

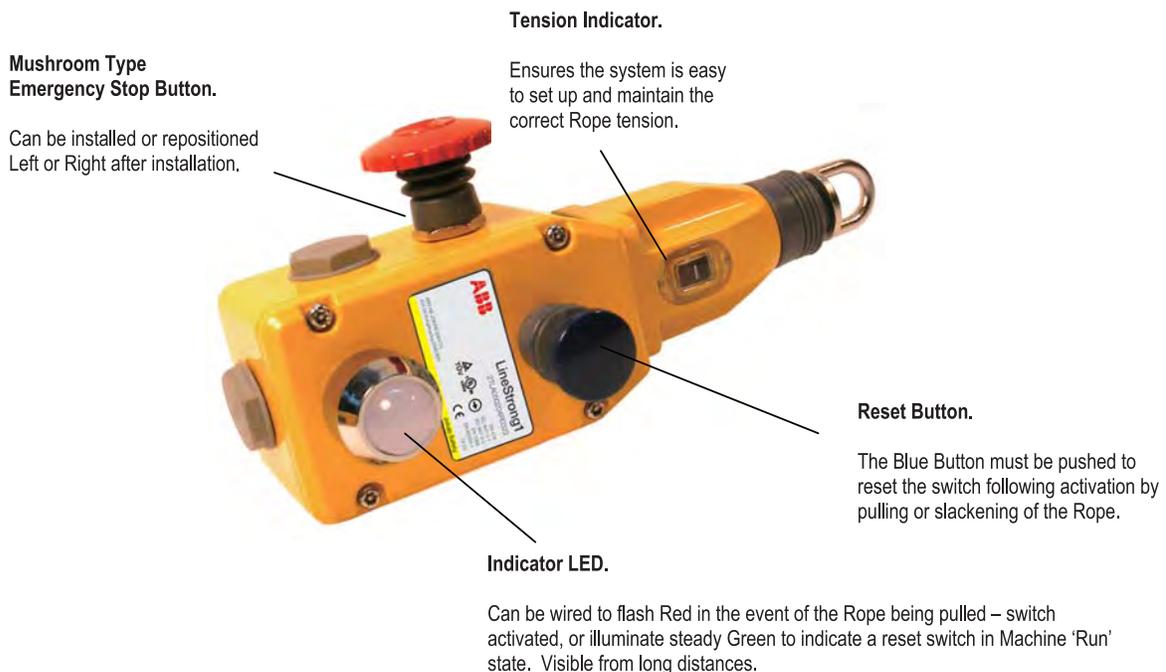
Using safety rope switches

Use of Safety Rope Switches.

ABB Jokab Safety Line Strong switches are designed to be mounted on machines and sections of conveyors which cannot be protected by guards. In contrast to traditional mushroom head type Emergency Stop buttons, Safety Rope Switches can initiate the emergency command from any point along the installed rope length and provide robust Emergency Stop Rope Pull protection for exposed conveyors or machines.

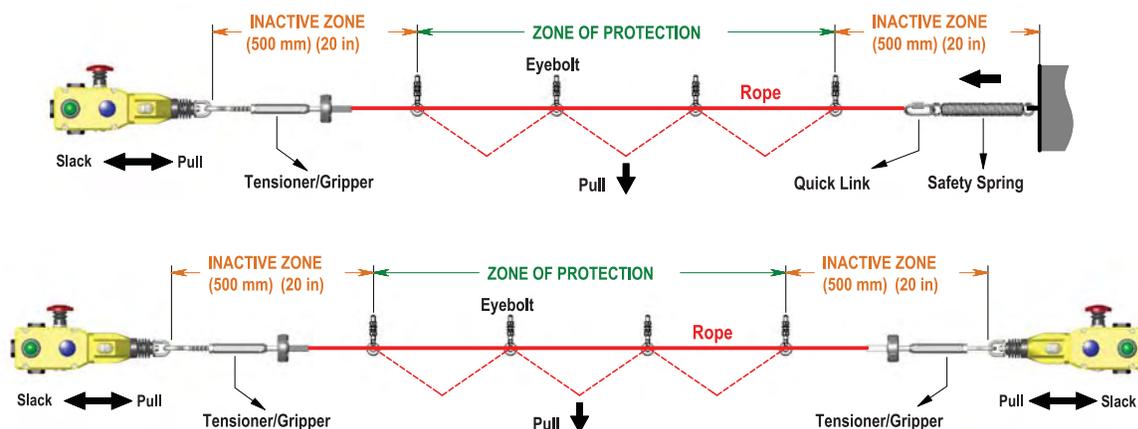
In combination with a dual channel safety monitoring relay, ABB Jokab Safety Rope Systems can be used as emergency stop devices monitored for up to Category 4 to EN 954-1 or PLe ISO13849-1. All ABB Jokab Safety Rope Emergency stop switches conform to ISO13850 and IEC 947-5-5. They have a positive mechanical linkage between the switch contacts and the wire rope. The switches have wire-breaking monitoring.

On pulling the rope the safety contacts are positively opened and the auxiliary contacts are closed. The switches are mechanically latched and can then only be returned to the operational condition by a pressing the blue reset button as required by ISO13950. An optional 2 colour LED indicator is available to enable switch status to be viewed from a distance.



System set up:

Rope support eyebolts must be fitted at 2.5 m. min. to 3m. maximum intervals along all rope lengths between switches. The rope must be supported no more than 500mm from the switch eyebolt or Safety Spring (if used). It is important that this first 500mm is not used as part of the active protection coverage. When using one switch the rope must be anchored at the other end using a Safety Spring. When using a Safety Spring a maximum of one corner pulley only may be used to ensure complete lengths of rope are visible to either the switch or the spring anchorage.

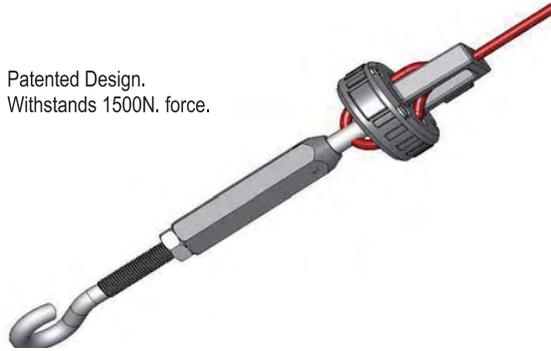


Using safety rope switches

Reliable connectivity:

Tensioning of rope is achieved by the use of ABB Jokab Safety's new patented Tensioner / Gripper accessory. Traditional turnbuckle and and clamp systems are difficult to tension and adjust and frequent re-tensioning or maintenance is normally required of either the turnbuckle or the clamps. Viewing of the switch tension window is difficult.

For greater reliability and ease of installation the Tensioner / Gripper accessory significantly reduces the installation time by offering an eyehook and tensioner thimble and high strength gripper in one assembly to enable rapid connection to the switch eyebolts and fast and accurate tensioning of the Rope. By being in close proximity to the switch viewing window systems can be easily tensioned accurately and quickly. The double clamp mechanism prevents rope slippage and significantly reduces machine 'down time' which can occur with traditional turnbuckle systems.

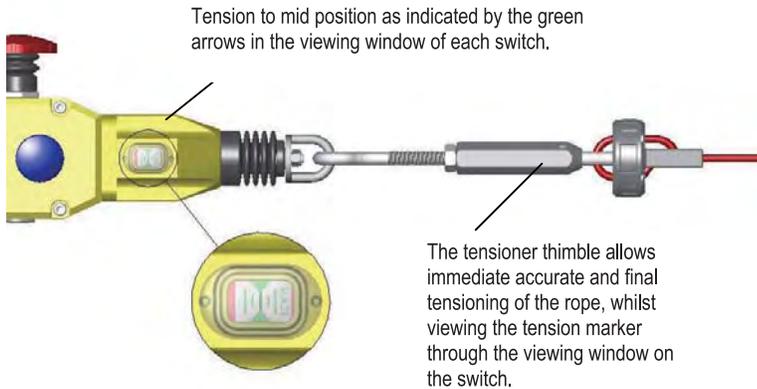


Patented Design.
Withstands 1500N. force.

The end of the safety rope is fed through a central hole in a cone shaped guide which protrudes from the main housing.

After being fed through the guide hole the rope enters the main housing by going through a feed hole and then is looped back through 180 degrees and is fed through a second feed hole on the opposite side of the mechanism.

The rope is then pulled for maximum tension and is locked in position by a locking bar inside the main housing which is moved by turning an Allen type locking bolt.



Tension to mid position as indicated by the green arrows in the viewing window of each switch.

The tensioner thimble allows immediate accurate and final tensioning of the rope, whilst viewing the tension marker through the viewing window on the switch.



For systems up to 50m. a Quick Link termination is provided for easy connection to either a Safety Spring or Switch eyebolt.

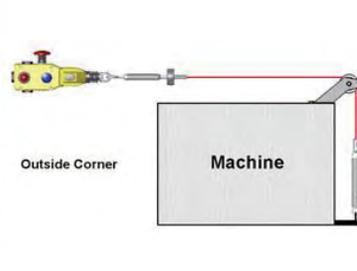
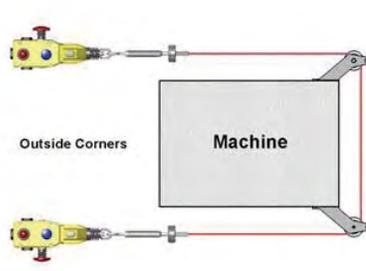
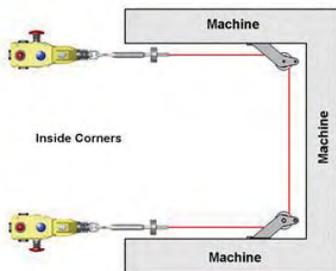


(Note for systems above 50m. a Tensioner / Gripper is required each side).

Navigating Corners:

Because of the added friction on the eyebolts and rope when navigating corners, ABB Jokab Safety's unique "universal" pulley can be used to navigate inside or outside corners without causing damage to the rope. They are stainless steel and can be rigidly mounted.

Examples of using the Universal Pulley:



WIRING DIAGRAM FOR LED

