Emergency Stop Grab Wire Safety Switch LineStrong1

Approvals:

Application:

- Machines
- Transportation lines

Features:

- Easily accessible
- Forced contacts
- Double switching in both directions of travel
- Up to 50 m Wire length
- IP67
- 2NO + 2NC

Switch operational description

LineStrong1 is an emergency stop grab wire safety switch used for easy reach of an emergency stop along machines, conveyors and processes. LineStrong1 is a compact and small, yet robust switch that can handle wires up to 30 meters on a single switch (up to 50 meters on two switches).

A grab wire emergency stop is easier to install than a system of several emergency stop buttons along a carriage path. LineStrong1 can be used as protection, for example along a conveyors with low risks where the wire can be installed at waist height in front of the conveyor, which provides an emergency stop if someone walks or falls towards the conveyor. LineStrong1 has double switching in both directions of the wire. So if someone pulls the wire or if the wire is broken, the switch goes to a safe state, e.g. the machine is emergency-stopped. After a safe state the LineStrong1 needs to be reset to be able to run again and this is made on the local reset button. LineStrong1 is equipped with an indication of how taut the wire is, which make the installation or adjustment easy.

Material

The LineStrong1 is made a rugged die cast housing with a rating of IP67.

Positive forced disconnected contacts

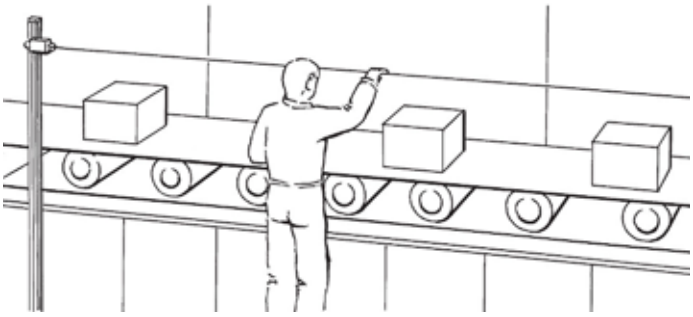
A positive forced contact provides a forced disconnect of the safety contacts when the wire is being pulled or broken. The design of the LineStrong1 ensures that the contacts will not fail or be held in a normally closed position, due to failure of the spring mechanism or that welding/sticking of the contacts can occur. The LineStrong1 switch has 2NC and 2NO contacts.

Safety level

The forced disconnected contacts provide a high level of safety. To achieve a maximum safety level in connection with the machine control system, it is recommended that the LineStrong1 is monitored by an appropriate ABB Jokab Safety safety relay, Pluto safety-PLC or a Vital system.

Regulations and Standards

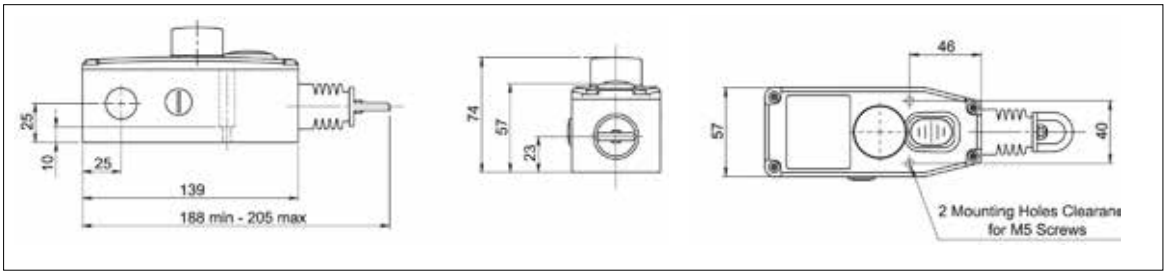
The LineStrong1 is designed and approved in accordance to relevant standards. Examples of relevant standards are IEC/EN 60947-5-1, IEC/EN 60947-5-5, EN 62061, UL 508, EN ISO 13850 and EN ISO 13849-1.



Emergency stop grab wire easily accessible during normal work operation along a machine.

Technical data – LineStrong1 series

Article number	
LineStrong1	2TLA050200R0030
Level of Safety	
EN ISO 13849-1	Up to PL e /Cat. 4 depending upon system architecture
EN 62061	Up to SIL3 depending upon system architecture
Safety data	
Mechanical reliability B_{10d}	1.5 x 10^6 operations at 100mA load 21 years
Proof test interval (life) $MTTF_d$	214 years (8 cycles per hour/24 hours per day/365 days)
Wire span	up to 50 m
Wire tension device	Tensioner / Gripper- Quick Fixing
Wire type	PVC sheath steel wire 4.0 mm outside diameter
Torque settings	Mounting M5 4.0Nm, Lid T20 Torx M4 1.5Nm, Terminals 1.0Nm
Termination	Clamp up to 2.5 mm^2 conductors
Tension force (typical mid setting)	130N
Tension operating force (wire pulled)	< 125N < 300 mm deflection
Short circuit overload protection	Fuse externally 10 A (FF)
Rated insulation/withstand voltages	500 VAC / 2500 VAC
Utilisation category	AC15 A300 3A
Vibration resistance	10-500 Hz 0.35 mm
Shock resistance	15 g 11 ms
Thermal current (Ith)	10A
Contact type	IEC/EN 60947-5-1 double break Typ Zb snap action
Contact material	Silver
Conduit entries	3 x M20 x 1.5
Enclosure classification	IP67
Ambient temperature	-25°C to +80°C
Enclosure material/cover	Die cast painted yellow
Mounting position	Any
Mounting bolts	4 x M5



Dimension LineStrong1