[1] # EU-TYPE EXAMINATION CERTIFICATE

[2] **Equipment or Protective System intended for use in potentially explosive atmospheres - Directive 2014/34/EU – Annex III**

MODULE B: EU-TYPE EXAMINATION

[3] EU-type Examination Certificate number: **IMQ 20 ATEX 049 X**

[4] PRODUCT: **Socket and Plug**

TYPE/SERIES: **PYN and SPYN**

[5] MANUFACTURER: **Cortem S.p.A.**

[6] ADDRESS: **Via Aquileia 10 - 34070 Villesse (GO) – Italy**

[7] This equipment and any acceptable variation thereto are specified in the annex to this certificate and the documents therein referred to.

[8] IMQ, notified body N° 0051, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, certifies that this product 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 Report No.: **AT21-0067461-01**

[9] Compliance with Essential Health and Safety Requirements, except in respect of those listed at item 18 of the annex, has been assured by compliance with:

EN IEC 60079-0:2018; EN 60079-1:2014; EN 60079-7-2015; EN IEC 60079-7-2015/A1:2018; EN 60079-31:2014

[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 and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

[12] The marking of the equipment or protective system shall include the following:

II 2G	**Ex eb IIC T6…T3 Gb**	For plug
II 2D	**Ex tb IIIC T85°C…T140°C Db**	
II 2G	**eb db IIC T6…T3 Gb**	For socket
II 2D	**Ex tb IIIC T85°C…T140°C Db**	

THIS CERTIFICATE IS COMPOSED OF 6 PAGES INCLUDING 1 ANNEX.

FIRST ISSUE	2021/03/11
CURRENT ISSUE	2022/11/23
PREVIOUS ISSUE	2021/03/11
EXPIRING DATE	2032/11/22

B.U. PRODUCT CONFORMITY ASSESSMENT
CERTIFICATION SECTOR - MANAGER

[13] # Annex

[14] EU-type Examination Certificate number: **IMQ 20 ATEX 049 X**

[15] **Description of product:**

The PYN Series sockets and plugs Series SPYN are suitable for cable connection in potentially explosive areas.

Sockets are made in "Ex eb db" and "Ex tb" execution while plugs are made in "Ex eb" and "Ex tb" execution.

Models with rated current of 16A and 32A

The switching of the circuit is performed by rotating the plug, when full inserted in the socket.
A mechanical interlock system ensures that plug and socket can be energized only when they are engaged and interlocked.
The equipment is composed by a metallic body (aluminum alloy or stainless steel) complete with two threaded entries, a threaded cover and a coupling that contains the socket with an insulated part in which are inserted electrical receptacles and the female pins.
The coupling is mounted to the socket outlet body, by means of two threaded joints complete with a cover (bayonet type) and gasket. One of these threaded joints is sealed to the socket outlet body.
The plug is composed by a cylindrical metallic body (aluminum alloy or stainless steel) with one cover fixed by two screws.
The cover of the plug has a threaded entry suitable for cable connection by means of cable gland.
A ring (bayonet type) complete with gasket is located on the plug body guaranteeing the mechanical coupling
and IP protection degree with the socket-outlet once inserted.
The internal part, which hold male-pins, is made by a polymeric material that realize the insulation.
The geometry of this internal part has been designed according to EN 60079-7.

Models with rated current of 63A and 125A

They are screwed on a box (CCA-03E) already ATEX certified which contains magnetoelectric switch or disconnector.

The switching of the circuit is performed by acting on external handle (series M-0…) already ATEX certified, placed on the side of the box in which the socket is screwed.
A mechanical interlock system ensures that plug and socket can be connected/disconnected only when they are not energized.

A plastic ring (complete with gasket) is located on the plug body to guarantee the mechanical coupling and the degree of protection with the socket once coupled.

The socket enclosure in made of aluminum alloy or stainless steel. It has an insulated part in which are inserted electrical receptacles and the female pins.
The plug body is made of aluminum alloy or stainless steel. It has a threaded entry suitable for cable connection by means of cable gland.
The internal part, which hold male-pins, is made by a polymeric material that realize the insulation.
The geometry of this internal part has been designed according to EN 60079-7.

The sockets are made in "Ex eb db" and "Ex tb" execution.
The plugs are made in "Ex eb" and "Ex tb" execution.

The equipment is also compliant to IEC 60079-31:2022

Trademark: CORTEM; ELFIT; CORTEM GROUP

[13] Annex

[14] EU-type Examination Certificate number: **IMQ 20 ATEX 049 X**

[15.1] **Models/Series Identification:**

Sockets

DIGITS	①	②	③	④

	Description
PYN	Socket

	Description
2	2P+E
3	3P+E
4	3P+N+E

	Description
16	Rated current (A)
32	
63	
125	

	Description
B	Blue
R	Red
G	Yellow
N	Black
NN	Black (version 690V)
RR	Red (version 440 to 460V)
GR	Grey
GRR	Grey in version > 250V

Plugs

DIGITS	①	②	③	④

	Description
SPYN	Plug

	Description
2	2P+E
3	3P+E
4	3P+N+E

	Description
16	Rated current (A)
32	
63	
125	

	Description
B	Blue
R	Red
G	Yellow
N	Black
NN	Black (version 690V)
RR	Red (version 440 to 460V)
GR	Grey
GRR	Grey in version > 250V

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[15.2] **Ratings:**
Maximum rated voltage: 690 V
Rated current: 16A or 32A or 63A or 125A
Rated frequency: 50 Hz or 60 Hz

[15.3] **Safety ratings:**
None

[15.4] **Ambient temperature and temperature classes:**
Tamb ranges:

from -60°C to +55°C (or +49°C)	for 125A model
from -60°C to +60°C	for other models

Temperature class and Maximum surface temperature:

T6 and **T85°C**	for 16A and 63A models
T4 and **T100°C**	for 32A model
T4 and **134°C**	for 125A model and Tamb of 49°C
T3 and **140°C**	for 125A model and Tamb of 55°C

[15.5] **Degree of protection (IP code):**
IP 66 (according to IEC 60079-0 and IEC 60529)

[15.6] **Warnings:**

"Do not open when energized"

"See installation instruction document"

Additionally, on the cap of the socket:

- Attention to electrostatic charging. Clean only with a damp cloth or antistatic products

Additionally, when non-conductive paint is used:

- Attention to electrostatic charging. Clean only with a damp cloth or antistatic products"

[16] **Report:** AT21-0067461-01

[16.1] **Routine (factory) tests:**
The manufacturer shall carry out the routine test prescribed at clauses 27 of the EN 60079-0.

The routine overpressure test shall be carried out on the socket with the static method (clause 15.2.3.2 of EN 60079-1 standard) at:

- 17.5 bar for 10 s for 16A and 32A models;
- 19 bar for 10 s for 63A and 125A models.

The manufacturer shall carry out the dielectric routine test prescribed at clause 7.1 of the EN 60079-7 standard. The applied voltage shall be at least at (1 000 + 2U) Vac or 1 500 Vac, whichever is greater, where "U" is the r.m.s. working voltage.

Alternatively, the test shall be carried out at 1.2 times the test voltage, but maintained for at least 100 ms.

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[16.2] **Conformity with the documentation:**
The manufacturer shall carry out the verifications or tests necessary to ensure that the product complies with the documentation.
Marking the equipment in accordance with Clause 29 of EN 60079-0, the manufacturer attests on his own responsibility that:

- the equipment has been constructed in accordance with the applicable requirements of the relevant standards in safety matters;
- the routine verifications and routine tests in 28.1 of EN 60079-0 have been successfully completed with positive results.

[16.3] **Installation conditions:**
Above referred equipment is foreseen to be installed in locations where there are environmental conditions, as clearly specified at clause 1, par. 2 of EN 60079-0.
Installation and use in atmospheric and environmental conditions that are out of above mentioned intervals request special considerations and additional measures by the side of installer or user.
These should be specified to the manufacturer by the user;
It is not a required by applicable standard listed in [9] that the certification body confirm suitability for the adverse conditions.
Installation of equipment has to proceed according to EN 60079-14.

Cable entry devices shall have at least an IP 66 degree of protection, EPL (Gb and Db) and following operating temperature range:

- From -60°C to 80°C for 16A model
- From -60°C to 100°C for 32A model
- From -60°C to 75 for 63A model
- From -60°C to 120°C for 125A model

In addition:

<u>For socket enclosure:</u>

They shall be certified according to EN 60079-0, EN 60079-1 and EN 60079-31 standards.

<u>For plug:</u>

They shall be certified according to EN 60079-0, EN 60079-7 and EN 60079-31 standards.

Unused cable entries shall be closed though a blanking element with the same characteristics as reported for cable entry devices.

[17] **Special Condition of use (X):**

After de-energizing, delay 30 minutes before opening

Do not open when an explosive atmosphere is present

The cap of the socket shall be properly installed when plug and socket are not mated.

Use screws of quality A2-70 with tensile strength of at least 700 N/mm2

Flameproof joints are not intended to be repaired

Use cable with minimum rated continuous operating temperature of:

- 80°C for 16A model
- 100°C for 32A model
- 75°C for 63A model
- 120°C for 125A model

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[18] **Essential Health and safety Requirements:**
This Certificate **does not** indicate compliance with electrical safety and performance requirements other than those expressly included in the Standards listed in [9].
This Certificate **does not** cover hazards coming from environmental conditions different from those clearly and precisely indicated and covered in clause 1 of EN 60079-0.

ESHR 1.2.7 According Annex VI of the Directive
ESHR 1.4 Not verified.
ESHR 1.5 Not verified as this is not a safety device performing safety function.
ESHR 3 Not applied as this is not a protective system.

In addition to the Essential Health and Safety Requirements (EHSRs) covered by the standards listed at [9], the following are considered relevant to this product, and conformity is demonstrated in the report:
N/A

[19] **Descriptive documents:**

DL-AT21-0067461-01

[20] **Certification Validity Conditions:**
The use of this Certificate is subject to the Certification Scheme and to the Regulation applicable to holders of IMQ Certificates.
The validity of this certificate is subject to the condition that the manufacturer complies with the results of the document review and of the pertinent requirement if any included, recorded in the relevant copy of documentation as per 19.
One copy of the mentioned documentation is kept in IMQ file.

[21] **Variations**

Issue 0: 2021-03-11

Issue 1: 2022-11-23

- Addition of new range (125A) with same mechanical design as for 63A
- Addition of new ranges (16A and 32A) with new mechanical design (which is different from 63A)
- Range of ambient temperature has been extended to -60°C
- Name of Series has been changed (Now PYN / SPYN)
- Possibility of use enclosure GUB-03 has been removed (for 63A and 125A)
- Evaluation for new standard (IEC 60079-31 Ed. 3.0)