**

(2) Equipment and protective systems intended for use in potentially explosive atmospheres, Directive 2014/34/EU



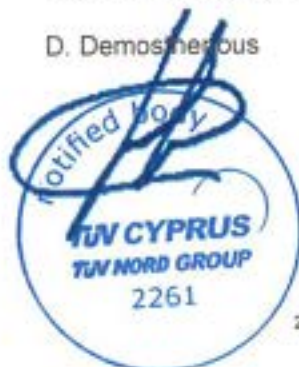
(3) **Certificate Number** TÜV CY 18 ATEX 0206158 X Issue 01
 (4) for the equipment: Antenna Couplers RX, SX, UX and M Series
 (5) of the manufacturer: Solexy Srl
 (6) Address: Via Enrico Fermi, 2 I-25015 Desenzano del Garda (BS) - Italy
 Order number: 0206158
 Date of issue: 2022-03-15

- (7) The design of this equipment or protective system and any acceptable variation thereto are specified in the schedule to this EU-Type-Examination Certificate and the documents therein referred to.
 (8) TÜV CYPRUS Ltd, notified body No. 2261 in accordance with Article 17 of the Council Directive of 2014/34/EU of February 26, 2014, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres given in Annex II to the Directive. The examination and test results are recorded in the confidential report No. 22 0206158.
 (9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
 EN IEC 60079-0:2018 EN 60079-11:2012 EN 60079-31:2014
 EN 60079-1:2014 EN 60079-18:2015 /A1:2017
 (10) If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.
 (11) This EU-Type-Examination Certificate relates only to the design, examination and tests of the specified equipment in accordance to the Directive 2014/34/EU. Further requirements of the Directive apply to the manufacturing process and supply of this equipment which are not covered by this certificate.
 (12) The marking of the equipment or protective system must include the following:

	RX, SX, UX series:	M series:
	I M2 (M1) Ex db mb [ia Ma] I Mb	I (M1) [Ex ia Ma] I
	II 2 (1) G Ex db mb [ia Ga] IIA/IIB/IIC T6...T5 Gb	II (1) G [Ex ia Ga] IIA/IIB/IIC
	II 2 (1) D Ex mb tb [ia Da] IIIC T80°C...T100°C Db	II (1) D [Ex ia Da] IIIC

TÜV CYPRUS Ltd (TUV NORD Group),
 The head of the notified body,

D. Demosimerous



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(13) **SCHEDULE**

(14) **EU-Type-Examination Certificate No. TÜV CY 18 ATEX 0206158 X Issue 01**

(15) **Description of equipment**

The Antenna Coupler is designed to be installed and threaded onto a flameproof enclosure and acts a capacitive coupling between an RF transmitter that is installed in an approved enclosure and a passive antenna installed outside the enclosure in a hazardous location. The antenna coupler function is to block DC signals and provide very high impedance to low frequency AC signals but also acts a flameproof bushing that is threaded onto a flameproof enclosure.

The Antenna coupler output provides an intrinsically safe output for the connected passive antenna and blocks any unsafe energy from reaching the antenna under fault conditions. The circuitry that provides the intrinsically safe output is encapsulated and provides "Ex m" type of protection and all of that is enclosed in an 'Ex db'/Ex tb' stainless steel body enclosure.

The antenna coupler is available with a surge protector option (detailed by model SX series) and the standard RX antenna coupler series is also available with an isolated ground configuration. The additional SX and isolated ground configurations are considered for the I.S analysis of the equipment but they have no impact on the rest of the Ex parameters for the explosion safety of the equipment.

The antenna coupler is also available in a UX and M series. The UX series antenna coupler is provided with the same metallic enclosure and potting compound as the RX and SX series, but is provided with an updated layout that improves RF performance and allows the equipment to operate up to 10GHz. The M series antenna coupler incorporates the updated layout as well but is only intended to be installed in a non-classified area.

This M series antenna coupler can be manufactured with either metallic or non-metallic enclosure and with various encapsulation compound options.

The standard RX, SX, UX and M series antenna coupler are available in 5 different options. These options vary only in the way the input and output connections are assembled and have no impact on the Ex parameters that contribute to the explosion safety of the equipment.

Model #	RF connection Type							
	N	N w/ isolated gnd	TNC	TNC w/ isolated gnd	BNC	BNC w/ isolated gnd	RP-SMA	SMA
RX	x	x	x	x	x	x	x	x
SX	x	-	x	-	x	-	x	x
UX	x	-	x	-	x	-	x	x
M	x	x	x	x	x	x	x	x

The current Issue 01 includes:

- the evaluation and testing for the addition of the UX and M series antenna coupler to the original certification of the RX and SX series antenna coupler and the inclusion of an additional encapsulation compound option for all antenna coupler model series.
- the assessment of the equipment to the new edition 2018 of EN IEC 60079-0 with respect to EN 60079-0:2012+A11.

Type Key

Model Nomenclature:

RX Series product nomenclature:

RX	X	X	X	XX	XX	X	XX	-	XXXXX	
	1	2	3	4	5	6	7		8	
1	Series (RF Connection)						F	RP-SMA Female		
							S	SMA Female		
							N	N Female		
							B	BNC Female		
							T	TNC Female		
							1	N Female Isolate Ground		
							2	TNC Female Isolate Ground		
							3	BNC Female Isolate Ground		
2	Thread						M	M25x1.5		
							3	3/8" npt-m		
3	Material						S	AISI 303		
							C	AISI 316		
							L	AISI 316L		
4	Coaxial cable type / Radio connector						xx	2 digit for coax connector and cable type		
5	Cable length						xx	2 digits for coax cable length (inches) 00 for double connector execution (no cable)		
6	Version						x	1 digit for version		
7	Standard reference						xx	2 digits for certification marking – see note 1		
							X0	European - IECEx		
							N0	North America (USA & CANADA)		
							XN	European IECEx - North America (double marking)		
8	Special execution						xxxxx	Up to 5 digits for special execution in terms of marking, labelling, instruction, packaging, etc...		

Note 1: further coding will be defined in case of different approvals.

SX and UX Series product nomenclature:

SX & UX	X	X	X	XX	XX	X	XX	-	XXXXX	
	1	2	3	4	5	6	7		8	
1	Series (RF Connection)						F	RP-SMA Female		
							S	SMA Female		
							N	N Female		
							B	BNC Female		
							T	TNC Female		
2	Thread						M	M25x1.5		
							3	3/8" npt-m		
3	Material						S	AISI 303		

		C	AISI 316
		L	AISI 316L
4	Coaxial cable type / Radio connector	xx	2 digit for coax connector and cable type
5	Cable length	xx	2 digits for coax cable length (inches) 00 for double connector execution (no cable)
6	Version	x	1 digit for version
7	Standard reference	xx	2 digits for certification marking – see note 1
		X0	European - IECEx
		N0	North America (USA & CANADA)
		XN	European - IECEx - North America (double marking)
8	Special execution	xxxxx	Up to 5 digits for special execution in terms of marking, labelling, instruction, packaging, etc...
Note 1: further coding will be defined in case of different approvals.			

M Series product nomenclature:

M	X	X	X	XX	XX	X	XX	-	XXXXX	
	1	2	3	4	5	6	7		8	
1	Number of Channel					x	1 digit for number of channel			
2	Series (RF Connection)					F	RP-SMA Female			
						S	SMA Female			
						N	N Female			
						B	BNC Female			
						T	TNC Female			
						1	N Female Isolate Ground			
						2	TNC Female Isolate Ground			
						3	BNC Female Isolate Ground			
3	Material					P	Plastic			
						A	Aluminium			
						S	AISI 303			
						C	AISI 316			
						L	AISI 316L			
4	Coaxial cable type / Radio connector					xx	2 digit for coax connector and cable type			
5	Cable length					xx	2 digits for coax cable length (inches) 00 for double connector execution (no cable)			
6	Version					x	1 digit for version			
7	Standard reference					xx	2 digits for certification marking – see note 1			
						X0	European - IECEx			
						N0	North America (USA & CANADA)			
						XN	European IECEx - North America (double marking)			
8	Special execution					xxxxx	Up to 5 digits for special execution in terms of marking, labelling, instruction, packaging, etc...			
Note 1: further coding will be defined in case of different approvals.										

Technical data:

Rated Voltage	Um 250 Vdc / 250 Vac 50-60Hz
Maximum input frequency (RX and SX)	6 GHz
Maximum input frequency (UX and M)	10 GHz
Minimum Internal Impedance of RF transmitter	50 Ω

Equipment Group	Threshold Power Pth	Threshold Power Pth
Group I / IIA / III	6 W	37.8 dbm
Group IIB	3.5 W	35.4 dbm
Group IIC	2 W	33.0 dbm

Maximum RF input power		
Power	Associated Tamb	Model Series
7W (38.4 dBm)	when ta = -40°C to +85°C when ta = -40°C to +75°C	UX
	when ta = -40°C to +85°C	M
6W (37.8 dBm)	when ta = -40°C to +80°C when ta = -40°C to +65°C	RX and SX
2W (33 dBm)	when ta = -40°C to +85°C when ta = -40°C to +70°C	RX and SX

Permissible range of ambient temperature:

Gas	Dust	Tamb
T5	100°C	-40°C to +80°C (When max RF input = 6W) – see note 1
		-40°C to +85°C (When max RF input = 2W) – see note 1 -40°C to +85°C – see note 2
T6	80°C	-40°C to +65°C (When max RF input = 6W) – see note 1
		-40°C to +70°C (When max RF input = 2W) – see note 1 -40°C to +75°C – see note 2
<i>Note 1: the following ambient temperature ranges are related to the RX and SX series models only.</i>		
<i>Note 2: the following ambient temperature ranges are related to the UX series models only.</i>		

Warning:

See Installation Instruction Document

(16) Test documents are listed in the test report No. 22 0206158

(17) Special conditions for safe use

- Solexy RX, SX, UX and M 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

3. Solexy RX, SX, UX and M series antenna coupler does not provide any RF power limitation. The threshold power must be limited by the user in order to achieve the levels defined in IEC/EN 60079-0 Table 5
4. RX and SX Series equipment marked with an ambient temperature of -40°C to $+70^{\circ}\text{C}/+85^{\circ}\text{C}$ is limited to a max RF input of 2 W.
5. Since Annex F is applied to the UX and M Series antenna couplers, they shall only be supplied with equipment rated with a maximum overvoltage category II.
6. The M series antenna coupler is only intended to be installed in a non-classified location and shall be connected to a high-integrity earth point (IS ground) not exceeding 1Ω or connected to an equipotential bonding system as per 60079-14.

(18) Essential Health and Safety Requirements

This certificate covers only the Essential Health and Safety Requirements related to the Directive 2014/34/EU