



CESI S.p.A.
Via Rubattino 54
I-20134 Milano - Italy
Tel: +39 02 21251
Fax: +39 02 21255440
e-mail: info@cesi.it
www.cesi.it

Schema di certificazione

CESI-ATEX

[1] **SUPPLEMENTARY EU-TYPE EXAMINATION CERTIFICATE**

[2] **Component intended for use on/in equipment or protective system intended for use in potentially explosive atmospheres Directive 2014/34/EU**

[3] Supplementary EU-Type Examination Certificate number:

CESI 01 ATEX 025 U /04

[4] Component: **Signal and control operators series M-0..**

[5] Manufacturer: **COR.TEM S.p.A.**

[6] Address: **Via Aquileia, 12 – 34070 Villesse (GO) – Italy**

[7] This supplementary certificate extends EC-Type Examination Certificate CESI 01 ATEX 025U, to apply to products designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

[8] CESI, notified body n. 0722 in accordance with Article 17 of the Directive 2014/34/EU of the Parliament and Council of 26 February 2014, certifies that this component 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 confidential report n. EX-B6021264.

[9] In accordance with Article 41 of Directive 2014/34/EU, EC-Type Examination Certificates referring to 94/9/EC that were in existence prior to the date of application of 2014/34/EU (20 April 2016) may be referenced as if they were issued in accordance with Directive 2014/34/EU. Supplementary certificates to such EC-Type Examination Certificates, and new issues of such certificates, may continue to bear the original certificate number issued prior to 20 April 2016

[10] The sign "U" placed after the certificate number indicates that this certificate must not be mistaken for a certificate intended for an equipment or protective system. This partial certification may be used as a basis for certification of an equipment or protective system.

[11] This EU-TYPE EXAMINATION CERTIFICATE relates only to the design, examination and tests of the specified component in accordance to the Directive 2014/34/EU. Further requirements of the Directive apply to the manufacturing process and supply of this component. These are not covered by this certificate.

[12] The marking of the component shall include the following:

	I M2	Ex db I Mb	<i>for models M-0.. made of Stainless steel only</i>
		<i>and</i>	
	II 2 GD	Ex db IIC Gb	
		Ex tb IIIC Db	
		IP66	

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Date 2016.09.19 - Translation issued the 2016.09.19

Prepared
Alessandro Fedato

Verified
Mirko Balaz

Approved
Roberto Piccin

Testing & Certification Division
Business Area Certification
Il Responsabile
(Roberto Piccin)

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Schedule

[14] **SUPPLEMENTARY EU-TYPE EXAMINATION CERTIFICATE n. CESI 01 ATEX 025 U /04**

[15] **Description of the variation to the component**

- Updating to standards EN60079-1:2014 and EN60079-31:2014.
- New minimum ambient temperature -60°C.
- New models of signalling light type **M-0457** and potentiometer type **M-0557**.
- Minor mechanical changes.

Description of component

The Command, Control and Signal operators series **M-0..** are components suitable for mounting on explosion proof enclosure. The external bodies of pushbuttons and signalling buttons are made in aluminium alloy or stainless steel. The shafts and bushings are made in stainless steel. The external body of the signalling lamps are made in polycarbonate.

The operators are essentially made by an axial shaft mounted and mechanically locked in a mounting body. This body is formed by a bushing screwed on enclosure wall. Push buttons, signalling lamps and operating handle may be applied on all Ex d enclosures where there is the possibility to perform threaded holes not exceeding the maximum number foreseen for applications.

The Command, Control and Signal operators series **M-0..** have the following temperature ranges:

Group I applications:

- operating temperature range from **-20°C up to +100°C**;

Group II applications:

- operating temperature range from **-40°C up to +100°C** for pilot lights made in polycarbonate;
- operating temperature range from **-60°C up to +100°C** for all other operators.

The Command, Control and Signal operators series **M-0..** have the following standard mounting threads types: cylindrical ISO Metric 965/1 and ISO 965/3 from M32x1.5 or M42x1.5. For series **M-0..** handle switches the mounting threads are ISO 228/1 from $\varnothing 3/8''$ or $\varnothing 1/2''$.

To the Command, Control and Signal operators series **M-0..** the IP 66 degree of protection between the operator mounting body and the enclosure wall is achieved with sealant put at least on two complete threads engaged of the threaded coupling. For sliding or rotary operators the IP 66 degree of protection between the operator rod and operator body is achieved with an O-ring gasket made of Silicon rubber.

The bodies of Command, Control and Signal operators series **M-0..** are generally made of Aluminium alloy or Stainless steel (type AISI316, AISI304 and AISI303) while bushings and shafts are made of Stainless steel (type AISI316, AISI304 and AISI303). Operators with lens for pilot light are made of Polycarbonate while for signalling push buttons are made of tempered glass. Operators marked Ex db I Mb are made in Stainless steel only.

Electrical characteristics

Command, Control and Signal operators series **M-0..**:

Nominal voltage:	250 V ac/dc for pilot lights; 240 V ac/dc for led pilot lights; 600 V for switches and buttons;
Frequency:	50/60 Hz;
Nominal current:	10 A for push buttons; 1000 A for selector switches;
Power consumption:	max 3 W for incandescent lamps; max 1,5 W for led lamps.

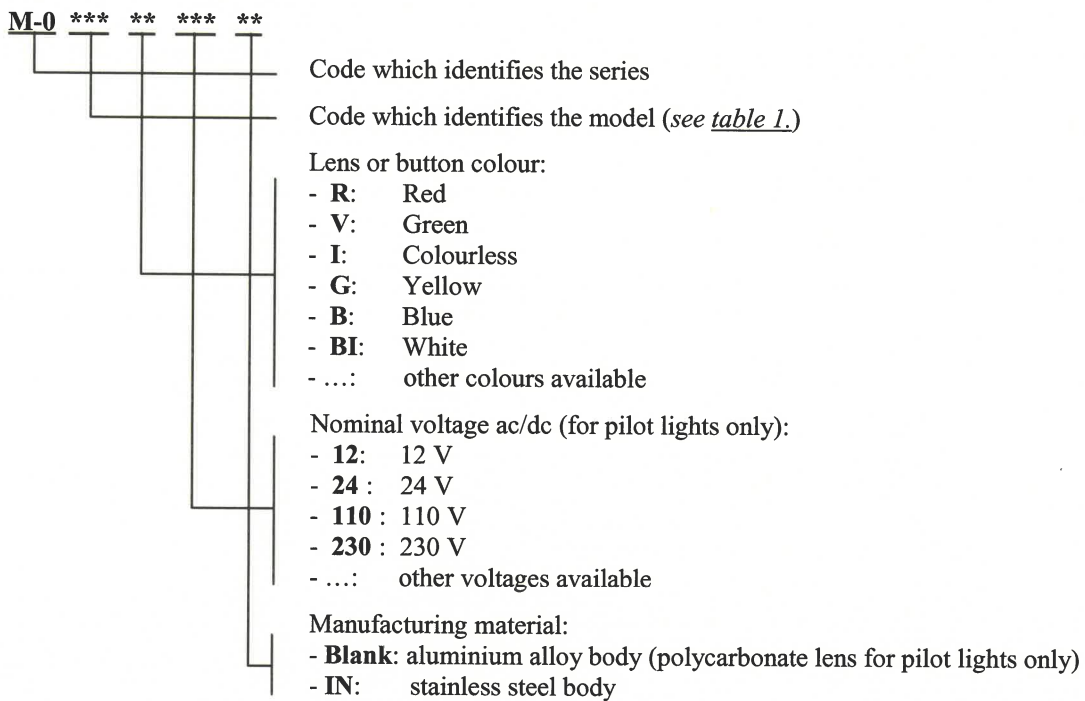
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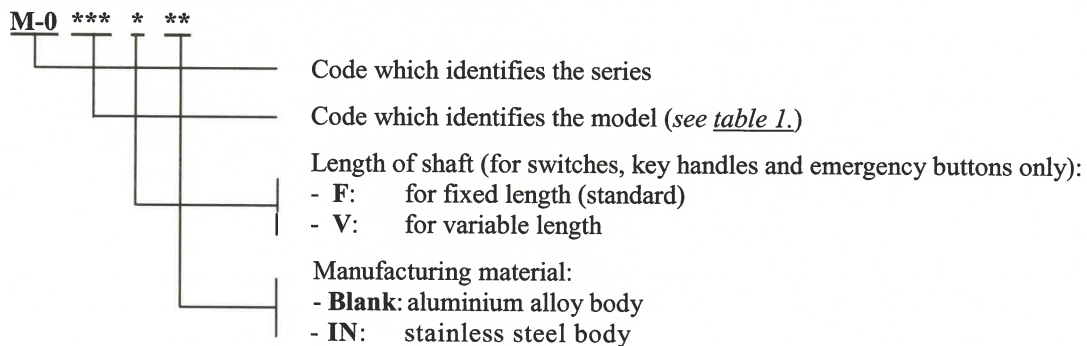
Schedule

[14] SUPPLEMENTARY EU-TYPE EXAMINATION CERTIFICATE n. CESI 01 ATEX 025 U /04

Identification of Signal operators



Identification of Command, Control operators



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Schedule

[14] **SUPPLEMENTARY EU-TYPE EXAMINATION CERTIFICATE n. CESI 01 ATEX 025 U /04**

Types of Command, Control operators are listed on the following Table 1 :

Table 1:

Command, Control operators series M-0..			
Model	Component description	Typical associated equipment, switchgear or lamp	Electrical characteristics of standard equipment
M-0..	Operators with handle for switches	Rotary switches, Isolators/circuit breakers.	16A – 1000V
M-0428	Signalling button	BA9 incandescent, LED, Contact blocks.	Lamp: 3W – 6/250V Contacts: 10A – 600V
M-0429	Pushbuttons	Contact blocks.	10A – 600V
M-0430	Emergency button	Contact blocks.	10A – 600V
M-0445	Emergency button	Contact blocks.	10A – 600V
M-0457	Signalling lights	BA9 incandescent, LED.	3W – 6/250V BA9 incandescent lamp or 1,5W – 6/250V LED
M-0427	Double pushbutton	Contact blocks.	10A – 600V
M-093	Key switch operator	Rotary switches.	16A – 600V
M-0..	Emergency stop pushbutton	Contact blocks, Rotary switches.	Contacts: 10A – 600V Switches: 16A – 600V
M-0557	Potentiometer	Rotary potentiometer.	16A – 600V

[16] **Report n. EX- B6021264.**

Routine tests

None.

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Schedule

[14] **SUPPLEMENTARY EU-TYPE EXAMINATION CERTIFICATE n. CESI 01 ATEX 025 U /04**

- The Command, Control and Signal operators series **M-0..** should be assembled on the cover or walls of metallic Ex db enclosures with minimum thickness 8mm, minimum 5 threads engaged and locked with a blocking system against accidental rotation and loosening. The enclosures should be ATEX certified, for Group I (mine), Group II (gas) and Group III (dust) with suitable degree of protection IP.
- The coupling of the Command, Control and Signal operators with the enclosures shall be made as indicated by the manufacturer in the documents annexed to this certificate in order to respect the type of protection of the electrical apparatus on which they are mounted.
- The Command, Control and Signal operators series **M-0..** shall be installed in such a way that the temperature at the mounting point will remain within the service temperature ranges below:
 - from - 40 °C up to + 100°C for Signal operators type **M-0457** with Polycarbonate lenses only;
 - from - 60 °C up to + 100°C for Signal operators types **M-0457AL**, **M-0457IN** and for all other Command, Control and Signal operators.
 - **Group I** applications (Stainless steel operators only): restricted up to - 20 °C for all Command, Control and Signal operators.

Furthermore the non-transmission tests have been performed for a maximum ambient temperature of +60°C.

- The IP 66 mechanical protection of the Command and Control operators is obtained by inserting an O-ring made of silicon rubber in-between the mounting body and the command rod and furthermore when the mounting body is completely screwed and sealed as shown into the mounting instruction.
- It is the final assemblers/users responsibility to ensure the threaded joint between the Command, Control and Signal operators and the associated enclosure meets all the requirements of the applicable standards for the assembly.

[18] **Essential Health and Safety Requirements**

Compliance with the Essential Health and Safety Requirements has been assured by compliance to the following standards:

EN 60079-0: 2012 + A11:2013 – Explosive atmospheres – Part 0: Equipment - General requirements;
 EN 60079-1: 2014 Explosive atmospheres – Part 1: Equipment protection by flameproof enclosure “d”;
 EN 60079-31: 2014 Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure “t”.

[19] **Descriptive documents** (prot. EX- B6021269).

- Technical note A4-6453 (pg. 4)	rev.0	dated	2016.06.01
- Safety, maintenance and mounting instructions F-265 (pg. 10)	rev.3	dated	2016.06.01
- Attestation of Conformity no. 0029 – Facsimile (pg. 1)		dated	2016.06.01
- Drawing no. A2-4137 (2 sheets)	rev.4	dated	2015.06.01
- Datasheet of materials (20 sheets)	rev.1	dated	2015.07.15

One copy of all documents is kept in CESI files.

Certificate history

Issue nr	Issue Date	Summary description of variation
04	2016.09.19	Updating to standards EN60079-1:2014, EN60079-7:2015 and EN60079-31:2014. New service and ambient temperature ranges. New models of signalling light type M-0457 and potentiometer type M-0557. Minor mechanical changes.
03	2015.04.14	Updating to standards EN 60079-0: 2012, EN 60079-1: 2007, EN 60079-31: 2009. New minimum ambient temperature -50°C (-40°C for polycarbonate pilot lights). New model of mushroom push button and Execution I M2 Ex d I Mb.
02	2011.09.07	Updating to standards EN 60079-0 (2006), EN 60079-1 (2004), EN 61241-0 (2006) and EN 61241-1 (2004).
01	2002.06.26	New degree of protection IP66.
00	2001.04.12	First Issue of the Certificate.

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