

P, I, A

Command and control stations 'Ex e'

- Group IIC
- Zone 1, 2, 21, 22
- Aluminium, reinforced polyester or stainless steel enclosures
- Standard or custom products
- Speed of delivery, designed to customer specifications
- Category 2GD



Control stations P, I and A

The control and monitoring units of series P, I and A... are manufactured from fibreglass reinforced polyester, stainless steel or aluminium, and are suitable for housing electrical command and signal devices. **The units are preconfigured according to the following diagrams and can be ordered using their respective product code.** They can be installed both on board the machine or remotely, and are used in the chemical, petrochemical and pharmaceutical industries. In addition to the following listed standards, Cortem Group offers a wide range of accessories and versions manufactured to customer specification.

Ex e

Cortem Group applies a tamper-evident holographic security label to its products, complete with a unique authentication numeric code, to combat the illegal sale of imitations and counterfeits, as well as guarantee the authenticity of its products. The failure to observe international standards involves serious hazards to the environment and, above all, personnel who work with the systems on a daily basis.



Sectors of application:



Petroleum refineries



Chemical and petrochemical plants



Onshore plants



Offshore plants



Petroleum loading/unloading pontoons



Low temperatures



Mining operations



100% produced by Cortem

CERTIFICATION DATA

Classification:

Group II

Category 2GD

Installation: EN 60079.14

zone 1 - zone 2 (Gas)

zone 21 - zone 22 (Dust)

Marking:

CE 0722 Ex II 2 GD; Ex de IIC T6, T5 Gb; Ex tb IIIC T85°C Db

Certificate:

ATEX CESI 03 ATEX 115

IECEX IECEX CES 11.0032

TR CU AVAILABLE

For all IEC Ex and TR CU certification data, download the certificate from www.cortemgroup.com

Standards:

CENELEC EN 60079-0: 2012, EN 60079-1: 2007, EN 60079-7: 2007, EN 60079-31: 2009 and EUROPEAN DIRECTIVE 2014/34/UE
RoHS Directive 2002/95/EC.

Temperature class:

T6 (Ta +40°C)

T5 (Ta +55°C)

Ambient Temp.:

-40°C +55°C

-40°C +40°C

Degree of protection:

IP66



ATEX Certificate



IECEX Certificate



User instructions
SA

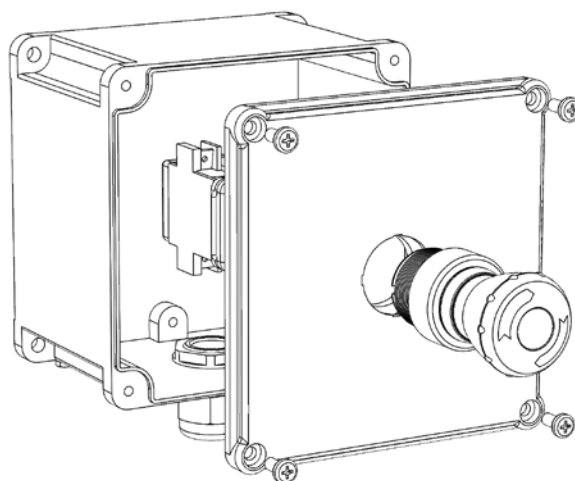


User instructions
CTB

Control station type P (reinforced polyester)



EXPLODED VIEW



MECHANICAL FEATURES

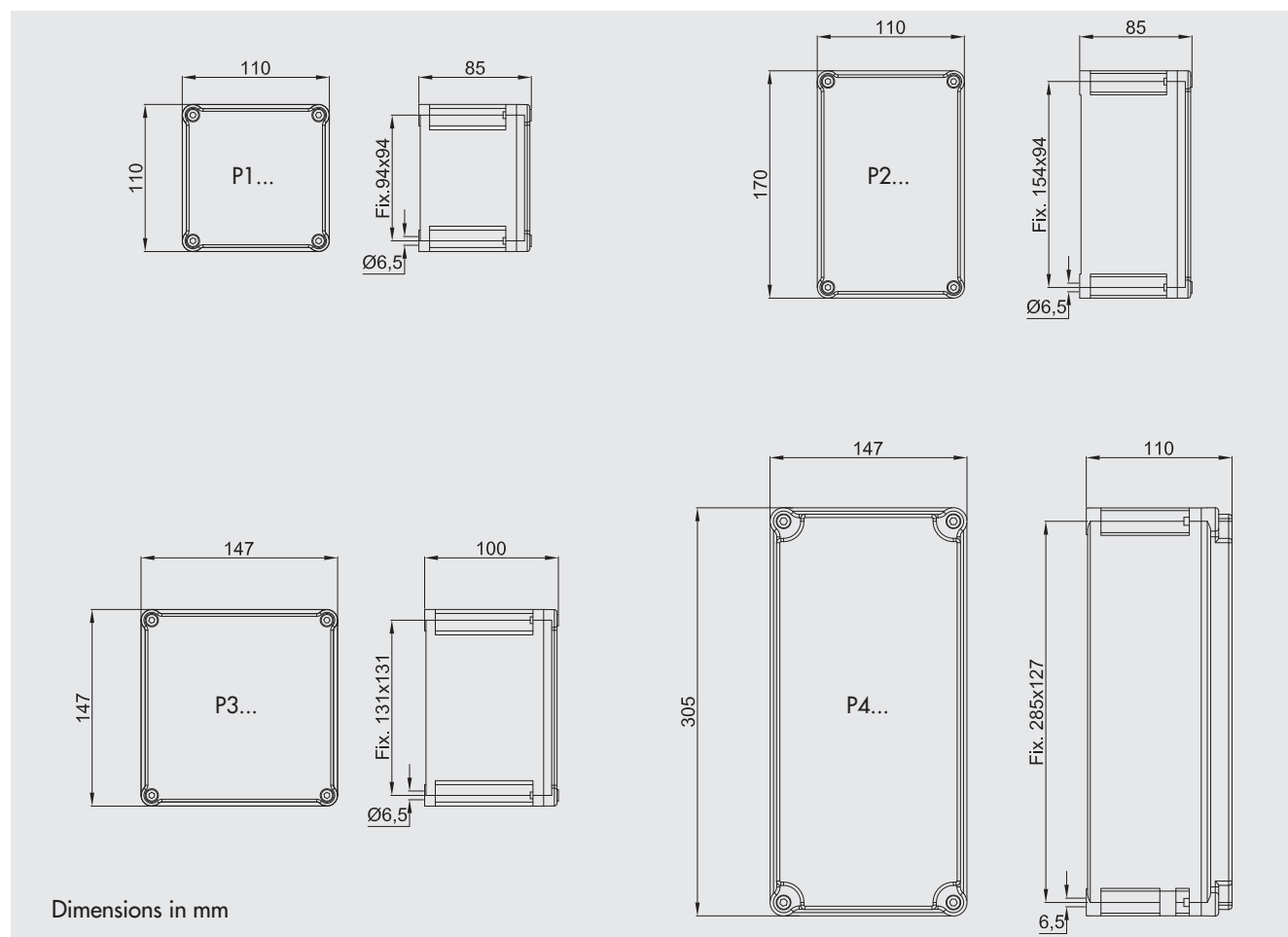
Body and cover:	Black antistatic fibreglass reinforced polyester complete with fixing lugs
Gaskets:	Acid, hydrocarbon and high temperature resistant silicon positioned between the body and the cover
Certificate plate:	Riveted aluminium
Screws:	Stainless steel
Earth screw:	Internal M5 on body and cover connected to each other with a 2.5 mm wire ²
Cable gland:	Polyamide type UNI1LXE7

ACCESSORIES UPON REQUEST / SPECIAL REQUESTS

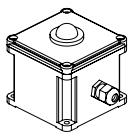

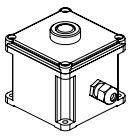
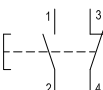




Safety measures and padlocks for stations
 Safety measures against accidental contacts (padlockable)
 Earthing rings for control units
 Nameplates in various materials
 Breather or drainage valve
 Metal cable glands
 Other contact types (see Ex e Control, monitoring and signalling stations folder)
 Various possible configurations

Control station type P (reinforced polyester)

DIMENSIONAL DIAGRAM

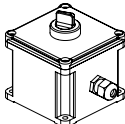
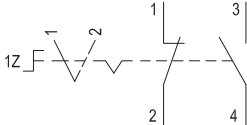
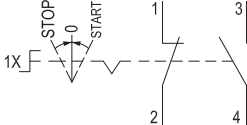
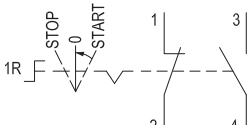
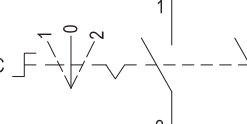
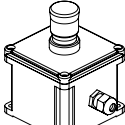
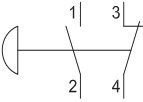
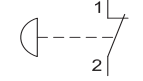
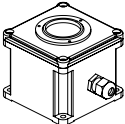


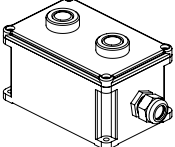




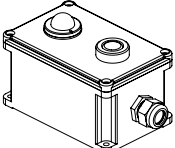






CODE SELECTION TABLE

Illustration	Description	Diagram	Codes
Indicator light 	One red 24 VAC/DC indicator light		PIT01R9
	One green 24 VAC/DC indicator light		PIT01V9
	One blue 24 VAC/DC indicator light		PIT01B9
	One yellow 24 VAC/DC indicator light		PIT01G9
	One colourless 24 VAC/DC indicator light		PIT01I9
Button 	One red 1NO+1NC pushbutton		PIT01R3
	One black 1NO+1NC pushbutton		PIT01N3
	One green 1NO+1NC pushbutton		PIT01V3
	One red 1NO pushbutton		PIT01R1
	One black 1NO pushbutton		PIT01N1
	One green 1NO pushbutton		PIT01V1
	One red 1NC pushbutton		PIT01R2
	One black 1NC pushbutton		PIT01N2
	One green 1NC pushbutton		PIT01V2
	One red 2NO pushbutton		PIT01R4
	One black 2NO pushbutton		PIT01N4
	One green 2NO pushbutton		PIT01V4
	One red 2NC pushbutton		PIT01R5
	One black 2NC pushbutton		PIT01N5
	One green 2NC pushbutton		PIT01V5

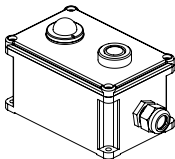


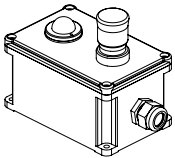


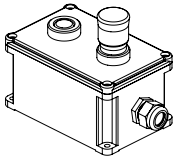




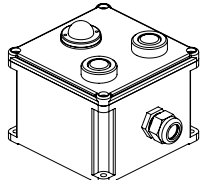

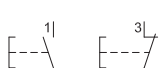
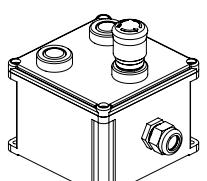
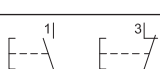
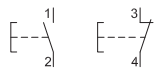
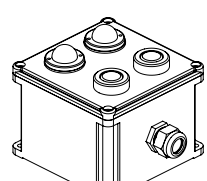


Control station type P (reinforced polyester)

CODE SELECTION TABLE

Illustration	Description	Diagram	Codes
Selector 	Switch with two fixed-positions, suitable for "automatic-manual" 1NO+1NC service		P1T011Z
	Motors "start-stop" control, with spring return to 0 from both STOP and START.		P1T011X
	Motors "start-stop" control with spring return from START to 0, and in fixed STOP position can be padlocked.		P1T011R
	Three fixed position switch can be padlocked in the centre position. Versions: single pole - double pole - triple pole.		P1T011C
Button 	Emergency mushroom head pushbutton with 1NO+1NC block (when pressed, rotate to release)		P1T01F3
	Emergency mushroom head pushbutton with 1NC block (when pressed, rotate to release)		P1T01F2
Ammeter/voltmeter 	Ammeter (scale on request)		P1T02A
	Voltmeter (scale on request)		P1T02V
Two buttons 	Red pushbutton + green pushbutton, 1NO+1NC contacts		P2T07R3V3
	Black pushbutton + green pushbutton, 1NO+1NC contacts		P2T07N3V3
	Red pushbutton + green pushbutton, 1NO contacts		P2T07R1V1
	Black pushbutton + green pushbutton, 1NO contacts		P2T07N1V1
Indicator light and pushbutton 	24 VAC/DC red indicator light and one red 1NO+1NC pushbutton		P2T07R9R3
	24 VAC/DC green indicator light and one green 1NO+1NC pushbutton		P2T07V9V3
	24 VAC/DC red indicator light and one red 1NC pushbutton		P2T07R9R2
	24 VAC/DC green indicator light and one green 1NC pushbutton		P2T07V9V2

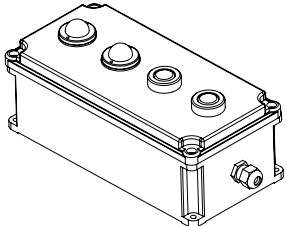
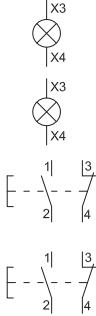
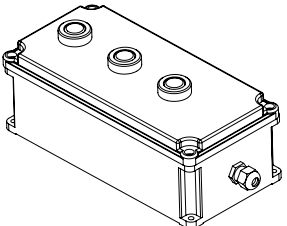
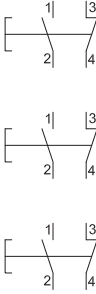
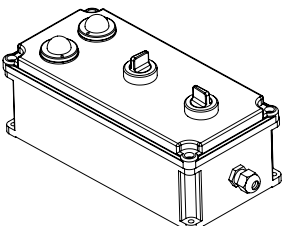
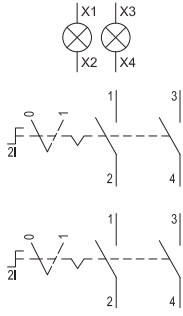
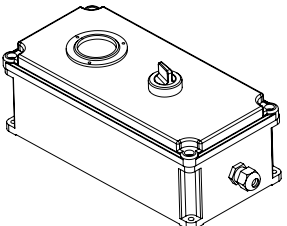
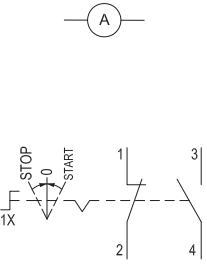
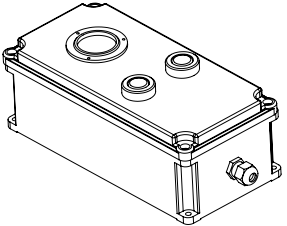
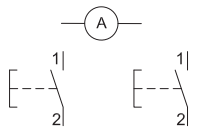
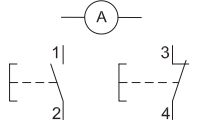
Control station type P (reinforced polyester)

CODE SELECTION TABLE

Illustration	Description	Diagram	Codes
Indicator light and pushbutton 	24 VAC/DC red indicator light and one red 1NO pushbutton		P2T07R9R1
	24 VAC/DC green indicator light and one green 1NO pushbutton		P2T07V9V1
Indicator light and emergency pushbutton 	24 VAC/DC red indicator light and emergency 1NO+1NC mushroom pushbutton		P2T07R9F3
	24 VAC/DC green indicator light and 1NO+1NC emergency mushroom pushbutton		P2T07V9F3
Pushbutton and emergency pushbutton 	Green 1NO pushbutton and one 1NO emergency mushroom head pushbutton		P2T07V1F1
	Yellow 1NO pushbutton and one 1NO emergency mushroom head pushbutton		P2T07G1F1
	Green 1NO+1NC pushbutton and one 1NO+1NC emergency mushroom head pushbutton		P2T07V3F3
	Yellow 1NO+1NC pushbutton and one 1NO+1NC emergency mushroom head pushbutton		P2T07G3F3
Indicator light and two pushbuttons 	24 VAC/DC green LED indicator light, one green 1NO pushbutton and red 1NC pushbutton		P3T18V9V1R2
			
Two pushbuttons and Emergency pushbutton 	One green 1NO and one red 1NC pushbutton, one mushroom head 1NO pushbutton		P3T17V1R2F1
	One green 1NO and one red 1NC pushbutton, one mushroom head 1NC pushbutton		P3T17V1R2F2
Two indicator lights and two pushbuttons 	24 VAC/DC red and green LED indicator lights, one green 1NO pushbutton and red 1NC pushbutton		P3T19V9R9V1R2
			

Control station type P (reinforced polyester)

CODE SELECTION TABLE

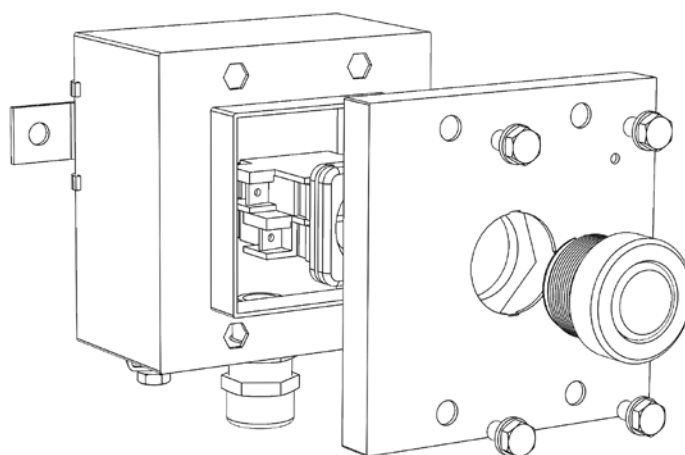
Illustration	Description	Diagram	Codes
Two indicator lights and two pushbuttons 	24 VAC/DC red and green LED indicator lights, one green 1NO+1NC pushbutton and red 1NO+1NC pushbutton		P4T25V9R9V3R3
Three buttons 	Two green pushbuttons and one red 1NO+1NC		P4T26V3R3V3
Two indicator lights and two selectors 	24 VAC/DC red and green LED indicator lights, two switches arrangement 2I		P4T27R9V92I2I
Ammeter and selector 	Ammeter 1 A, scale 3 - 5 In and "start-stop" motors control switch, with spring return to 0 from both STOP and START.		P4T39A1X
Ammeter and two buttons 	Ammeter 1 A, scale 3 - 5 In with red 1NO pushbutton and green 1NO pushbutton		P4T40AR1V1
	Ammeter 1 A, scale 3 - 5 In with red 1NO pushbutton and green 1NC pushbutton		P4T40AR1V2



Control station type I (stainless steel)



EXPLODED VIEW



MECHANICAL FEATURES

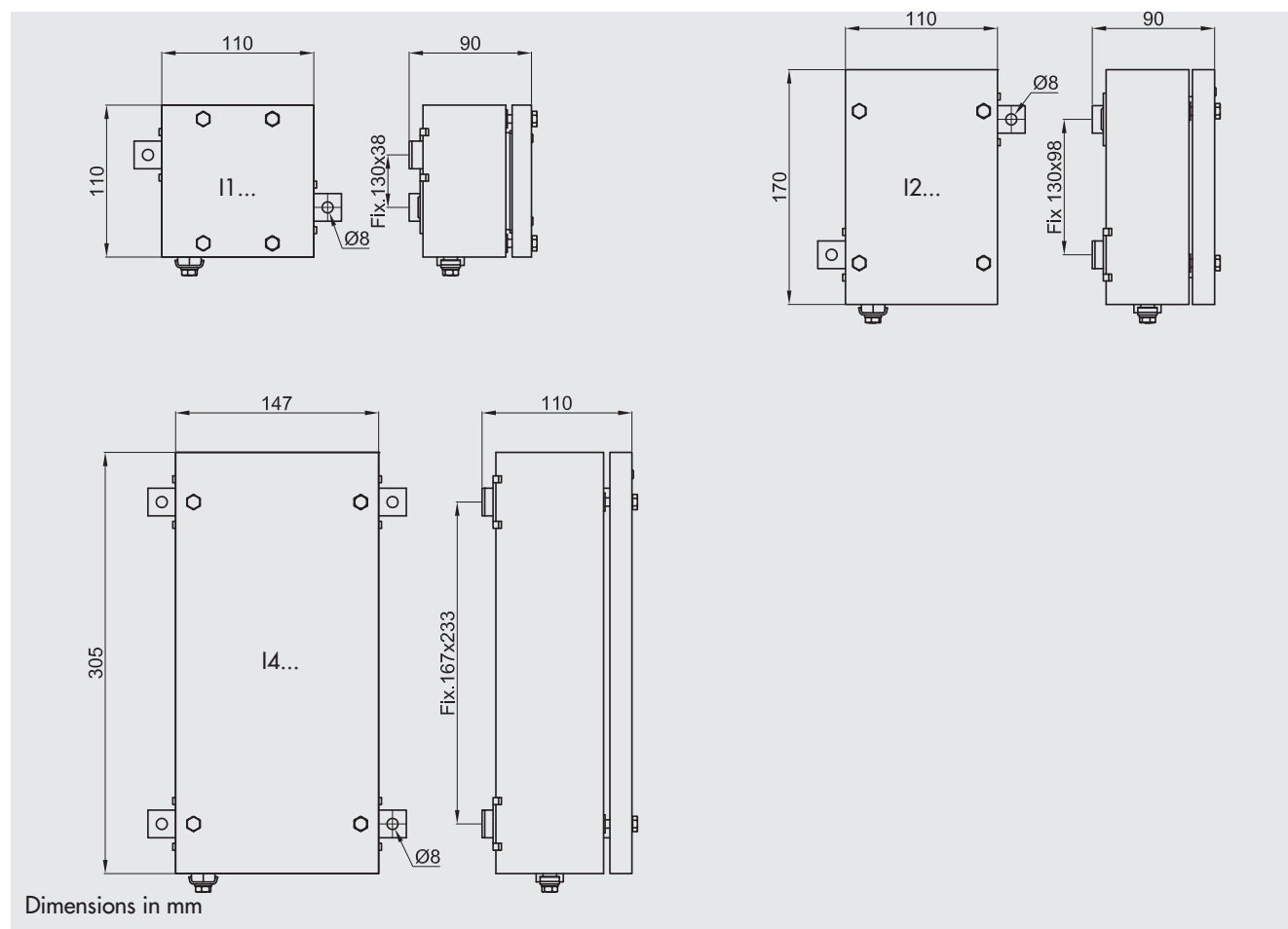
Body and cover:	Stainless steel complete with feet for fastening
Gaskets:	Acid, hydrocarbon and high temperature resistant silicon positioned between the body and the cover
Screws:	Stainless steel
Certificate plate:	Riveted stainless steel
Earth screw:	Internal M5 on body and cover connected to each other with a 2.5 mm wire ²
Cable gland:	Nickel-plated brass

ACCESSORIES UPON REQUEST / SPECIAL REQUESTS

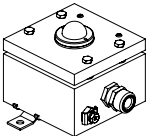

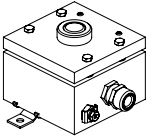
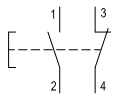
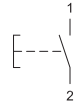
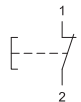
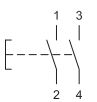
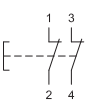
Safety measures and padlocks for stations
 Safety measures against accidental contacts (padlockable)
 Earthing rings for control units
 Nameplates in various materials
 Breather or drainage valve
 Other contact types (see Ex e Control, monitoring and signalling stations folder)
 Various possible configurations

Control station type I (stainless steel)

DIMENSIONAL DIAGRAM

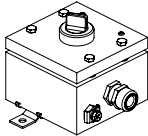
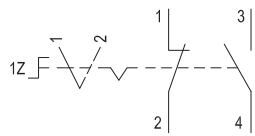
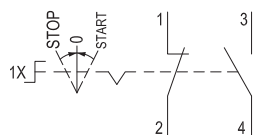
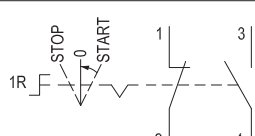
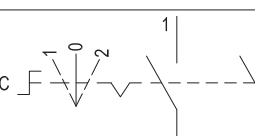
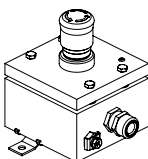
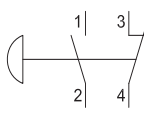
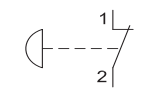
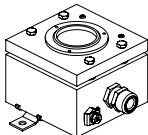
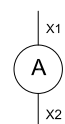
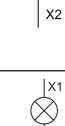
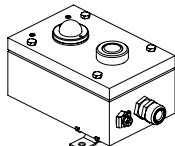

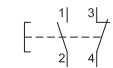

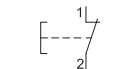
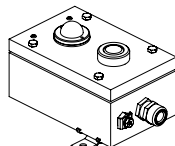

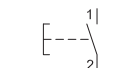


CODE SELECTION TABLE

Illustration	Description	Diagram	Codes
Indicator light 	One red 24 VAC/DC indicator light		I1T01R9
	One green 24 VAC/DC indicator light		I1T01V9
	One blue 24 VAC/DC indicator light		I1T01B9
	One yellow 24 VAC/DC indicator light		I1T01G9
	One colourless 24 VAC/DC indicator light		I1T01I9
Button 	One red 1NO+1NC pushbutton		I1T01R3
	One black 1NO+1NC pushbutton		I1T01N3
	One green 1NO+1NC pushbutton		I1T01V3
	One red 1NO pushbutton		I1T01R1
	One black 1NO pushbutton		I1T01N1
	One green 1NO pushbutton		I1T01V1
	One red 1NC pushbutton		I1T01R2
	One black 1NC pushbutton		I1T01N2
	One green 1NC pushbutton		I1T01V2
	One red 2NO pushbutton		I1T01R4
	One black 2NO pushbutton		I1T01N4
	One green 2NO pushbutton		I1T01V4
	One red 2NC pushbutton		I1T01R5
	One black 2NC pushbutton		I1T01N5
	One green 2NC pushbutton		I1T01V5

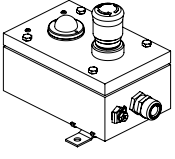


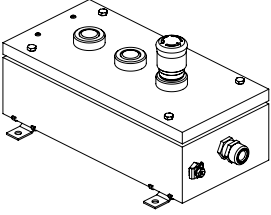
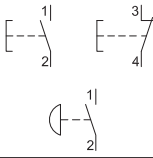
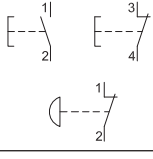
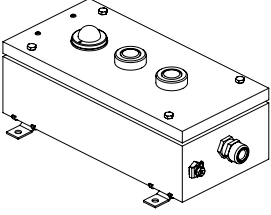
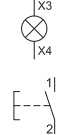



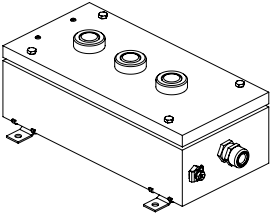
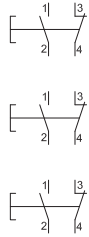
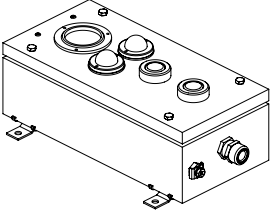
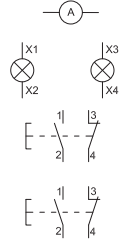
Control station type I (stainless steel)

CODE SELECTION TABLE

Illustration	Description	Diagram	Codes
Selector 	Switch with two fixed-positions, suitable for "automatic-manual" 1NO+1NC service		1I1T011Z
	Motors "start-stop" control, with spring return to 0 from both STOP and START.		1I1T011X
	Motors "start-stop" control with spring return from START to 0, and in fixed STOP position can be padlocked.		1I1T011R
	Three fixed position switch can be padlocked in the centre position. Versions: single pole - double pole - triple pole.		1I1T011C
Button 	Emergency mushroom head pushbutton with 1NO+1NC block (when pressed, rotate to release)		1I1T01F3
	Emergency mushroom head pushbutton with 1NC block (when pressed, rotate to release)		1I1T01F2
Ammeter/voltmeter 	Ammeter (scale on request)		1I1T02A
	Voltmeter (scale on request)		1I1T02V
Indicator light and pushbutton 	24 VAC/DC red indicator light and one red 1NO+1NC pushbutton		1I2T07R9R3
	24 VAC/DC green indicator light and one green 1NO+1NC pushbutton		1I2T07V9V3
	24 VAC/DC red indicator light and one red 1NC pushbutton		1I2T07R9R2
	24 VAC/DC green indicator light and one green 1NC pushbutton		1I2T07V9V2
Indicator light and pushbutton 	24 VAC/DC red indicator light and one red 1NO pushbutton		1I2T07R9R1
	24 VAC/DC green indicator light and one green 1NO pushbutton		1I2T07V9V1

Control station type I (stainless steel)

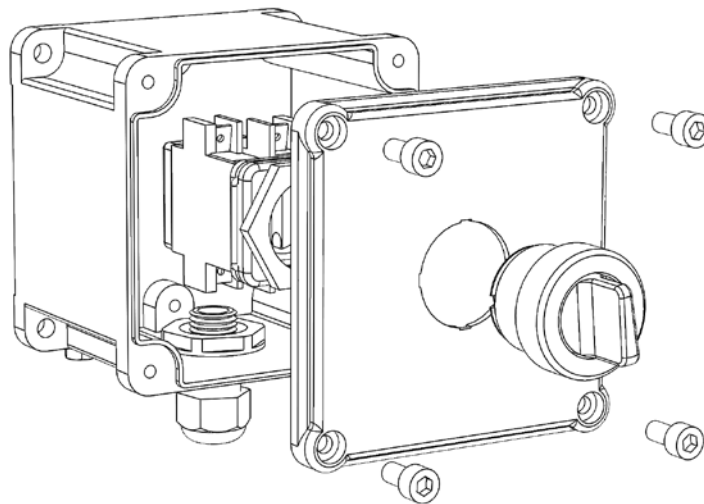
CODE SELECTION TABLE

Illustration	Description	Diagram	Codes
Indicator light and emergency pushbutton 	24 VAC/DC red indicator light and emergency 1NO+1NC mushroom pushbutton		I2T07R9F3
	24 VAC/DC green indicator light and 1NO+1NC emergency mushroom pushbutton		I2T07V9F3
Two pushbuttons and emergency pushbutton 	One green 1NO and one red 1NC pushbutton, one mushroom head 1NO pushbutton		I3T20V1R2F1
	One green 1NO and one red 1NC pushbutton, one mushroom head 1NC pushbutton		I3T20V1R2F2
Indicator light and two pushbuttons 	24 VAC/DC red LED indicator light, one green 1NO pushbutton and red 1NC pushbutton		I4T20R9V1R2
	24 VAC/DC green LED indicator light, one green 1NO pushbutton and red 1NC pushbutton		I4T20V9V1R2
	24 VAC/DC red LED indicator light, one green 1NO+1NC pushbutton and red 1NO+1NC pushbutton		I4T20R9V3R3
	24 VAC/DC green LED indicator light, one green 1NO+1NC pushbutton and red 1NO+1NC pushbutton		I4T20V9V3R3
Three buttons 	One black 1NO+1NC pushbutton one red 1NO+1NC pushbutton green 1NO+1NC pushbutton		I4T20N3R3V3
Ammeter, two indicator lights and two buttons 	Ammeter, one red and one green 24 VAC/DC indicator light, red 1NO+1NC pushbutton, green 1NO+1NC pushbutton		I4T32AR9V9R3V3

Control station type A (aluminium)



EXPLODED VIEW



MECHANICAL FEATURES

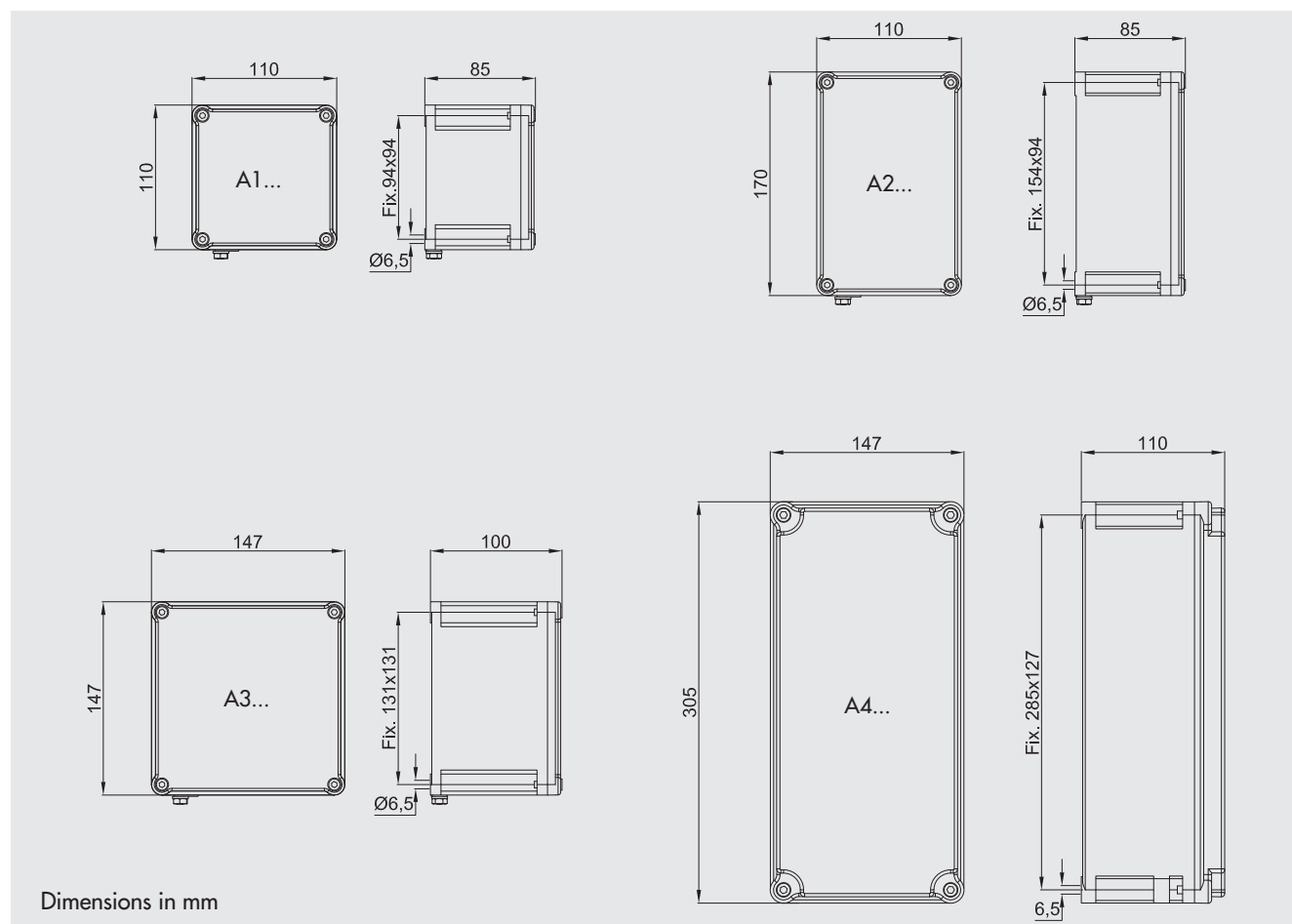
Body and cover:	Low copper content aluminium alloy.
Gaskets:	Acid, hydrocarbon and high temperature resistant silicon positioned between the body and the cover
Certificate plate:	Riveted aluminium
Screws:	Stainless steel
Earth screw:	Internal M5 on body and cover connected to each other with a 2.5 mm wire ²
Coating:	RAL 7035 epoxy (Light grey)
Cable gland:	Polyamide type UNITLXE7
Resistenza alla corrosione:	The STANDARD of the aluminium alloy used by Cortem has passed the tests required by standards EN60068-2-30 (hot-humid cycles) and EN60068-2-11 (salt fog test)

ACCESSORIES UPON REQUEST / SPECIAL REQUESTS

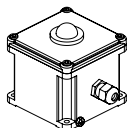

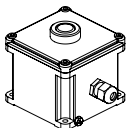
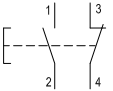




Safety measures and padlocks for stations
 Safety measures against accidental contacts (padlockable)
 Earthing rings for control units
 Nameplates in various materials
 Breather or drainage valve
 Metal cable glands
 Other contact types (see Ex e Control, monitoring and signalling stations folder)
 Various possible configurations

Control station type A (aluminium)

DIMENSIONAL DIAGRAM

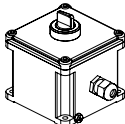
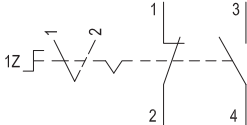
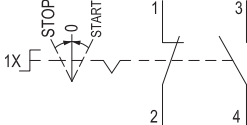
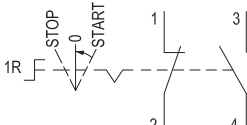
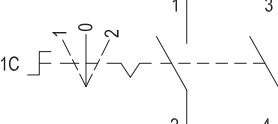
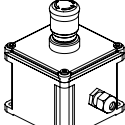
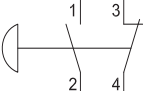
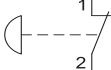
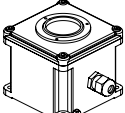


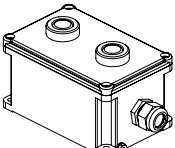




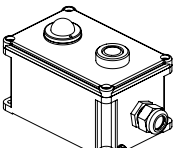






CODE SELECTION TABLE

Illustration	Description	Diagram	Codes
Indicator light 	One red 24 VAC/DC indicator light		A1T01R9
	One green 24 VAC/DC indicator light		A1T01V9
	One blue 24 VAC/DC indicator light		A1T01B9
	One yellow 24 VAC/DC indicator light		A1T01G9
	One colourless 24 VAC/DC indicator light		A1T01I9
Button 	One red 1NO+1NC pushbutton		A1T01R3
	One black 1NO+1NC pushbutton		A1T01N3
	One green 1NO+1NC pushbutton		A1T01V3
	One red 1NO pushbutton		A1T01R1
	One black 1NO pushbutton		A1T01N1
	One green 1NO pushbutton		A1T01V1
	One red 1NC pushbutton		A1T01R2
	One black 1NC pushbutton		A1T01N2
	One green 1NC pushbutton		A1T01V2
	One red 2NO pushbutton		A1T01R4
	One black 2NO pushbutton		A1T01N4
	One green 2NO pushbutton		A1T01V4
	One red 2NC pushbutton		A1T01R5
	One black 2NC pushbutton		A1T01N5
	One green 2NC pushbutton		A1T01V5

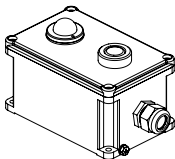


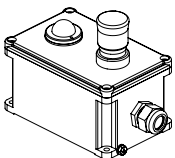


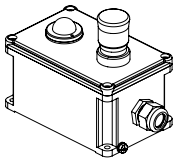




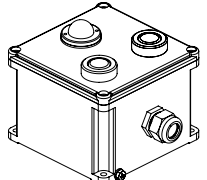
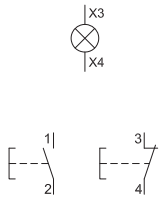
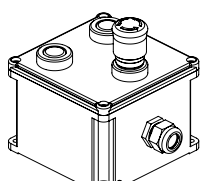
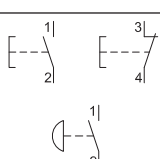
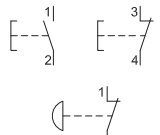
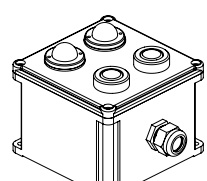
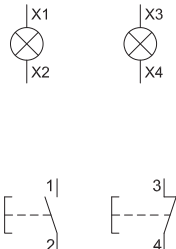
Control station type A (aluminium)

CODE SELECTION TABLE

Illustration	Description	Diagram	Codes
Selector 	Switch with two fixed-positions, suitable for "automatic-manual" 1NO+1NC service		A1T011Z
	Motors "start-stop" control, with spring return to 0 from both STOP and START.		A1T011X
	Motors "start-stop" control with spring return from START to 0, and in fixed STOP position can be padlocked.		A1T011R
	Three fixed position switch can be padlocked in the centre position. Versions: single pole - double pole - triple pole.		A1T011C
Button 	Emergency mushroom head pushbutton with 1NO+1NC block (when pressed, rotate to release)		A1T01F3
	Emergency mushroom head pushbutton with 1NC block (when pressed, rotate to release)		A1T01F2
Ammeter/voltmeter 	Ammeter (scale on request)		A1T02A
	Voltmeter (scale on request)		A1T02V
Two buttons 	Red pushbutton + green pushbutton, 1NO+1NC contacts		A2T07R3V3
	Black pushbutton + green pushbutton, 1NO+1NC contacts		A2T07N3V3
	Red pushbutton + green pushbutton, 1NO contacts		A2T07R1V1
	Black pushbutton + green pushbutton, 1NC contacts		A2T07N1V1
Indicator light and pushbutton 	24 VAC/DC red indicator light and one red 1NO+1NC pushbutton		A2T07R9R3
	24 VAC/DC green indicator light and one green 1NO+1NC pushbutton		A2T07V9V3
	24 VAC/DC red indicator light and one red 1NC pushbutton		A2T07R9R2
	24 VAC/DC green indicator light and one green 1NC pushbutton		A2T07V9V2

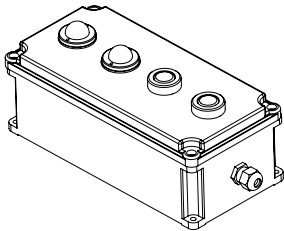
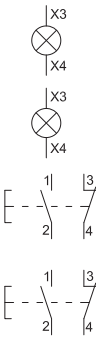
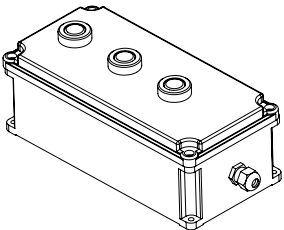
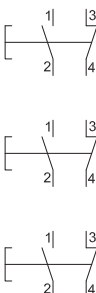
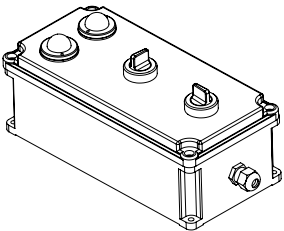
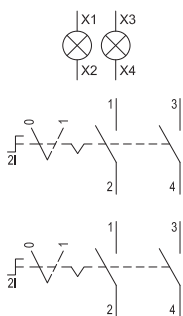
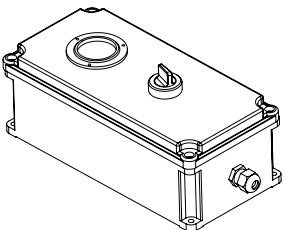
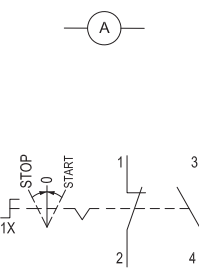
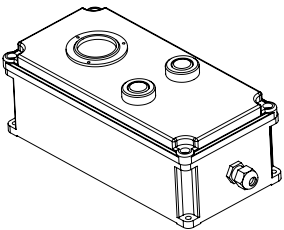
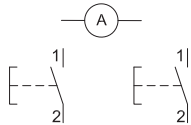
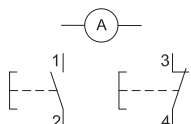
Control station type A (aluminium)

CODE SELECTION TABLE

Illustration	Description	Diagram	Codes
Indicator light and pushbutton 	24 VAC/DC red indicator light and one red 1NO pushbutton		A2T07R9R1
	24 VAC/DC green indicator light and one green 1NO pushbutton		A2T07V9V1
Indicator light and emergency pushbutton 	24 VAC/DC red indicator light and emergency 1NO+1NC mushroom pushbutton		A2T07R9F3
	24 VAC/DC green indicator light and 1NO+1NC emergency mushroom pushbutton		A2T07V9F3
Pushbutton and emergency pushbutton 	Green 1NO pushbutton and one 1NO emergency mushroom head pushbutton		A2T07V1F1
	Yellow 1NO pushbutton and one 1NO emergency mushroom head pushbutton		A2T07G1F1
	Green 1NO+1NC pushbutton and one 1NO+1NC emergency mushroom head pushbutton		A2T07V3F3
	Yellow 1NO+1NC pushbutton and one 1NO+1NC emergency mushroom head pushbutton		A2T07G3F3
Indicator light and two pushbuttons 	24 VAC/DC green LED indicator light, one green 1NO pushbutton and red 1NC pushbutton		A3T18V9V1R2
Two pushbuttons and Emergency pushbutton 	One green 1NO and one red 1NC pushbutton, one mushroom head 1NO pushbutton		A3T17V1R2F1
	One green 1NO and one red 1NC pushbutton, one mushroom head 1NC pushbutton		A3T17V1R2F2
Two indicator lights and two pushbuttons 	24 VAC/DC red and green LED indicator lights, one green 1NO pushbutton and red 1NC pushbutton		A3T19V9R9V1R2

Control station type A (aluminium)

CODE SELECTION TABLE

Illustration	Description	Diagram	Codes
Two indicator lights and two pushbuttons 	24 VAC/DC red and green LED indicator lights, one green 1NO+1NC pushbutton and red 1NO+1NC pushbutton		A4T25V9R9V3R3
Three buttons 	Two green pushbuttons and one red 1NO+1NC		A4T26V3R3V3
Two indicator lights and two selectors 	24 VAC/DC red and green LED indicator lights, two switches arrangement 2I		A4T27R9V92I2I
Ammeter and selector 	Ammeter 1 A, scale 3 - 5 In and "start-stop" motors control switch, with spring return to 0 from both STOP and START.		A4T39AIX
Ammeter and two buttons 	Ammeter 1 A, scale 3 - 5 In with red 1NO pushbutton and green 1NO pushbutton		A4T40ARIV1
	Ammeter 1 A, scale 3 - 5 In with red 1NO pushbutton and green 1NC pushbutton		A4T40ARIV2



Ex e control, monitoring and signalling devices

The M-O control, monitoring and signalling stations are installed as accessories outside of 'Ex e' enclosures, panels and control stations used in all industrial environments where there may be an explosive atmosphere classified as Zone 1, 2, 21, 22. The M-O devices allow the electrical or mechanical equipment assembled inside the 'Ex e' enclosures to be opened or closed, and the light signalling of the operating status. The components of the control stations are constructed from stainless steel to ensure maximum efficiency in almost any environmental conditions. The levers are constructed from aluminium, and the plastic pushbutton components ensure maximum durability over time, even in highly corrosive atmospheres. The M-O control devices have an IP66 protection rating.



A QR reader is required to access the information contained in the QRCode. Centre the QR code in the frame of your Smartphone camera. Your Smartphone will open the corresponding address.



ATEX Certificate
operator units



ATEX Certificate
contacts



IECEx Certificate
control units



IECEx Certificate
contacts

Contact block for pushbuttons

ELECTRICAL FEATURES

Rated voltage							
400 V	500 V	690 V	400 V	400 V	400 V	48 V	230 V
Category of use							
AC-15	AC-15	AC-15	AC-1	AC-2	AC-3	DC-13	DC-13
Rated current							
10 A	4 A	2 A	16 A	6 A	2.4 A	10 A	0.5 A

Rated voltage:	max. 690 V
Frequency:	50/60 Hz
Rated current:	10 A
Connection:	max. 2.5 mm ²
Lightning impulse withstand voltage:	4 kV
Pollution degree:	2
Conditional short circuit current:	1 kA
Maximum use of short circuit protection devices:	a gG 10A 500V fuse on each conductor
Minimum travel for positive opening:	3 mm
Minimum force required to achieve positive opening of all opening contacts:	5 N
Maximum travel (+ overtravel):	4.75 Hz
Body:	Polyamide
Contacts:	Brass
Pins, springs and screws:	Stainless steel



Installation

The new slot-in adapter system makes light work of fitting contacts in control panels with walls up to 7 mm thick. In addition, with the mushroom head pushbutton having a smaller diameter thread (M32x1.5), the cover can accommodate more control and signalling devices than the previous version.

Ex e control, monitoring and signalling devices

SAFETY MEASURES AND PADLOCKS FOR STATIONS, ACCESSORIES AND SPECIAL REQUESTS

Selector padlock system
(codes **M-962** and **M-963**)

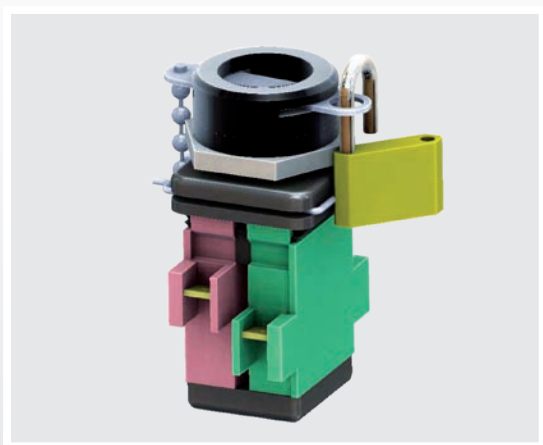


System OPEN

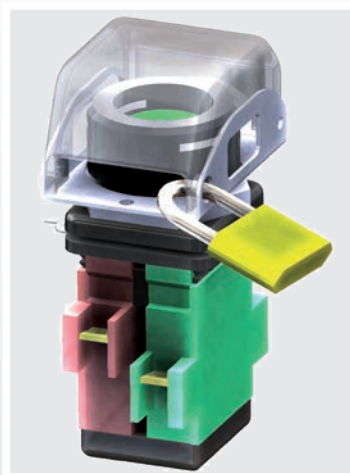


System CLOSED

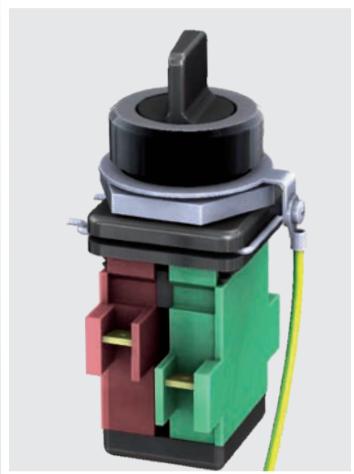
Pushbutton padlock system
(code **M-0603/..L**)



Padlockable protection
(code **M-0631**)



Earthing rings for the installation
control units in polyester enclosures
(code **A331IB**)



Black mushroom head
pushbutton
(code **M-0605/N**)



Ex e control, monitoring and signalling devices

Ex e

Aluminium Cortem enclosure type SA302318 complete with:

n°1 ammeter B-0140A
n°1 M-0612/3R230 red indicator light
n°1 green indicator light M-0612/3V230
n°2 M-0604/1Z selectors
n°1 NAV32IB type cable glands
n°11 CBD2 type connections
n°1 TE6O earth connection
n°1 B32-229 internal frame
External RAL7035 coating



Stainless steel Cortem enclosure type SA473018SS complete with:

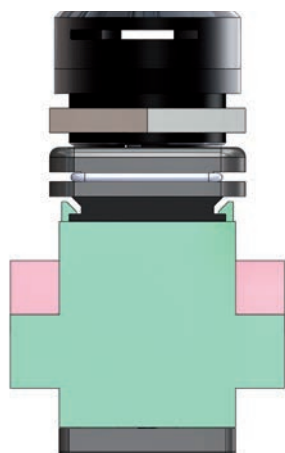
n°1 ammeter B-0140A
n°1 M-0605/K emergency pushbutton with key reset
n°1 M-0603/NL padlockable black pushbutton
n°1 M-0612/3G230 yellow indicator light
n°1 green indicator light M-0612/3V230
n°2 M-0604/1C selectors
n°6 NAV32IB type cable glands
n°1 B47-357 internal frame



SELECTOR ARRANGEMENT

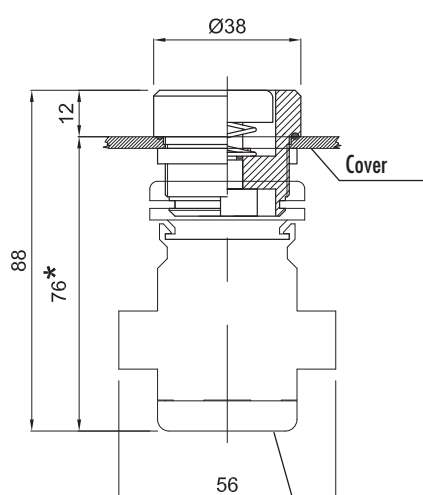
Description	Badge	Single pole arrangement	Contacts	Single pole arrangement	Contacts	Codes																
Motors "start-stop" control, with spring return to 0 from both STOP and START.			<table><tr><th>POS.</th><th>CONTACT</th></tr><tr><td>STOP</td><td>1-2 3-4</td></tr><tr><td>0</td><td>X O</td></tr><tr><td>START</td><td>X X</td></tr></table>	POS.	CONTACT	STOP	1-2 3-4	0	X O	START	X X		<table><tr><th>POS.</th><th>CONTACT</th></tr><tr><td>STOP</td><td>1-2 3-4 5-6 7-8</td></tr><tr><td>0</td><td>X O X O</td></tr><tr><td>START</td><td>X X X X</td></tr></table>	POS.	CONTACT	STOP	1-2 3-4 5-6 7-8	0	X O X O	START	X X X X	X
POS.	CONTACT																					
STOP	1-2 3-4																					
0	X O																					
START	X X																					
POS.	CONTACT																					
STOP	1-2 3-4 5-6 7-8																					
0	X O X O																					
START	X X X X																					
Motors "start-stop" control with spring return from START to 0, and in fixed STOP position can be padlocked.			<table><tr><th>POS.</th><th>CONTACT</th></tr><tr><td>STOP</td><td>1-2 3-4</td></tr><tr><td>0</td><td>X O</td></tr><tr><td>START</td><td>X X</td></tr></table>	POS.	CONTACT	STOP	1-2 3-4	0	X O	START	X X		<table><tr><th>POS.</th><th>CONTACT</th></tr><tr><td>STOP</td><td>1-2 3-4 5-6 7-8</td></tr><tr><td>0</td><td>X O X O</td></tr><tr><td>START</td><td>X X X X</td></tr></table>	POS.	CONTACT	STOP	1-2 3-4 5-6 7-8	0	X O X O	START	X X X X	R
POS.	CONTACT																					
STOP	1-2 3-4																					
0	X O																					
START	X X																					
POS.	CONTACT																					
STOP	1-2 3-4 5-6 7-8																					
0	X O X O																					
START	X X X X																					
Switch with two fixed-positions, suitable for "automatic-manual" service			<table><tr><th>POS.</th><th>CONTACT</th></tr><tr><td>0</td><td>1-2 3-4</td></tr><tr><td>1</td><td>X O</td></tr></table>	POS.	CONTACT	0	1-2 3-4	1	X O		<table><tr><th>POS.</th><th>CONTACT</th></tr><tr><td>0</td><td>1-2 3-4 5-6 7-8</td></tr><tr><td>1</td><td>X O X O</td></tr></table>	POS.	CONTACT	0	1-2 3-4 5-6 7-8	1	X O X O	Z				
POS.	CONTACT																					
0	1-2 3-4																					
1	X O																					
POS.	CONTACT																					
0	1-2 3-4 5-6 7-8																					
1	X O X O																					
Switch			<table><tr><th>POS.</th><th>CONTACT</th></tr><tr><td>0</td><td>1-2 3-4</td></tr><tr><td>1</td><td>X X</td></tr></table>	POS.	CONTACT	0	1-2 3-4	1	X X		<table><tr><th>POS.</th><th>CONTACT</th></tr><tr><td>0</td><td>1-2 3-4 5-6</td></tr><tr><td>1</td><td>X X X</td></tr></table>	POS.	CONTACT	0	1-2 3-4 5-6	1	X X X	I				
POS.	CONTACT																					
0	1-2 3-4																					
1	X X																					
POS.	CONTACT																					
0	1-2 3-4 5-6																					
1	X X X																					
Three fixed position switch can be padlocked in the centre position. Versions: single pole - double pole - triple pole			<table><tr><th>POS.</th><th>CONTACT</th></tr><tr><td>1</td><td>1-2 3-4</td></tr><tr><td>0</td><td>X O</td></tr><tr><td>2</td><td>O X</td></tr></table>	POS.	CONTACT	1	1-2 3-4	0	X O	2	O X		<table><tr><th>POS.</th><th>CONTACT</th></tr><tr><td>1</td><td>1-2 3-4 5-6 7-8</td></tr><tr><td>0</td><td>X O X O</td></tr><tr><td>2</td><td>O O O X</td></tr></table>	POS.	CONTACT	1	1-2 3-4 5-6 7-8	0	X O X O	2	O O O X	C
POS.	CONTACT																					
1	1-2 3-4																					
0	X O																					
2	O X																					
POS.	CONTACT																					
1	1-2 3-4 5-6 7-8																					
0	X O X O																					
2	O O O X																					
Three position switch can be padlocked in centre position with spring return to 0 from positions 1 and 2.			<table><tr><th>POS.</th><th>CONTACT</th></tr><tr><td>1</td><td>1-2 3-4</td></tr><tr><td>0</td><td>X O</td></tr><tr><td>2</td><td>O X</td></tr></table>	POS.	CONTACT	1	1-2 3-4	0	X O	2	O X		<table><tr><th>POS.</th><th>CONTACT</th></tr><tr><td>1</td><td>1-2 3-4 5-6 7-8</td></tr><tr><td>0</td><td>X O X O</td></tr><tr><td>2</td><td>O X O X</td></tr></table>	POS.	CONTACT	1	1-2 3-4 5-6 7-8	0	X O X O	2	O X O X	W
POS.	CONTACT																					
1	1-2 3-4																					
0	X O																					
2	O X																					
POS.	CONTACT																					
1	1-2 3-4 5-6 7-8																					
0	X O X O																					
2	O X O X																					
5 position reversing start switch. Lever with fixed C position and spring return to 0 from A and B			<table><tr><th>POS.</th><th>CONTACT</th></tr><tr><td>A</td><td>1-2 5-6 8-7 3-4</td></tr><tr><td>0</td><td>X X O O</td></tr><tr><td>C</td><td>O O X O</td></tr><tr><td>B</td><td>O O O X</td></tr></table>	POS.	CONTACT	A	1-2 5-6 8-7 3-4	0	X X O O	C	O O X O	B	O O O X			Y						
POS.	CONTACT																					
A	1-2 5-6 8-7 3-4																					
0	X X O O																					
C	O O X O																					
B	O O O X																					
"Start" motors control with lever spring return to position B			<table><tr><th>POS.</th><th>CONTACT</th></tr><tr><td>1</td><td></td></tr><tr><td>A</td><td>X O</td></tr><tr><td>B</td><td>O O</td></tr></table>	POS.	CONTACT	1		A	X O	B	O O			M								
POS.	CONTACT																					
1																						
A	X O																					
B	O O																					

Pushbutton M-0603



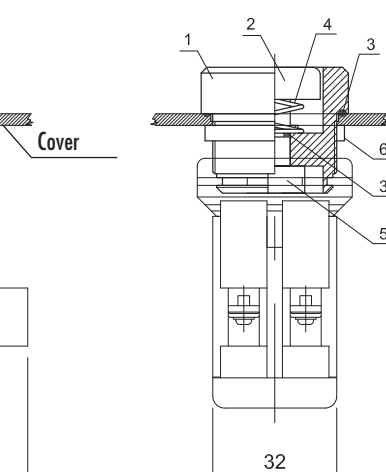
Range of pushbuttons designed to permit the installation of an increased number of controls on the cover. Polyamide 6 caps available in various colours and in a lockable version. Plates, listing dimensions and with customised wording on the cover, can be affixed to all stations.

ILLUSTRATION	CODE	DESCRIPTION	NOTES	MODULAR CODES
	M-0603/N	Black Ex e pushbutton without contacts	Add requested contact assembly	N
	M-0603/NL	Black Ex e pushbutton can be locked without contacts	Add requested contact assembly	E
	M-0603/R	Red Ex e pushbutton without contacts	Add requested contact assembly	R
	M-0603/RL	Red Ex e pushbutton without contacts, can be padlocked	Add requested contact assembly	L
	M-0603/V	Green Ex e pushbutton without contacts	Add requested contact assembly	V
	M-0603/G	Yellow Ex e pushbutton without contacts	Add requested contact assembly	G
	M-0603/B	Blue Ex e pushbutton without contacts	Add requested contact assembly	B
	M-0603/BI	White Ex e pushbutton without contacts	Add requested contact assembly	I
	M-0606/10	Contact assembly 1NO		1
	M-0606/01	Contact assembly 1NC		2
	M-0606/11	Contact assembly 1NO+1NC		3
	M-0606/20	Contact assembly 2NO		4
	M-0606/02	Contact assembly 2NC		5



Front part of switch M-0603, comprised of:

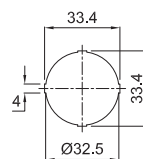
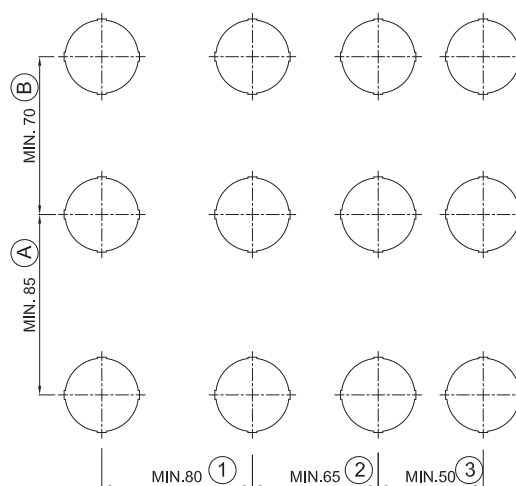
1. body
2. coloured cap
3. o-ring
4. spring
5. moving part
6. locknut



Contact block type M-0530 and/or M-0531
Ex II 2G Ex de IIC version (CESI 09 ATEX 016U)

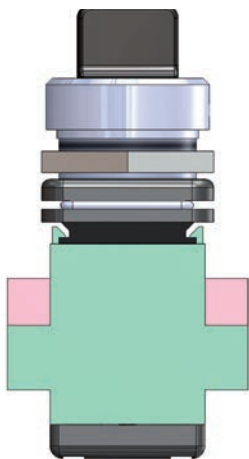
* with 4 raised contacts: 79 mm

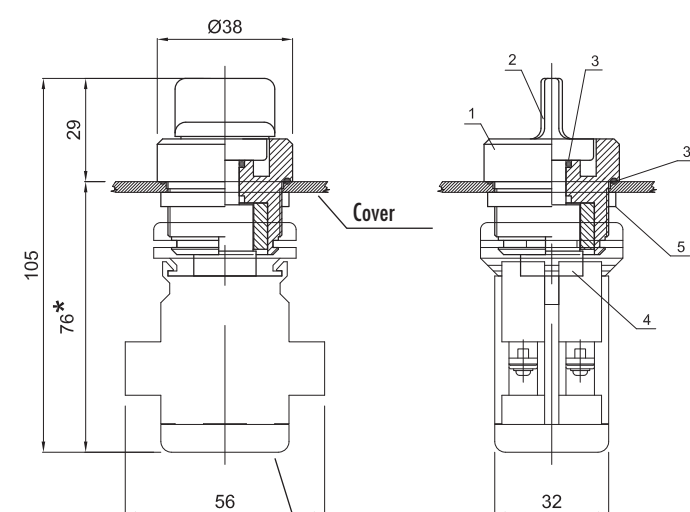
Drilling arrangement (minimum distances)



- 1) control unit with 4 contacts - control unit with 4 contacts
- 2) control unit with 4 contacts - control unit with 2 contacts
- 3) control unit with 2 contacts - control unit with 2 contacts
- A) control unit with 4 contacts - control unit with 4 contacts
- B) control unit with 2 contacts - control unit with 2 contacts

Selector M-0604

ILLUSTRATION	CODE	DESCRIPTION	MODULAR CODES	NOTES
	M-0604/X	Selector Ex e arrangement X	1X	Selector complete with contacts
	M-0604/R	Selector Ex e arrangement R	1R	
	M-0604/RSX	Selector Ex e arrangement R left	RS	
	M-0604/1Z	Selector Ex e arrangement 1Z	1Z	
	M-0604/2Z	Selector Ex e arrangement 2Z	2Z	
	M-0604/1I	Selector Ex e arrangement 1I	1I	
	M-0604/2I	Selector Ex e arrangement 2I	2I	
	M-0604/3I	Selector Ex e arrangement 3I	3I	
	M-0604/4I	Selector Ex e arrangement 4I	4I	
	M-0604/1C	Selector Ex e arrangement 1C	1C	
	M-0604/2C	Selector Ex e arrangement 2C	2C	
	M-0604/1W	Selector Ex e arrangement 1W	1W	
	M-0604/2W	Selector Ex e arrangement 2W	2W	
	M-0604/1M	Selector Ex e arrangement 1M	1M	
<p>Selector complete with 2 or 4 contacts, available in different electrical arrangements for connection to the electrical enclosure and machine. Can be padlocked and have earthing connection</p>	M-0606/1I	Contact assembly 1NO+1NC	Replacement part for arrangements: X - R - 1Z - RSX	
	M-0606/2Z	Contact assembly 2NO+2NC	Replacement part for arrangements: 2Z	
	M-0606/10	Contact assembly 1NO	Replacement part for arrangements: 1I 1M	
	M-0606/20	Contact assembly 2NO	Replacement part for arrangements: 2I 2M 1C 1W	
	M-0606/30	Contact assembly 3NO	Replacement part for arrangements: 3I 3M	
	M-0606/40	Contact assembly 4NO	Replacement part for arrangements: 4I 4M 2C 2W	



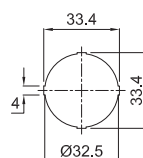
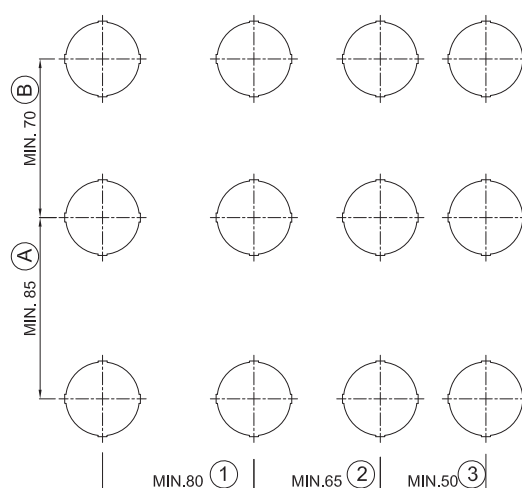
Front part of switch M-0604, comprised of:

1. body
2. lever
3. o-ring
4. moving part
5. locknut

Contact block type M-0530 and/or M-0531
Ex II 2G Ex de IIC version (CESI 09 ATEX 016U)

* with 4 raised contacts: 79 mm

Drilling arrangement (minimum distances)



- 1) control unit with 4 contacts - control unit with 4 contacts
- 2) control unit with 4 contacts - control unit with 2 contacts
- 3) control unit with 2 contacts - control unit with 2 contacts
- A) control unit with 4 contacts - control unit with 4 contacts
- B) control unit with 2 contacts - control unit with 2 contacts

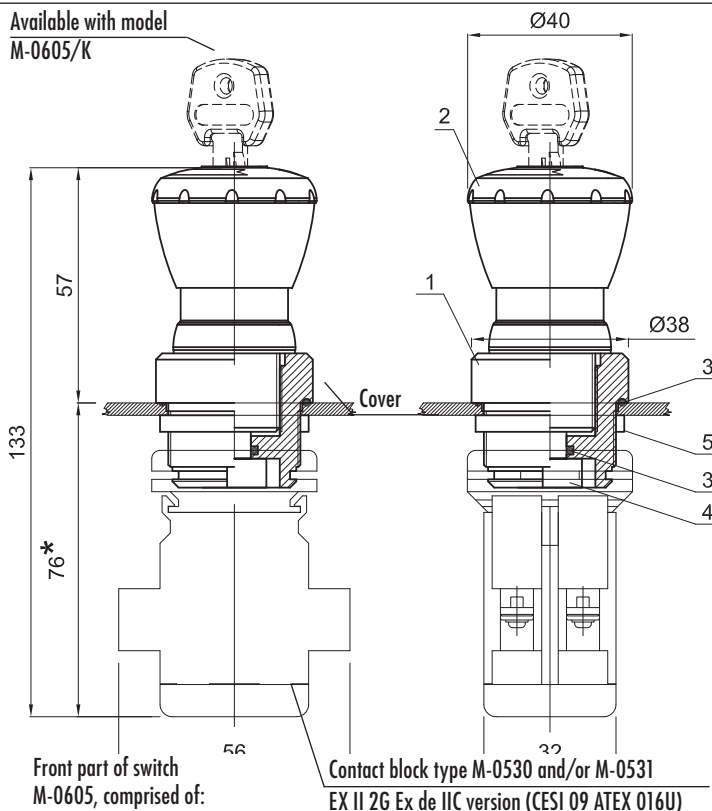
Emergency pushbutton M-0605



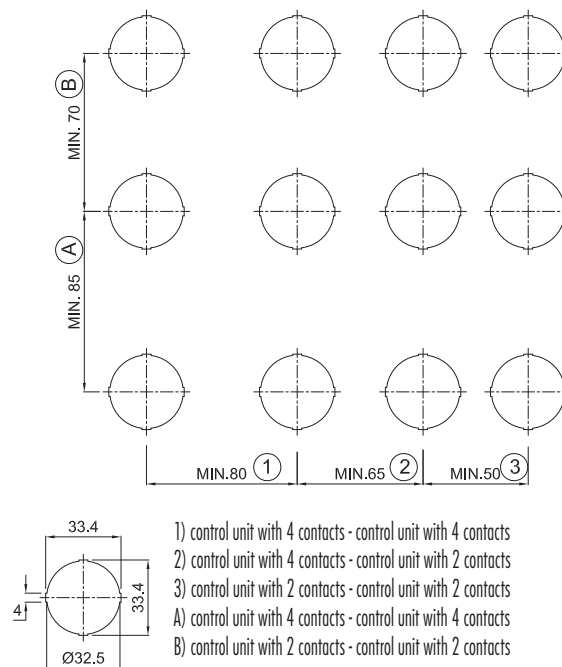
The emergency pushbutton allows the operator to safely lock out the machine by pressing the key. With 2 keys provided with each order, the pushbutton of model M-0605/K can be locked.

CODE	DESCRIPTION	MODULAR CODES	NOTES
M-0605	Emergency Ex e pushbutton with reset, without contacts	F	Add requested contact assembly
M-0605/K	Emergency Ex e pushbutton with key reset, without contacts	K	
M-0605/P	Press and pull Ex e pushbutton without contacts	P	
M-0606/10	Contact assembly 1NO	1	
M-0606/01	Contact assembly 1NC	2	
M-0606/11	Contact assembly 1NO+1NC	3	
M-0606/20	Contact assembly 2NO	4	
M-0606/02	Contact assembly 2NC	5	

Available with model
M-0605/K



Drilling layout (minimum distances)*



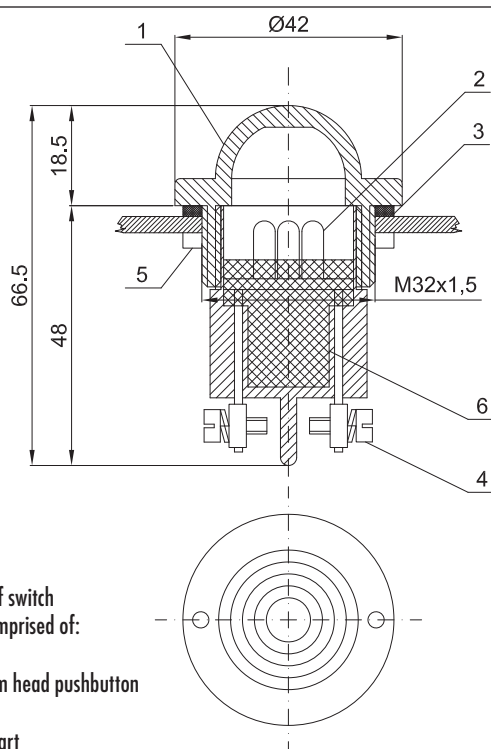
* Standard drilling layout.
Up to 2 contacts can be used per station with the M-0605 emergency pushbutton

M-0612/3 multi-LED indicator light



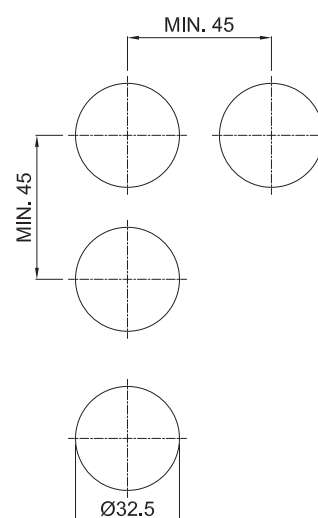
Multi-LED indicator lights available in various cap colours and different voltages. Easy to install and wire and long-lasting reliability with 50,000 hour lifespan LEDs

CODE	DESCRIPTION	MODULAR CODES
M-0612/3B110	Blue 110 VAC/DC multi-LED indicator light	B6
M-0612/3B12	Blue 12 VAC/DC multi-LED indicator light	B7
M-0612/3B230	Blue 230 VAC multi-LED indicator light	B8
M-0612/3B24	Blue 24 VAC/DC multi-LED indicator light	B9
M-0612/3G110	Yellow 110 VAC/DC multi-LED indicator light	G6
M-0612/3G12	Yellow 12 VAC/DC multi-LED indicator light	G7
M-0612/3G230	Yellow 230 VAC multi-LED indicator light	G8
M-0612/3G24	Yellow 24 VAC/DC multi-LED indicator light	G9
M-0612/3I110	Colourless 110 VAC/DC multi-LED indicator light	I6
M-0612/3I12	Colourless 12 VAC/DC multi-LED indicator light	I7
M-0612/3I230	Colourless 230 VAC multi-LED indicator light	I8
M-0612/3I24	Colourless 24 VAC/DC multi-LED indicator light	I9
M-0612/3R110	Red 110 VAC/DC multi-LED indicator light	R6
M-0612/3R12	Red 12 VAC/DC multi-LED indicator light	R7
M-0612/3R230	Red 230 VAC multi-LED indicator light	R8
M-0612/3R24	Red 24 VAC/DC multi-LED indicator light	R9
M-0612/3V110	Green 110 VAC/DC multi-LED indicator light	V6
M-0612/3V12	Green 12 VAC/DC multi-LED indicator light	V7
M-0612/3V230	Green 230 VAC multi-LED indicator light	V8
M-0612/3V24	Green 24 VAC/DC multi-LED indicator light	V9



Front part of switch
M-0605, comprised of:
1. body
2. mushroom head pushbutton
3. o-ring
4. moving part
5. locknut

Drilling arrangement (minimum distances)



Ammeter B-0140A, voltmeter B-0140V



CODE	DESCRIPTION	NOTES	MODULAR CODES
B-0140A	Ammeter	*	A
B-0140V	Voltmeter		V

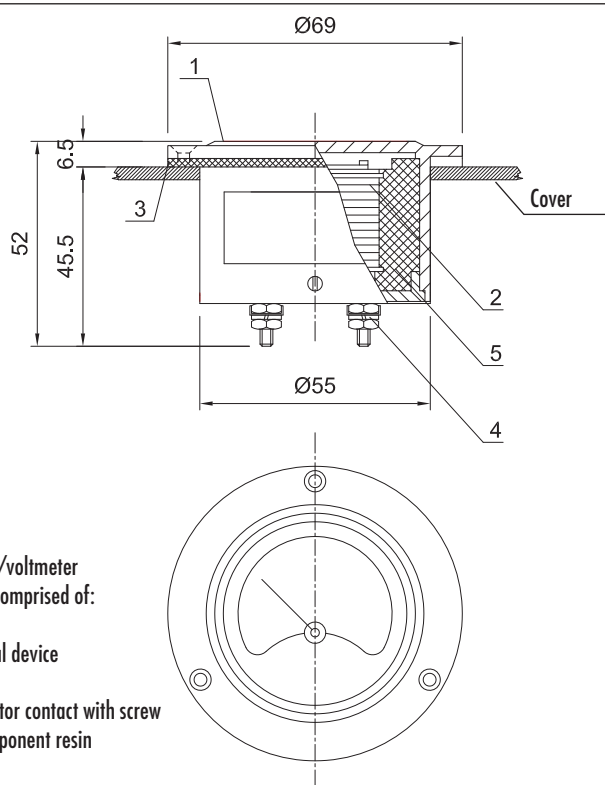
Maximum voltage: 600 V
 Rated frequency: 40 ÷ 60 Hz
 Accuracy class: 1.5
 Power dissipation: 1.1 VA (B-0140A)
 3.0 VA B-0140V

Field of measure - Direct measurement:	0 - 40mA 0 - 60 mA 0 - 100 mA 0 - 250 mA 0 - 400 mA 0 - 600 mA	0 - 0.1A 0 - 1.5 A 0 - 2.5 A 0 - 5 A 0 - 6 A 0 - 15 A
--	---	--

Field of measure - With current transformer:	0 - 2.5mA 0 - 5 mA 0 - 10 mA 0 - 15 mA 0 - 20 mA 0 - 25 mA 0 - 30 mA 0 - 40 mA	0 - 50A 0 - 60 A 0 - 75 A 0 - 100 A 0 - 150 A 0 - 200 A 0 - 300 A 0 - 400 A
--	---	--

Cortem certified ammeters and voltmeters are suitable for measuring electrical quantities, when accuracy and precision are required. The internal plates with field-scale measurement are made to customer specification.

* For ammeter mod. B-0140A4 (4-20 mA) 1200 Ω impedance. If the driver is incompatible with this impedance, it is recommended to use the Cortem supplied transducer, mod. NI-DT1. The transducer must be installed in a safe zone.



Drilling arrangement (minimum distances)

