

Emergency Stop Grab Wire Safety Switch LineStrong2

Approvals:



Application:

- Machines
- Transportation lines

Features:

- Duplicate extraction in two directions
- Up to 100 m length
- Up to IP69K
- Integrated emergency stop button
- 2NO + 2NC
- EX version



Switch operational description

LineStrong2 is an emergency stop grab wire safety switch used for easy reach of an emergency stop along machines, conveyors and processes. LineStrong2 is a robust switch that can handle wires up to 80 meters on a single switch (up to 100 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. LineStrong2 can be used as protection, for example along 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. LineStrong2 has double switching in both directions of the wire. 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 LineStrong2 needs to be reset to be able to run again and this is made with the local reset button. Additional features on the LineStrong2 are a "normal" emergency stop that is fitted on the side of the grab wire safety switch and also a two coloured LED for indication. LineStrong2 is equipped with an indication of how taut the wire is, which make the installation and adjustment easy.

Material

Depending on the environment where the switch will be used, different material can be chosen for the LineStrong2. The basic version has a rugged yellow die cast housing with a rating of IP67. In severe applications as for food processing and chemical industry there is a LineStrong2Z with a total rugged stainless steel 316 body. This version has IP69K enclosure protection (maintained by a double seal lid gasket and seals)

and can be high pressure hosed with detergent at high temperature.

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 LineStrong2 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 LineStrong2 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 the connection with the machine control system, it is recommended that the LineStrong2 is monitored by an appropriate ABB Jokab Safety safety relay, Pluto safety-PLC or a Vital system.

Explosion Proof version (X)

LineStrong2 also exist in versions with certified explosion proof contact block (X-versions). LineStrong2ZX have a stainless steel body and can be used in European Zone 1, 2, 21, 22 environments (Gas and Dust). Preassembled with 3 meter cable.

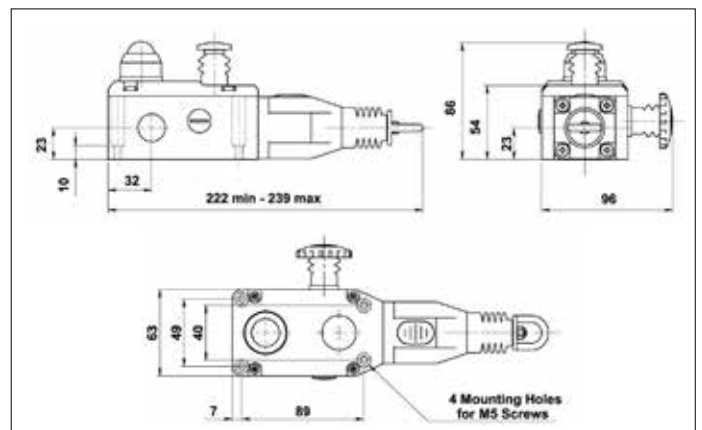
Regulations and Standards

The LineStrong2 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.

Technical data – LineStrong2 series

Article number	
LineStrong2	2TLA050202R0332
LineStrong2Z	2TLA050202R0322
LineStrong2ZX (EX)	2TLA050202R7125
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}	1.5×10^6 operations at 100mA load
Proof test interval (life)	21 years
MTTF _d	214 years (8 cycles per hour/24 hours per day/365 days)
Wire span	
LineStrong2	Up to 80 m
LineStrong2Z(X)	Up to 100 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 10A (FF)
Rated insulation/withstand voltages	
	500VAC / 2500VAC
Utilisation category	
	AC15 A300 3A
Vibration resistance	
	10-500Hz 0.35 mm
Shock resistance	
	15 g 11 ms
Thermal current (I_{th})	
	10A
LED	
	24 VDC

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	
LineStrong2	IP67
LineStrong2Z(X)	IP69K and IP67
Ambient temperature:	
LineStrong2	-25°C to +80°C
LineStrong2Z(X)	-25°C to +80°C (100°C cleaning)
Enclosure material/cover	
LineStrong2	Die cast painted yellow
LineStrong2Z(X)	Stainless steel 316
Mounting position	
	Any
Mounting bolts	
	4 x M5
Explosion Proof version (X)	
Classification	Ex d IIC T6 (-20°C ≤ Ta ≤ +60°C) Gb Ex tb IIIC T85°C (-20°C ≤ Ta ≤ +60°C) Db
Rated Voltage	250V AC/DC
Rated Current	2 pole 4A 4 pole 2.5A



Dimensions LineStrong2 and LineStrong2Z

