

Safety Switches

Rotary Switches



Description

The rotary switches are used for electrical isolation of machinery to improve safe access and also as teach boxes in robot cells. Once the power has been turned off, the key can then be withdrawn and used in the next sequence of operation such as unlocking an access hatch or allowing valves to be operated.

The rotary switch can either be mounted in a panel or purchased in an enclosure. The rotary switch is available with 4 poles, either 4 N.O. or 2 N.C. and 2 N.O. The 100 A 4 N.O. switch has 3 contacts rated at 100 A and 1 contact rated at 20 A.

Features

- 316L stainless steel keys
- Direct drive operation—positively opens contacts
- Stainless steel dust cap included
- Up to 400 A isolation
- 4 N.O., 2 N.O. and 2 N.C., 3 N.O./1 N.C., 3 N.O., or 3 N.C. and neutral contacts
- Replaceable code barrel assembly

Specifications

Safety Ratings

Standards	EN1088, IEC/EN60204-1, IEC/EN60947-5-1, ISO12100-1&2, ISO14119, GS-ET-19, AS4024.1, UL508, CSA 22.2
Category	Cat. 1 per EN 954-1 (ISO 13849-1) Suitable for Cat. 2, 3, and 4 systems
Certifications	CE Marked for all applicable directives, BG, cULus on contact block; C-Tick not required

Operating Characteristics

Conduit Entry	4 x M20 (RKS only)
Mechanical Life	100,000 operations
Finger Protection	DIN 57106/VDE 0106 T.100

Environmental Characteristics

Operating Temperature [C (F)]	-10...+40 ° (14...104 °)
Relative Humidity	95%

Physical Characteristics

Shear Force to Key	15.1 k•N (3398 lbs), max.
Torque to Key	14 N•m (124 lb•in), max.

Specifications (continued)

Weight [g (lbs)]	RPSE	10, 11, 12, 13, 20:	500 (1.1)	14, 16:	1000 (2.2)
	RKSE	10, 11, 12, 13:	850 (1.9)	14, 16:	1250 (2.8)
Electrical Life		100,000 operations			
Climatic Test		Constant to DIN IEC 68 Part 2-3 Variable to DIN IEC 68 Part 2-30			
Ambient Temperature, Operation		Encased -25...40 °C (10...104 °F)			
(Ui) Rated Insulation Voltage		690V			
(Uimp) Rated Impulse withstand Voltage		6 kV			
S3 Intermittent Rating Duty Factor (VDE 0530, Part 1)		60/40/25% = 1, 3/1, 6/2 xlu			
Last two digits of Cat. No. (See Product Selection table)		10 11 16	12	13	14
Rated Uninterrupted Current (Iu)	IEC/EN/VDE	20A	32A	63A	100A
	UL/CSA	16A	30A	60A	100A
Rated Operational Voltage (Ue)	IEC/EN/VDE	690V	690V	690V	1000V
	UL/CSA	600V	600V	600V	600V
	Main Switch Isolation Voltage, Max.	750V	750V	750V	1000V
Rated Operational Current (Ie)	AC-21A IEC/EN/VDE	20A	32A	63A	100A
	AC-1 SEV	20A	32A	63A	100A
Rated Operational Power at 50/60 Hz (AC-23A IEC/EN/VDE)	3-phase 220...240V	4 kW	5.5 kW	15 kW	22 kW
	3-pole 380...440V	7.5 kW	11 kW	22 kW	37 kW
	500...690V	7.5 kW	11 kW	22 kW	37 kW
Rated Operational Power at 50/60 Hz (AC-3A IEC/EN/VDE)	3-phase 220...240V	3 kW	4 kW	11 kW	22 kW
	3-pole 380...440V	5.5 kW	7.5 kW	18.5 kW	30 kW
	500...690V	5.5 kW	7.5 kW	18.5 kW	30 kW
DOL Rating (UL/CSA)	3-phase 140V	1 HP	2 HP	5 HP	10 HP
	3-pole 240V	2 HP	5 HP	15 HP	25 HP
	480V	5 HP	10 HP	30 HP	30 HP
	600V	5 HP	10 HP	40 HP	30 HP
Rated Breaking Capacity	AC-23/AC-3 220...240V	250A	330A	500A	600A
	Motor Switch 380...440V	250A	330A	500A	600A
	500...690V	150A	220A	270A	300A
Fuse Rating (GI)		25 A, max.	35 A, max.	63/50 A, max.	100 A, max.
Rated Fuse Short Circuit Current		15 kA	15 kA	15/20 kA	25 kA
Terminal Cross Section		1...10		4...16	2.5...3.5
		mm ² single/multiple wire			
Conductor Size, mm ² min...max		0.75 ...6		2.5...10	1.5...2.5
		(stranded) with sleeve			
		8 AWG		6 AWG	2 AWG

The Prosafe Advantage

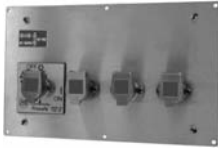


Stainless steel construction.

Product Selection

Type	Contact Type	Current Accuracy	Cat. No.
 Enclosure Mounted (RKS only)	4 N.O.	20 A	440T-MRKSE10*
	2 N.O. & 2 N.C.	20 A	440T-MRKSE11*
	4 N.O.	32 A	440T-MRKSE12*
	4 N.O.	63 A	440T-MRKSE13*
	3 N.O. & 1 N.O.	3 N.O. 100 A and 1 N.O. 20 A	440T-MRKSE14*
	8 N.O.	20 A	440T-MRKSE16*
Mild Steel Enclosure Mounted (RKS only)	3 N.O. + Neutral	200 A	440T-MRKSE21*
	3 N.O.	400 A	440T-MRKSE22*
 Panel Mounted	4 N.O.	20 A	440T-MRPSE10*
	2 N.O. & 2 N.C.	20 A	440T-MRPSE11*
	4 N.O.	32 A	440T-MRPSE12*
	4 N.O.	63 A	440T-MRPSE13*
	3 N.O. & 1 N.O.	3 N.O. 100 A and 1 N.O. 20 A	440T-MRPSE14*
	8 N.O.	20 A	440T-MRPSE16*
	3 N.O. & 3 N.C.	20 A	440T-MRPSE18*
	4 N.O.	40 A	440T-MRPSE20*

* Substitute the desired primary code for this symbol (key not included). See page 3-107.

Type	Number of Keys	Contact Type	Current Accuracy	Cat. No.
Isolator on First Key Out				
	Dual key isolator	2 keys out	4 N.O.	440T-MMRSE10**
			2 N.O. & 2 N.C.	440T-MMRSE11**
			4 N.O.	440T-MMRSE12**
			4 N.O.	440T-MMRSE13**
	Triple key isolator	3 keys out	4 N.O.	440T-MMRSE20***
			2 N.O. & 2 N.C.	440T-MMRSE21***
			4 N.O.	440T-MMRSE22***
			4 N.O.	440T-MMRSE23***
	Quad key isolator	4 keys out	4 N.O.	440T-MMRSE30****
			2 N.O. & 2 N.C.	440T-MMRSE31****
			4 N.O.	440T-MMRSE32****
			4 N.O.	440T-MMRSE33****
	Dual key exchange isolator	1 key in/ 1 key out	4 N.O.	440T-MMRXE10*⊗
			2 N.O. & 2 N.C.	440T-MMRXE11*⊗
			4 N.O.	440T-MMRXE12*⊗
			4 N.O.	440T-MMRXE13*⊗
	Triple key exchange isolator	1 key in/ 2 key out	4 N.O.	440T-MMRXE20*⊗⊗
			2 N.O. & 2 N.C.	440T-MMRXE21*⊗⊗
			4 N.O.	440T-MMRXE22*⊗⊗
			4 N.O.	440T-MMRXE23*⊗⊗
	Quad key exchange isolator	1 key in/ 3 key out	4 N.O.	440T-MMRXE30*⊗⊗⊗
			2 N.O. & 2 N.C.	440T-MMRXE31*⊗⊗⊗
			4 N.O.	440T-MMRXE32*⊗⊗⊗
			4 N.O.	440T-MMRXE33*⊗⊗⊗

* Substitute the desired primary code for this symbol (key not included). See page 3-107.

⊗ Substitute the desired secondary code for this symbol (key included). See page 3-107.

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Accessories

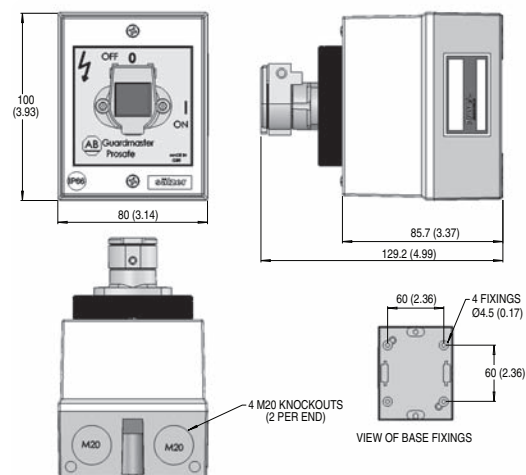
Description	Additional Information	Cat. No.
Stainless steel key		440T-AKEYE10*
Stainless steel replacement code barrel for products other than 100 A RPS/RKS units with dust cap	3-140	440T-ASCBE14*
Stainless steel replacement code barrel for 100 A unit rotary switch		440T-ASCBE11*
Stainless steel weatherproof replacement dust cap		440T-ASFC10*
Cable grip, M20 conduit, accommodates cable diameter 7...10.5 mm (0.27...0.41 in.)	3-53	440A-A09028
Adaptor, conduit, M20 to 1/2 inch NPT, plastic		440A-A09042
Supplemental Contact Block, 20 A, 1 N.O. Late Make, Early Break 1 N.C. Auxiliary	For use with RPSE12, RPSE20 (maximum 1 per switch)	440T-AACA10
Supplemental Contact Block, 20 A, 2 N.O. Late Make, Early Break	For use with RPSE12, RPSE20 (maximum 1 per switch)	440T-AACA11
Supplemental Contact Block, 20 A, 1 N.O., 1 N.C.	For use with RPSE13 & 14	440T-AACA20
Supplemental Contact Block, 20 A, 2 N.O.	For use with RPSE13 & 14	440T-AACA21
ABS plastic enclosure	For use with dual key, and dual key exchange, isolators	440T-AIPB10
Stainless steel enclosure (240x180x150 mm)	For use with >20 A RPSE units (not including RPSE21 or 22)	440T-AIPB25
Stainless steel enclosure (150x150x80 mm)	For use with RPSE10 & 11	440T-AIPB26
ABS plastic enclosure	For use with triple/quad key, and triple/quad key exchange, isolators	440T-AIPB50
Stainless steel enclosure	For use with triple/quad key, and triple/quad key exchange, isolators	440T-AIPB55

* Substitute the desired primary code for this symbol (key not included). See page 3-107.

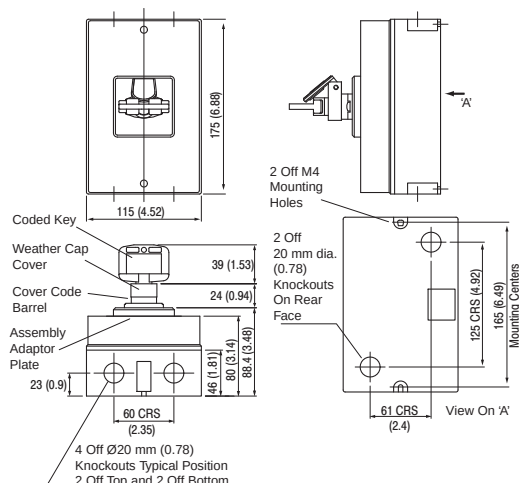
Approximate Dimensions [mm (in.)]

Dimensions are not intended to be used for installation purposes.

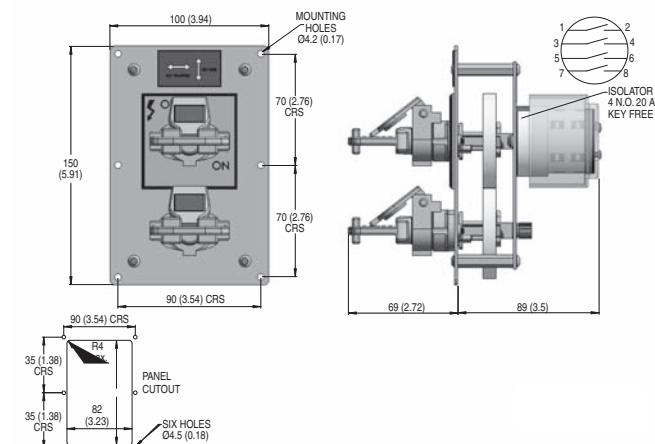
MRKSE10 and MRKSE11



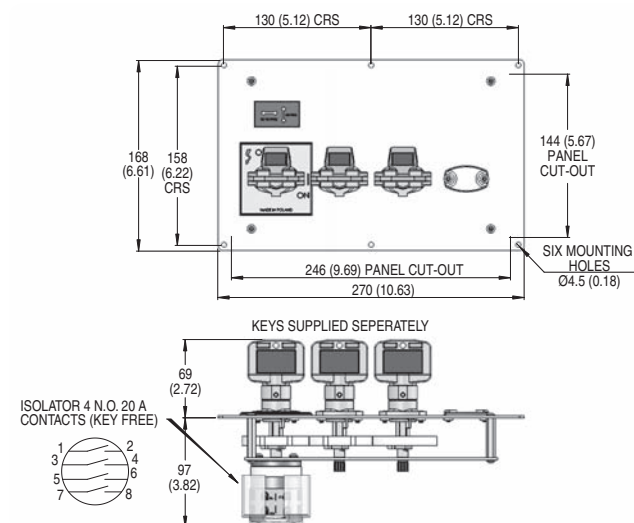
MRKSE12 and MRKSE13



MMRSE10



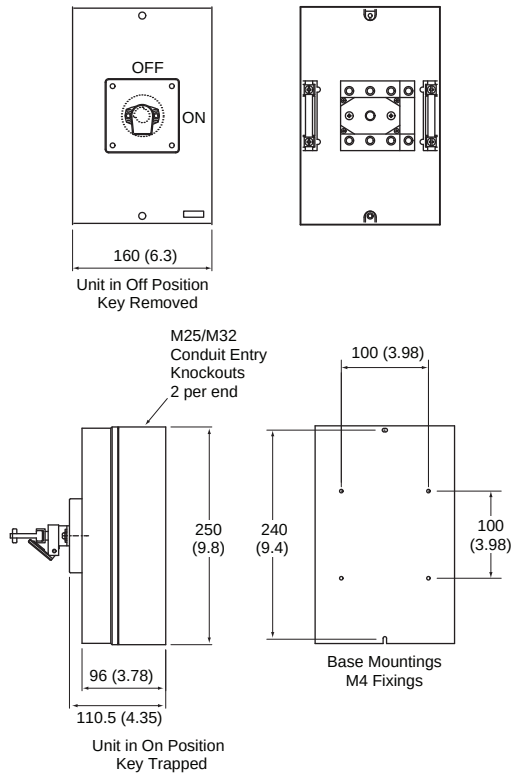
MMRSE20



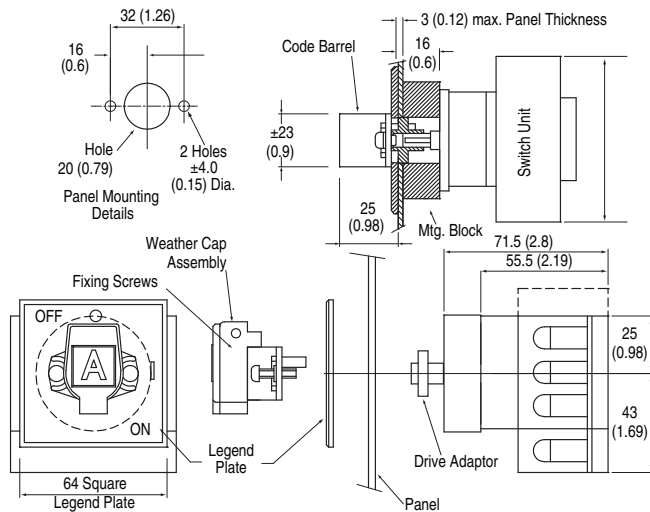
Approximate Dimensions [mm (in.)] (continued)

Dimensions are not intended to be used for installation purposes.

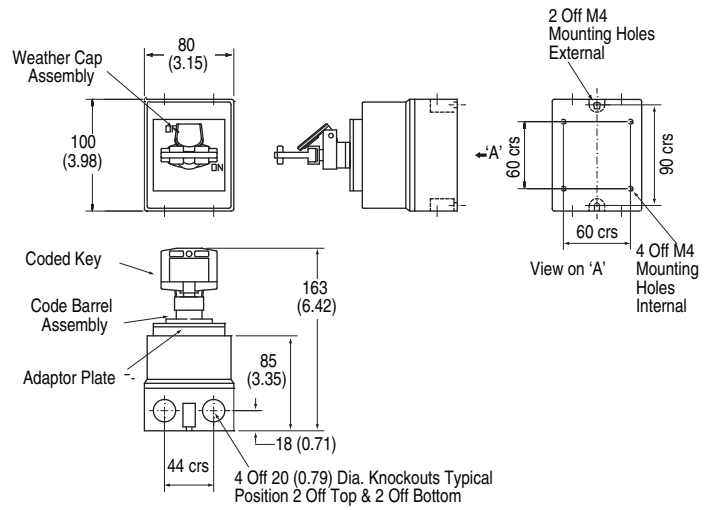
MRKSE14



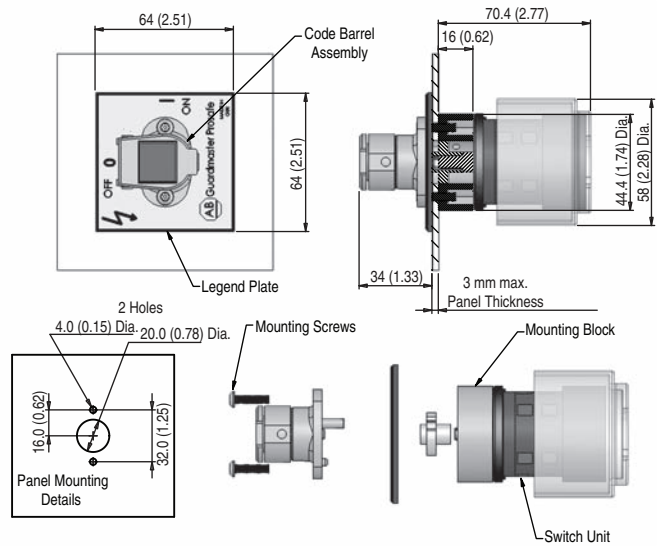
MRPSE 12, 13, 14 and 20



MRKSE16



MRPSE10 and 11



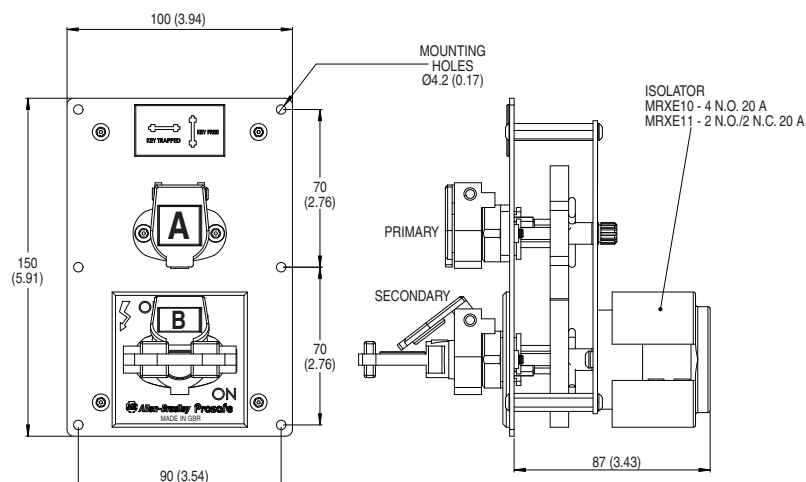
3-Trapped Key
Switches

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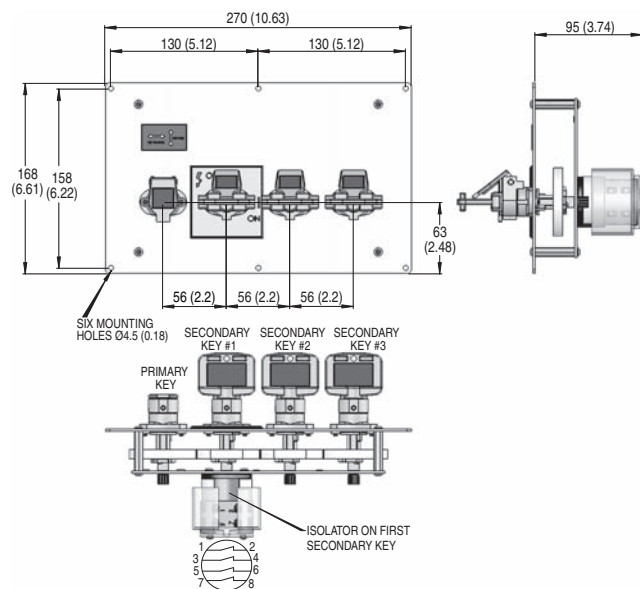
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Approximate Dimensions [mm (in.)] (continued)

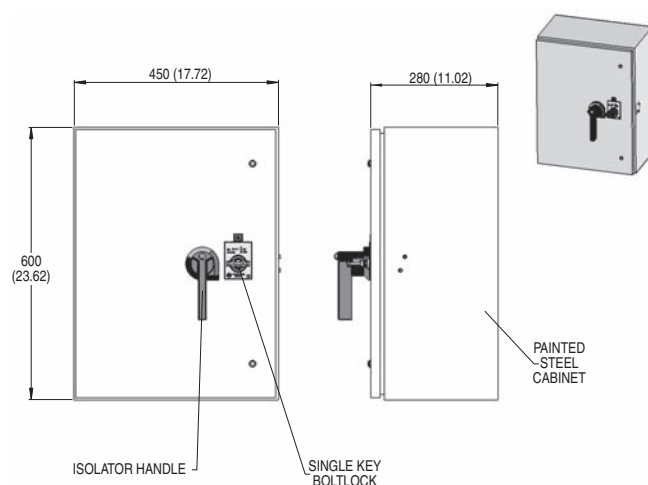
MMRXE10 and MMRXE11



MMRXE30



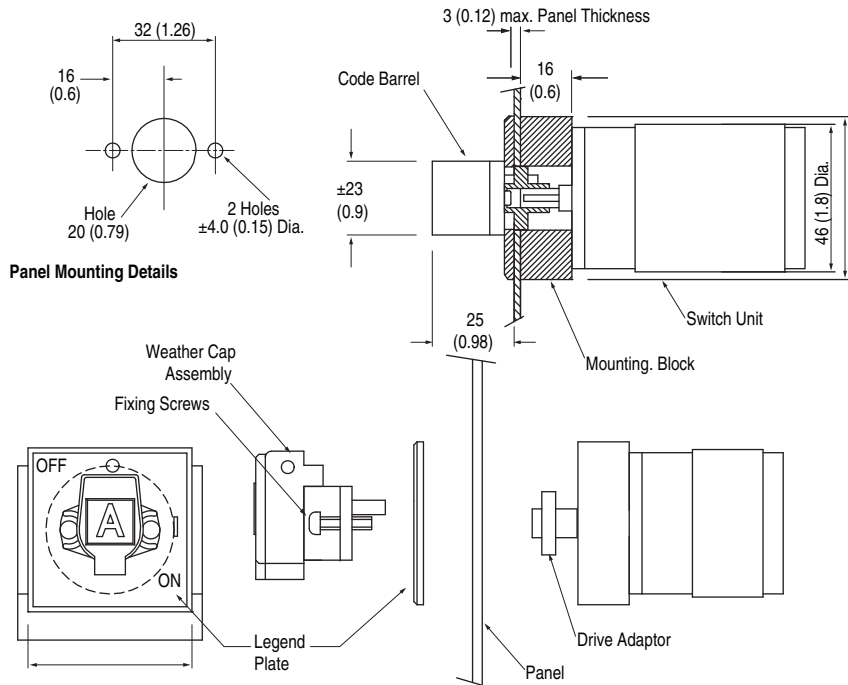
MRKSE22



3-Trapped Key
Switches

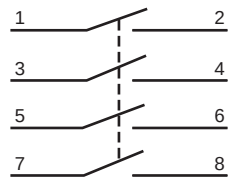
Approximate Dimensions [mm (in.)] (continued)

MRPSE16

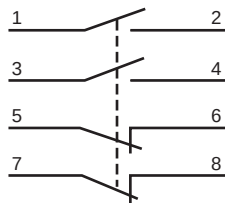


Typical Wiring

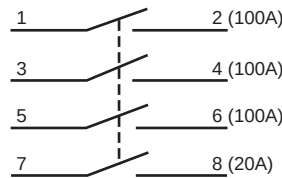
Diagrams Shown with Key Free



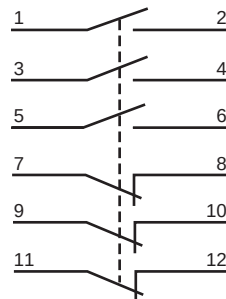
MRKSE10 and MRPSE10
MRKSE12 and MRPSE12
MRKSE13 and MRPSE13
----- and MRPSE20
MMRSE10 and MMRXE10
MMRSE12 and MMRXE12
MMRSE13 and MMRXE13
MMRSE20 and MMRXE20
MMRSE22 and MMRXE22
MMRSE23 and MMRXE23
MMRSE30 and MMRXE30
MMRSE32 and MMRXE32
MMRSE33 and MMRXE33



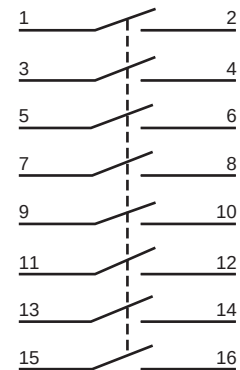
MRKSE11 and MRPSE11
MMRSE11 and MMRXE11
MMRSE21 and MMRXE21
MMRSE31 and MMRXE31



MRKSE14 and MRPSE14



MRKSE18 and MRPSE18



MRKSE16 and MRPSE16