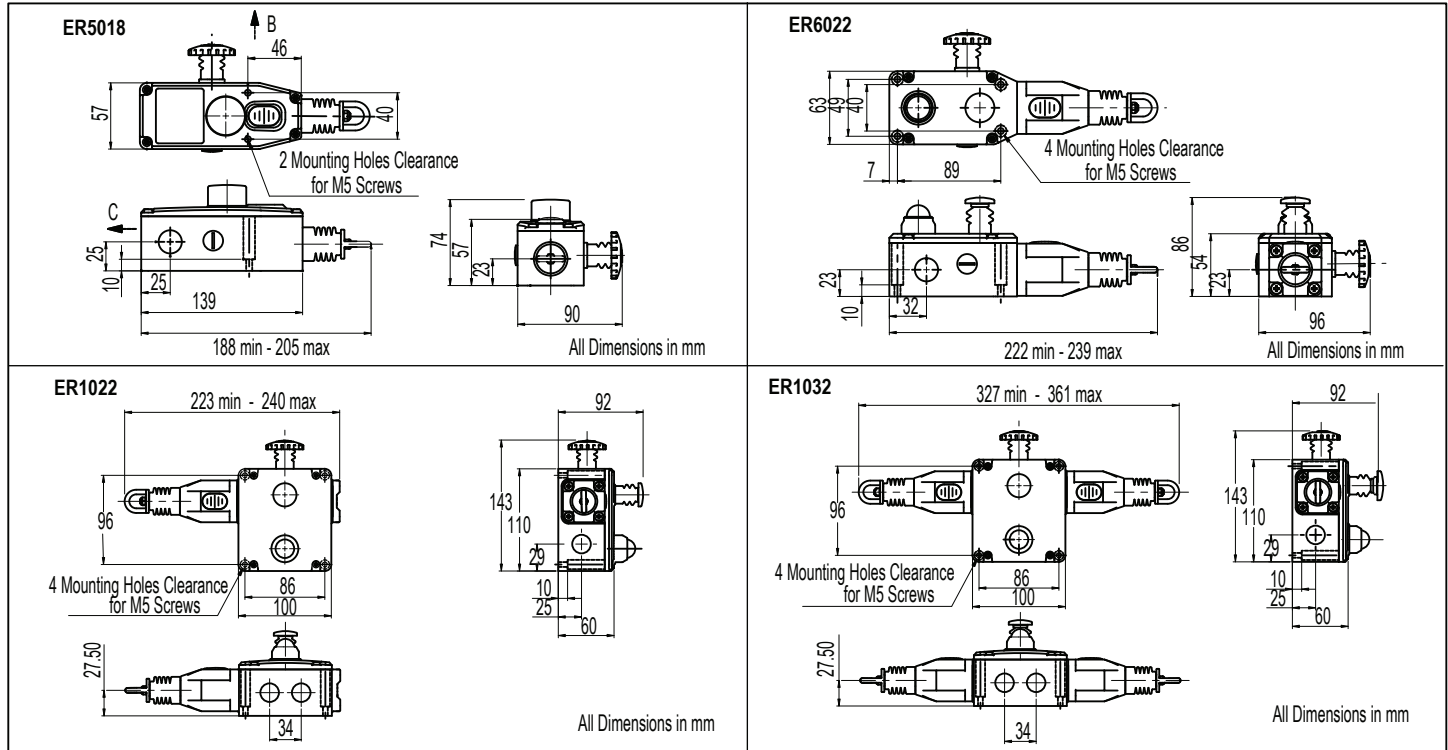


ER Series

Operating Instructions for ER5018, ER6022, ER1022 & ER1032

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.



ER5018

| 0mm | 3.5mm | 14.5mm | 17.0mm |
|------------------|------------|---------------|-------------|
| 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 | | | |

ER6022

| 0mm | 4.0mm | 14.5mm | 17.0mm |
|------------------|------------|---------------|-------------|
| 2NC 1NO versions | Rope Slack | Tension Range | Rope Pulled |
| 11/12 | | | |
| 21/22 | | | |
| 33/34 | | | |

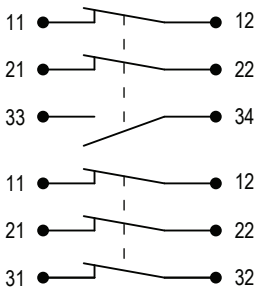
| 3NC versions | Rope Slack | Tension Range | Rope Pulled |
|--------------|------------|---------------|-------------|
| 11/12 | | | |
| 21/22 | | | |
| 31/32 | | | |

ER1022 & ER1032

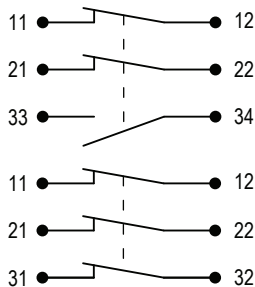
| 0mm | 4.0mm | 15.0mm | 17.0mm |
|-------------|------------|---------------|-------------|
| 4NC 2NO | Rope Slack | Tension Range | Rope Pulled |
| 11/12 41/42 | | | |
| 21/22 51/52 | | | |
| 32/34 63/64 | | | |

| |
|----------------|
| Contact open |
| Contact closed |

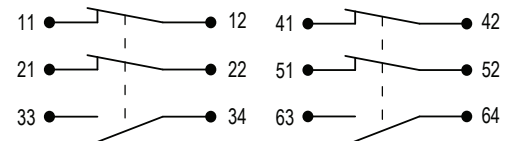
ER5018



ER6022



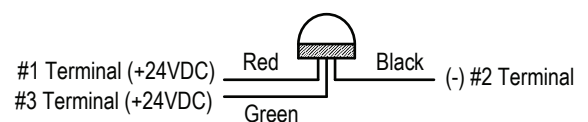
ER1022 & ER1032



Optional Indicator Beacon

When +24VDC or 120 VAC (depending on version used) is applied to the **red** wire, the beacon will illuminate **red** and flash.

When +24VDC or 120 VAC (depending on version used) is applied to the **green** wire, the beacon will illuminate **green** and flash.



ER Series

Operating Instructions for ER5018, ER6022, ER1022 & ER1032

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

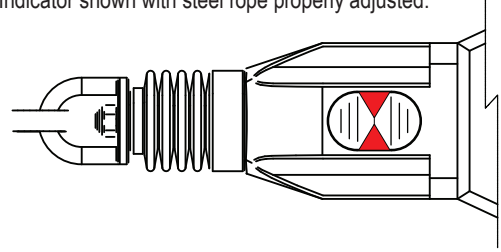
3. M5 mounting bolts must be used to fix the switches. Tightening torque for mounting bolts to ensure reliable fixing is 4Nm. Tightening torque for the lid screws, conduit entry plugs and cable glands must be 1.5Nm to ensure IP seal. Only use correct sizing glands for conduit entry and cable outside 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 pulling 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 75N. pulling force and less than 150mm deflection of rope between eyebolt supports.

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.

Tension Indicator

Indicator shown with steel rope properly adjusted.



| | |
|---------------------------------------|---|
| Mechanical Reliability B10d: | 1.5×10^6 operations at 100mA load |
| ISO 13849-1: | Up to PLe depending upon system architecture |
| Safety Data - Annual Usage: | 8 cycles per hour/24 hours per day/365 days |
| PFHd: | $< 1.0 \times 10^{-7}$ |
| Proof Test Interval (Life): | 21 years |
| MTTFd: | 214 years |
| Enclosure / Cover: | Die-cast – painted yellow |
| External Parts | Stainless steel |
| IP Rating | IP67 |
| Rope Spans Max | ER1022, ER1032 (heavy duty), dual head 200m., single head 125m. ER6022 (standard duty) = 80m. ER5018 (mini duty) = 100N |
| Torque settings | Mounting = M5 4.0 Nm Lid = Torx M4 1.5 Nm Terminals = 1.0 Nm |
| Ambient Operating Temperature | -25C. to 80 C. |
| Vibration resistance | 10-500Hz 0.35mm |
| Shock resistance | 15g 11ms |
| Tension Force (typical mid setting) | ER1022, ER1032 (Heavy Duty) 130N ER6022 (standard duty) = 80m. ER5018 (mini duty) = 100N |
| Typical Operating Force (Rope pulled) | < 125N. < 300mm deflection |
| Mechanical Life: | 1,000,000 operations |
| Weight | ER1022, ER1032 (Heavy Duty) 130N ER6022 (standard duty) = 80m. ER5018 (mini duty) = 100N |

| | |
|--------------------------------------|---|
| Electrical | |
| Contact Type: | IEC 60947-5-1 Double break Type Zb Snap Action up to 4NC (Safety positive break_ 2NO (Auxiliary) |
| Contact Material: | Silver |
| Termination: | Clamp up to 2.5 sq. mm conductors |
| Switching Ability: | AC = 240V 3A, 120V 6A, Inductive DC = 24V 2.5A, Inductive |
| Max. Switching Current / Volt / Amp: | 240V / 720V Break |
| Information with regard to UL 508 | Use polymeric conduit only. Use copper conductors only. Electrical rating: A300. Type 1 enclosures |
| Approvals: | cULus E195653, TUV Typed approved, Certificate no: 968/EZ 350.00/09 |
| Standards: | See EC DoF, UL508 (NKCR, NKCR7) |

Exclusion of Liability Under the Following Circumstances

incorrect use
non-compliance with safety regulations
installation and electrical connection not performed by authorized personnel.
failure to perform functional checks.

EC Declaration of Conformity

The manufacturer named below herewith declares that the product fulfills the provisions of the directive(s) listed below and that the related standards have been applied.

OMRON Scientific Technologies Inc.
6550 Dumbarton Circle
Fremont, CA 94555, U.S.A.

Directives applied:
Machinery directive 2006/42/EC
Low Voltage directive 2006/95/EC
RoHS directive 2011/65/EC

Standards applied:
EN 60947-1:2007+A1:2011
EN 60947-5-1:2004+A1:2009
EN 60947-5-5:1997+A1:2005
EN 60204-1:2006+A1:2009
EN ISO 13850:2008

Fremont, March 2013

Marty Krikorian
Director, Quality Control

The signed EC Declaration of Conformity is included with the product.



OMRON

OMRON Scientific Technologies Inc.

6550 Dumbarton Circle, Fremont CA 94555 USA

USA: 800.556.6766

Canada: 866.986.6766

Mexico and South America: 847.843.7900

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OMRON AUTOMATION AND SAFETY • THE AMERICAS HEADQUARTERS • Chicago, IL USA • 847.843.7900 • 800.556.6766 • www.omron247.com

OMRON CANADA, INC. • HEAD OFFICE

Toronto, ON, Canada • 416.286.6465 • 866.986.6766 • www.omron247.com

OMRON ELECTRONICS DE MEXICO • HEAD OFFICE

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