

# CMD

## Command and control stations 'Ex e'

- Group IIC
- Zone 1, 2, 21, 22
- Three casing sizes in reinforced polyester
- Standard or custom models
- Speed of delivery
- Designed to customer specifications
- Category 2GD



# Control and signalling station CMD

The CMD command and monitoring units, in fiberglass reinforced polyester, can be equipped with a complete series of switches and control, monitoring, and signalling devices. The innovative design has been studied to minimize the overall dimensions, while guaranteeing resistance, reliability, and simplicity of installation. They can be mounted both onboard machine and remotely for powering circuits such as light or motive power in any type of industrial application. The large number of components that can be installed allows a wide range of customizations to achieve the optimal solution for the operation of the system located in a hazardous area.

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. Failure to observe international standards creates serious risks for the environment and, above all, for the personnel who work with the systems on a daily basis.



## Sectors of application:



Petroleum refineries



Chemical and petrochemical facilities



Onshore facilities



Offshore facilities



Petroleum loading/unloading pontoons



Low temperatures



Fuel storage facilities



Agribusiness facilities

## CERTIFICATE 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 db eb IIC T6, T5, T4 Gb; Ex tb IIIC T85°C, T100°C, T135°C Db

### Certificate:

ATEX [CML 21 ATEX 3848X](#)

IECEX [IECEX CML 21.0104X](#)

For all IECEX certification data, download the certificate from [www.cortemgroup.com](http://www.cortemgroup.com)

### Standards:

CENELEC EN 60079-0: 2018, EN 60079-1: 2014, EN 60079-7: 2015, EN 60079-11: 2012, EN 60079-18: 2015, EN 60079-31: 2014 and European Directive 2014/34/EU.  
IEC 60079-0: 2018, IEC 60079-0: 2017, IEC 60079-7: 2015, IEC 60079-11: 2011, IEC 60079-18: 2014, IEC 60079-31: 2013  
RoHS Directive 2002/95/EC.

### Temperature class:

85°C (T6)

100°C (T5)

135°C (T4)

### Temp. Temperature:

-40°C +40°C

-40°C +55°C

-40°C +60°C

### Degree of protection:

IP66

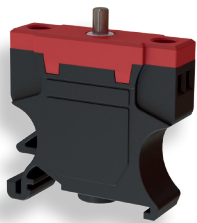
## Control and signalling station CMD



### MECHANICAL FEATURES

<b>Body and lid:</b>	Black antistatic fibreglass reinforced polyester complete with fixing lugs
<b>Gaskets:</b>	Acid, hydrocarbon and high temperature resistant silicon positioned between the body and the lid
<b>Certificate label:</b>	Adhesive
<b>Screws:</b>	Stainless steel
<b>Earth screw:</b>	Internal M5 on body
<b>Cable gland:</b>	Polyamide series NAVP

### CONTACTS ELECTRICAL FEATURES



#### Code HL0101 (Contact)

Rated voltage/current: 220-250 Vac/10A, 380Vac/10A, 415Vac/10A  
24Vdc/0.4A, 60Vdc/0.9A, 110Vdc/1.6A, 220Vdc/0.25A

Connection: Max. 2.5 mm<sup>2</sup>  
Lightning impulse withstand voltage: 2 kV  
Pollution degree: 3  
Conditional short circuit current: 1 kA  
Minimum force to achieve positive opening operation: 2 mm  
Minimum force required to achieve positive opening of all opening contacts: 5 N  
Maximum travel (+ overtravel): 5 mm (2 mm)



#### Code HL0102 (Indicator light)

Rated voltage: 12-36 Vac/dc, 48-127 Vac/dc, 220-415 Vac, 220-250 Vdc  
Power input: 36V/0.6W, 127V/1.3W, 415V/3.8W, 250V/1.8W

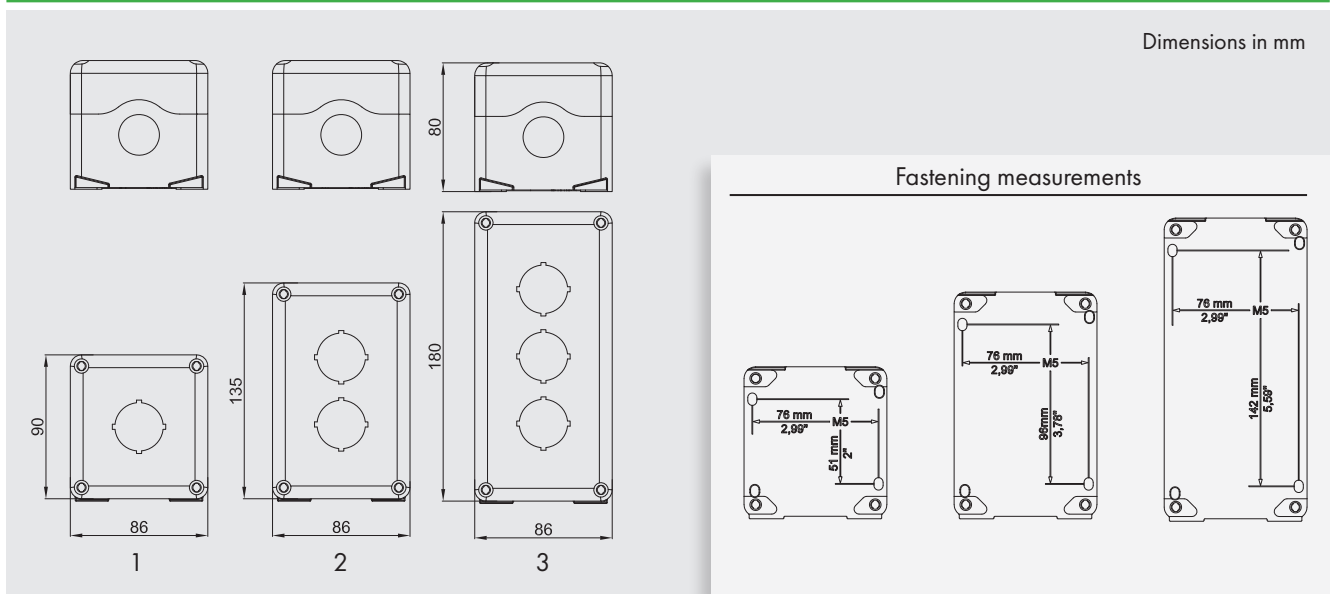
Connection: Max. 2.5 mm<sup>2</sup>  
Frequency: 50/60 Hz  
Power consumption: Max. 1 W  
Lifespan: 10<sup>5</sup> hours  
Lightning impulse withstand voltage: 2 kV  
Pollution degree: 3  
Conditional short circuit current: 1 kA

### ACCESSORIES UPON REQUEST / SPECIAL REQUESTS

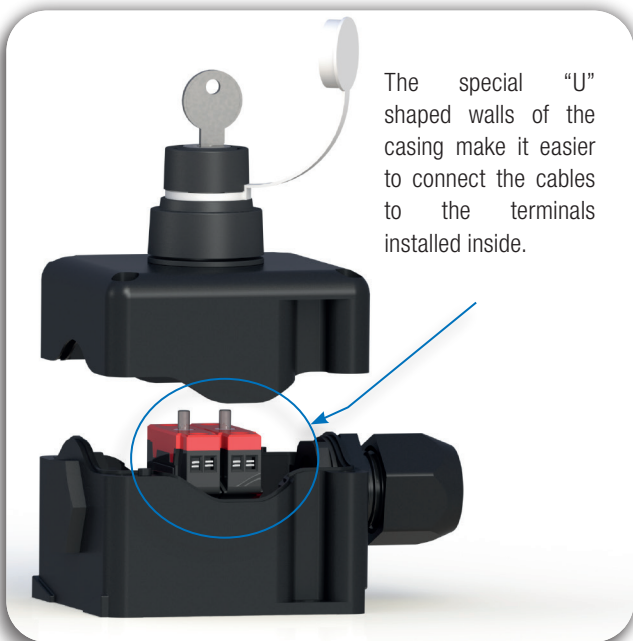
Brass continuity plate for earthing  
Breather or drainage valve  
Metal cable glands

# Control and signalling station CMD

## DIMENSIONAL DRAWING

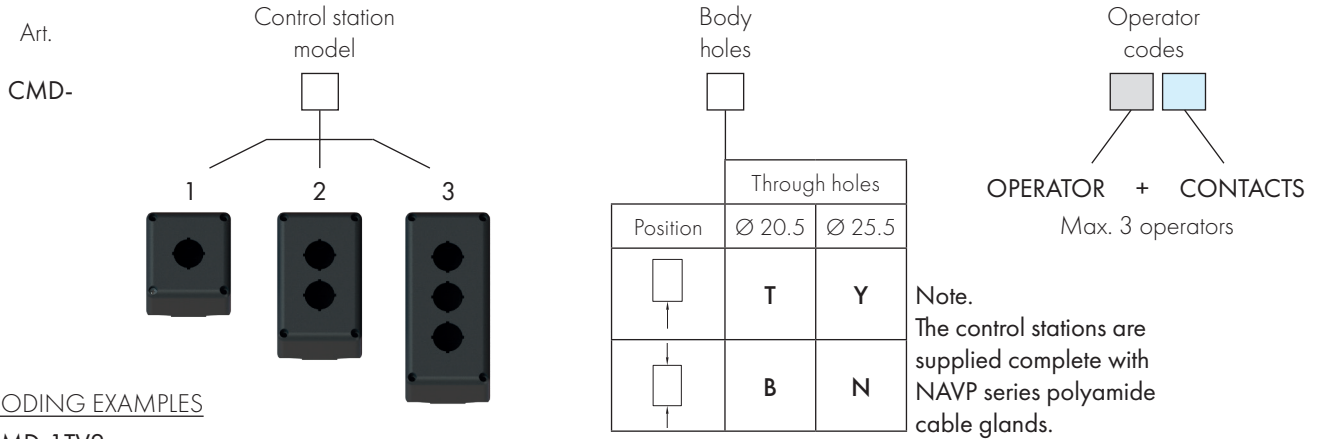


## PLUS



# Control and signalling station CMD

## CONTROL STATION ORDER CODES



### CODING EXAMPLES

#### CMD-1TV2

"Type 1" control station with one Ø 20.5 hole on the bottom and one green pushbutton with 1NC contact.

#### CMD-3NR9V91R


"Type 3" control station with one Ø 25.5 hole on the bottom and one on the top, a red LED indicator light, a 12-36Vac/dc green indicator light and a "start-stop" control, with spring return from START to 0, and fixed STOP position.


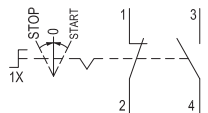
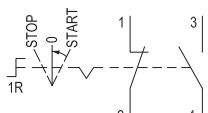
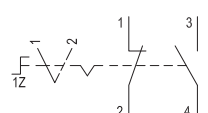
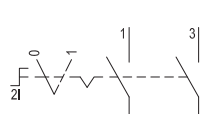
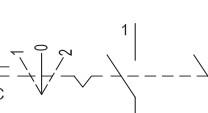
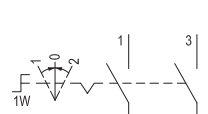
OPERATOR - PUSH-BUTTON -	DESCRIPTION OF OPERATOR AND RELATIVE CONTACTS	OPERATOR CODES
	Black push-button without contacts	N
	Red push-button without contacts	R
	Green push-button without contacts	V
	Yellow push-button without contacts	G
	White push-button without contacts	I
	Contact assembly 1NO	1
	Contact assembly 1NC	2
	Contact assembly 1NO+1NC	3
	Contact assembly 2NO	4
Contact assembly 2NC	5	

OPERATOR - INDICATOR LIGHT -	DESCRIPTION OF OPERATOR AND RELATIVE CONTACTS	OPERATOR CODES
	Component for green indicator light	V
	Component for red indicator light	R
	Component for yellow indicator light	G
	Component for blue indicator light	B
	Component for colourless indicator light	I
	12-36 Vac/dc LED indicator light	9
	48-127 Vac/dc LED indicator light	8
	220-415 Vac LED indicator light	7
	220-250 Vdc LED indicator light	6

# Control and signalling station CMD


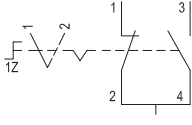
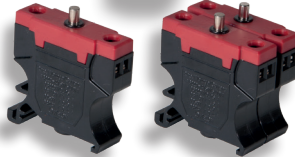
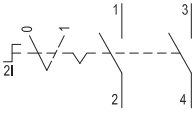
## CONTROL STATION ORDER CODES


OPERATOR - ILLUMINATED PUSH-BUTTON -	DESCRIPTION OF OPERATOR AND RELATIVE CONTACTS	OPERATOR CODES
	Blue push-button without contacts	BL
	Red push-button without contacts	RL
	Green push-button without contacts	VL
	Yellow push-button without contacts	GL
	Transparente push- button without contacts	IL
	Contact assembly 1NO	1
	Contact assembly 1NC	2
	Contact assembly 1NO+1NC	3
	Contact assembly 2NO	4
Contact assembly 2NC	5	


OPERATOR - SELECTOR -	SINGLE POLE ARRANGEMENT	CONTACTS	DESCRIPTION OF OPERATOR AND RELATIVE CONTACTS	OPERATOR + CONTACT CODES														
		<table border="1"> <thead> <tr> <th rowspan="2">POS.</th> <th colspan="2">CONTACT</th> </tr> <tr> <th>1-2</th> <th>3-4</th> </tr> </thead> <tbody> <tr> <td>STOP</td> <td>0</td> <td>0</td> </tr> <tr> <td>0</td> <td>X</td> <td>0</td> </tr> <tr> <td>START</td> <td>X</td> <td>X</td> </tr> </tbody> </table>	POS.	CONTACT		1-2	3-4	STOP	0	0	0	X	0	START	X	X	Motors "start-stop" control, with spring return to 0 from both STOP and START	1X
	POS.	CONTACT																
		1-2	3-4															
	STOP	0	0															
	0	X	0															
	START	X	X															
	<table border="1"> <thead> <tr> <th rowspan="2">POS.</th> <th colspan="2">CONTACT</th> </tr> <tr> <th>1-2</th> <th>3-4</th> </tr> </thead> <tbody> <tr> <td>STOP</td> <td>0</td> <td>0</td> </tr> <tr> <td>0</td> <td>X</td> <td>0</td> </tr> <tr> <td>START</td> <td>X</td> <td>X</td> </tr> </tbody> </table>	POS.	CONTACT		1-2	3-4	STOP	0	0	0	X	0	START	X	X	Motors "start-stop" control with spring return from START to 0, and in fixed STOP position	1R	
POS.	CONTACT																	
	1-2	3-4																
STOP	0	0																
0	X	0																
START	X	X																
	<table border="1"> <thead> <tr> <th rowspan="2">POS.</th> <th colspan="2">CONTACT</th> </tr> <tr> <th>1-2</th> <th>3-4</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>X</td> <td>0</td> </tr> <tr> <td>1</td> <td>0</td> <td>X</td> </tr> </tbody> </table>	POS.	CONTACT		1-2	3-4	0	X	0	1	0	X	Switch with two fixed-positions, suitable for "automatic-manual" service	1Z				
POS.	CONTACT																	
	1-2	3-4																
0	X	0																
1	0	X																
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POS.	CONTACT																	
	1-2	3-4																
0	0	0																
1	X	X																
	<table border="1"> <thead> <tr> <th rowspan="2">POS.</th> <th colspan="2">CONTACT</th> </tr> <tr> <th>1-2</th> <th>3-4</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>X</td> <td>0</td> </tr> <tr> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>2</td> <td>0</td> <td>X</td> </tr> </tbody> </table>	POS.	CONTACT		1-2	3-4	1	X	0	0	0	0	2	0	X	Three fixed position switch.	1C	
POS.	CONTACT																	
	1-2	3-4																
1	X	0																
0	0	0																
2	0	X																
	<table border="1"> <thead> <tr> <th rowspan="2">POS.</th> <th colspan="2">CONTACT</th> </tr> <tr> <th>1-2</th> <th>3-4</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>X</td> <td>0</td> </tr> <tr> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>2</td> <td>0</td> <td>X</td> </tr> </tbody> </table>	POS.	CONTACT		1-2	3-4	1	X	0	0	0	0	2	0	X	Three position switch with spring return to 0 from positions 1 and 2	1W	
POS.	CONTACT																	
	1-2	3-4																
1	X	0																
0	0	0																
2	0	X																

# Control and signalling station CMD

## CONTROL STATION ORDER CODES


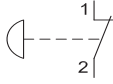

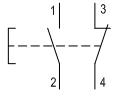



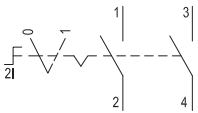

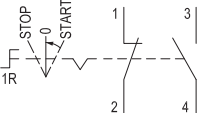
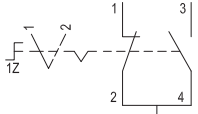

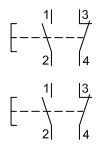

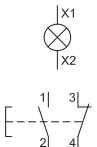
OPERATOR - KEY SELECTOR -	SINGLE POLE ARRANGEMENT	CONTACTS	DESCRIPTION OF OPERATOR AND RELATIVE CONTACTS	OPERATOR CODES									
		<table border="1"> <tr> <th>POS.</th> <th colspan="2">CONTACT</th> </tr> <tr> <td>0</td> <td>X</td> <td>O</td> </tr> <tr> <td>1</td> <td>O</td> <td>X</td> </tr> </table>	POS.	CONTACT		0	X	O	1	O	X	Switch with two fixed-positions, suitable for "automatic-manual" service	D3
POS.	CONTACT												
0	X	O											
1	O	X											
		<table border="1"> <tr> <th>POS.</th> <th>1-2</th> <th>3-4</th> </tr> <tr> <td>0</td> <td>O</td> <td>O</td> </tr> <tr> <td>1</td> <td>X</td> <td>X</td> </tr> </table>	POS.	1-2	3-4	0	O	O	1	X	X	Switch	D4
POS.	1-2	3-4											
0	O	O											
1	X	X											

OPERATOR - EMERGENCY PUSH-BUTTON -	DESCRIPTION OF OPERATOR AND RELATIVE CONTACTS	OPERATOR CODES
	Twist to release emergency stop push-button	F
	Key release emergency stop push-button	K
	Contact assembly 1NO	1
	Contact assembly 1NC	2
	Contact assembly 1NO+1NC	3
	Contact assembly 2NO	4
	Contact assembly 2NC	5

OPERATOR - AMMETER -	SCALE	MEASUREMENT RANGE	POWER CONSUMP- TION	MAX. OVERLOAD CURRENT	OPERATOR CODES
  Rated frequency: 45 ÷ 60 Hz Accuracy class: 1.5 Casing material: Polycarbonate	2	0~1A 0~5A, 10A	0.33W 0.6W	2A 20A	A-48DA(...-...)
	X/1A	1A, 2.5A, 5A, 10A, 20A, 25A, 30A, 40A, 50A, 60A, 75A, 100A, 150A, 200A, 300A, 500A, 600A, 700A, 800A, 1000A	0.5W	25A	A-48WA(...-...)
	X/5A				

# Control and signalling station CMD

## TABLE OF STANDARD STOCK CONTROL STATIONS

Illustration	Description	Diagram	Codes
	Emergency mushroom head pushbutton with 1NO+1NC block (when pressed, rotate to release) Complete with NAVP201XE cable gland (cable range 7-12 mm)		<b>CMD-1TF3</b>
	One black 1NO+1NC pushbutton Complete with NAVP201XE cable gland (cable range 7-12 mm)		<b>CMD-1TN3</b>
	One red 220-415 VAC/DC indicator light		<b>CMD-1TR7</b>
	One colourless 220-415 VAC/DC indicator light		<b>CMD-1TI7</b>
	One green 220-415 VAC/DC indicator light		<b>CMD-1TV7</b>
	One blue 220-415 VAC/DC indicator light		Complete with NAVP201XE cable gland (cable range 7-12 mm) <b>CMD-1TB7</b>
	One yellow 220-415 VAC/DC indicator light		<b>CMD-1TG7</b>
	Double pole switch Complete with two NAVP251XE cable glands (cable range 14-18 mm)		<b>CMD-1N21</b>
	Run/stop selector Complete with NAVP201XE cable gland (cable range 7-12 mm)		<b>CMD-1T1R</b>
	Single pole switch Complete with NAVP201XE cable gland (cable range 7-12 mm)		<b>CMD-1T1Z</b>
	One green 1NO+1NC pushbutton and one red 1NO+1NC pushbutton Complete with NAVP251XE cable gland (cable range 14-18 mm)		<b>CMD-2YV3R3</b>
	Colourless 220-415 Vac/dc LED indicator light, one green 1NO+1NC pushbutton and one red 1NO+1NC pushbutton Complete with NAVP251XE cable gland (cable range 14-18 mm)		<b>CMD-3YV7V3R3</b>