



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 INE 11.0018X	Page 1 of 4	<u>Certificate history:</u>
Status:	Current	Issue No: 5	Issue 4 (2021-12-08)
Date of Issue:	2022-04-11		Issue 3 (2017-03-30)
Applicant:	OFFICINE MECCANICHE M.A.M Via Vico Veneto, 32 Fizzanoasco Di Pieve Emanuele 20072 Italy		Issue 2 (2014-12-19)
Equipment:	Enclosures type GUB.....		Issue 1 (2014-02-28)
Optional accessory:			Issue 0 (2013-01-16)
Type of Protection:	db, db [ia Ga], db [ib], tb [ia Da], tb [ib]		
Marking:	Ex db IIC T6...T4 Gb Ex db [ia IIA or IIB or IIC Ga] IIC T6...T4 Gb Ex db [ib IIA or IIB or IIC] IIC T6...T4 Gb Ex tb IIIC T85°C...T135°C Db Ex tb [ia Da] IIIC T85°C...T135°C Db Ex tb [ib] IIIC T85°C...T135°C Db IP66		

Approved for issue on behalf of the IECEx
Certification Body:

Position:

Signature:
(for printed version)

Date:
(for printed version)



Thierry HOUEIX

Ex Certification Officer

2022-04-11

Signé électroniquement
Digitally signed by
Thierry HOUEIX
Ex Certification Officer
Délégué Certification

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France



controlling risks |
for sustainable development



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Manufacturer: **OFFICINE MECCANICHE MAM**
Via Vico Veneto, 32
I - 20090 Fizzonasco di Peve Emanuele (MI)
Italy

Manufacturing locations: **OFFICINE MECCANICHE MAM**
Via Vico Veneto, 32
I - 20090 Fizzonasco di Peve Emanuele (MI)
Italy

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 60079-31:2013](#) 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 Report:

[FR/INE/ExTR11.0019/05](#)

Quality Assessment Report:

[FR/INE/QAR11.0004/10](#)



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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

These enclosures, made in light alloy, stainless steel or structural steel are covered by IECEx INE 11.0019U.

The enclosures can be fitted with operator devices or bushing for capillary. The list of the components covered by IECEx component certificates is defined in Annex. The terminal blocks are used for the connection of intrinsic safety elements.

They are intended to contain mainly electrical or electronical components "NIS" elements and also type "IS" element covered by a separated certificate. The enclosures fitted with internal "IS" elements is provided with or without an internal thermal probe.

Enclosures can be fitted with internal containment system with limited release.

These enclosures get the degree of protection IP66 in accordance with IEC 60529.

SPECIFIC CONDITIONS OF USE: YES as shown below:

- The flameproof joints have different values from those specified in the tables of the IEC 60079-1 standard, contact the manufacturer for any repair.
- When a containment system is fitted inside the enclosure, flame arrestors shall be installed at the inlet and outlet of the containment system. A flowlimiter and 1 or 2 breathing device(s) must also be fitted on the enclosure in accordance with the values specified in safety parameters.

The instructions for safe use are completed by those stipulated in the instructions manuals of the manufacturer and of each Ex component fitted on the final product.



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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

For the issue 05:

Modification of the safety parameter for use of internal containment system.

For the issue 04:

Application of the new standard IEC 60079-0:2017.

For the issue 03:

Application of the new standards IEC 60079-1:2014 and IEC 60079-31:2013.

Possibility to increase the ambient temperature up to 65°C only when the enclosure is fitted with cable glands, breathing and draining device FT/VS 61090 and signaling lamp.

Possibility to use intrinsic safety element [ib].

Possibility to use the version with intrinsic safety elements up to -50°C when the enclosure is fitted with an internal thermal probe except if the intrinsic safety element is intended for low ambient temperature down to -50°C

Possibility to install different type of batteries.

For the issue 02:

Application of the IEC 60079-31:2013.

Possibility of using the enclosures, without intrinsic safety elements, in ambient temperature up to 65°C, when the enclosures are only fitted with screwed devices.

For the issue 01:

Possibility to install on the enclosure bushings for capillary.

Possibility to add inside the enclosure ignition transformers for burners.

Add a new powers table for version with intrinsic safety.

Annex:

[IECEX INE 11.0018X-05_Annex.pdf](#)



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PARAMETERS RELATING TO THE SAFETY

For enclosure without intrinsic safety element:

The maximum dissipated power is in accordance with the type of enclosure, the temperature class and the ambient temperature as stipulated in the table 1 below.

This version is intended to use in range of ambient temperatures from -20°C, -30°C, -40°C, -50°C or -60°C to + 40°C, +60°C and when the enclosures are only fitted with screwed devices the maximum ambient is 65°C. Enclosures with window and/or with capillary can used only down to -50°C.

For enclosure with intrinsic safety element:

Maximum supply voltage for "IS" elements: 250 V

The maximum dissipated power is in accordance with the type of enclosure, the temperature class and the ambient temperature as stipulated in the tables 2 and 3 below.

This version is intended to use in range of ambient temperatures from -20°C, -30°C, -40°C or -50°C to +40°C or +55°C or +60°C and when the enclosures are only fitted with screwed devices the maximum ambient is 65°C.

When the minimum ambient temperature of the enclosure is greater or equal than the minimum ambient temperature specified in the certificate of the intrinsic safety elements, it is not necessary to add an internal thermostat.

When the minimum ambient temperature of the enclosure is lower than the minimum ambient temperature specified in the certificate of the intrinsic safety elements, the enclosure shall be provided with a calibrated thermostat near the intrinsic safety elements in order to switch off the power supply of these elements.

The threshold of thermal probe shall be:

Ambient Temperature of "IS" element	Threshold of release of the thermal probe
≥ - 30°C	- 25°C ± 5°C
≥ - 40°C	- 35°C ± 5°C
≥ - 50°C	- 45°C ± 5°C

For enclosure fitted with internal containment system

Maximum internal pressure = 10 bar

Maximum inlet flowrate is fixed as follow =

Maximum flowrate allowed at the inlet of the containment system			
Flame arrestor at containment system inlet	Breathing device(s) fitted on enclosure	Fluid type inside the containment system	
		Gas (nl/h)	Liquid (l/h)
FT CROSS	FT CROSS X 1	115	2,9
FT CROSS	FT CROSS X 2	290	4,6
FT VS	FT VS X 1	95	2,1
FT VS	FT VS X 2	180	4,6



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MARKING

Marking has to be readable and indelible; it has to include the following indications:

A – Enclosure without intrinsic safety element:

- OFFICINE MECCANICHE MAM
- I-20072 Fizzonasco di Peve Emanuele (MI)
- GUB...(*)
- IECEx INE 11.0018X
- (Serial number)
- Ex db IIC T(**) Gb
- Ex tb IIIC T(**) Db IP66
- ...°C < Tamb < ...°C (***)
- T.Cable : (**)
- Cable entry: See instructions.
- **WARNINGS:**
- DO NOT OPEN WHEN ENERGIZED
- DO NOT OPEN IF AN EXPLOSIVE ATMOSPHERE IS PRESENT
- DO NOT OPERATE UNDERLOAD (****)

B – Enclosure with intrinsic safety element “ia”:

- OFFICINE MECCANICHE MAM
- I-20072 Fizzonasco di Peve Emanuele (MI)
- GUB...(*)
- IECEx INE 11.0018X
- (Serial number)
- Ex db [ia IIA or IIB or IIC Ga] IIC T(**) Gb
- Ex tb [ia Da] IIIC T(**) Db IP66
- ...°C < Tamb < ...°C (***)
- T.Cable : (**)
- Cable entry: See instructions.
- **WARNINGS:**
- DO NOT OPEN WHEN ENERGIZED
- DO NOT OPEN IF AN EXPLOSIVE ATMOSPHERE IS PRESENT
- DO NOT OPERATE UNDERLOAD (****)

C – Enclosure with intrinsic safety element “ib”:

- OFFICINE MECCANICHE MAM
- I-20072 Fizzonasco di Peve Emanuele (MI)
- GUB...(*)
- IECEx INE 11.0018X
- (Serial number)
- Ex db [ib IIA or IIB or IIC] IIC T(**) Gb
- Ex tb [ib] IIIC T(**) Db IP66
- ...°C < Tamb < ...°C (***)
- T.Cable : (**)
- Cable entry: See instructions.
- **WARNINGS:**
- DO NOT OPEN WHEN ENERGIZED
- DO NOT OPEN IF AN EXPLOSIVE ATMOSPHERE IS PRESENT
- DO NOT OPERATE UNDERLOAD (****)

(*) Type is completed by numbers and/or letters corresponding to manufacturer variations.

(**) Depending on ambient temperature and dissipated power see table 1.

(***) One of the range of the ambient temperature stipulated in the parameters relating to the safety above if different to -20°C +40°C.

(****) Only when the enclosure is fitted with disconnectors which are not designed to be operated under the intended load.



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Table 1: Enclosure without intrinsic safety element

Type of enclosure	Maximum ambient temperature	Maximum dissipated power (W)			Cable temperature
		T6/T85°C	T5/T100°C	T4/T135°C	
GUB1 and GUB1A	40°C	18	25	42	NA
	60°C	8	15	32	
	65°C	5	10	25	
GUB2 GUB3 and GUB3-210	40°C	30	40	75	100°C
	60°C	15	25	55	
	65°C	10	20	50	
GUB4, GUB5 and GUB5A	40°C	60	85	140	100°C
	60°C	30	50	110	
	65°C	25	45	100	
GUB5B, GUB6 GUB5B-285 and GUB7	40°C	145	200	260	100°C
	60°C	65	125	200	
	65°C	60	115	180	

(*) For ambient 65°C only when the enclosure GUB is only fitted with threaded joints.

Table 2: Enclosure with intrinsic safety element without internal thermal sensor

Type of enclosure	Maximum Ambient temperature	Maximum dissipated power (W)
		T6/T85°C
GUB1 and GUB1A	40°C	4
GUB2 GUB3 and GUB3-210	40°C	10
GUB4, GUB5 and GUB5A	40°C	22
GUB5B, GUB6 GUB5B-285 and GUB7	40°C	60

Table 3: Enclosure with intrinsic safety element with internal thermal sensor

Type of enclosure	Maximum ambient temperature	Maximum dissipated power (W)			Cable temperature
		T6/T85°C	T5/T100°C	T4/T135°C	
GUB1 and GUB1A	40°C	18	25	42	NA
	55°C	8	15	32	
	65°C	5	10	25	
GUB2 GUB3 and GUB3-210	40°C	30	40	75	100°C
	55°C	15	25	55	
	65°C	10	20	50	
GUB4, GUB5 and GUB5A	40°C	60	85	140	100°C
	55°C	30	50	110	
	65°C	25	45	100	
GUB5B, GUB6 GUB5B-285 and GUB7	40°C	145	200	260	100°C
	55°C	65	125	200	
	65°C	60	115	180	

(*) For ambient 65°C only when the enclosure GUB is only fitted with threaded joints.



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ROUTINE EXAMINATIONS AND TESTS

None: Covered by the Ex component certificate IECEx INE 11.0019U.

For enclosure fitted with internal containment system

- For containment system, with maximum internal pressure below 6 bar, in accordance with clause G.4.1 of the IEC 60079-1 standard, the equipment defined above is exempted of routine test due to the fact that it has undergone a static type test at 4 times the reference pressure under 24 bar.
- For containment system, with maximum pressure upper than 6 bar, in accordance with clause G.4.1 of the IEC 60079-1 standard, an overpressure test under 1.5 times the maximum pressure during at least 2 minutes.



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LIST OF THE COMPONENT INTENDED TO BE INSTALLED ON THE ENCLOSURES

Type of component	Name of Manufacturer	Operating temperature	Certificate number	IEC 60079-0	IEC 60079-1	IEC 60079-7	IEC 60079-31
Enclosure	MAM	-50°C to +180°C	IECEX INE 11.0019U	2011 (1)	2014		2013
Operator devices	MAM	-60°C to +140°C	IECEX INE 14.0032U	2011 (1)	2007 (2)		2008 (5)
Breathing or draining device type FTVS	MAM	-60°C to +200°C	IECEX INE 12.0002U	2017	2014	2017	2013
Breathing or draining device type FTCROSS	MAM	-60°C to +200°C	IECEX INE 19.0003U	2017	2014	2015 (3)	2013
Terminal blocks type ZDU	WEIDMULLER	-60°C to +110°C	IECEX ULD 16.0036U	2017		2017	
Terminal blocks type WDU 2,5	WEIDMULLER	-60°C to +110°C	IECEX ULD 14.0005U	2017		2017	
Terminal blocks, CBD** series and TC/PO type	CABUR	-40°C to +110°C	IECEX CES 09.0009U	2011 (1)		2015 (3)	
Terminal block type PT	PHOENIX CONTACT	-60°C to +110°C	IECEX SEV 13.0005U	2017		2017	
Terminal AKZ / AKE	WEIDMULLER	-50°C or -60°C to +45°C or +110°C	IECEX TUR 18.0024U	2017		2017	
Terminal block type USLKG	PHOENIX CONTACT	-60°C to +110°C	IECEX KEM 06.0035U	2017		2017	
Terminal block type UK	PHOENIX CONTACT	-60°C to +110°C	IECEX KEM 06.0029U	2017		2017	
Fitting type EM, NP, ELF...	ELFIT CORTEM	-20°C or -60°C to +80°C or +150°C	IECEX CES 15.0005U	2011 (1)	2007 (2)	2006 (4)	2008 (5)
Fittings series R..., B... and RB	ELFIT CORTEM	-20°C or -60°C to +60°C or +150°C	IECEX CES 10.0002U	2011 (1)	2007 (2)		2008 (5)
Command and Signaling units type RS/RX	COELBO	-50°C or -60°C up to +180°C	IECEX INE 14.0023U	2017	2014		2013

- (1) No impacted by the Major technical changes between the standards: IEC 60079-0:2011 ed 6 and IEC 60079-0:2017 ed 7.
- (2) No impacted by the Major technical changes between the standards: IEC 60079-1:2007 ed 6 and IEC 60079-1:2014 ed 7.
- (3) No impacted by the Major technical changes between the standards: IEC 60079-7:2015 ed 5 and IEC 60079-7:2017 ed 5.1.
- (4) No impacted by the Major technical changes between the standards: IEC 60079-7:2006 ed 4 and IEC 60079-7:2017 ed 5.1.
- (5) No impacted by the Major technical changes between the standards: IEC 60079-31:2008 ed 1 and IEC 60079-31:2013 ed 2.