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Rope Pull Emergency Stop Switch
ER6022

- Long rope spans up to 80 m means fewer number of switches required per application
- Tension indicator—the tension indicator makes the system easy to set up and to maintain the proper rope tension
- Contact arrangements of 2 N/C + 1 N/O or 3 N/C
- IP67 (NEMA 6) enclosure enables the ER6022 switch to withstand water washdown cleaning
- Heavy-duty housing—the die-cast housing and stainless steel eye nut makes the ER6022 suitable for demanding industrial applications
- Reset button—the blue reset button must be pushed in order to return to "machine run" condition following switch actuation by a pulled or slacked rope
- Long life—the ER6022 switch is designed for a minimum of one million actuations
- Vibration tolerant—the snap-acting switch contacts protect against nuisance tripping due to vibration
- Indicator beacon—the optional dual indicator beacon, available in 24 VDC, can be wired to flash red to indicate a tripped switch or glow a constant green to indicate a properly reset switch
- E-stop button—the ER6022 has two mounting positions where the optional E-stop button may be installed; the E-stop button may be added or replaced in the field

Operation

Blue Reset Button

A blue reset button is provided to easily return the unit back to its machine-run position after actuation.

Emergency Push Button

The emergency push button may be installed or repositioned in the field. The ER6022 has two possible mounting positions for the emergency stop button.
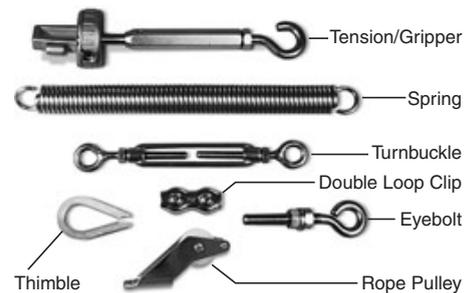
Installation Hardware Available

RK Rope Tension Kit

The RK Rope Tension Kit comes with all of the required hardware for most installations. A spring is required as shown in the installation example below.
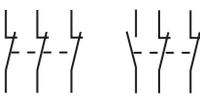
Installation Hardware

Tension/Gripper
Spring
Turnbuckle
Double Loop Clip
Eyebolt
Thimble
Rope Pulley

Individual hardware items may be purchased for specific installation requirements.

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Contact Arrangements

	0 mm	3.5 mm	14.5 mm	17.0 mm
2NC + 1NO Versions	Rope Slack	Tension Range		Rope Pulled
11/12				
21/22				
33/34				

3NC Versions	Rope Slack	Tension Range		Rope Pulled
11/12				
21/22				
31/32				

☐ Contact Open   ☐ Contact Closed

Mounting Specification

ER6022 — ≤ 500 mm — Every ≤ 3 m — Every ≤ 3 m — ≤ 500 mm

Tensioner Gripper   Eyebolt Support   Safety Spring   Wall

≤ 80 m
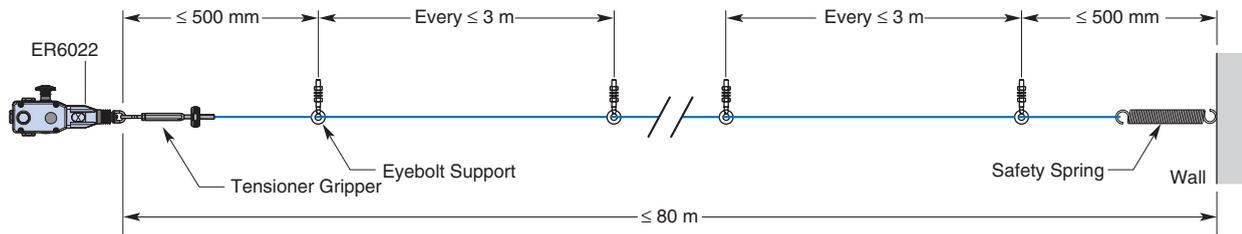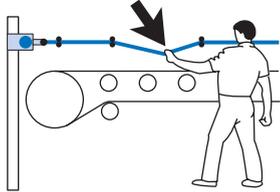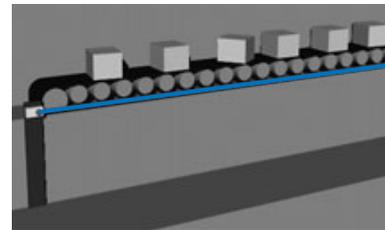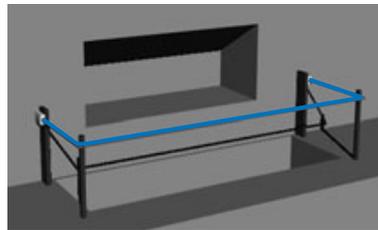
Note: Some installations may require a ER6022 on each end.

Applications

Typical applications are on conveyor systems and across rotating machinery, and around hazardous areas.

Ordering information

Rope Pull Emergency Stop Switch

E-Stop	Indicator Beacon	Contacts	Wiring Entry	Model
Not included	Not included	2 N/C + 1 N/O	3 x M20	ER6022-021M
Not included	Not included	3 N/C	3 x M20	ER6022-030M
Not included	Included (24 VDC)	2 N/C + 1 N/O	3 x M20	ER6022-021ML
Not included	Included (24 VDC)	3 N/C	3 x M20	ER6022-030ML
Included	Not included	2 N/C + 1 N/O	3 x M20	ER6022-021ME
Included	Not included	3 N/C	3 x M20	ER6022-030ME
Included	Included (24 VDC)	2 N/C + 1 N/O	3 x M20	ER6022-021MEL
Included	Included (24 VDC)	3 N/C	3 x M20	ER6022-030MEL

Accessories

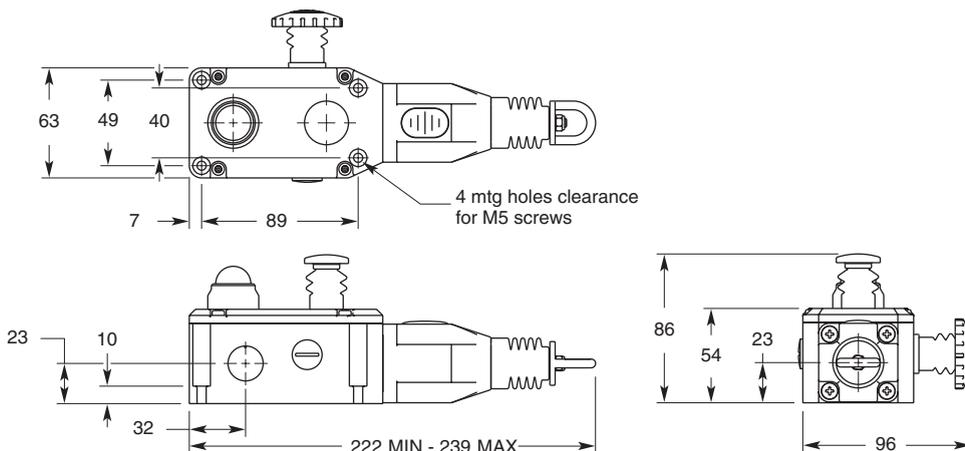| Item	Model
Replacement Lid	SM06-SL500
Replacement Lid/LED	SM06-SL510
Rope Kit, 5 m, Stainless Steel	RK5
Rope Kit, 10 m, Stainless Steel	RK10
Rope Kit, 20 m, Stainless Steel	RK20
Rope Kit, 50 m, Stainless Steel	RK50
Rope Kit, 80 m, Stainless Steel	RK80
Rope Only, 5 m	R5M
Rope Only, 10 m	R10M

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Item	Model
Rope Only, 20 m	R20M
Rope Only, 50 m	R50M
Rope Only, 100 m	R100M
Rope Only, 126 m	R126M
Tensioner Gripper, Stainless Steel	SM06-TG00
Eye Bolt Stainless Steel, 8 per pack	SM06-EB10
Double Loop Clip, Stainless Steel, 4 per pack	SM06-DL20
Thimble Stainless Steel, 4 per pack	SM06-THSS
Turnbuckle, Stainless Steel	SM06-TB30
Spring, Stainless Steel	SM06-SP50
Rope Pulley, Stainless Steel	SM06-RPSS
E-Stop Mechanism	SM06-ES60

Specifications

Electrical	Contact Configurations	2 N/C + 1 N/O, 3 N/C
	Safety Contacts	2 N/C, 3 N/C
	Switching Ability	AC: 240 V–3 A, 120 V–6 A, Inductive, DC: 24 V–2.5 A, Inductive
	Auxiliary Contacts	1 N/O
	Max Switching Current/Volt/Amp	240 V/720 VA
	Minimum Current	5 V, 5 mA DC
	Electrical Life	1,000,000 minimum
	LED Indicator Beacon	24 VDC
Mechanical	Mounting	Any position
	Mounting Hardware	4 x M5 screws
	Actuator Travel for Positive Opening	See diagrams on previous page
	Max Rope Span	80 m
	Operation Force	< 125 N
	Tensioning Force to Run Position	130 N typical
	Case Material	Die-cast aluminum alloy
	Eye Nut Material	Stainless steel
	Wiring Entry	3 x M20
	Weight	880 g
	Color	Yellow
	Mechanical Life	1,000,000 minimum
Environmental	Protection	IP67 (NEMA 6)
	Operating Temperature	-25 to 80°C
	Cleaning	Water washdown
Compliance	Standards	IEC947-5-1, IEC947-5-5, EN418, UL508, BS5304
	Approvals/Listings	CE marked for all applicable directives, UL and C-UL

Note: The safety contacts of the Omron STI switches are described as normally closed (N/C)—i.e., with the rope properly tensioned and the machine able to be started.

Dimensions

For the Latest Information
On the Internet: **www.omron-industrial.com** or **www.sti.com**

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Safety precautions

Operating instructions

Installation must be in accordance with the following steps and stated specifications and should be carried out by suitably competent personnel. Adherence to the recommended maintenance instructions forms part of the warranty.

⚠ **WARNING** Do not defeat, tamper, remove or bypass this unit. Severe injury to personnel could result.

Optional 24 VDC Indicator Beacon
When +24VDC is applied to the **red** wire, the beacon will illuminate red and flash.
When +24 VDC is applied to the **green** wire, the beacon will illuminate green.

(+24VDC) — Red — Black — (0 V)
(+24VDC) — Green
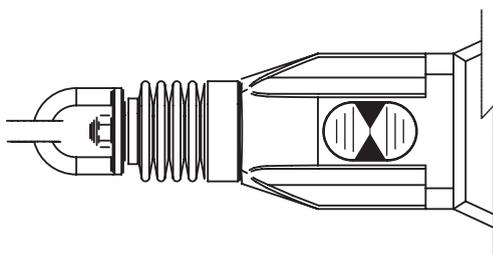
Optional 120 VAC Indicator Beacon
When +120VAC is applied to the **red** wire, the beacon will illuminate red and flash.
When +120 VAC is applied to the **green** wire, the beacon will illuminate green.

(120VAC) — Red — Black — (common)
(120VAC) — Green

Tension Indicator
Indicator shown with steel rope properly adjusted.

⚠ **WARNING**

1. Installation of all Safety Rope Switch systems must be in accordance with a risk assessment for the individual application. Installation must only be carried out by competent personnel and in accordance with these instructions.

2. Rope support eyebolts must be fitted at 2.5 m. min. to 3 m. max. intervals along all rope lengths between switches. The rope must be supported no more than 500 mm from the switch eyebolt or Safety Spring (if used). It is important that this first 500 mm is not used as part of the active protection coverage.

3. M5 mounting bolts must be used to fix the switches. Tightening torque for mounting bolts to ensure reliable fixing is 4 Nm. Tightening torque for the lid screws, conduit entry plugs and cable glands must be 1.5 Nm to ensure IP seal. Only use correct sizing glands for conduit entry and cable outside diameter.

4. Tensioning of rope is achieved by use of tensioner / gripper assemblies. Upon installation, tension to mid-position as indicated by the red arrows in the viewing window of each switch. Check operation for all switches and the control circuits by puling the rope at various locations along the active protection area and resetting each switch by depressing the Blue Reset button. Ensure each time that the switches latch off and require manual resetting by depressing the Blue Reset button. Increase the system tension further, if required, depending upon the checks along the active length of coverage. If fitted with a Mushroom type E-Stop button (Red) then test and reset each switch to ensure function of control circuits. Typical operational conditions for successful operation of system is less than 75 N. pulling force and less than 150 mm deflection of rope between eyebolt supports. If the optional LED is fitted but is not used, ensure that the conductors remain coiled and tied to the tie hole in the LED flange.

5. Every week: Check correct operation of system at locations along all coverage length. Check for nominal tension setting, re-tension rope if necessary. Every 6 months: Isolate power and remove cover. Check screw terminal tightness and check for signs of moisture ingress. Never attempt to repair any switch.

ALL DIMENSIONS SHOWN ARE IN MILLIMETERS.
To convert millimeters into inches, multiply by 0.03937. To convert grams into ounces, multiply by 0.03527.

Cat. No. E54E-EN-01 In the interest of product improvement, specifications are subject to change without notice.

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For the Latest Information
On the Internet: **www.omron-industrial.com** or **www.sti.com** Rope Pull Emergency Stop Switch

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