

# 22.5 mm Pushbuttons M22 series

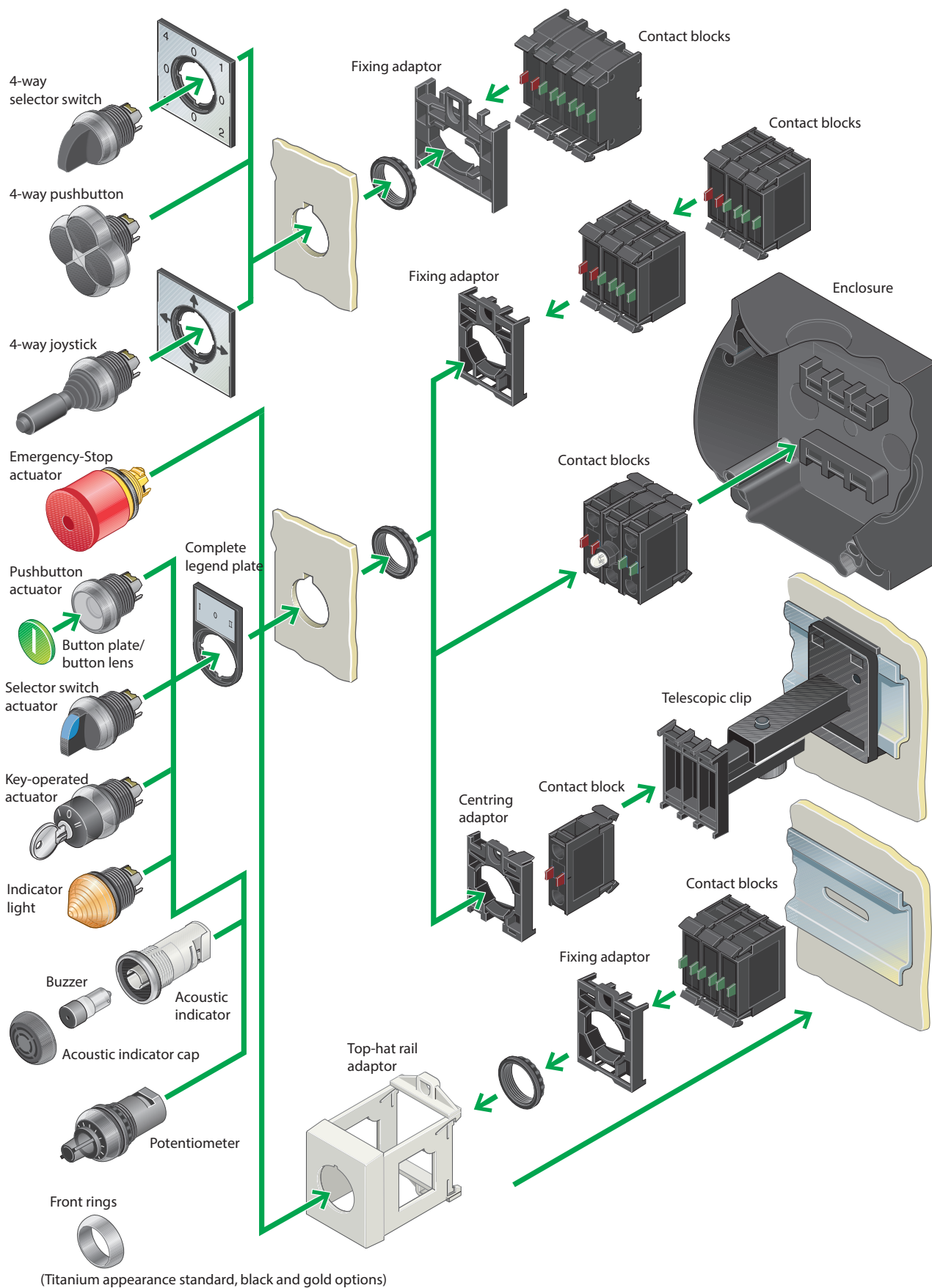


*Powering Business Worldwide*

# Control and indication

## Eaton 22.5 mm pushbuttons

### RMQ - Titan, system overview



### RMQ - Titan

Competitively priced, Eaton's RMQ-Titan range comprises pushbuttons, selector switches, joysticks, Emergency-Stop & key-operated actuators. The system includes a variety of indicator lights & illuminated pushbuttons in white, red, yellow, blue & green. They are available in two voltage ranges 12 – 30 V AC/DC & 85 – 264 V AC covering all standard applications.

Meeting all relevant international standards, this attractive, co-ordinated product range will add significant value to any machine or system.



### Features & benefits:

- Ergonomic design ensuring ease of operation & bright illumination
- IP66 degree of protection as standard (many devices IP67, IP69K) for use in the harshest of industrial environments
- Vibration resistant LEDs giving a minimum life of 100,000 hours for improved reliability & high integrity
- Fitting in the standard 22.5 mm hole, the snap fitting modular system saves both assembly & fitting time

Colour	Description	Contact blocks	LED light unit	Legend plate(s)	Item no.
Pushbutton					
●	Flush	1NO/1NC	-	Run, 1	<b>M22-D-S-K11-P</b>
●	Extended	1NO/1NC	-	Stop, off	<b>M22-DH-R-K11-P</b>
●	Flush	1NO/1NC	-	Start, on	<b>M22-D-G-K11-P</b>
Illuminated pushbutton					
●	Extended	1NO/1NC	12-30V AC/DC	Stop, off	<b>M22-DLH-R-K11-R-P</b>
●	Extended	1NO/1NC	85-264VAC	Stop, off	<b>M22-DLH-R-K11-230R-P</b>
○	Flush	1NO/1NC	12-30V AC/DC	Run, 1	<b>M22-DRL-W-K11-W-P</b>
○	Flush	1NO/1NC	85-264VAC	Run, 1	<b>M22-DRL-W-K11-230W-P</b>
Indicating light					
●	-	-	12-30V AC/DC	Stop, off, fault	<b>M22-L-R-R-P</b>
●	-	-	12-30V AC/DC	Start, on, run	<b>M22-L-G-G-P</b>
●	-	-	85-264VAC	Stop, off, fault	<b>M22-L-R-230R-P</b>
●	-	-	85-264VAC	Start, on, run	<b>M22-L-G-230G-P</b>
Emergency stop					
●	Non-illuminated twist-to-release	1NO/2NC	-	Emergency stop	<b>M22-PVT-K12-P</b>
●	Illuminated push-pull	1NO/2NC	12-30V AC/DC	Emergency stop	<b>M22-PVL-K12-R-P</b>
●	Illuminated push-pull	1NO/2NC	85-264VAC	Emergency stop	<b>M22-PVL-K12-230R-P</b>
Selector switch					
●	2 Position momentary	1NO/1NC	-	0 I, man auto	<b>M22-WKV-K11-P</b>
●	3 Position momentary	1NO/1NC	-	I 0 II, hand 0 auto	<b>M22-WK3-K22-P</b>



M22-DLH-R-K11-R-P



M22-L-G-G-P



M22-PVL-K12-R-P

# Control and indication

## Eaton 22.5 mm pushbuttons



M22-D-G-X1/K10



M22-DDL-GR-X1/  
X0/K11/230-W



M22-PV/K01



M22-WRK/K10



M22-WRS/K11



M22-D-G-X1/KC11/I



M22-PV/KC11/IY



M22-WRS/KC11/I



M22-I2-M1



M22-I3-M1

### RMQ - Titan

Complete units

Description	Button plate	Contacts	Item no.
Complete units for front mounting			
Pushbutton actuators	Start	1 NO	M22-D-G-X1/K10
	Stop	1 NC	M22-D-R-X0/K01
Double actuators	With white LED element lens, 85 – 264 V AC	1 NO/1 NC	M22-DDL-GR-X1/X0/K11/230-W
	Key-release mushroom button with 1 key, MS1 individual lock mechanism	1 NC	M22-PVS/K01
Emergency-stop actuators	Pull to release	1 NC	M22-PV/K01
	Pull to release	1 NO/1 NC	M22-PV/K11
Selector switch actuators	Two positions, stay-put	1 NO	M22-WRK/K10
	Three positions, stay-put	2 NO	M22-WRK3/K20
Key-operated actuators	Two positions, stay-put, with 1 key	1 NO/1 NC	

Enclosed units















Description	Button plate	Contacts	Item no.
Enclosed units for surface mounting			
Pushbutton actuators	Start	1 NO/1 NC	M22-D-G-X1/KC11/I
	Stop	1 NO/1 NC	M22-D-R-X0/KC11/I
Emergency-stop actuator	Pull to release, yellow enclosure	1 NO/1 NC	M22-PV/KC11/IY
Emergency-stop key-release mushroom button	Red actuator with 1 key	1 NO/1 NC	M22-PVS/KC11/IY
Key-operated selector switch	2 positions, stay-put, with 1 key	1 NO/1 NC	M22-WRS/KC11/I
Two-way pushbutton stations	Without indicator light	-	M22-I2-M1
	With indicator light, white LED element, 85 – 264 V AC	-	M22-I3-M2
Three-way pushbutton station	Without indicator light	-	M22-I3-M1
Four-way pushbutton station	Without indicator light	-	M22-I4-M1

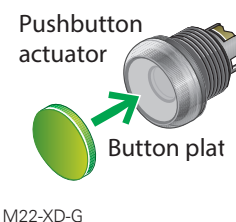
### RMQ - Titan Pushbutton actuators, IP67

- Front ring titanium, also available in black
- Snap-fitting modular system
- Mounting diameter 22.3 mm
- Minimum grid dimensions 30 x 40 mm
- Up to six contacts per location
- Switching of different potentials
- Worldwide approval



#### Actuators

Description		Colour of button plate/mushroom head	Item no.
Flush design			
Flush actuator	Spring-return		M22-D-G
			M22-D-R
			M22-D-G-X1
			M22-D-R-X0
			M22-D-S
			M22-D-Y
			M22-D-W
			M22-D-B
Flush actuator	Spring-return	Without button plate	M22-D-X
button plate	for use with M22-D-X		M22-XD-S
			M22-XD-W
			M22-XD-R
			M22-XD-G
			M22-XD-Y
			M22-XD-B
Extended Design			
Extended actuator	Spring-return		M22-DH-S
			M22-DH-R
		M22-DH-G	
	Spring-return, with guard ring	Without	M22-DG-X
Mushroom actuators, IP67			
	Spring-return		M22-DP-G
			M22-DP-R
			M22-DP-S
			M22-DP-Y
	Stay-put		M22-DRP-S
			M22-DRP-R
			M22-DRP-G
Double actuator, IP66			
Stop-start button plate. Optional indicator light M22-LED230-W		  	M22-DDL-GR-X1/X0



## Control and indication

### Eaton 22.5 mm pushbuttons



M22-PV



M22-PVL



M22-PVS



M22-PL-PV



FAK-RV/KC01/IY



FAK-RV/KC11/IY



M22-A



M22K10



M22-AK11

#### RMQ - Titan

##### Actuators

















Description	Colour of mushroom head	Item no.
Emergency-stop actuators, IP66. Snap-action & positive non-tease action, yellow base		
Pull to release. After actuation, plunger remains in the actuated position.	●	<b>M22-PV</b>
Twist to release. One or two contact blocks can be fitted.	●	<b>M22-PVT</b>
Illuminated. Pull to release. After actuation, plunger remains in the actuated position. One or two contact blocks can be fitted.	●	<b>M22-PVL</b>
Key-operated, with 1 key	●	<b>M22-PVS</b>
Sealable shroud. Transparent with collapse point, reusable after Emergency-stop operation. Suitable for M22-PV & M22-PVL Emergency-stop actuators & M22-PVS key-release mushroom actuator.	—	<b>M22-PL-PV</b>
Foot & palm switches, IP67		
Spring-return mushroom head	●	<b>FAK-R/KC11/I</b>
	●	<b>FAK-S/KC11/I</b>
Emergency-stop actuators, IP67		
Stay-put, pull to release	●	<b>FAK-R/V/KC01/IY</b>
Stay-put, pull to release	●	<b>FAK-R/V/KC11/IY</b>

##### Fixing adapters, contact blocks


























Description	Contacts	Item no.
Fixing adapters		
Front fixing, for 3 M22-K... contact elements & M22-LED... LED elements.	—	<b>M22-A</b>
For 4 contact blocks	—	<b>M22-A4</b>
Contact blocks with screw terminals		
Front fixing	1 NO	<b>M22-K10</b>
	1 NC	<b>M22-K01</b>
Base fixing	1 NO	<b>M22-KC10</b>
	1 NC	<b>M22-KC01</b>
Complete modules. Combination of contact elements with screw terminals & fixing adapter		
Front fixing	1 NO, 1 NC	<b>M22-AK11</b>
	1 NO	<b>M22-AK10</b>
	1 NC	<b>M22-AK01</b>

## RMQ - Titan

## LED elements

Description	Rated operational voltage, U <sub>e</sub> , V	Colour	Item no.	
LED elements with screw terminals				
Front fixing	12 – 30 V AC/DC		M22-LED-W	
			M22-LED-R	
			M22-LED-G	
			M22-LED-B	
	85 – 264 V AC, 50/60 Hz		M22-LED230-W	
			M22-LED230-R	
			M22-LED230-G	
			M22-LED230-B	
	Base fixing	12 – 30 V AC/DC		M22-LEDC-W
				M22-LEDC-R
			M22-LEDC-G	
			M22-LEDC-B	
85 – 264 V AC, 50/60 Hz			M22-LEDC230-W	
			M22-LEDC230-R	
		M22-LEDC230-G		
		M22-LEDC230-B		
LED test elements				
For non-interacting function test (lamp test) for connection to:	12 – 240 V AC/DC	–	M22-XLED-T	
	85 – 264 V AC	–	M22-XLED230-T	

## Illuminated pushbutton actuators, indicator lights

Description		Colour	Item No.
Illuminated pushbutton actuators, IP67			
Flush design	Spring-return		M22-DL-W
			M22-DL-G
			M22-DL-R
			M22-DL-Y
			M22-DL-B
	Stay-put, press again to release.		M22-DRL-W
			M22-DRL-G
			M22-DRL-R
			M22-DRL-Y
			M22-DRL-B
Extended design	Spring-return		M22-DLH-W
			M22-DLH-G
			M22-DLH-R
			M22-DLH-Y
			M22-DLH-B
Indicator lights, IP67			
Flush	-		M22-L-W
			M22-L-G
			M22-L-R
			M22-L-Y
			M22-L-B
Extended, conical	-		M22-LH-W
			M22-LH-G
			M22-LH-R
			M22-LH-Y
			M22-LH-B



M22-A



M22-A



M22-DL-R



M22-DRL-G



M22-DLH-W



M22-L-R



M22-LH-B

# Control and indication

## Eaton 22.5 mm pushbuttons

M22-XC-R

Insert for no key withdraw  
Remove for ey withdraw

M22-XC-Y

Insert for Momentary  
Remove for Maintained

### RMQ - Titan

#### Set of coding adapters for selector switches

Description	For use with	Colour	Item no.
Used to convert key withdraw position to non-key withdrawn position	M22(S)-WRS(3)	-	<b>M22-XC-R</b>
Supplied with standard switches	M22(S)-WR(L)(K)(3)	-	<b>M22-XC-Y</b>
Used to convert maintained operation to momentary operation	M22(S)-WRS(3)	-	

The same slots on keyed sector switches are shared between these two difference sets of coding adapters.

All possible combinations and their effects are detailed in the tables below.

#### Two position adapter configurations

Two position adapter configurations	Switching positions		
	maintained	maintained	momentary
Key withdraw positions			
	O I	O I	O I
Two slot affects right position	-		

Bottom slot not implemented with two position switches

Shading indicates standard switch configuration

#### Three position adapter configurations

Three position adapter configurations	Switching positions								
	maintained	maintained	maintained	maintained	momentary	maintained	maintained	maintained	maintained
Key withdraw positions									
	I O II	I O II	I O II	I O II	I O II	I O II	I O II	I O II	I O II
Two slot affects right position	-			-				-	
Bottom slot affects left position	-		-			-			

Shading indicates standard switch configuration

## RMQ - Titan

## Selector switch actuators

Description	Function:		Button plate	Front ring: titanium Item no.
	└ = Stay-put ✓ = V position	↳ = Spring-return		
Selector switch actuators, 2 positions, IP66				
Rotary button	–	↳	40°	● M22-W
	–	└	60°	● M22-WR
Thumb-grip	–	↳	40°	– M22-WK
	–	└	60°	– M22-WRK
Thumb-grip, V position	–	✓	60°	– M22-WKV
Selector switch actuators, 3 positions, IP66				
Rotary button	40°	↕↕	40°	● M22-W3
	60°	↕↕	60°	● M22-WR3
Thumb-grip	40°	↕↕	40°	– M22-WK3
	60°	↕↕	60°	– M22-WRK3
Selector switch actuators, 4 positions, IP66.				
Rotary button	45°	⌘	–	● M22-WR4
Thumb-grip	45°	⌘	–	● M22-WRK4
Key-operated actuators, IP66, with 1 key				
2 positions, 60° turn, stay-put	–	└	60°	– M22-WRS
3 positions, 60° turn, stay-put	60°	↕	60°	– M22-WRS3
Key for MS1 individual lock mechanism	–	–	–	– M22-ES-MS1

## Illuminated selector switch actuators, key-operated actuators

Description	Function:			Colour of thumb-grip	Item No.	
	└ = Stay-put	└ = Spring-return				
Illuminated selector switch actuators, IP66. Thumb grip handle						
2 positions						
–	Spring-return	–	└	40°	○	M22-WLK-W
		–	└	40°	●	M22-WLK-G
		–	└	40°	●	M22-WLK-R
		–	└	40°	●	M22-WLK-Y
		–	└	40°	●	M22-WLK-B
	Stay-put	–	└	60°	○	M22-WRLK-W
		–	└	60°	●	M22-WRLK-G
		–	└	60°	●	M22-WRLK-R
		–	└	60°	●	M22-WRLK-Y
		–	└	60°	●	M22-WRLK-B
3 positions						
–	Spring-return	40°	└└	40°	○	M22-WLK3-W
		40°	└└	40°	●	M22-WLK3-G
		40°	└└	40°	●	M22-WLK3-R
		40°	└└	40°	●	M22-WLK3-Y
		40°	└└	40°	●	M22-WLK3-B
	Stay-put	60°	└└	60°	○	M22-WRLK3-W
		60°	└└	60°	●	M22-WRLK3-G
		60°	└└	60°	●	M22-WRLK3-R
		60°	└└	60°	●	M22-WRLK3-Y
		60°	└└	60°	●	M22-WRLK3-B



M22-W



M22-WK



M22-WKV



M22-W3



M22-WR3



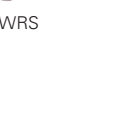
M22-WR4



M22-WRK4



M22-WRS



M22-WRS3



M22-WRLK-R

## Control and indication




### Eaton 22.5 mm pushbuttons

#### RMQ - Titan

##### Four-way operators

Description	Inscription	Function:	For use with	Front ring: titanium Item no.
		↵ = Stay-put ↶ = Spring-return		
Joysticks, IP66				
2 positions	–	↵	–	M22-WJ2H
	–	↶	–	M22-WJ2V
4 positions	–	+	–	M22-WRJ4
	–	↵↶	–	M22-WJ4
Pushbuttons, 4-way, IP66				
No inscription, actuator colour black		↵↶	–	M22-D4-S
Inscription with direction arrows, actuator colour: black		↵↶	–	M22-D4-S-X7
Inscription with direction arrows, actuator colour: black, opposing buttons mechanically interlocked		↵↶	–	M22-DI4-S-X7
Labels				
–	Blank	–	Joystick 4-way selector switch actuators	M22-XCK
	Direction arrows	–	Joystick 4 positions	M22-XCK1
			Joystick 2 positions	M22-XCK3
	0-1-0-2-0-3-0-4	–	4-way selector switch actuators	M22-XCK2

##### Surface mounting enclosures, flush mounting plates

Number of ways Qty.	Colour	Item no.	
Surface mounting enclosures			
1		M22-I1	
2		M22-I2	
3		M22-I3	
4		M22-I4	
6		M22-I6	
Description	Number of ways Qty.	Colour	Item no.
Flush mounting plates Legend plates cannot be used if pushbuttons are fitted in vertical column without apertures, if required.			
Aluminium with yellow paint finish for emergency-stop buttons	1		M22-EY1
Aluminium, light anodized	1		M22-E1
	2		M22-E2
	3		M22-E3
	4		M22-E4
	5		M22-E5
	6		M22-E6



M22-WJ2H



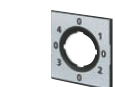
M22-WRJ4



M22-D4-S



M22-XCK



M22-XCK2



M22-I2



M22-I4



M22-EY1




M22-E6

## RMQ - Titan, Accessories

Description		Number of ways	Item no.
Shrouds, IP55	Plastic, light grey	1	<b>M22-H1</b>
	Plastic, light grey	2	<b>M22-H2</b>
Blanking plugs, IP66. Round style, for blanking off reserve locations	Grey	–	<b>M22-B</b>
	Black	–	<b>M22S-B</b>
Actuator diaphragms, IP67. Transparent diaphragms for severe environmental conditions & use in the food industry. Do not use with legend plates since degree of protection is not guaranteed			
For use with M22(S)-D(R)-... pushbutton actuators, M22(S)-DL-..., M22(S)-DRL-..., illuminated pushbutton actuators, M22-D(C)-... flush indicator lights		–	<b>M22-T-D</b>
For use with M22(S)-DD(L)-... double actuators		–	<b>M22-T-DD</b>
Telescopic clips. For adjusting depth of rear mounting devices in CI enclosures & panels with a mounting depth of 115 – 155 mm. Stepless adjustment, screw fixing & snap fitting (top hat rails to IEC/EN 60715). Maximum of 10 x M22-TC per enclosure, 5 of which can hold stay-put actuators. Do not use with Emergency-Stop actuators			
For 3 contacts/LED elements, base fixing, with centering adapter		–	<b>M22-TC</b>
Extension for telescopic clip; for mounting depths up to 205 mm		–	<b>M22-TCV</b>
Adapter rings. Set of adapter rings 30/22.3 mm, black, consists of adapter ring & lock nut			
For fitting 22.3 mm diameter buttons into 30.5 mm diameter holes		–	<b>M22S-R30</b>
Threaded ring	M22 x 1.5 mm	–	<b>M22-GR</b>
Acoustic indicator housing IP40 ① Black front, without buzzer		–	<b>M22-AMC</b>
Buzzer - for use with M22-AMC 18 - 30 V AC/DC, 83 dB / 10 cm, 100 % DF, Positive pole connected to X1	Continuous tone	–	<b>M22-XAM</b>
	Pulsed tone	–	<b>M22-XAMP</b>

① NEMA/UL Type 1.

Description		Item no.
Combination box spanner	For threaded ring	<b>M22-MS</b>
Top-hat rail adapter	IEC/EN 60715 top-hat rail, for front fixing	<b>M22-IVS</b>
Plunger bridge. For actuating the middle contact element of the M22-W...3 non-illuminated 3-position selector switch actuator	Middle contact of 3-position selector switch, non-illuminated, (1 off) black	<b>M22-XW</b>
Guard ring, IP66. To protect against accidental operation	For pushbutton & selector switch actuators	<b>M22-XGWK</b>
Front ring: gold (24 carat). Front ring not supplied individually:		<b>M22-FR-AU</b>
IP65 external reset button		<b>M22-DZ-B-GB14</b>

Description		Circuit symbol	Resistance, R, kW	Item no.
Potentiometers, IP66	3 individual screw terminals, Pmax = 0.5 W Accuracy of resistance value: ±10% (linear)		1	<b>M22-R1K</b>
			4.7	<b>M22-R4K7</b>
			10	<b>M22-R10K</b>
			47	<b>M22-R47K</b>
			100	<b>M22-R100K</b>
			470	<b>M22-R470K</b>

Description	Inscription	Colour	Item no.
Emergency-stop labels, IP66	Lettering black, 30 X 50 mm	Emergency-stop	<b>M22-XZK-GB99</b>
		Blank	<b>M22-XZK</b>
	Diameter = 90 mm	Emergency-stop in 4 languages	<b>M22-XAK1</b>
Legend holders without label, IP66. Round, black	For actuators, 30 x 50 mm	–	<b>M22S-ST-X</b>
	For double actuators, 30 x 75 mm	–	<b>M22S-STDD-X</b>
	Insert plate for legend holder	Blank	Aluminium <b>M22-XST</b>



M22-H1



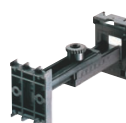
M22-B



M22-T-D



M22-T-DD



M22-TC



M22-R30



M22-GR



M22-AMC



M22-MS



M22-IVS



M22-XW



M22-XGWK



M22-DZ-B-GB14



M22-R10K



M22-XAK1

Eaton's electrical business is a global leader with expertise in power distribution and circuit protection; backup power protection; control and automation; lighting and security; structural solutions and wiring devices; solutions for harsh and hazardous environments; and engineering services. Eaton is positioned through its global solutions to answer today's most critical electrical power management challenges.

Eaton is a power management company with 2016 sales of \$19.7 billion. Eaton provides energy efficient solutions that help our customers effectively manage electrical, hydraulic and mechanical power more efficiently, safely and sustainably. Eaton has approximately 95,000 employees and sells products to customers in more than 175 countries.

For more information, visit [www.eaton.com](http://www.eaton.com).

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