(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 0206141 X** **Issue 02**

(4) for the equipment: Ethernet Couplers Model BAF and BXF

(5) of the manufacturer: **Solexy Srl**

(6) Address: Via Enrico Fermi, 2 I-25015 Desenzano del Garda (BS) - Italy

Order number: 0206141

Date of issue: 2019-07-22

(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. 19 0206141.01.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
EN 60079-0:2012 /A11:2013 **EN 60079-1:2014** **EN 60079-11:2012**
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:

BAF Series: **I (M1) [Ex ia Ma] I**
II (1)G [Ex ia Ga] IIC
II (1)D [Ex ia Da] IIIC

BXF Series : **I M2(M1) Ex db mb [ia Ma] I Mb**
II 2(1)G Ex db mb [ia Ga] IIC T5...T4 Gb
II 2(1)D Ex mb [ia Da] IIIC T100°C...T135°C Db

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

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(13) SCHEDULE

(14) EU-Type-Examination Certificate No. TÜV CY 18 ATEX 0206141 X Issue 02

(15) Description of equipment

The Solexy BAF and BXF series Ethernet Couplers are an integrated protection device that facilitates Ethernet cabling installation in hazardous areas making the signal intrinsically safe. The coupler incorporates limiting circuitry which protects the filed cabling from voltages and currents high enough to cause a spark ignition.

The BAF circuit is completely encapsulated and is housed in an aluminum or stainless-steel enclosure. The BAF itself is installed in a non-hazardous area, with only the energy limited Ethernet wiring entering the hazardous area for connection to another Ethernet coupler unit located elsewhere.

The BXF circuit is also completely encapsulated and is housed in a stainless-steel enclosure. The BXF is installed in a threaded entry of a suitable enclosure utilizing one of the protection types listed in Clause 1 of EN 60079-0. As with the BAF, the BXF provide energy limited Ethernet wiring into the hazardous area for connection to another Ethernet coupler unit located elsewhere.

The current Issue 02 includes:

- the circuit layout has been updated to improve performance which resulted in change to the technical data as well as change to the marking label, additional special conditions of use were added
- addition of optional O-ring seat and O-ring on M25 threaded enclosure to improve weather proofing that has no impact on the type of protection for the equipment.

Type Key

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

1	Series	BXF	Explosion Proof Ethernet Barrier
		BAF	Intrinsically Safe Ethernet Barrier
2	Thread	M	M25x1.5
		3	3/4" npt-m
3	Material	A	Aluminium
		S	AISI 303
		C	AISI 316
		L	AISI 316L
4	Housing Connector	01	M12 Female Receptacle
5	Cable Connector	xx	2 digits for cable connector
6	Certification Marking	XX	2 digits for certification marking
		X0	European - IECEx
		N0	North American (USA and CANADA)
		XN	European – IECEx – North American (double marking)
7	Cable Length	XXX	3 digits for cable length
8	Special Execution	XXXXX	Up to 5 digits for special execution in terms of marking, labelling, instruction, packaging, etc…

Technical data:

Permissible range of ambient temperature:
BAF Series
-40°C to +85°C
BXF Series
-40°C to +85°C (corresponding temperature class T4)
-40°C to +60°C (corresponding temperature class T5)

Electrical parameter:

Input
Um = 250 Vac / 48 Vdc at 50-60 Hz
Maximum Frequency 100 MHz
Um = 2.8 V at 100 MHz

Output
Uo= 3.328 V at 50-60 Hz
Uo = 2.8 V at 100 MHz
Io= 701 mA at 50-60 Hz
Io = 1.117 A at 100 MHz
Co = 1000 uF
Lo = 37 uH

Warnings:

- See Installation Instruction Document

(16) Test documents are listed in the test report No. 19 0206141.01

(17) Special conditions for safe use

All Ethernet Coupler Models:

1. Because the Ethernet Coupler limitation circuitry is referenced to earth/case, it does not meet the dielectric strength requirement specified in Clause 6.3.13 of EN 60079-11. This must be considered during installation.

2. Installation of the Ethernet couplers shall be in accordance with the requirements detailed in the control drawings specified on the product label in addition to the requirements specified here.

3. The free end of the cable that connects to the output of either the BAF or BXF unit can only be connected to another BAF or BXF unit.

4. Since Um is less than 250 V, Um = 2.8V at 100 MHz, the apparatus shall be installed in accordance with the following options to ensure an input voltage of 2.8V is not exceeded:
a) Where Um does not exceed 50 Va.c, or 120 Vd.c., in a SELV PELV system, or
b) Via a safety isolating transformer complying with the requirements of IEC 61558-2-6, or technically equivalent standard, or
c) Directly connected to apparatus complying with the IEC 60950 series, IEC 61010-1, or a technically equivalent standard, or
d) Fed directly from cells or batteries

5. Length of cable that is permitted at the output of the BAF/BXF unit is dependent on the Lo and Co values assigned to the device, see IEC 60079-14, clause 16.2.2.2

6. The values of Lo and Co are determined by the ignition curves and table given in Annex A are allowed for;
   - Distributed inductance and capacitance e.g. as in a cable or,
   - If the total Li of the external circuit (excluding cable) is < 1% of the Lo value, or
   - If the total Ci of the external circuit (excluding cable) is < 1% of the Co value.

7. Maximum input frequency is 100MHz

Model BAF Only:

8. The model BAF is an associated apparatus and shall only be installed in a non-hazardous location.

Model BXF only:

9. The free end of the cemented bushing and its associated integral cable shall be protected by a suitable enclosure utilizing one of the protection types listed in Clause 1 of EN 60079-0. The protection type utilized shall be applicable to the specific area of use (ie. Gas or Dust).

10. BXF models can withstand a maximum hydrostatic pressure of 30 bar without leakage

11. FOR Group M1 Only: In accordance with Clause 26.4.2 of EN 60079-0, the BXF have been tested corresponding to a low risk of mechanical danger for Group I hazardous locations. This must be considered during installation.

(18) Essential Health and Safety Requirements

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