

Potentiometers

Product Description

Eaton's M22 potentiometers allow for a ready to use operator in a conveniently sized package. M22 potentiometers include the resistive element, instead of just a knob, and a built in legend surrounding the knob. The slim design, with integrated contacts and the range of resistances available, allows for a quick install.

Features

- Scale markings on the knob allows the operator to be used without an additional legend plate
- Oversized knob option available
- Slim design allows for space saving and simple wiring and installation

Protection Type

- IP66
- NEMA 4X, 13

Product Selection

Potentiometers

M22-R10K



M22M-R10K



Complete Devices

Bezel	Resistance Rk	Catalog Number
Silver	1	M22-R1K
	4.7	M22-R4K7
	10	M22-R10K
	47	M22-R47K
	100	M22-R100K
Black	470	M22-R470K
	1	M22S-R1K
	4.7	M22S-R4K7
	10	M22S-R10K
	47	M22S-R47K
Metal	100	M22S-R100K
	470	M22S-R470K
	1	M22M-R1K
	4.7	M22M-R4K7
	10	M22M-R10K
Oversized Knob	47	M22M-R47K
	100	M22M-R100K
	470	M22M-R470K
	1	M22-R1K-RH
	4.7	M22-R4K7-RH
Black	10	M22-R10K-RH
	47	M22-R47K-RH
	100	M22-R100K-RH
	470	M22-R470K-RH
	1	M22S-R1K-RH
Metal	4.7	M22S-R4K7-RH
	10	M22S-R10K-RH
	47	M22S-R47K-RH
	100	M22S-R100K-RH
	470	M22S-R470K-RH
Metal	1	M22M-R1K-RH
	4.7	M22M-R4K7-RH
	10	M22M-R10K-RH
	47	M22M-R47K-RH
	100	M22M-R100K-RH
470	M22M-R470K-RH	

Acoustic Devices

Product Description

Eaton's M22 acoustic devices are a simple and aesthetic way to add a buzzer or indicator to any application. Fitting in the same 22 mm hole, these devices can be ordered in continuous or pulsed tone and with or without the IP40 enclosure.

Features

- Continuous or pulsed tone available
- 83 dB / 10 cm decibel rating
- Slim design allows for space saving and simple wiring and installation

Protection Type

- IP40
- NEMA 12

Product Selection

Acoustic Devices

M22-AMC-XAM



Complete Devices

Description	Decibel Rating	Catalog Number
Indicator with buzzer, black continuous tone, 18–30 Vac/Vdc	83 dB/10 cm	M22-AMC-XAM
Indicator with buzzer, black pulsed tone, 18–30 Vac/Vdc	83 dB/10 cm	M22-AMC-XAMP

M22-XAM



Buzzers

Description	Decibel Rating	Catalog Number
Indicator without buzzer, black	83 dB/10 cm	M22-AMC
Buzzer only, continuous tone, 18–30 Vac/Vdc	83 dB/10 cm	M22-XAM
Buzzer only, pulsed tone, 18–30 Vac/Vdc	83 dB/10 cm	M22-XAMP

Through-the-Door Operators

Product Description

Eaton’s M22 through-the-door operators use the same familiar flush pushbutton look with the addition of a cut-to-length rod that allows for a simple reset operator.

Features

- Customizable laser engraving on all buttons
- More than five million mechanical operations
- Pushrod can be cut to length

Protection Type

- IP67, IP69K
- NEMA 4X, 13

Product Selection

Through-the-Door Operators ①

M22-DZ-B-X6



Complete Devices

Color	Inscription	Catalog Number
Blue	—	M22-DZ-B
	RESET	M22-DZ-B-GB14
	Ⓡ	M22-DZ-B-X6
Red	—	M22-DZ-R
	Ⓢ	M22-DZ-R-X0
	STOP	M22-DZ-R-GB0

M22-DZ-X



Buttonless Operator

Bezel	Catalog Number
Silver	M22-DZ-X
Metal	M22M-DZ-X

M22-XD-B



Button Plates ②

Color	Inscription	Catalog Number
Blue	—	M22-XD-B ③
	RESET	M22-XD-B-GB14
	Ⓡ	M22-XD-B-X6
Red	—	M22-XD-R ③
	Ⓢ	M22-XD-R-X0
	STOP	M22-XD-R-GB0

Bulkhead Interfaces

Product Description

Eaton’s M22 bulkhead interfaces are another unique offering in the M22 line. This device allows for a secure connection to any USB or RJ45 connected device within an enclosure or panel. With an IP65 rating when closed, these devices are not only convenient, but robust and reliable.

Features

- Convenient and safe way to make a data connection to inside of the panel without opening the panel door

Protection Type

- IP65 when closed, IP20 when connected

Product Selection

Bulkhead Interfaces

M22-USB-SA



USB Socket ④⑤

Used for USB connection plug IP65 when closed, IP20 when connected.

Bezel	Catalog Number
Silver	M22-USB-SA

M22-RJ45-SA



RJ45 Socket ⑥

Used for RJ45 Ethernet connection IP65 when closed, IP20 when connected.

Bezel	Catalog Number
Silver	M22-RJ45-SA

Notes

- ① The pushrod is 3.24 in long and can be cut to length.
- ② Any combination of plate color and inscription is available.
- ③ Minimum order quantity of (10).
- ④ USB interface is complete with 2-ft-long USB cable.
- ⑤ USB interface is UL Listed, CSA approved and USB 3.0.
- ⑥ RJ45 interface is an eight-wire connector.

ASi Adapter Modules

Product Description

Eaton's M22 ASi adapter modules add functionality to every operator in the M22 line. These devices can be connected to any operator that uses contact blocks or LED units. The simple snap-on design allows for a quick integration of an entire application of operators to a communicating network.

Features

- Allows compatible operators to communicate on an ASi network
- Not only can the status of a contact block be read, but LEDs can be illuminated by an ASi adapter
- ASi adapters simply clip on to the back of the contact blocks and LEDs
- Insulation displacement connectors allow for installation of adapters without any tools
- Two integrated LEDs indicate status of communications

Protection Type

- IP20

Product Selection

ASi Adapter Modules

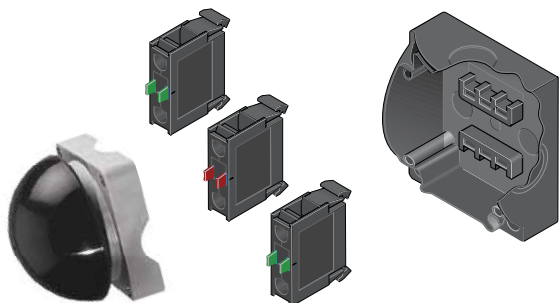
M22-ASi



Complete Devices

Description	Catalog Number
ASi adapter module	M22-ASi
ASi adapter module for base mounting	M22-ASi-C
ASi adapter module for E-stop	M22-ASi-S
ASi adapter module for E-stop base mounting	M22-ASi-CS

Palm Switches



Product Description

Eaton’s M22 palm switches are an oversized button that mount directly to an enclosure base. This allows for a standalone button that can be mounted anywhere. The enclosure uses base-mounted contact blocks, which allows for quick wiring and mounting. The palm switches come in momentary or maintained versions. As with other M22 operators, the palm switches are available as complete devices, including the enclosure and contact blocks or as modular components.

Features

- Oversized operator in black, red and yellow color options
- Button integrated directly into an enclosure
- Base mounting contact blocks allow for simple wiring and installation
- More than one million mechanical operations on momentary and 100,000 on maintained operators

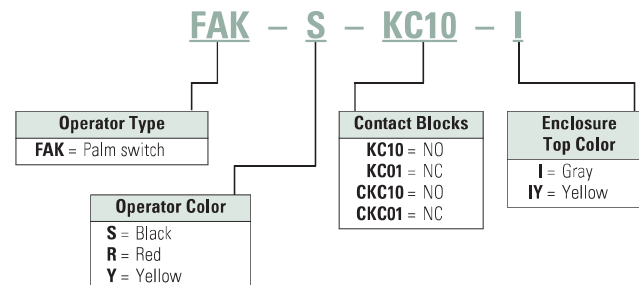
Protection Type

- IP67, IP69K
- NEMA 4X, 13

Catalog Number Selection

Catalog Number Selection is for illustrative purposes only and not to be used to create new catalog numbers.

Palm Switches, Type 4X/13 Enclosure



Product Selection

Complete Devices

Operator, Base and Contact Blocks ①

Button Color	Contact Block Configuration ②	Catalog Number
FAK-S-KC11-I		
Momentary		
Black	1NO-1NC	FAK-S-KC11-I
Red	1NO-1NC	FAK-R-KC11-I
Yellow	1NO-1NC	FAK-Y-KC11-I
FAK-R-V-KC01-IY		
Maintained		
Red	NC	FAK-R-V-KC01-IY
	2NC	FAK-R-V-KC02-IY
	1NO-2NC	FAK-R-V-KC12-IY
	1NO-1NC	FAK-R-V-KC11-IY

Notes

① For complete listing of available contact blocks, see Accessories, Pages V7-T1-111 to V7-T1-116.

② All NC contact blocks are positively driven contact. ⊖

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Components

FAK-S



Operators Only

Type	Button Color	Catalog Number
Momentary	Black	FAK-S
	Red	FAK-R
	Yellow	FAK-Y
Maintained	Red	FAK-R-V-Y

FAK-IU



Palm Switch Enclosure Base

Catalog Number

FAK-IU

M22-K10



Contact Blocks ^①

Terminal Type	Contact Configuration ^②	Catalog Number
Screw	NO	M22-KC10
	NC	M22-KC01
Spring-cage	NO	M22-CKC10
	NC	M22-CKC01
	NC	M22-FK01 ^③
	NO	M22-FK10 ^③

M22-FK01



Notes

^① For complete listing of available contact blocks, see Accessories, **Pages V7-T1-111 to V7-T1-116.**

^② All NC contact blocks are positively driven contact. 

^③ Additional contacts may not be stacked behind M22-F type contact blocks. M22-F can be stacked behind standard M22 contacts only.

Accessories

M22-XD-S



M22-XDH-R



M22-XDP-G



Button Plates

Color	Inscription	Catalog Number Flush Pushbutton	Catalog Number Extended Pushbutton	Catalog Number Mushroom Head Button
Black	—	M22-XD-S	M22-XDH-S	M22-XDP-S
White	—	M22-XD-W	M22-XDH-W	M22-XDP-W
Red	—	M22-XD-R	M22-XDH-R	M22-XDP-R
Green	—	M22-XD-G	M22-XDH-G	M22-XDP-G
Yellow	—	M22-XD-Y	M22-XDH-Y	M22-XDP-Y
Blue	—	M22-XD-B	M22-XDH-B	—
Black, white, red, green, yellow, blue	—	M22-XD-SWRGYB	M22-XDH-SWRGYB	—
Black, red, green	—	M22-XD-SRG	M22-XDH-SRG	—
Black	Custom	M22-XD-S-ETCH	M22-XDH-S-ETCH	M22-XDP-S-ETCH
White	Custom	M22-XD-W-ETCH	M22-XDH-W-ETCH	M22-XDP-W-ETCH
Red	Custom	M22-XD-R-ETCH	M22-XDH-R-ETCH	M22-XDP-R-ETCH
Green	Custom	M22-XD-G-ETCH	M22-XDH-G-ETCH	M22-XDP-G-ETCH
Yellow	Custom	M22-XD-Y-ETCH	M22-XDH-Y-ETCH	M22-XDP-Y-ETCH
Blue	Custom	M22-XD-B-ETCH	M22-XDH-B-ETCH	—
Black	STOP	M22-XD-S-GB0	M22-XDH-S-GB0	M22-XDP-S-GB0
Red	STOP	M22-XD-R-GB0	M22-XDH-R-GB0	M22-XDP-R-GB0
Black	START	M22-XD-S-GB1	M22-XDH-S-GB1	M22-XDP-S-GB1
White	START	M22-XD-W-GB1	M22-XDH-W-GB1	—
Green	START	M22-XD-G-GB1	M22-XDH-G-GB1	M22-XDP-G-GB1
Black	CLOSE	M22-XD-S-GB2	M22-XDH-S-GB2	—
Black	UP	M22-XD-S-GB3	M22-XDH-S-GB3	M22-XDP-S-GB3
Black	DOWN	M22-XD-S-GB4	M22-XDH-S-GB4	M22-XDP-S-GB4
Black	OFF	M22-XD-S-GB5	M22-XDH-S-GB5	M22-XDP-S-GB5
Red	OFF	M22-XD-R-GB5	M22-XDH-R-GB5	M22-XDP-R-GB5
Black	ON	M22-XD-S-GB6	M22-XDH-S-GB6	M22-XDP-S-GB6
Green	ON	M22-XD-G-GB6	M22-XDH-G-GB6	M22-XDP-G-GB6
Black	TEST	M22-XD-S-GB9	M22-XDH-S-GB9	—
Blue	RESET	M22-XD-B-GB14	M22-XDH-B-GB14	—
Black	FORWARD	M22-XD-S-GB15	M22-XDH-S-GB15	M22-XDP-S-GB15
Black	REVERSE	M22-XD-S-GB16	M22-XDH-S-GB16	M22-XDP-S-GB16
Black	RAISE	M22-XD-S-GB17	M22-XDH-S-GB17	—
Black	LOWER	M22-XD-S-GB18	M22-XDH-S-GB18	—
Black	⊙	M22-XD-S-X0	M22-XDH-S-X0	M22-XDP-S-X0
Red	⊙	M22-XD-R-X0	M22-XDH-R-X0	M22-XDP-R-X0
Green	⊙	—	—	M22-XDP-G-X0
Black	⓪	M22-XD-S-X1	M22-XDH-S-X1	M22-XDP-S-X1
White	⓪	M22-XD-W-X1	M22-XDH-W-X1	—
Green	⓪	M22-XD-G-X1	M22-XDH-G-X1	M22-XDP-G-X1
Black	Ⓛ	M22-XD-S-X2	M22-XDH-S-X2	—
Green	Ⓛ	M22-XD-G-X2	M22-XDH-G-X2	—
Black	⊕	M22-XD-S-X4	M22-XDH-S-X4	M22-XDP-S-X4
Black	⊖	M22-XD-S-X5	M22-XDH-S-X5	M22-XDP-S-X5
Blue	Ⓡ	M22-XD-B-X6	M22-XDH-B-X6	—
Black	Ⓛ	M22-XD-S-X7	M22-XDH-S-X7	M22-XDP-S-X7
Black	Ⓛ	M22-XD-S-X8	M22-XDH-S-X8	—
Black	See ① below	M22-XD-S-X9	M22-XDH-S-X9	—
Black	See ① below	M22-XD-S-X10	M22-XDH-S-X10	—
Black	See ① below	M22-XD-S-X11	M22-XDH-S-X11	—
Black	See ① below	M22-XD-S-X12	M22-XDH-S-X12	—
Black	See ① below	M22-XD-S-X13	M22-XDH-S-X13	—
Black	See ① below	M22-XD-S-X14	M22-XDH-S-X14	—
Black	See ① below	M22-XD-S-X15	M22-XDH-S-X15	—
Black	See ① below	M22-XD-S-X16	M22-XDH-S-X16	—
Black	See ① below	M22-XD-S-X17	M22-XDH-S-X17	—

Note

① Refer to the Symbols Library, (see Pages V7-T1-129 to V7-T1-136), for symbol image.

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M22-XDLH-W



M22-XDL-G



Button Lenses

Color	Inscription	Catalog Number Flush	Catalog Number Extended	Color	Inscription	Catalog Number Flush	Catalog Number Extended
White	—	M22-XDL-W	M22-XDLH-W	Blue	Custom	M22-XDL-B-ETCH	M22-XDLH-B-ETCH
Red	—	M22-XDL-R	M22-XDLH-R	Red	STOP	M22-XDL-R-GB0	M22-XDLH-R-GB0
Green	—	M22-XDL-G	M22-XDLH-G	Green	START	M22-XDL-G-GB1	M22-XDLH-G-GB1
Yellow	—	M22-XDL-Y	M22-XDLH-Y	Red	OFF	M22-XDL-R-GB5	M22-XDLH-R-GB5
Blue	—	M22-XDL-B	M22-XDLH-B	Green	ON	M22-XDL-G-GB6	M22-XDLH-G-GB6
White	Custom	M22-XDL-W-ETCH	M22-XDLH-W-ETCH	Blue	RESET	M22-XDL-B-GB14	M22-XDLH-B-GB14
Red	Custom	M22-XDL-R-ETCH	M22-XDLH-R-ETCH	Red	Ⓢ	M22-XDL-R-X0	M22-XDLH-R-X0
Green	Custom	M22-XDL-G-ETCH	M22-XDLH-G-ETCH	Green	Ⓛ	M22-XDL-G-X1	M22-XDLH-G-X1
Yellow	Custom	M22-XDL-Y-ETCH	M22-XDLH-Y-ETCH	Blue	Ⓡ	M22-XDL-B-X6	M22-XDLH-B-X6

Mounting Adapters

Description	Catalog Number
M22-A Contact block mounting adapter	M22-A
M22-A4 Contact block mounting adapter, four-position (for use with four-way pushbuttons, joysticks and four-position selector switches only).	M22-A4
M22-LS Allows mounting of M22 pushbuttons to LS-Titan limit switch bodies (for the full LS-Titan catalog section, see PG08301004E).	M22-LS

Contact Blocks

M22-K10



M22-FK01



Mounting Location	Terminal Type	Contact Configuration ①	Package Qty.	Catalog Number		
Front	Screw	NO	1	M22-K10		
		NO	25	M22-K10-B25		
		NO	100	M22-K10-B100		
		NO, early-make	1	M22-K10P		
		NC	1	M22-K01		
		NC	25	M22-K01-B25		
		NC	100	M22-K01-B100		
		NC, late-break	1	M22-K01D		
		SMCB, NC	1	M22-K01SMC10		
		SMCB, 2NC	1	M22-K02SMC10		
		Base		NO	1	M22-KC10
				NO	25	M22-KC10-B25
				NO	100	M22-KC10-B100
				NC	1	M22-KC01
NC	25			M22-KC01-B25		
NC	100			M22-KC01-B100		
SMCB, NC	1			M22-KC01SMC10		
SMCB, 2NC	1			M22-KC02SMC10		
Front	Spring-cage			NO	1	M22-CK10
				NC	1	M22-CK01
		NC, late-break	1	M22-CK01D		
		2NO ②	1	M22-CK20		
		2NC ②	1	M22-CK02		
		NC-NC ②	1	M22-CK11		
		NC	20	M22-FK01 ③		
		NO	20	M22-FK10 ③		
		Base		NO	1	M22-CKC10
				NC	1	M22-CKC01

Notes

① All NC contact blocks are positively driven contact. Ⓢ

② Not stackable.

③ Additional contacts may not be stacked behind M22-F type contact blocks, M22-F can be stacked behind standard M22 contacts only.

M22-LED-W



M22-FLED- _



Light Units

Terminal Type	Mounting Location	LED Color	Light Unit Voltage	Catalog Number			
Screw	Front	White	12–30 Vac/Vdc	M22-LED-W			
		Red		M22-LED-R			
		Green		M22-LED-G			
		Blue		M22-LED-B			
		White	85–264 Vac	M22-LED230-W			
		Red		M22-LED230-R			
		Green		M22-LED230-G			
		Blue		M22-LED230-B			
	Base	Front	White	207–264 Vac	M22-LED230H-W		
			Red		M22-LED230H-R		
			Green		M22-LED230H-G		
			Blue		M22-LED230H-B		
		Base	Front	White	12–30 Vac/Vdc	M22-LEDC-W	
				Red		M22-LEDC-R	
				Green		M22-LEDC-G	
				Blue		M22-LEDC-B	
			Base	Front	White	85–264 Vac	M22-LEDC230-W
					Red		M22-LEDC230-R
					Green		M22-LEDC230-G
					Blue		M22-LEDC230-B
Spring-cage	Front	White	12–30 Vac/Vdc	M22-CLED-W			
		Red		M22-CLED-R			
		Green		M22-CLED-G			
		Blue		M22-CLED-B			
	Base	Front	White	85–264 Vac	M22-CLED230-W		
			Red		M22-CLED230-R		
			Green		M22-CLED230-G		
			Blue		M22-CLED230-B		
		Base	Front	White	12–30 Vac/Vdc	M22-CLEDC-W	
				Red		M22-CLEDC-R	
				Green		M22-CLEDC-G	
				Blue		M22-CLEDC-B	
Front	Base	White	85–264 Vac	M22-CLEDC230-W			
		Red		M22-CLEDC230-R			
		Green		M22-CLEDC230-G			
		Blue		M22-CLEDC230-B			
	Front	Base	White	12–30 Vac/Vdc	M22-FLED-W		
			Red		M22-FLED-R		
			Green		M22-FLED-G		
			Blue		M22-FLED-B		
Front	Base	Red/Green/Yellow	24 Vdc	M22-FLED-RG ^①			
		Red, Green, Blue, Yellow, White, Violet, Turquoise		M22-FLED-RGB ^①			

M22-XLED60



LED Resistor and Test Elements

Terminal Type	Mounting Location	Element Type	Voltage	Catalog Number
Screw	Front	Resistor ^{②③}	42–60 Vac/Vdc	M22-XLED60
			220 Vdc	M22-XLED220
		Test	12–240 Vac/Vdc	M22-XLED-T
			85–264 Vac	M22-XLED230-T



Notes

- ① Please see color input key on [Page V7-T1-114](#).
- ② Resistor units to be used with 12–30V light units.
- ③ Refer to [IL04716002E](#) for use of resistor elements in series for higher DC voltage.

Multi-Color LED Input Guide

Catalog Number		Terminal Color			
		X1 +R	X2 +G	X3 +B	X4 GND
M22-FLED-RG	Red	■	—	—	■
	Green	—	■	—	■
	Yellow	■	■	—	■
M22-FLED-RGB	Red	■	—	—	■
	Green	—	■	—	■
	Yellow	■	■	—	■
	White	■	■	■	■
	Blue	—	—	■	■
	Violet	■	—	■	■
	Turquoise	—	■	■	■

Legend Plate Holders and Inserts, Pushbuttons and Double Pushbuttons ^①

	Description	Inscription	Catalog Number
 M22S-ST-X	Legend plate holder, without legend plate insert, for pushbuttons	—	M22S-ST-X
	Legend plate holder, without legend plate insert, for double pushbuttons	—	M22S-STDD-X
 M22-XST-GB0	Legend plate insert	—	M22-XST
		Custom	M22-XST-ETCH ^②
		STOP	M22-XST-GB0
		START	M22-XST-GB1
		OFF	M22-XST-GB5
		ON	M22-XST-GB6
		RUN	M22-XST-GB7
		FAULT	M22-XST-GB8
		OFF ON	M22-XST-GB10
		MAN. AUTO	M22-XST-GB11
		MAN. 0 AUTO	M22-XST-GB12
		HAND AUTO	M22-XST-D11
		HAND 0 AUTO	M22-XST-D12
		1	M22-XST-X52
	2	M22-XST-X53	
	0 I	M22-XST-X88	
	0 - I	M22-XST-X89	
	I 0 II	M22-XST-X93	

Notes

^① Legend plates are IP66 and NEMA 4X/13.

^② When ordering, specify inscription per catalog number suffix from the Symbols Library (see **Pages V7-T1-129 to V7-T1-136**) into the Order Notes.







For example, M22-XD-S-ETCH; Order Notes: Mark with symbol X91, Line item # __.

Example

To order a legend plate for a pushbutton with non-standard markings (FORWARD):

1. Select legend plate holder—M22S-ST-X.
2. Select legend plate insert—M22-XST-ETCH.
3. Select FORWARD from the Symbols Library, **Pages V7-T1-129 to V7-T1-136**, identified by GB15 suffix.
4. Indicate on the order form in the order notes—suffix GB15, line item # __.


Legend Plates, Complete ①

	Description	Inscription	Catalog Number		
M22S-ST-GB0 	For use with pushbuttons and indicating lights	Legend plate holder with insert	STOP M22S-ST-GB0		
			START M22S-ST-GB1		
			OFF M22S-ST-GB5		
			ON M22S-ST-GB6		
			RUN M22S-ST-GB7		
			FAULT M22S-ST-GB8		
			1 M22S-ST-X52		
			2 M22S-ST-X53		
		Selector switches	—	OFF ON M22S-ST-GB10	
				MAN. AUTO M22S-ST-GB11	
				MAN. 0 AUTO M22S-ST-GB12	
				HAND AUTO M22S-ST-D11	
				HAND 0 AUTO M22S-ST-D12	
				0 I M22S-ST-X88	
	0 - I M22S-ST-X89				
	I 0 II M22S-ST-X93				
M22-XZK 	Emergency-stop operators		Rectangular yellow legend plate	— M22-XZK	
				Custom M22-XZK-ETCH ②	
			EMERGENCY-STOP M22-XZK-GB99		
M22-XYK 	Square yellow legend plate	—	M22-XYK		
		—	M22-XYK-ETCH ②		
		EMERGENCY-STOP four-language	M22-XYK1		
		EMERGENCY-STOP (top and bottom)	M22-XYK5		
		M22-XAK 	Round yellow legend plate, 90 mm	—	M22-XAK
				Custom M22-XAK-ETCH ②	
EMERGENCY-STOP four-language M22-XAK1					
	EMERGENCY-STOP (top and bottom) M22-XAK5				
M22-XBK1 	Round yellow legend plate, 60 mm	—	M22-XBK		
		Custom M22-XBK-ETCH ②			
		EMERGENCY-STOP four-language M22-XBK1			
		EMERGENCY-STOP (top and bottom) M22-XBK5			
M22-XCK1 	Four-way pushbutton, joystick and four-position selector switches	Silver square legend plate	— M22-XCK		
			Custom M22-XCK-ETCH ②		
			Four directional arrows M22-XCK1		
			0-1-0-2-0-3-0-4 M22-XCK2		
			Two directional arrows M22-XCK3		


Notes

- ① Legend plates are IP66 and NEMA 4X/13.
- ② When ordering, specify inscription per catalog number suffix from the Symbols Library (see **Pages V7-T1-129 to V7-T1-136**) into the Order Notes. For example, M22-XD-S-ETCH; Order Notes: Mark with symbol X91, Line item #_.

Surface Mounting Enclosures ^①

Description	Catalog Number
M22-IY1-PG 	M22-IY1-PG
One-element enclosure	M22-I1-PG
Two-element enclosure	M22-I2-PG
Three-element enclosure	M22-I3-PG
Four-element enclosure	M22-I4-PG
Six-element enclosure	M22-I6-PG
M20 connecting screw	M22-XI
M20 cord grip	V-M20

Finish	Rating	Catalog Number
One Hole		
Yellow paint for emergency-stop operators	—	M22-EY1
Two Holes		
Gray anodized	IP65	M22-E1
Gray anodized	IP65	M22-E2
Three Holes		
Gray anodized	IP65	M22-E3
Four Holes		
Gray anodized	IP65	M22-E4
Five Holes		
Gray anodized	IP65	M22-E5
Six Holes		
Anodized	IP40	M22-E6

Description	Rating	Catalog Number
M22-H1 		
One-element	IP55	M22-H1
Two-element	IP55	M22-H2
Three-element	IP55	M22-H3
Four-element	IP40	M22-H4
Five-element	IP40	M22-H5
Six-element	IP40	M22-H6
Mounting plate	—	M22-XE5
Plaster keys for flush mounting	—	M22-UPE






Flush Mounting Plates, Aluminum

Finish	Rating	Catalog Number
One Hole		
Yellow paint for emergency-stop operators	—	M22-EY1
Gray anodized	IP65	M22-E1
Two Holes		
Gray anodized	IP65	M22-E2
Three Holes		
Gray anodized	IP65	M22-E3
Four Holes		
Gray anodized	IP65	M22-E4
Five Holes		
Gray anodized	IP65	M22-E5
Six Holes		
Anodized	IP40	M22-E6

Shrouds, Plastic

Description	Rating	Catalog Number
One-element	IP55	M22-H1
Two-element	IP55	M22-H2
Three-element	IP55	M22-H3
Four-element	IP40	M22-H4
Five-element	IP40	M22-H5
Six-element	IP40	M22-H6
Mounting plate	—	M22-XE5
Plaster keys for flush mounting	—	M22-UPE


Selector Switch Accessories

Description	Catalog Number
M22-XW 	M22-XW
M22-XWS 	M22-XWS
M22-XC-R 	M22-XC-R
M22-XC-Y 	M22-XC-Y
M22-XGWK 	M22-XGWK


Notes

- ① Requires use of base mounted contact blocks.
- ② Plunger needed to actuate center-mounted contact blocks. Used for non-illuminated three-position selector switches only.
- ③ Enables a keyed selector switch to be set to user-selected key withdraw position.

Emergency Stop Operator Accessories

	Description	Voltage	Catalog Number
	Yellow guard ring	—	M22-XGPV
	Gray guard ring	—	M22G-XGPV
	Rectangular guard	—	M22-MGTA
	Sealing shroud	—	M22-PL-PV
	Illuminated ring	24 Vac/Vdc	M22-XPV60-Y-24
		120 Vac	M22-XPV60-Y-120
		230 Vac	M22-XPV60-Y-230

Blanking Plugs

M22-B	Color	Catalog Number
	Gray	M22-B
	Black	M22S-B

Notching Tool


Punching tool used to produce the cutout for the anti-rotation tab as defined in IEC/EN 60947-5-1.

Description	Unit	Article Number	Catalog Number
St 37 sheet steel: Max. 3 mm thickness Stainless steel: Max. 1.5 mm thickness	1	028144	M22-NT


Mounting Accessories

	Description	Catalog Number
	Telescopic clip with top-hat rail	M22-TC
	Telescopic clip	M22-TA
	Telescopic clip extension	M22-TCV
	DIN rail mounting adapter	M22-IVS
	Mounting ring	M22-GR
	Mounting ring tool	M22-MS
	Adapter ring set for 30 mm holes	M22S-R30

Protective Diaphragm

M22-T-D and M22-T-DD	For Use with ...	Catalog Number
	Flush pushbuttons and indicating lights	M22-T-D
	Double pushbuttons	M22-T-DD

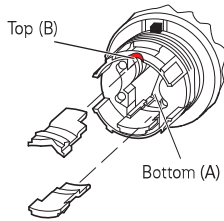
Dust Covers

M22-ADC4	Description	Catalog Number
	Contact block dust cover	M22-XKDP
	Operator dust cover, max three contact blocks	M22-ADC
	Operator dust cover, max four contact blocks	M22-ADC4

Kits

Description	Catalog Number
Includes one each: M22-XW, M22-XC-R, M22-XC-Y, M22S-B, M22-A, M22-XD-SWRGYB	M22-KT1

Coding Adapter Guide Selector Switches



Two-Position Selector Switch

Top (B)	Bottom (A)	Catalog Number	Function
		M22(S)-W(L)(K)	Momentary
		M22(S)-WR(L)(K)	Maintained

Three-Position Selector Switch

Top (B)	Bottom (A)	Catalog Number	Function Left	Right
		M22(S)-W(L)(K)3	Momentary	Momentary
		M22(S)-WR(L)(K)3	Maintained	Maintained
		M22(S)-WR(L)(K)3-1	Maintained	Momentary
		M22(S)-WR(L)(K)3-2	Momentary	Maintained

Two-Position Key-Operated Selector Switch

Top (B)	Bottom (A)	Catalog Number	Center Key Withdraw	Right Function	Key Withdraw
		M22(S)-WS	Yes	Momentary	No
		M22(S)-WRS	Yes	Maintained	Yes
		M22(S)-WRS-A1	Yes	Maintained	No

Three-Position Key-Operated Selector Switch

Top (B)	Bottom (A)	Catalog Number	Left Function	Key Withdraw	Center Key Withdraw	Right Function	Key Withdraw
		M22(S)-WS3	Momentary	No	Yes	Momentary	No
		M22(S)-WRS3	Maintained	Yes	Yes	Maintained	Yes
		M22(S)-WRS3-A1	Maintained	No	Yes	Maintained	No
		M22(S)-WRS3-A2	Maintained	Yes	Yes	Maintained	No
		M22(S)-WRS3-A3	Maintained	No	Yes	Maintained	Yes
		M22(S)-WRS3-A4	Maintained	Yes	Yes	Momentary	No
		M22(S)-WRS3-A5	Maintained	No	Yes	Momentary	No
		M22(S)-WRS3-A6	Momentary	No	Yes	Maintained	Yes
		M22(S)-WRS3-A7	Momentary	No	Yes	Maintained	No

Technical Data and Specifications

Pushbuttons, Indicating Lights, Selector Switches and Emergency-Stop Operators

Description		Momentary Pushbuttons	Maintained Pushbuttons	Indicating Lights, Buzzers and Potentiometers	Emergency-Stop Operators	Selector Switches	Key-Operated Operators	Double Pushbuttons
General								
Standards		IEC/EN 60947 VDE 0660 UL #E29184	IEC/EN 60947 VDE 0660 UL #E29184	IEC/EN 60947 VDE 0660 UL #E29184	IEC/EN 60947 VDE 0660 UL #340491	IEC/EN 60947 VDE 0660 UL #E29184	IEC/EN 60947 VDE 0660 UL #E29184	IEC/EN 60947 VDE 0660 UL #E29184
Lifespan, mechanical	Operations	x 10 ⁶	>5	>1	—	>0.1	>0.1	>0.2
Operating frequency	Operations/h		≥3600	≥1800	—	≥800	≥2000	≥100
Actuating force	n		≥5	≥5	—	≥50	—	≥5
Operating torque (screw terminals)	Nm		—	—	—	≥0.3	≥0.5	—
Protection Type								
IP		IP67, IP69K	IP67, IP69K	Indicating lights: IP67, 69K Buzzers: IP40 Potentiometers: IP66	IP67, IP69K	IP66	IP66	IP66
UL type		4X, 13	4X, 13	Indicating lights: 4X/13 Buzzers: 12 Potentiometers: 4X/13	4X, 13	4X, 13	4X, 13	4X, 13
Climatic proofing		Damp heat, constant, according to IEC 60068-2-78 Damp heat, cyclical to IEC 60068-2-30						
Ambient temperature, operating		°F (°C)	–13 to 158 (–25 to 70)	–13 to 158 (–25 to 70)	–13 to 158 (–25 to 70)	–13 to 158 (–25 to 70)	–13 to 158 (–25 to 70)	–13 to 158 (–25 to 70)
Mounting position			As required	As required	As required	As required	As required	As required
Mechanical shock resistance to IEC 60068-2-27 shock duration 11 ms, half-sinusoidal		g	>30	>30	>30	>50	>30	>30
Terminal Capacities								
Solid		AWG	—	—	20-16	—	—	—
		mm ²	—	—	0.5–1.5	—	—	—
Stranded		AWG	—	—	20-16	—	—	—
		mm ²	—	—	0.5–1.5	—	—	—
Contacts								
Rated impulse withstand voltage		U _{imp}	Vac	—	—	4000	—	—
Rated insulation voltage		U _i	V	—	—	2500	—	—
Overvoltage category/pollution degree			—	—	—	III/3	—	—

Contact Blocks and Light Units

Description			Contact Blocks	LED Light Units
General				
Standards			IEC/EN 60947 VDE 0660 UL #E29184	IEC/EN 60947 VDE 0660 UL #E29184
Lifespan, mechanical	Operations	$\times 10^6$	>5	—
Operating frequency	Operations/h		≥ 3600	—
Actuating force	n		≥ 5	—
Operating torque (screw terminals)	Nm		≤ 0.8	—
Protection Type				
IP			IP20	IP20
UL type			—	—
Climatic proofing			Damp heat, constant, according to IEC 60068-2-78 Damp heat, cyclical to IEC 60068-2-30	
Ambient temperature, operating	°F (°C)		–13 to 158 (–25 to 70)	–13 to 158 (–25 to 70)
Mounting position			As required	As required
Mechanical shock resistance to IEC 60068-2-27 shock duration 11 ms, half-sinusoidal	g		>30	>30
Terminal Capacities				
Solid	AWG		18–14	18–14
	mm ²		0.75–2.5	0.75–2.5
Stranded	AWG		20–14	20–14
	mm ²		0.5–2.5	0.5–2.5
Contacts				
Rated impulse withstand voltage	U_{imp}	Vac	6000	6000
Rated insulation voltage	U_i	V	500	500
Overvoltage category/ pollution degree			III/3	III/3
NEMA contact ratings			A600, Q300	—
Current draw			—	5–15 mA
Control Circuit Reliability				
at 24 Vdc/5 mA	H_f	Fault probability	$<10^{-7}$, <1 fault in 10^7 operations	—
at 5 Vdc/1 mA	H_f	Fault probability	$<5 \times 10^{-6}$, <1 fault in 5×10^6 operations	—
Max. Short-Circuit Protective Device				
Fuse	gG/gL	A	10	—
Switching Capacity				
Rated Operational Current				
AC-15				
115V	I_e	A	6	—
230V	I_e	A	6	—
400V	I_e	A	4	—
500V	I_e	A	2	—
DC-13				
24V	I_e	A	3	—
42V	I_e	A	1.7	—
60V	I_e	A	1.2	—
110V	I_e	A	0.6	—
220V	I_e	A	0.3	—
Lifespan, Electrical				
AC-15				
230V/0.5A	Operations	$\times 10^6$	1.6	—
230V/1.0A	Operations	$\times 10^6$	1	—
230V/3.0A	Operations	$\times 10^6$	0.7	—
DV-13				
12V/2.8A	Operations	$\times 10^6$	1.2	—

Contact Element Note: >200 Vac/60 Hz: –25/55°C

Palm Switches

Description		Momentary	Maintained	FAK-R-V-KC11-I
General				
Standards		IEC/EN 60947 VDE 0660	IEC/EN 60947 VDE 0660	IEC/EN 60947 VDE 0660
Lifespan, mechanical	Operations x 10 ⁶	>1	>0.1	>0.1
Operating frequency	Operations/h	≥3600	≥600	≥600
Actuating force	n	20–40	40–60	15–25
Operating torque	Nm	—	—	—
Degree of protection, IEC/EN 60529	IP	IP67, IP69K	IP67, IP69K	IP65
	UL Type	4X, 13	4X, 13	4X, 13
Climatic proofing		Damp heat, constant, to IEC 60068-2-78 Damp heat, cyclic, to IEC 60068-2-30		
Ambient temperature, operating	°F (°C)	–73 to 104 (–25 to 40)	–73 to 104 (–25 to 40)	–73 to 104 (–25 to 40)
Mounting position		As required		
Mechanical shock resistance to IEC 60068-2-27 shock duration 11 ms, half-sinusoidal	g	>15	>15	>15

ASi Adapter Modules

Description		M22-ASI	M22-ASI-C
General			
Standards		IEC/EN 60947, DIN EN 50295	IEC/EN 60947, DIN EN 50295
Radio interference suppression		EN 55011, EN 55022	EN 55011, EN 55022
Limit value class		—	—
Protection type		IP20	IP00
Climatic proofing		Damp heat, constant, to IEC 60068-2-78, cyclical, to IEC 60068-2-30	
Ambient temperature, operating	°F (°C)	–13 to 131 (–25 to 55)	–13 to 131 (–25 to 55)
Shock resistance shock duration 11 ms	g	>30	>30
Vibration to IEC 60068-2-27 (amplitude 1 mm)	Hz	—	—
Dimensions	mm	—	—
Weight	kg	—	—
Mounting		Front mounting	Front mounting
Mounting position		As required	As required
Power Supply			
Rated voltage to AS-interface specification	Vdc	26.5–31.6	26.5–31.6
Connection technique		Yellow plug-in terminal as insulation piercing terminal	Two cables onboard
Power supply		Completely from the AS-interface cable	
Addressing		Via connection to AS-interface cable	
Total power consumption of the AS-interface	mA	≥40	≥40
AS-interface		—	—
Rated operational current at full load	mA	—	—
Rated operational current when idle (no I, O set)	mA	—	—
Status LEDs		POWER AS-interface cable: green LED on the rear side of the element ERROR AS-interface, AS-interface master failure: red LED on the rear side of the element	POWER AS-interface cable: green LED on the board ERROR AS-interface, AS-interface master failure: red LED on the board

ASi-S Adapter Modules

Description		M22-ASI-S	M22-ASI-CS
Inputs			
Inputs, protected against short-circuit	Number	Two (normally 22V/5 mA)	Two (normally 22V/5 mA)
Voltage range	Vdc	—	—
Rated current per input	mA	—	—
High signal level	V	—	—
Low signal	mA	—	—
Length of connecting cables	cm	—	—
Outputs			
Outputs, protected against short-circuit	Number	One (normally 19V/8 mA)	One (normally 19V/8 mA)
Voltage range	Vdc	—	—
Max. Current Carrying Capacity			
All outputs		—	—
∑ three external outputs		—	—
Length of connecting cables	cm	—	—
Profile		S-3,A,E	S-3,A,E
Specification		2.1	2.1
Addresses	Number	62	62
Emergency-Stop Circuits			
Connection of the AS-interface line		Yellow plug terminal with insulation piercing	Two cables on the circuit board
Power supply		Complete from AS-interface, cable 26.5–31.6 Vdc	Complete from AS-interface, cable 26.5–31.6 Vdc
Fixing		Front mounted	Base mounted
Addressing		Via AS-interface cable	Via AS-interface cable
Max. total current	A	45 mA	45 mA
Ambient temperature, operating	°F (°C)	–13 to 131 (–25 to 55)	–13 to 131 (–25 to 55)
Shock resistance		30g/11 ms as per IEC 60068-2-27	30g/11 ms as per IEC 60068-2-27
Protection type		IP20	IP00
Climatic proofing		Damp heat, constant, to IEC 60068-2-78, cyclical, to IEC 60068-2-30	Damp heat, constant, to IEC 60068-2-78, cyclical, to IEC 60068-2-30
Mounting position		As required	As required
Standards		EN 50178 EN 50 295	EN 50178 EN 50 295
Inputs		Two-channel input (22V/5 mA) (moduled by code sequence) (two break contact sets M22-K01)	Two-channel input (22V/5 mA) (moduled by code sequence) (two break contact sets M22-K01)
Outputs		One output, typically 19V/8 mA, short-circuit proof	One output, typically 19V/8 mA, short-circuit proof
Status Displays			
Power, AS-interface cable		Green LED on the back	Green LED on the back
AS-interface error, AS-interface master failure		Red LED on the back	Red LED on the back
Profile		S-7,B,E	S-7,B,E