A22TK

For full product information, visit www.sti.com. Use the SpeedSPEC Code for quick access to the specific web page.

Safety Key Selector Switch

- Key-type selector switch with direct opening mechanism
- Selector Switch for secure equipment activation during maintenance
- 30 types of exclusive keys make it more difficult to disable.
- The trapped key of the D4JL Guard Lock Safety-door Switch has the same shape as the locking key of the D4SL-SK10-LK Slide Key Unit. Units can be combined to improve safety. (Specify the same key type.)
- Common to the switch part of Emergency Stop Switch A22E. (Non-lighted model only)
- A Rapid Delivery Product: Select models are available for shipment today or within 3 to 5 days

Specifications

G

Ratings

Contacts (Standard Load)

Rated carry current (A)	Rated voltage (V)	Rated current (A)			
		AC15 (inductive load)	AC12 (resistive load)	DC13 (inductive load)	DC12 (resistive load)
10	24 VAC	10	10	---	---
	110 VAC	5	10		
	220 VAC	3	6		
	380 VAC	2	3		
	440 VAC	1	2		
	24 VDC	---	---	1.5	10
	110 VDC			0.5	2
	220 VDC			0.2	0.6
	380 VDC			0.1	0.2

Note:
1. Rated current values are determined according to the testing conditions. The above ratings were obtained by conducting tests under the following conditions.
   (1) Ambient temperature: 20°±2°C
   (2) Ambient humidity: 65±5%
   (3) Operating frequency: 20 operations/minute
2. Minimum applicable load: 10 mA at 5 VDC

Characteristics

| Item		A22TK
Allowable operating frequency	Mechanical	30 operations/minute max.
	Electrical	30 operations/minute max.
Insulation resistance		100 MΩ min. (at 500 VDC)
Dielectric strength	Between terminals of same polarity	2,500 VAC, 50/60 Hz for 1 min.
	Between each terminal and ground	2,500 VAC, 50/60 Hz for 1 min.
Vibration resistance *1		10 to 55 Hz, 1.5 mm double amplitude (within 1 ms)
Shock resistance	Destruction	1000 m/s²
	Malfunction *1	250 m/s² max.
Durability	Mechanical	100,000 operations min.
	Electrical	100,000 operations min.
Ambient operating temperature *2		-20 to +70°C
Ambient operating humidity		35% to 85%RH
Ambient storage temperature		-40 to +70°C
Degree of protection		IP65 *3
Electric shock protection class		Class II
PTI (tracking characteristic)		175
Degree of contamination		3 (EN60947-5-1)

*1. Malfunction within 1 ms.
*2. With no icing or condensation.
*3. The degree of protection from the front of the panel.
Note: 1. Do not allow the load current to exceed the rated value.
      2. The contact ON/OFF timing is not synchronized. Confirm performance before application.
      3. Once the contacts have been used to switch a load, however, they cannot be used to switch smaller loads. The contact surfaces will become rough once they have been used and contact reliability for smaller loads may be reduced.

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Specifications (continued)

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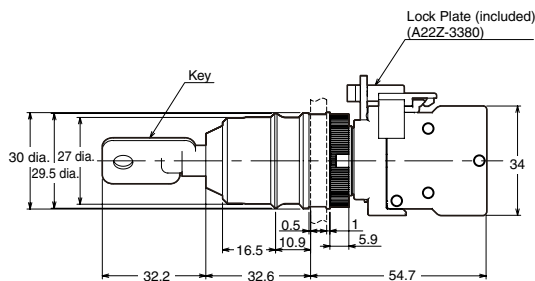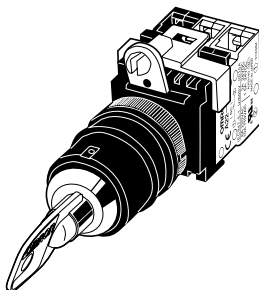
G

Dimensions   (mm)

A22TK-2LL
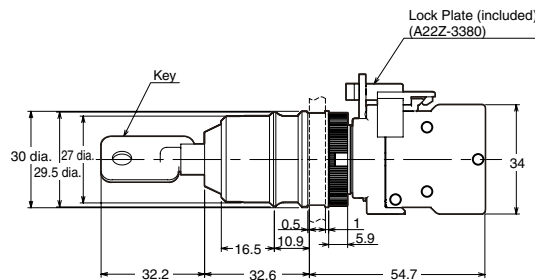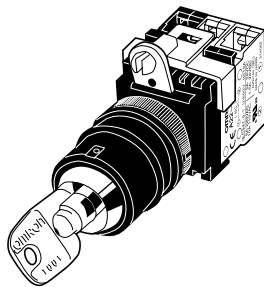
A22TK-2RL

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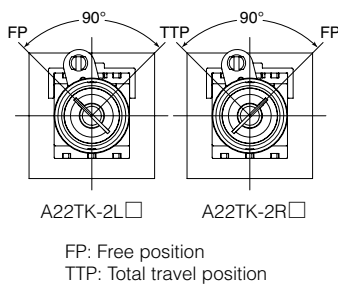
Wiring

Contact Configuration

A22TK-2□L

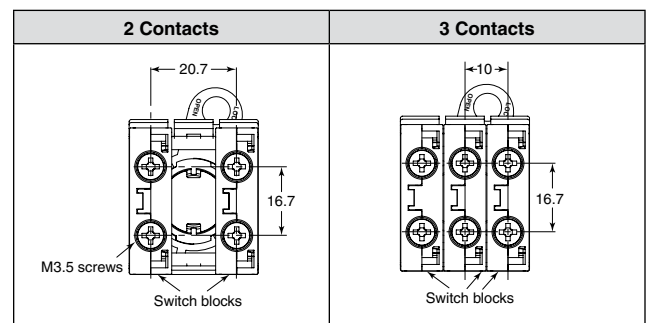| Key position	SPST-NC	SPST-NO/SPST-NC	DPST-NC	DPST-NC + SPST-NO	DPST-NO + SPST-NO	TPST-NC
⬉	●–●	⌒⌒ ●–●	●–● ●–●	●–● ●–● ⌒⌒	⌒⌒ ⌒⌒ ●–●	●–● ●–● ●–●
⬈	●–●	⌒⌒ ●–●	●–● ●–●	●–● ●–● ⌒⌒	⌒⌒ ⌒⌒ ●–●	●–● ●–● ●–●

A22TK-2□R

Key position	SPST-NC	SPST-NO/SPST-NC	DPST-NC	DPST-NC + SPST-NO	DPST-NO + SPST-NO	TPST-NC
⬉	●–●	⌒⌒ ●–●	●–● ●–●	●–● ●–● ⌒⌒	⌒⌒ ⌒⌒ ●–●	●–● ●–● ●–●
⬈	●–●	⌒⌒ ●–●	●–● ●–●	●–● ●–● ⌒⌒	⌒⌒ ⌒⌒ ●–●	●–● ●–● ●–●

Operation Angle

A22TK-2L□   A22TK-2R□

FP: Free position
TTP: Total travel position

*The key stops between FP and TTP.
In such case, contacts will not work as shown in the table above.
Make sure to shift the key to the FP or TTP position to ensure contact switching and meet the direct opening operation characteristic.

Terminal Arrangement (Bottom View)

2 Contacts	3 Contacts

Terminal Connection

Type	Terminal connection (Bottom View)				
	SPST-NO/SPST-NC	DPST-NC	DPST-NC + SPST-NO	DPST-NO + SPST-NC	TPST-NC
Non-lighted	①→② ③→④	①→② ①→②	①→② ①→② ③→④	①→② ③→④ ③→④	①→② ①→② ①→②

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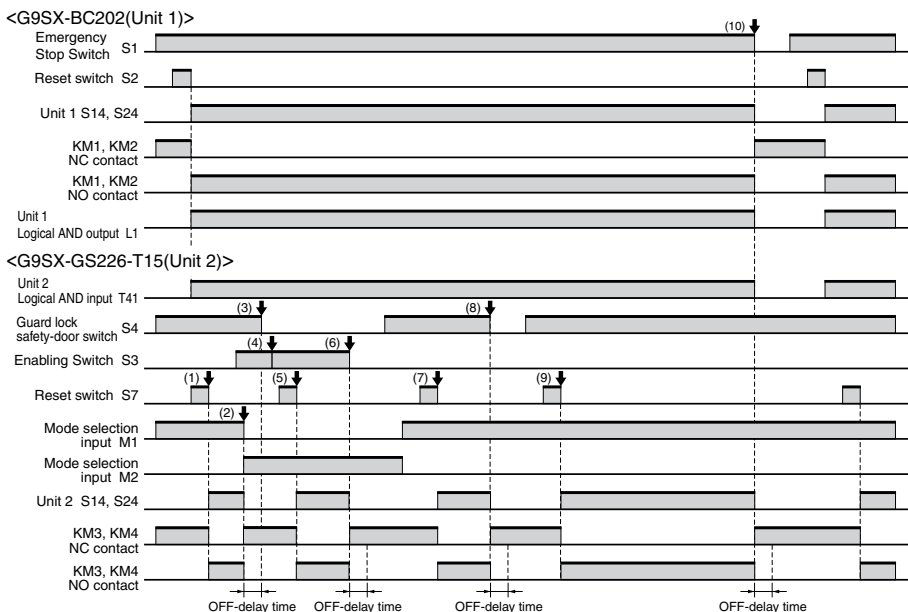Sti SAFETY, TECHNOLOGY & INNOVATION

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Application Example

G9SX-BC: **Manual reset, cross fault detection: ON (category 4 wiring)**

G9SX-GS: **Manual reset, cross fault detection: ON (category 4 wiring), logical AND connection setting: AND**
OFF-delay time setting: Time is set.
Switching mode: Manual
External indicator diagnosis: Enabled

S1: Emergency Stop Switch
S2, S7: Reset switches
S3: Enabling Switch
S4: Guard lock Safety-door Switch
S5: Lock release switch
S6: Safety limit switch
S8: A22TK Safety Key Selector Switch
KM1 to KM4: Contactors
M1 to M2: 3-phase motor
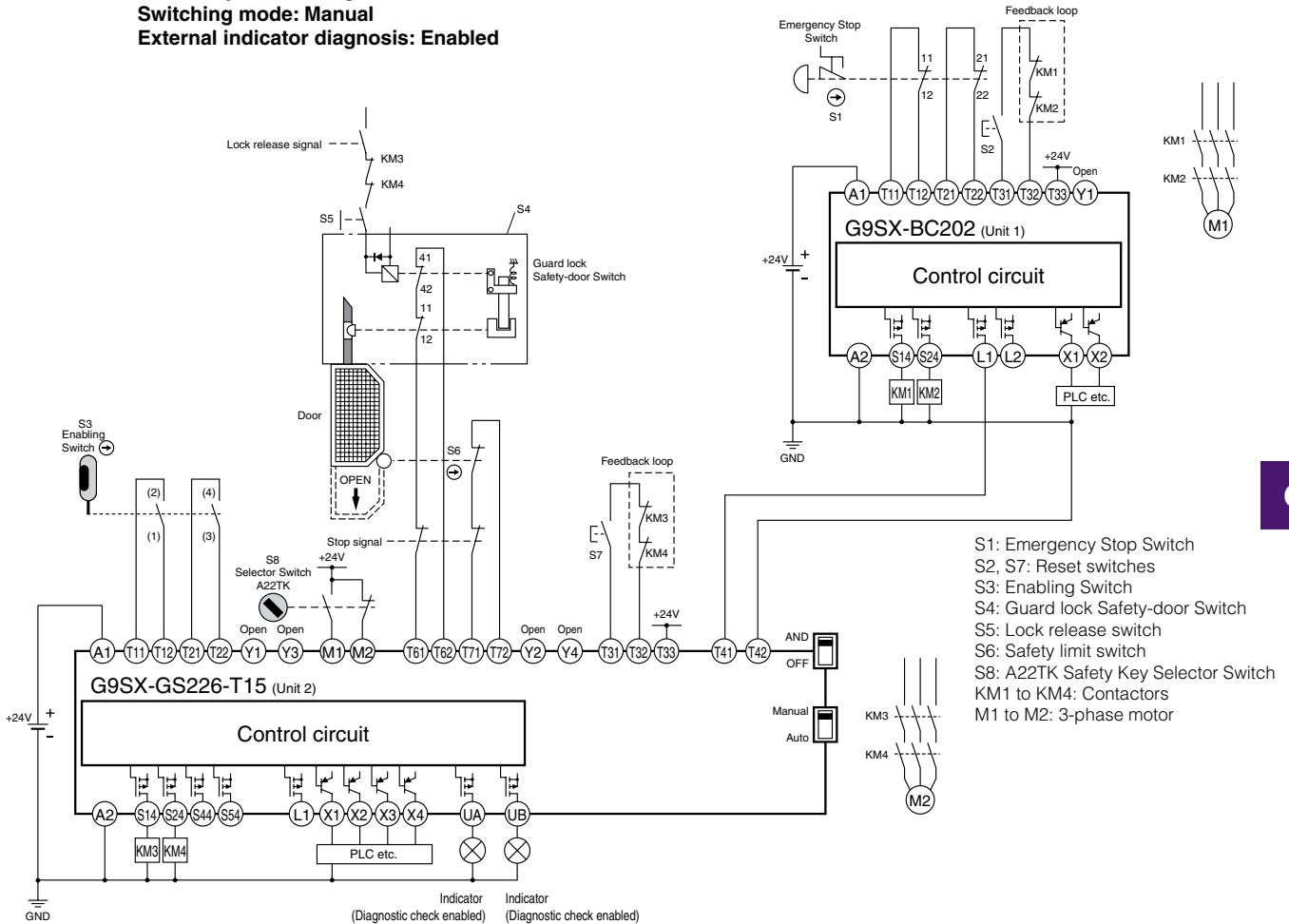
Timing Chart

(1) The G9SX-GS starts in operation mode.
(2) The mode switches to maintenance mode.
(3) The operator opens the door and performs maintenance work.
(4) The Enabling Switch is gripped to the middle position.
(5) The G9SX-GS starts in maintenance mode.
(6) The G9SX-GS will stop when the Enabling Switch is released or gripped.
(7) The G9SX-GS will start again after the door is closed and the mode is switched to operation mode.
(8) The G9SX-GS will stop when the door is open while in operation mode.
(9) The door is closed and the G9SX-GS starts again.
(10) All the units will stop if the emergency stop is pressed.

Ordering

Model Number Structure (Ordering as a set)

The operation unit and switch are delivered as a set. For information on combinations, refer to "List of Models"

A22TK – ☐ - ☐ - ☐ ☐
     ❶ ❷ ❸❹

❶ Operation Unit

Symbol	No. of notches	Key release position	Key position of NC contact closing
2LL	2	↖	↖
2RL		↗	↖
2LR		↖	↗
2RR		↗	↗

❷ Contact Configuration
01: SPST-NC
11: SPST-NO/SPST-NC
02: DPST-NC
12: DPST-NC + SPST-NO
21: DPST-NO + SPST-NC
03: TPST-NC

❸ Key Availability
None: No Key
K: With Key

❹ Key Type
01 to 30: 30 Types*
*Key can be created up to 30 types. Specify keys in order, starting from 01.

Base Models

Model	Description
A22TK-2LL-02-K01	A22TK Base Model, 2 N/C, Left Key Release, Left N/C Closed, Key Included
A22TK-2LR-12-K01	A22TK Base Model, 1 N/O + 2 N/C, Left Key Release, Right N/C Closed, Key Included
A22TK-2RL-02-K01	A22TK Base Model, 2 N/C, RIGHT Key Release, Left N/C Closed, Key Included
A22TK-2RL-12-K01	A22TK Base Model, 1 N/O +2 N/C, Right Key Release, Left N/C Closed, Key Included

Accessories

Name	Appearance	Classification	Model	Remarks
Control Box		One hole, yellow box (for emergency stop)	A22Z-B101Y	Material: Polycarbonate resin

*For information on two-hole and three-hole control boxes, contact your Omron representative.
Also, a Switch Block, Mounting Latch, Connector, and Lock Plate can be used.

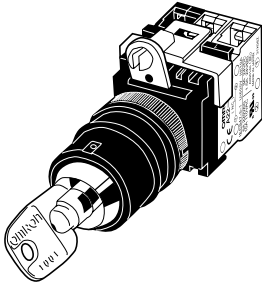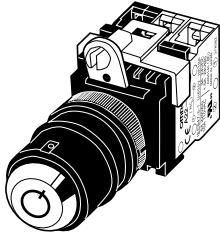🇺🇸 🇨🇦 **Select models are available for Rapid Delivery.**
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Ordering (continued)

List of Models (Completely Assembled)

Shipped as a set which includes the Operation Unit and Switch. For the model with Operation Unit only, contact your Omron representative.

Appearance	Key release position	Key position of NC contact closing	Contact Configuration	Key availability	Model
	↖	↗	SPST-NC	Yes	A22TK-2LL-01-K01
			SPST-NO/SPST-NC		A22TK-2LL-11-K01
			DPST-NC		A22TK-2LL-02-K01
			DPST-NC + SPST-NO		A22TK-2LL-12-K01
			DPST-NO + SPST-NC		A22TK-2LL-21-K01
			TPST-NC		A22TK-2LL-03-K01
	↗	↘	SPST-NC		A22TK-2RL-01-K01
			SPST-NO/SPST-NC		A22TK-2RL-11-K01
			DPST-NC		A22TK-2RL-02-K01
			DPST-NC + SPST-NO		A22TK-2RL-12-K01
			DPST-NO + SPST-NC		A22TK-2RL-21-K01
			TPST-NC		A22TK-2RL-03-K01
	↖	↗	SPST-NC		A22TK-2LR-01-K01
			SPST-NO/SPST-NC		A22TK-2LR-11-K01
			DPST-NC		A22TK-2LR-02-K01
			DPST-NC + SPST-NO		A22TK-2LR-12-K01
			DPST-NO + SPST-NC		A22TK-2LR-21-K01
			TPST-NC		A22TK-2LR-03-K01
	↗	↗	SPST-NC		A22TK-2RR-01-K01
			SPST-NO/SPST-NC		A22TK-2RR-11-K01
			DPST-NC		A22TK-2RR-02-K01
			DPST-NC + SPST-NO		A22TK-2RR-12-K01
			DPST-NO + SPST-NC		A22TK-2RR-21-K01
			TPST-NC		A22TK-2RR-03-K01
	↖	↗	SPST-NC	No	A22TK-2LL-01-01
			SPST-NO/SPST-NC		A22TK-2LL-11-01
			DPST-NC		A22TK-2LL-02-01
			DPST-NC + SPST-NO		A22TK-2LL-12-01
			DPST-NO + SPST-NC		A22TK-2LL-21-01
			TPST-NC		A22TK-2LL-03-01
	↗	↘	SPST-NC		A22TK-2RL-01-01
			SPST-NO/SPST-NC		A22TK-2RL-11-01
			DPST-NC		A22TK-2RL-02-01
			DPST-NC + SPST-NO		A22TK-2RL-12-01
			DPST-NO + SPST-NC		A22TK-2RL-21-01
			TPST-NC		A22TK-2RL-03-01
	↙	↘	SPST-NC		A22TK-2LR-01-01
			SPST-NO/SPST-NC		A22TK-2LR-11-01
			DPST-NC		A22TK-2LR-02-01
			DPST-NC + SPST-NO		A22TK-2LR-12-01
			DPST-NO + SPST-NC		A22TK-2LR-21-01
			TPST-NC		A22TK-2LR-03-01
	↗	↗	SPST-NC		A22TK-2RR-01-01
			SPST-NO/SPST-NC		A22TK-2RR-11-01
			DPST-NC		A22TK-2RR-02-01
			DPST-NC + SPST-NO		A22TK-2RR-12-01
			DPST-NO + SPST-NC		A22TK-2RR-21-01
			TPST-NC		A22TK-2RR-03-01

Note: Omron will obtain the S-mark certification for the models above. For information on other models, contact your Omron representative.

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