

# Line Strong 3D Heavy duty switches

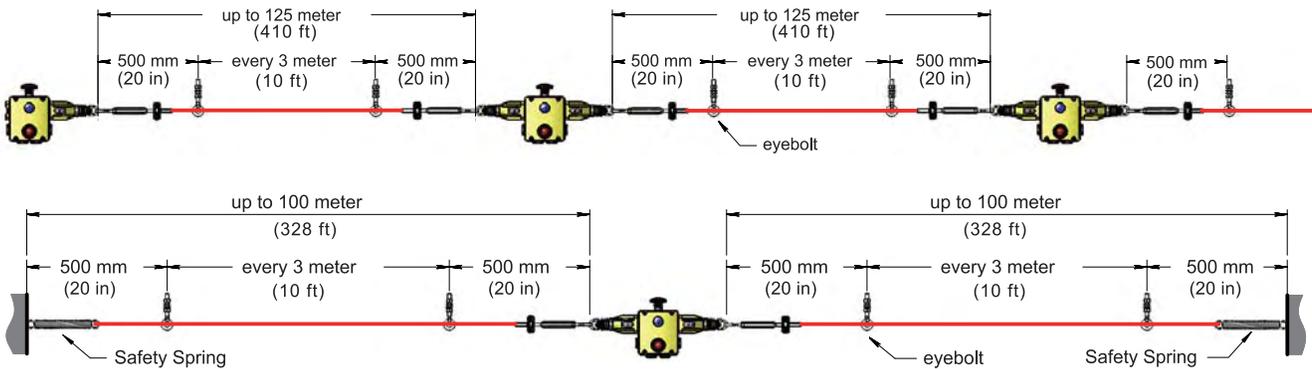
## Protection up to 250 meters



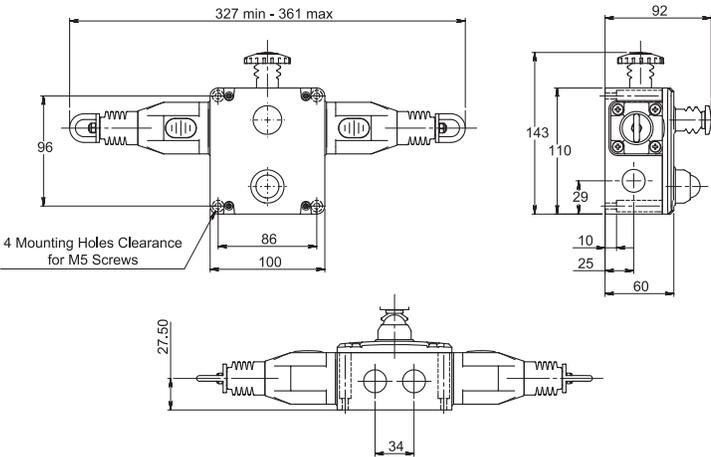
The Line Strong 3D is a Heavy Duty Safety Rope Pull switch designed to protect long conveyor lengths. The die-cast housings are robust to survive indoor or outdoor use including washdown (IP67 rating).

Lengths over 2 Km can be achieved with less than 20 switches. A bi-color LED ensures switch status can be seen easily from a distance. They have 4NC 2NO contacts to ensure flexibility with all modern control applications.

Shorter rope spans up to 200m can be achieved by using just one switch, therefore making a cost effective solution and also reducing electrical wiring runs.



It is recommended when using a Safety Spring that a maximum of one corner pulley is used.



Standards:	IEC 947-5-1	IEC947-5-5	EN954-1	EN62061
	UL508	ISO13850	ISO13849-1	
<b>Safety Classification and Reliability Data:</b>				
Mechanical Reliability B10d	1.5 x 10 <sup>6</sup> operations at 100mA load			
EN 954-1	up to Category 4 with Safety Relay			
ISO 13849-1	up to PLe depending upon system architecture			
EN 62061	up to SIL3 depending upon system architecture			
Safety Data - Annual Usage	8 cycles per hour / 24 hours per day / 365 days			
PFHd	<1.0 x 10 <sup>-7</sup>			
Proof Test Interval (Life)	21 years			
MTTFd	214 years			
Enclosure / Cover	Die-Cast – Painted Yellow			
External Parts	Stainless Steel			
IP Rating	IP67 (NEMA 6)			
Rope Spans	Dual Head 250m.			
Rope Tension device	Tensioner / Gripper - Quick fixing			
Rope Type:	4.0 mm Outside Dia. Steel inner – PVC sheath			
Mounting	4 x M5			
Mounting position	Any			
Conduit entries	4 x M20 or 4 x 1/2" NPT by part number			
Torque settings	Mounting M5 4.0 Nm Lid T20 Torx M4 1.5 Nm Terminals 1.0 Nm			
Ambient Temperature	-25C +80 C.			
Vibration resistance	10-500Hz 0.35mm			
Shock resistance	15g 11ms			
Tension Force (typical mid setting)	130N.			
Typical Operating Force (Rope pulled)	< 125N. < 300mm Deflection			
Mechanical Life	1,000,000 operations			
Weight	1320 g.			
Contact type	IEC 947-5-1 Double break Type Zb Snap Action up to 4NC (positive break) 2NO (Auxiliary)			
Contact Material	Silver			
Termination	Clamp up to 2.5 sq. mm conductors			
Rating	Utilisation Category: AC15 A300			
Operational Rating	240V. 3A.			
Thermal Current (Ith)	10A.			
Rated Insulation Voltage (Ui)	500V.			
Withstand Voltage (Uimp)	2500V.			
Short Circuit Overload Protection	Fuse Externally 10A. (FF)			

Line Strong 3D
2TLA050204R0332 LineStrong3D, 4NC/4NO, M20 ESTOP/LED 24VDC
2TLA050204R1332 LineStrong3D, 4NC/4NO, NPT ESTOP/LED 24VDC
2TLA050204R0333 LineStrong3D, 4NC/4NO, M20 ESTOP/LED 110VAC
2TLA050204R1333 LineStrong3D, 4NC/4NO, NPT ESTOP/LED 110VAC
2TLA050204R0334 LineStrong3D, 4NC/4NO, M20 ESTOP/LED 230VAC
2TLA050204R1334 LineStrong3D, 4NC/4NO, NPT ESTOP/LED 230VAC
2TLA050204R0232 LineStrong3D, 4NC/4NO, M20 LED 24VDC
2TLA050204R1232 LineStrong3D, 4NC/4NO, NPT LED 24VDC
2TLA050204R0233 LineStrong3D, 4NC/4NO, M20 LED 110VAC
2TLA050204R1233 LineStrong3D, 4NC/4NO, NPT LED 110VAC
2TLA050204R0234 LineStrong3D, 4NC/4NO, M20 LED 230VAC
2TLA050204R1234 LineStrong3D, 4NC/4NO, NPT LED 230VAC
2TLA050204R0130 LineStrong3D, 4NC/4NO, M20, ESTOP
2TLA050204R1130 LineStrong3D, 4NC/4NO, NPT ESTOP
2TLA050204R0030 LineStrong3D, 4NC/4NO, M20
2TLA050204R1030 LineStrong3D, 4NC/4NO, NPT

For all ABB Jokab Safety Rope Switches, the normally closed (NC) circuits are closed when the system is tensioned correctly and the switch has been reset.

# Line Strong 3DZ Heavy duty switches

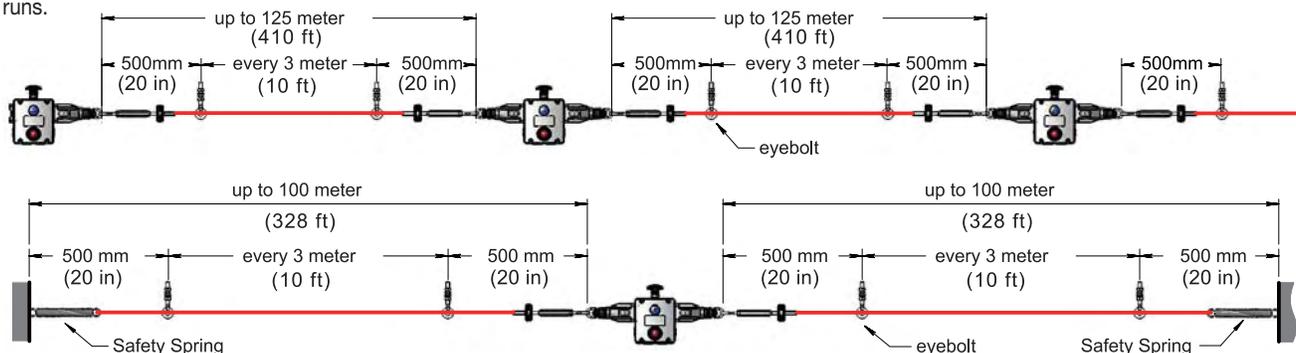
## Protection up to 250 meters



The Line Strong 3DZ is a robust Heavy Duty Safety Rope Pull switch designed to protect long conveyor lengths up to 250m. The Stainless Steel 316 housings are designed specifically to withstand the tough environments found in the Food and Pharmaceutical industries. They will survive chemical and detergent washdown by providing all stainless steel parts and robust IP67 and IP69K sealing by using integral bellows and gaskets.

A bi-color LED ensures switch status can be seen easily from a distance. They have 4NC 2NO contacts to ensure flexibility with all modern control applications.

Shorter rope spans up to 200m can be achieved by using just one switch, therefore making a cost effective solution and also reducing electrical wiring runs.

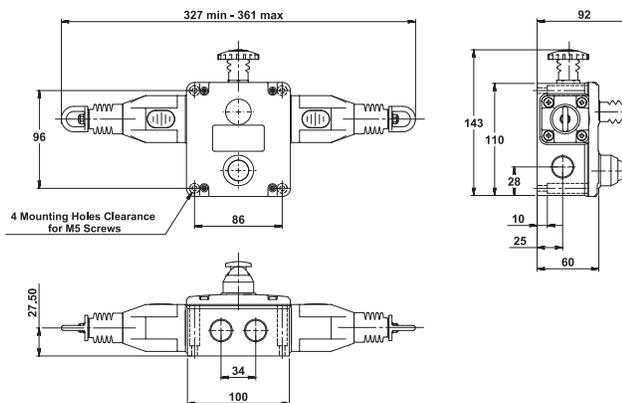


It is recommended when using a Safety Spring that a maximum of one corner pulley is used.

Standards: IEC 947-5-1 IEC947-5-5 EN954-1 EN62061  
UL508 ISO13850 ISO13849-1

### Safety Classification and Reliability Data:

Mechanical Reliability B10d	1.5 x 10 <sup>6</sup> operations at 100mA load
EN 954-1	up to Category 4 with Safety Relay
ISO 13849-1	up to PLe depending upon system architecture
EN 62061	up to SIL3 depending upon system architecture
Safety Data - Annual Usage	8 cycles per hour / 24 hours per day / 365 days
PFHd	< 1.0 x 10 <sup>-7</sup>
Proof Test Interval (Life)	21 years
MTTFd	214 years
Enclosure / Cover	Stainless Steel 316
External Parts	Stainless Steel
IP Rating	IP69K (NEMA PW12) IP67 (NEMA 6)
Rope Spans	Dual Head 250m.
Rope Tension device	Tensioner / Gripper - Quick Fixing
Rope Type:	4.0 mm Outside Dia. Steel inner - PVC sheath
Mounting	4 x M5
Mounting position	Any
Conduit entries	4 x M20 or 4 x 1/2" NPT by part number
Torque settings	Mounting M5 4.0 Nm Lid T20 Torx M4 1.5 Nm Terminals 1.0 Nm
Ambient Temperature	-25C +80 C. (Cleaning 100C.)
Vibration resistance	10-500Hz 0.35mm
Shock resistance	15g 11ms
Tension Force (typical mid setting)	130N.
Typical Operating Force (Rope pulled)	< 125N. < 300mm Deflection
Weight	2000 g.
Contact type	IEC 947-5-1 Double break Type Zb Snap Action up to 4NC (positive break) 2NO (Auxiliary)
Contact Material	Silver
Termination	Clamp up to 2.5 sq. mm conductors
Rating	Utilisation Category : AC15 A300
Operational Rating	240V. 3A.
Thermal Current (Ith)	10A.
Rated Insulation Voltage (Ui)	500V.
Withstand Voltage (Uimp)	2500V.
Short Circuit Overload Protection	Fuse Externally 10A. (FF)



All Dimensions in mm

### Line Strong 3DZ

2TLA050204R0322	LineStrong3DZ, 4NC/4NO, M20 ESTOP/LED SS 24VDC
2TLA050204R1322	LineStrong3DZ, 4NC/4NO, NPT ESTOP/LED SS 24VDC
2TLA050204R0323	LineStrong3DZ, 4NC/4NO, M20 ESTOP/LED SS 110VAC
2TLA050204R1323	LineStrong3DZ, 4NC/4NO, NPT ESTOP/LED SS 110VAC
2TLA050204R0324	LineStrong3DZ, 4NC/4NO, M20 ESTOP/LED SS 230VAC
2TLA050204R1324	LineStrong3DZ, 4NC/4NO, NPT ESTOP/LED SS 230VAC
2TLA050204R0222	LineStrong3DZ, 4NC/4NO, M20 LED, SS 24VDC
2TLA050204R1222	LineStrong3DZ, 4NC/4NO, NPT LED, SS 24VDC
2TLA050204R0223	LineStrong3DZ, 4NC/4NO, M20 LED, SS 110VAC
2TLA050204R1223	LineStrong3DZ, 4NC/4NO, NPT LED, SS 110VAC
2TLA050204R0224	LineStrong3DZ, 4NC/4NO, M20 LED, SS 230VAC
2TLA050204R1224	LineStrong3DZ, 4NC/4NO, NPT LED, SS 230VAC
2TLA050204R0120	LineStrong3DZ, 4NC/4NO, M20, ESTOP, SS
2TLA050204R1120	LineStrong3DZ, 4NC/4NO, NPT ESTOP, SS
2TLA050204R0020	LineStrong3DZ, 4NC/4NO, M20, SS
2TLA050204R1020	LineStrong3DZ, 4NC/4NO, NPT, SS

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