

Installation Instructions for Tongue Guard - TG1, TG1-SS

<p style="text-align: right;">   </p>	<h4>Description</h4> <p>The Tongue Guard safety tongue interlock switch is designed to fit on hinged, lift or sliding guards. The TG1 has two key entry points and a rotatable head, this is movable by releasing the cover screws. By doing this, it will allow for four key entry points.</p> <p>The Tongue Guard uses force guided contacts and tamper resistant mechanism, this allows it to be safely guarded and adhere to the machinery directive.</p> <p>The TG1 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>Tongue Guard safety switches are designed to be used as 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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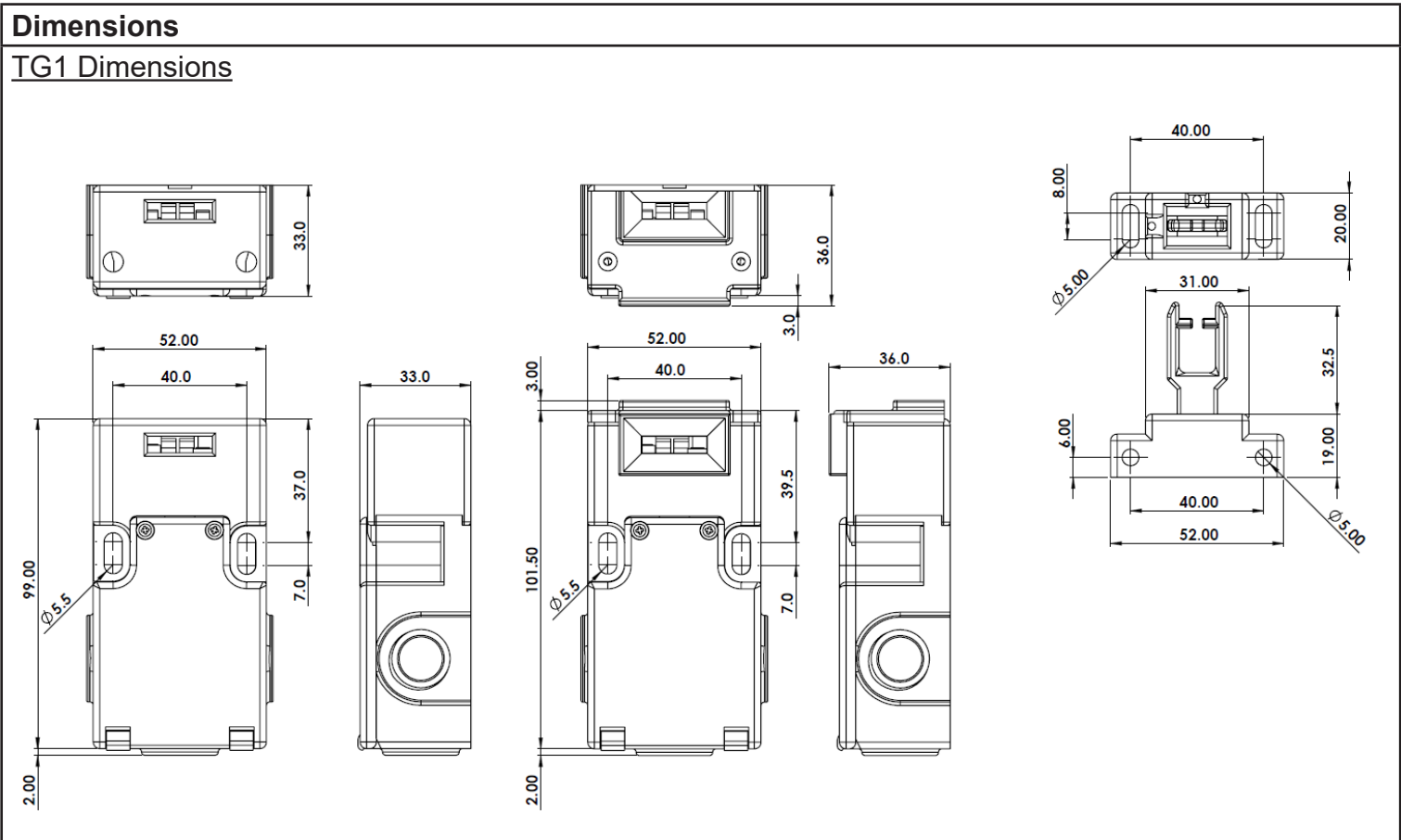
KEEP THIS GUIDE FOR FUTURE REFERENCE

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	TG1	TG1-SS
Contacts	Maximum 3 NO + 1 NC	Maximum 3 NO + 1 NC
Switching current @ Voltage min	5mA @ 5V DC	5mA @ 5V DC
Rated Insulation Voltage	(Ui) 500V	(Ui) 500V
Thermal Current	10A	10A
External Fuse (Customer Supplied)	10A	10A
Construction	RED ABS, or 316 Grade Stainless Steel	RED ABS, or 316 Grade Stainless Steel
IP Rating	IP67	IP67
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	20N	20N
Actuation Speed, Max	160 mm/s	160 mm/s

Safety Related Data			
B10d	2,000,000	PFH	6.52 x 10 ⁻⁸
TM (Mission Time)	> 20 Years	PFHd	4.3 x 10 ⁻⁸ 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 PL _e 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.



Mounting

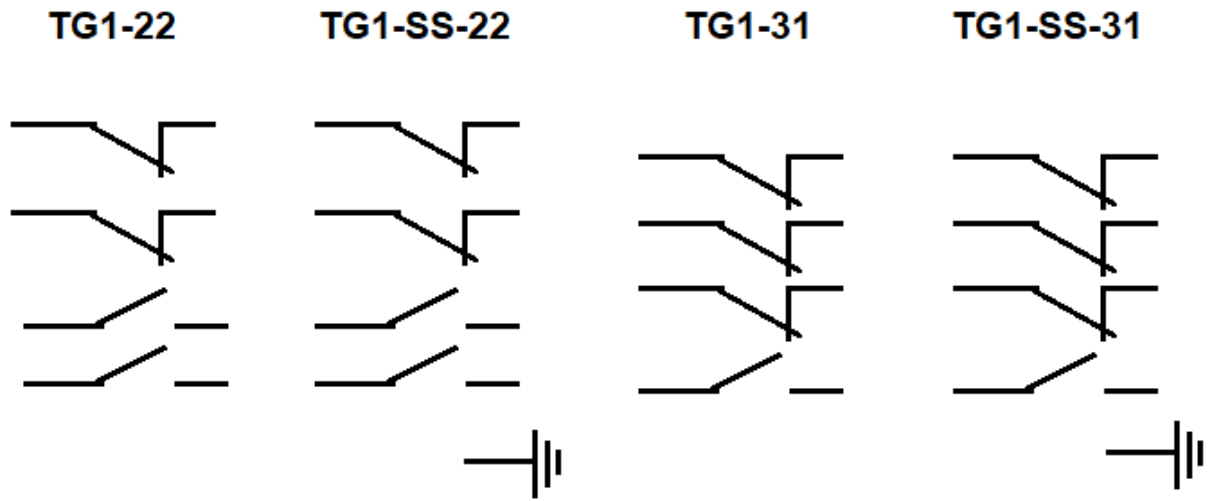
A risk assessment for each application must be undertaken before installation.

The Tongue Guard safety switch is designed to be mounted on the leading edge of a sliding door, hinge door or lifting guards. The TG1 should be aligned with its corresponding actuator on the door.

The body of the Tongue Guard should be fixed to the door frame using the screws provided and tightened to 1.5Nm.

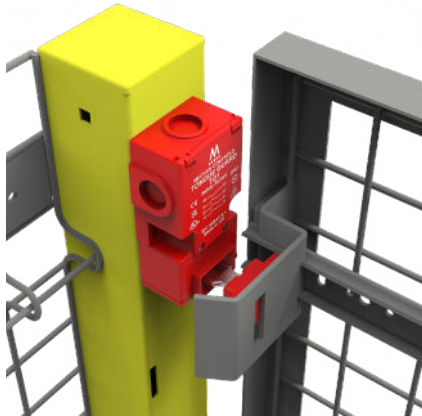
The image shows a red TG1 Tongue Guard safety switch mounted on a metal door frame. The switch is labeled 'MECHAN CONTROLS TONGUE GUARD TG1 Safety Switch' and features various safety symbols and technical specifications like 'IEC 60947-5-1' and '1.5 Nm'. It is shown in its closed position, with a red tongue guard protruding from the door frame.

PRE-WIRED



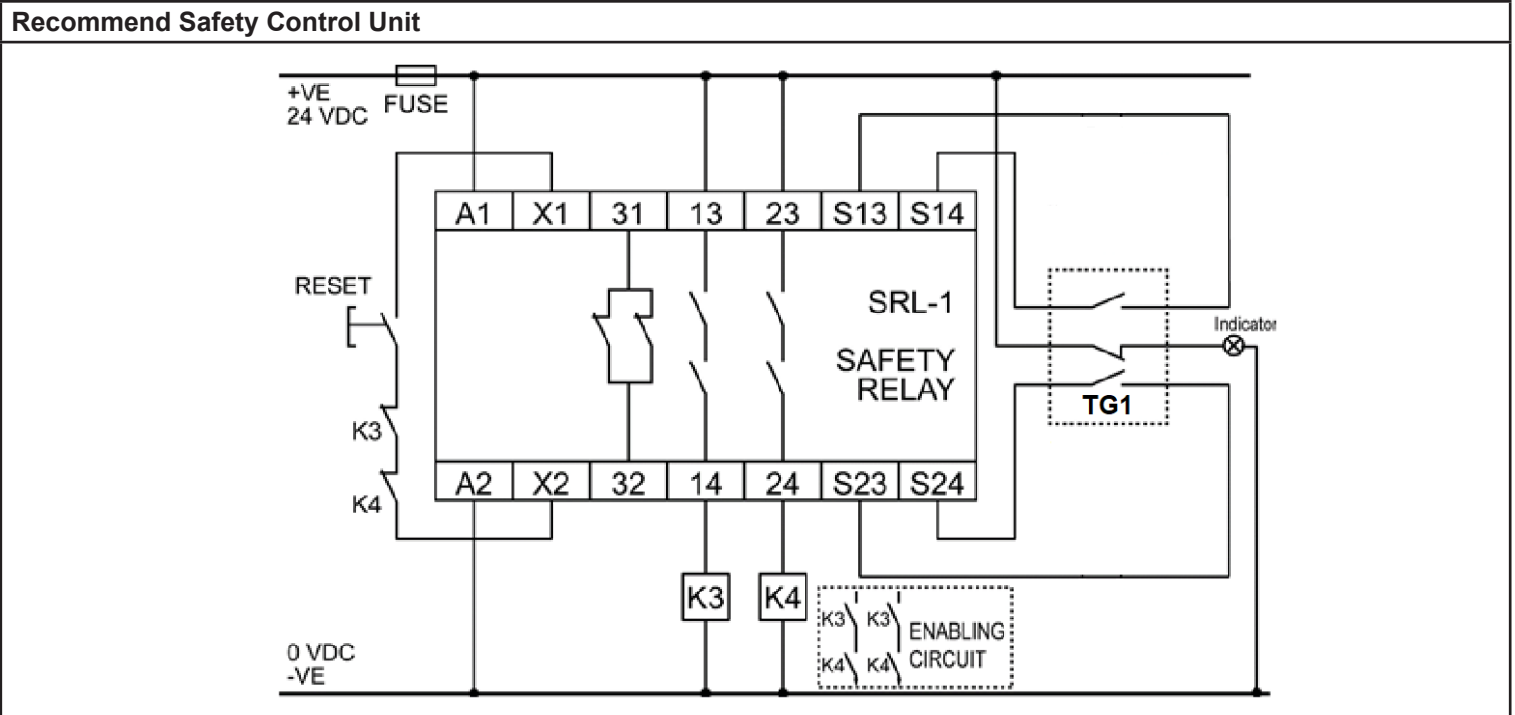
Operation

The Tongue Guard operates by the stainless steel tongue actuator being inserted into the switch to cause the contacts to switch simultaneously.



By opening the guard, positive actuation can be achieved.

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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.
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