

# Control and signalling units for safety applications

## Emergency stop trip wire switches, type XY2 C

### Presentation

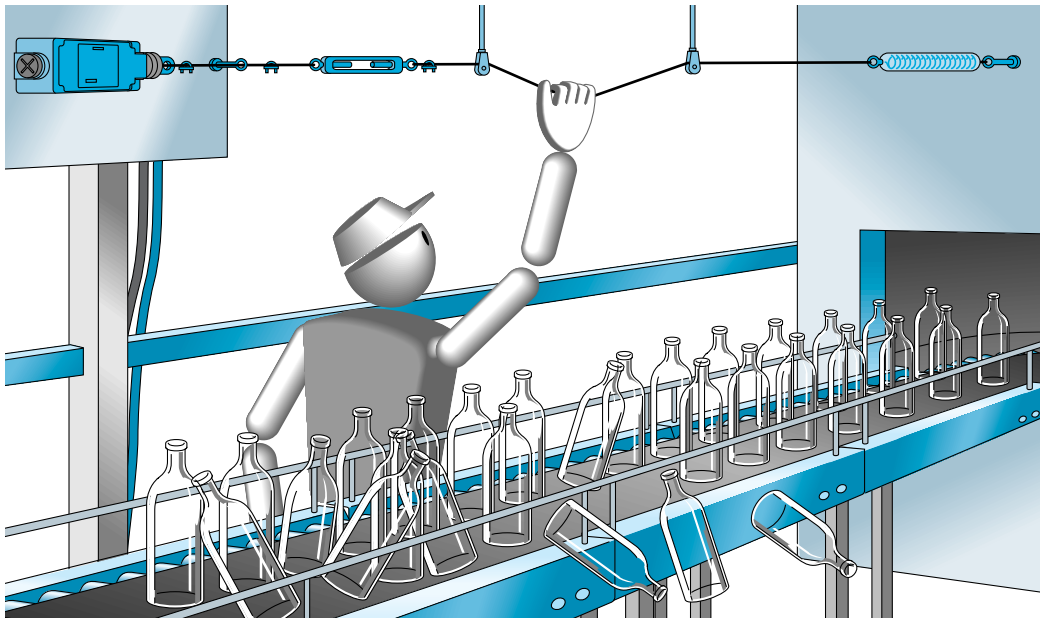
#### Emergency stop trip wire switches

Emergency stop trip wire switches are designed to:

- avert hazards (dangerous phenomena) at the earliest possible moment, or to reduce risks which could cause injury to persons or damage either to machines or work in progress,
- be tripped by a single human action when a normal Emergency stop function is not available,
- trip in the event of the trip wire breaking.

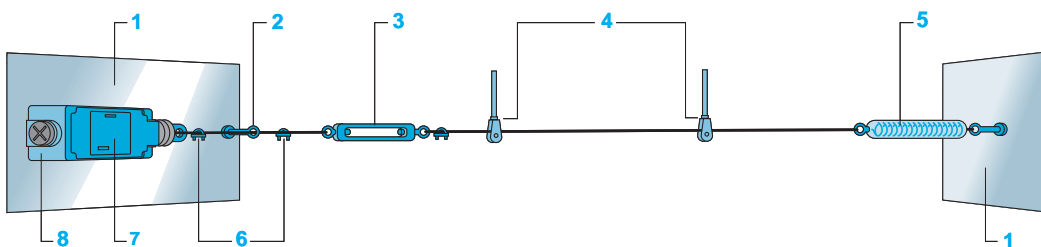
Emergency stop trip wire switches are essential in premises and on machines that are potentially dangerous when in operation. The operator must be able to trigger the stop instruction at any point within their working area.

**Application examples:** woodworking machines, shears, conveyor systems, transfer machines, printing machines, textile machines, rolling mills, test laboratories, paint shops, surface treatment works.



### Installation

#### Typical installation



- |                       |                               |                     |
|-----------------------|-------------------------------|---------------------|
| 1 Fixing support      | 4 Pulley supports and pulleys | 7 Switch adjustment |
| 2 First cable support | 5 End spring                  | 8 Emergency stop    |
| 3 Turnbuckle          | 6 Cable grips                 |                     |

#### Notes regarding installation

- All XY2 CH/CE/CB trip wire switches can be fitted with a pilot light to indicate their tripped condition.
- Cable tension adjustment can be performed using:
  - a turnbuckle (to be ordered separately, see page 38145/7),
  - a tensioner (integrated in certain XY2 CH models, see page 38145/5).
- This adjustment is simplified by:
  - a cable tension indicator that is available on all models XY2 CH,
  - the availability of versions with a "cable tension indicator" window by stating its reference on the order form (see page 38145/5). Example: reference XY2 CE1A250 becomes XY2 CE1D250.
- The use of an end spring is strongly advised for conveyor system applications to ensure operation of the Emergency stop in the event of the cable being pulled towards the switch.
- It is essential that pulleys be used with trip wires that deviate from a straight run, i.e. angled to form a protected zone.
- Important: switches XY2 CB must not be used if the installation requires that the trip wire be angled. Switches XY2 CH and XY2 CE can be used if the installation requires that the trip wire be angled. In this case, the total sum of the angles through which the trip wire bends must not exceed 180° (For further information on instructions to be adhered to, please refer to the installation manual).

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### Main features



**Positive operation:** running condition

**Latching:** stop instruction given (tripped)

**Resetting:** stop condition (awaiting reset/restart)

**1** The switches incorporate positive opening operation contacts, the tripping of the switch being made with positive action.

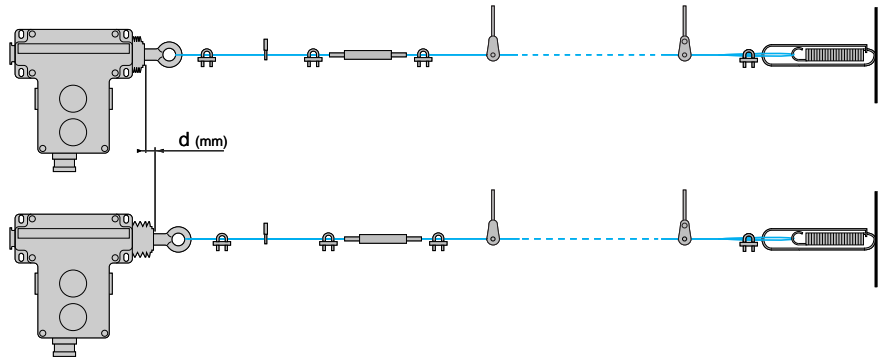
**2** The switch latches in the tripped position (N/C safety contact(s) open). The function of the N/O contact is purely for signalling.

**3** The switches incorporate a reset button, which re-closes the safety contact(s). Restarting of the machine must only be achieved by manual operation of a control device within the machine start circuit, remote to the trip wire switch.

### Trip wire expansion and contraction: d

Temperature variations likely to be encountered in the protected zone will obviously cause the trip wire to expand or contract.

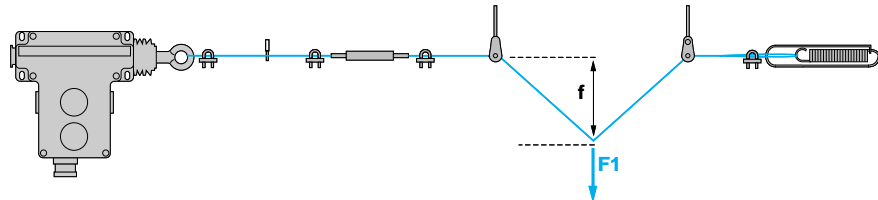
To enable instant verification that the trip wire is at its correct tension (and for making any necessary adjustments), trip wire switches XY2 CH and XY2 CE incorporate a trip wire tension indicator.



### Tripping force: F1 Tripping deflection: f

The tripping force **F1** is the force necessary on the trip wire to cause the switch to trip.

The tripping deflection **f** is the distance that the trip wire has to be deflected from its taut position to the point at which the switch trips.



### Adjustment values (with end spring)

For Emergency stop trip wire switches type XY2 CE: the adjustment values depend on the positions of the cam located inside the switch. Adjustment is made by rotating the cam after the switch has been installed.

Each notched position of the cam is referenced by the letters A to F, and the selected letter is visible through a viewing port.

Temperature range: < 25 °C.

Type	Position of cam	Max. length of cable	End spring	Average tripping deflection values <b>f</b> and tripping forces <b>F1</b> for a distance of 5 m between cable supports and cable used							
				Force <b>F1</b> (daN)				Deflection <b>f</b> (mm) for:			
				Standard		Light		Standard force		Light force	
				Cable Ø 3.2 mm	Cable Ø 5 mm	Cable Ø 3.2 mm	Cable Ø 5 mm	Cable Ø 3.2 mm	Cable Ø 5 mm	Cable Ø 3.2 mm	Cable Ø 5 mm
XY2 CH	–	15 m	XY2 CZ703	2.4	3	–	–	190	230	–	–
XY2 CE	A	50 m	XY2 CZ702	7	7	4	4.4	270	260	240	250
	B			8.6	8.4	4.4	4.8	300	280	250	270
	C			10.1	9.6	4.8	5.1	320	300	270	270
	D			11	10.2	4.6	5.3	330	320	280	280
	E			12.5	12.3	5.8	6	360	340	310	290
	F			14.4	13.3	6.4	6.6	390	360	330	320
XY2 CB	–	100 m	XY2 CZ702	4.5	–	–	–	325	–	–	–

### Standards

Trip wire switches XY2 CH, XY2 CE and XY2 CB meet all the requirements of the harmonised European standard **EN/ISO 13850**, relating to Emergency stop devices.

All the trip wire switches are **CE** marked and supplied with an EC declaration of conformity.