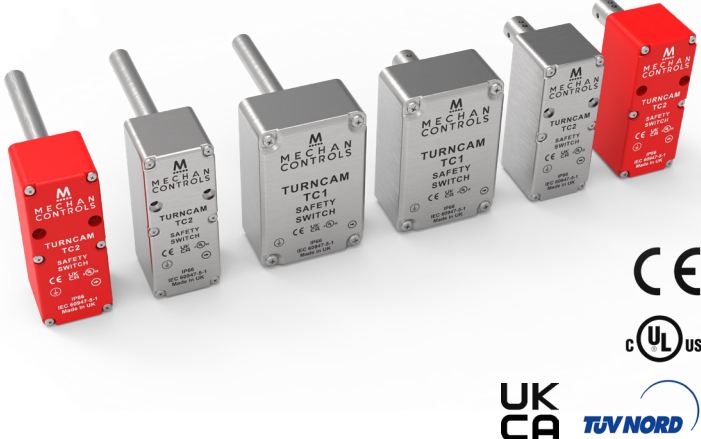


### Installation Instructions for Turncam - TC1-SS, TC2, TC2-SS

	<h4>Description</h4> <p>TURNCAM safety switches are hinge mounted, rotating switches and are suitable for use in machine guarding applications. The Turncam operations on a 11 degree or 5 degree rotation helping to ensure a long and trouble free operating life. Two different shaft lengths are available, 30mm or 85mm.</p> <p>These safety switches are available in a robust ABS, or 316 Grade Stainless Steel housing. They are easy to install with correct installation, these safety switches comply with the guidelines given in EN60947-5-1.</p> <p>Turncam safety switches are designed to be used in part of safety related control system. A risk assessment should take place to establish that the specifications of these safety switches are suitable for the application required. See Technical Specifications below or contact Mechan Controls for further information.</p>
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#### KEEP THIS GUIDE FOR FUTURE REFERENCE

The information is designed to help suitably qualified personnel install and operate Mechan Controls safety equipment. Before using this product, read this guide thoroughly along with any relevant European and/or National Standards E.g. Machinery Directive 2006/42/EC and its Amendments, Provision and Use of Work Equipment Regulations. Further information can be obtained from Mechan Controls Ltd.

Technical Specifications	TC1-SS	TC2, TC2-SS
Contacts	Maximum 2 NC + 2 NO or 3 NC + 1 NO	Maximum 2 NC + 2 NO or 3 NC + 1 NO
Switching current @ Voltage min	5mA @ 5V DC	5mA @ 5V DC
Rated Insulation Voltage	(Ui) 500V	(Ui) 500V
Shaft Rotation for Contact Operation	11° Maximum, 5° Minimum	11° Maximum, 5° Minimum
Thermal Current	10A	10A
External Fuse (Customer Supplied)	10A	10A
Construction	316 Grade Stainless Steel	RED ABS, or 316 Grade Stainless Steel
IP Rating	IP66	IP66
Operating Temperature	-20°C to +80°C	-20°C to +80°C
Fixing	M4 Torx security screws (Tightening Torque 1.0NM)	M4 Torx security screws (Tightening Torque 1.0NM)
Connection	Pre-wired	Pre-wired
Break Contact Force min	12cNm (torque on shaft)	12cNm (torque on shaft)
Actuation Speed, Max	160 mm/s	160 mm/s

#### Safety Related Data

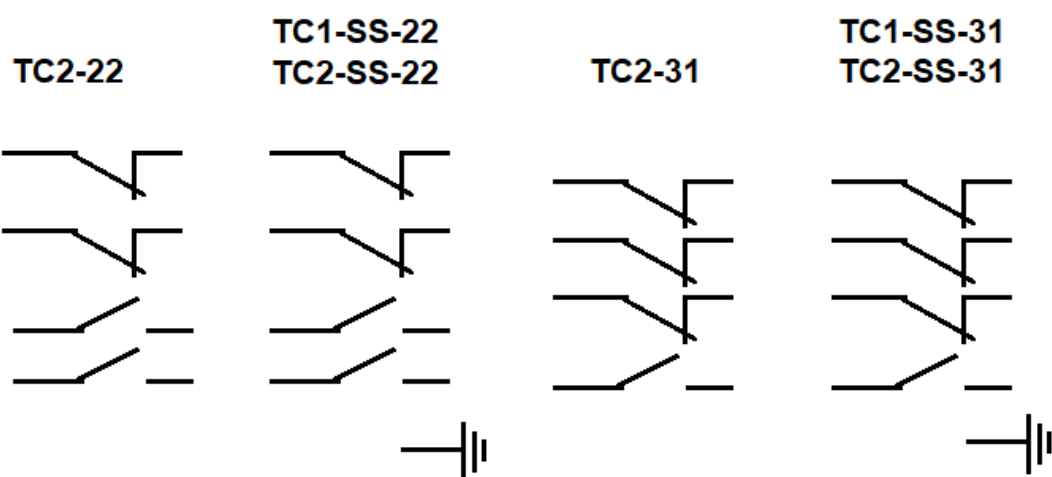
B10d	2,000,000	PFH	6.52 x 10 <sup>-8</sup>
TM (Mission Time)	> 20 Years	PFHd	4.3 x 10 <sup>-8</sup> See Note 1
DC	99%	SFF	98%
MTTFd	High > 100 Years (Based on usage rate of 360 Days/Year, 24 Hours/Day, 10 Operations/Hour)		
Note 1: Based on dual channel wiring according to CAT 4. Diagnostic coverage provided by downstream control logic. DC - medium, MTTFd = 100 Years. Suitable for performance level applications PLe according to ISO 13849-1. (SIL 3 or SIL 2 according to IEC 62061)			

Safety Standards	
Approvals	CE Complies with all relevant sections of the CE Marking Directive
	cUL 508 Industrial Control TUV Approved
International Directives	Machinery Directive 2006/42/EC, Low Voltage Directive 2014/35/EU; EMC Directive 2014/30/EU, RoHS Directive 2011/65/EU
International Standards	EN 12100 Safety of Machinery. General principles for design.
	EN ISO 14119 Safety of Machinery. Interlocking devices associated with guards. Principles for design and selection. EN ISO 13849 Safety of Machinery. Safety related parts of control systems.
	EN ISO 62061 Safety of Machinery. Functional safety of safety related electrical, electronic and programmable electronic control systems
	EN 60204 Safety of Machinery. Electrical equipment of machines.
	EN 60947-5-1 Low-voltage switchgear and controlgear.
	EN 60947-5-3 Low-voltage switchgear and controlgear.

Dimensions	
TC1 Dimensions	
TC2 Dimensions	

Mounting	
<p>A risk assessment for each application must be undertaken before installation.</p> <p>The Turncam is to be mounted on the hinge of a door.  The switch shaft should be aligned with the hinge on the door.  The body of the Turncam should be fixed to the door frame using the screws provided and tightened to 1.5Nm.</p> <p>The shaft must be secured by using the 2 fixing screws, after checking the operational function of the turncam.</p>	

## PRE-WIRED



## Operation

The Turncam operates by the stainless steel shaft rotation clockwise or anti-clockwise to cause the contacts to switch simultaneously.



By opening the guard, positive actuation can be achieved at a maximum of 11 degrees.



### Installation Instructions for Turncam - TC1-SS, TC2, TC2-SS

#### Product Selection

**TC1 - SS - 2 2 - 85**

##### Housing Shape

TC1

TC2

##### Housing Material

Blank Plastic

SS Stainless Steel

##### Shaft Length

30 30mm

85 85mm

##### Safety Channels

2 2 N/C (when door is open)

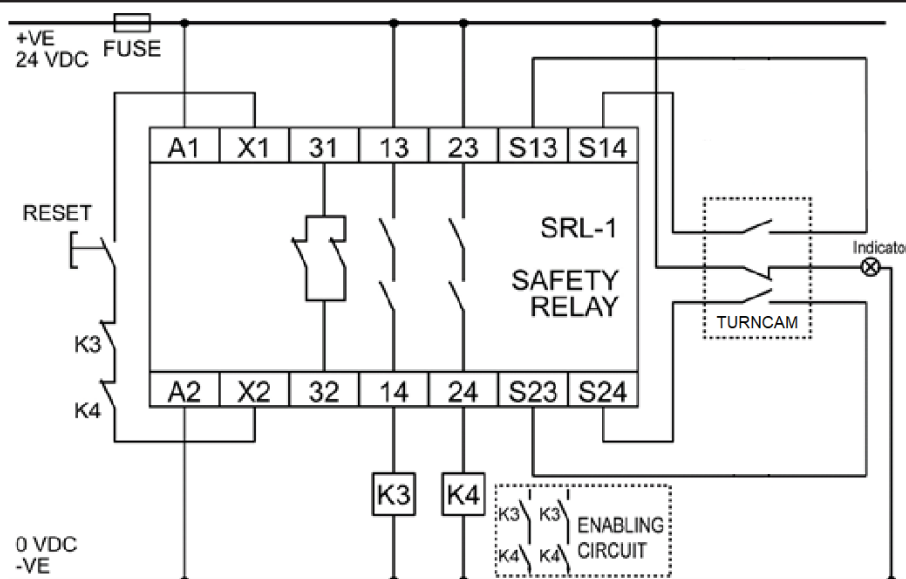
3 3 N/C (when door is open)

##### Auxiliary Channels

1 1 N/O (when door is open)

2 2 N/O (when door is open)

#### Recommend Safety Control Unit



#### IMPORTANT

All control contacts should be externally fused.

Recommended Safety Control Unit Mechan Part Number: SRL-1 24VAC/DC or EM1 & ESM

#### Maintenance

It is recommended to check the safe operation of the switches and look for signs of damage or excessive wear on a weekly basis. Damaged units should be replaced or returned to the manufacturer for repair where practical.

#### Notes

In the interest of product development specifications are subject to change without notice. It is the responsibility of the user to ensure compliance with any acts or by-laws in place. All information regarding Mechan equipment is believed to be accurate at the time of printing. Responsibility cannot be accepted for errors or omissions.

#### Contact Details

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