Installation Instructions – Emergency Pull-Wire Switch ZS 80 KST

Kinder Australia product:	Emergency Pull-Wire Switch ZS 80 KST
Product category:	Safety & Enviro
Issue date:	3.7.24
Revision:	3

ZS 80 KST NIRO

ZS 80 KST W/O PB NIRO

⚠ WARNING ⚠

Always obey all applicable safety rules.
Be sure all power to the conveyor has been disconnected and controls are locked out.

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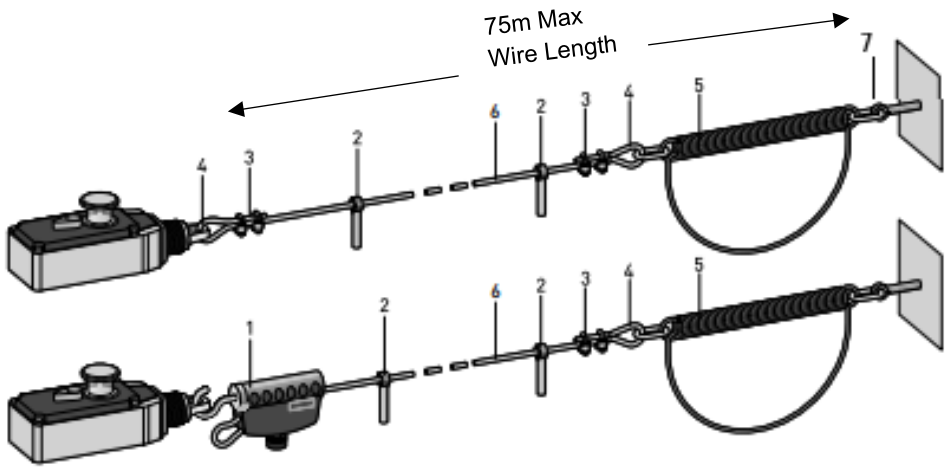
ZS 80 KST Emergency Pull-Wire System Overview



ITEM	DESCRIPTION	KINDER PART NO.	KINDER PART NO. (STAINLESS STEEL)
1	Cable Tensioner System TS 65	K-PW-TS-65	-
2	Eye bolt M10 x 120 with 2 nuts	PW-EYEBOLT-M10-120	-
3	Wire Clamp	PW-C	PW-C-SS
4	Wire Thimble 3mm	PW-T-RW-4	PW-T-RW-3-SS
5	Compensation spring ZS 80	PW-CS-ZS-80	PW-CS-ZS-80-SS
6	Pull-wire 1/m	PW-1	PW-SS-1
7	Eye bolt M8 x 70	PW-EYEBOLT-M8-70	PW-EYEBOLT-M8-70-SS

ABN: 28 006 489 238

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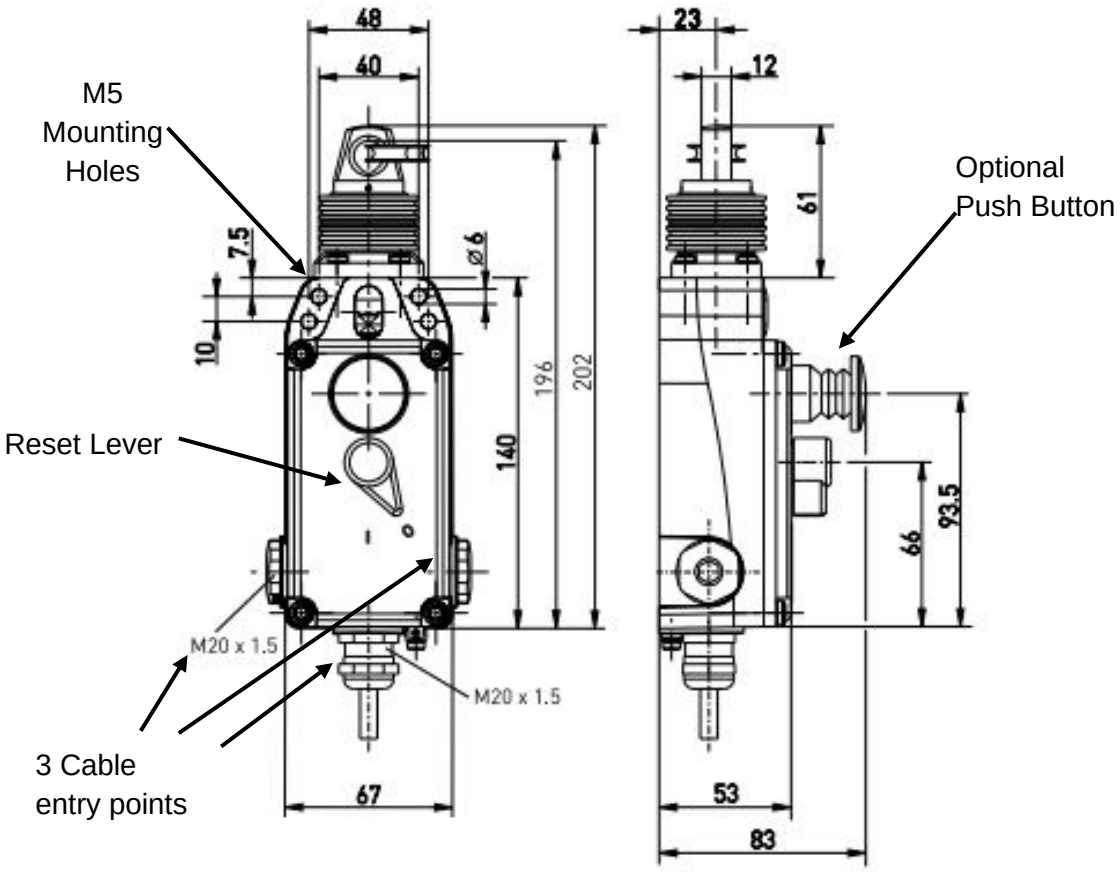
Emergency Pull-Wire Switch dimensions



ZS 80 Mounting

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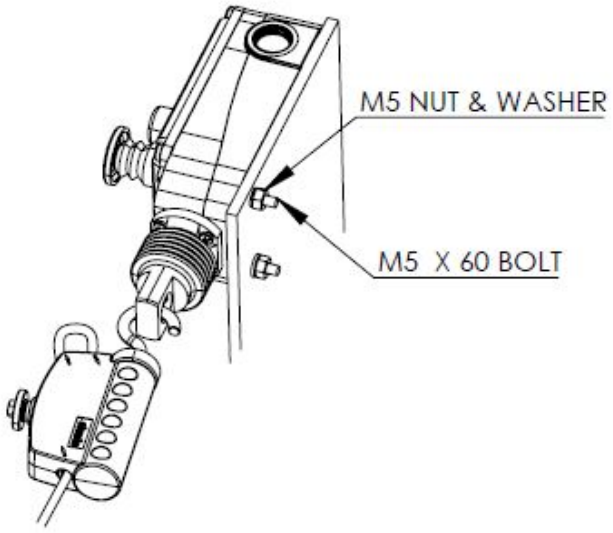


4 x Ø6 Holes are provided as mounting points for the Z80.

Required Hardware:

4 x M5 x 60 Hex Bolts

4 x M5 Nuts

4 x M5 Washers

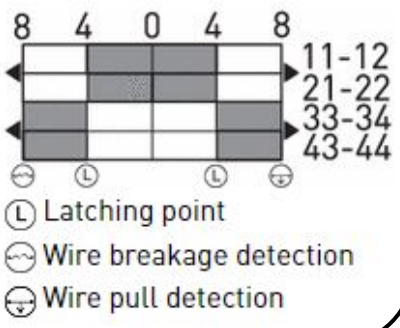
⚠ WARNING!!

ALL ELECTRICAL WIRING TO BE CARRIED OUT BY A QUALIFIED ELECTRICIAN.

Be sure all power to the conveyor has been disconnected and controls are locked. out.

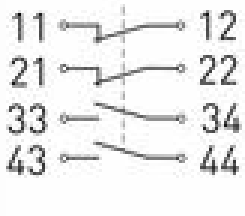
WIRING

SWITCHING DIAGRAM



When the wire is pulled, or if the wire breaks, the NC contacts, e.g. 11-12 or 21-22 are opened and the NO contacts, e.g. 33-34 or 43-44, are closed and then locked in this position. The switch can only be released using the blue release lever.

CONTACTS



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APPLICATION

- The device's connection cables through the 3 x M20 x 1.5 cable entry holes, must have a fixed installation and be set up in a manner that protects them from mechanical damage.

- If the connection is in an explosive area, the connection cable must be connected in an enclosure which complies with the requirements of an approved ignition protection degree according to EN 60079-0, par. 1.

- Use device only within the permitted electrical load limits (see technical data).

- For short-circuit protection, use fuse size 6 A (gG/gN).

- Use device only within the permitted ambient temperature range (see product label and technical data).

- The cable must be connected inside an enclosure which meets the requirements of a degree of protection per EN 60079-0: section 1 if the connection carried out is within a hazardous area.

- Reconstruction and alterations to the device which might affect the explosion protection are not allowed. Furthermore, EN 60079-14 must be applied for the installation of electrical equipment in explosive areas. In addition, the ATEX test certificate and the special conditions must be observed.

EMERGENCY PULLWIRE SWITCH INSTALLATION STANDARDS

Emergency Pull Wire switches should follow the relevant Standards as outlined below:

a) For conveyors not greater than 2.5 m in length and located less than 2.7 m above the floor, walkway or platform, a single Pull Wire Switch is adequate. The location should be easily accessible by an operator.
b) Pull Wire Switches to be installed **every 30m** along the length of the conveyor for conveyors **greater than 2.5 m in length and located less than 2.7 m** above the floor, walkway, or platform, at the head, tail, or drive.
c) Pull Wire Switches to be installed **at intervals not exceeding 100m** along the length of the conveyor, for conveyors located **more than 2.7 m above the floor, walkway, or platform.**

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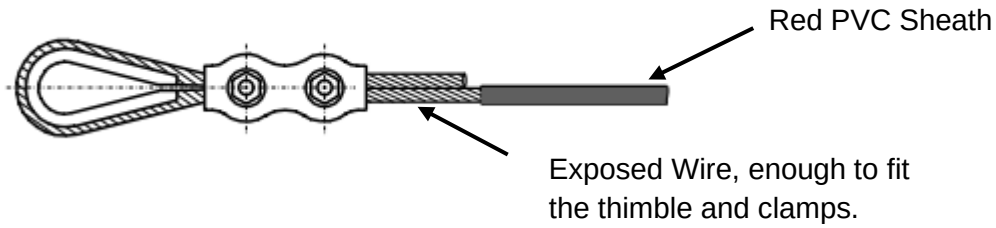
EMERGENCY PULL-WIRE INSTALLATION STANDARDS

The installation of pull wires must be in accordance with section 2.10.6.3 of AS 4024.3610:2015 Safety of machinery – Conveyors - General Requirements:

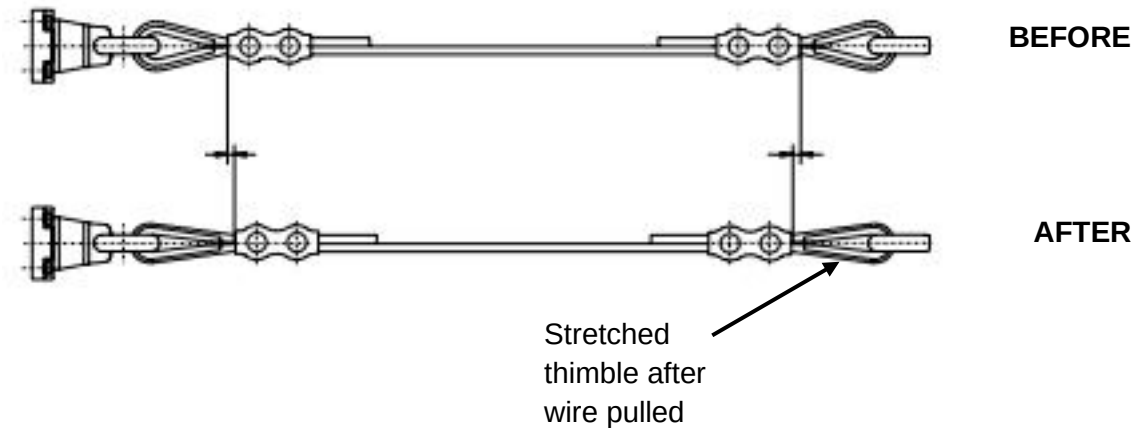
- Pull Wires must be clearly visible.
- Pull Wires must be readily accessible from all areas of access to the conveyor.
- Pull Wires should be located external to the vertical line of any nip or shear point and no further than 1m from the nip or shear points.
- At least 900 mm above the access floor and not more than 1500mm above the access floor.
- Where it is possible for a person to be inadvertently on a moving conveyor, an emergency stop must be provided and be located no closer to the conveyor discharge than the maximum stopping distance of the conveyor.
- The emergency stop should be accessible from the conveyor.

Emergency Pull-Wire installation on wire thimbles

Before mounting the pull-wire, remove the red PVC sheath from the pull-wire in the clamping range of the pull-wire as shown below:



After fitting the wire, pull strongly on it several times, as the pull-wire and the wire thimble will deform as shown below. Subsequently, re-tension the wire clamps, eyebolt and tensioner.



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Emergency Pull-Wire Tensioner Mounting

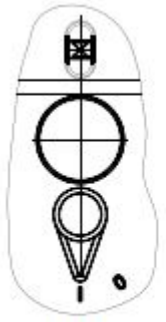


Fig. 1

Fig. 2

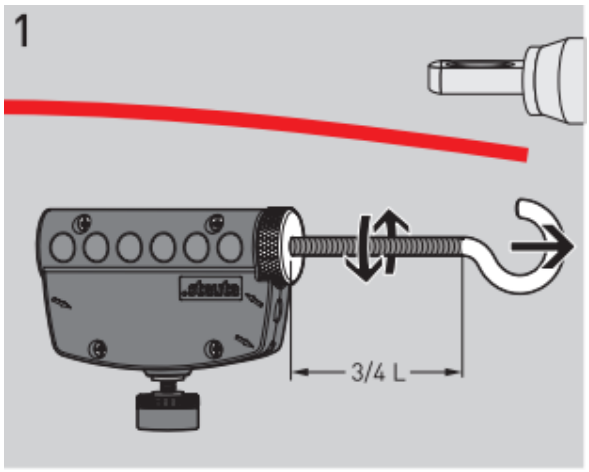
I Release

0 Latching

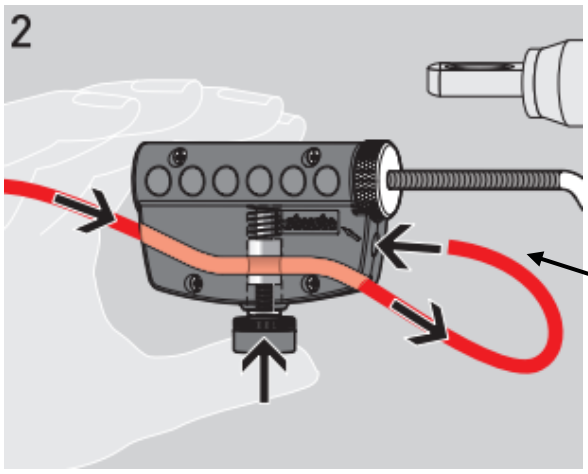
⧖ Middle position

To function correctly, the Ex ZS 80 emergency pull-wire switch must be set up in the middle position with a pretensioned pull wire. See: **Compensation Spring Mounting** Procedure.

In this middle position the pointer position should correspond to **Fig. 1.** In the middle position with a pretensioned pull wire. The switch can only be released in this middle, pretensioned position.



Unscrew the Tensioner's hook. The maximum thread adjustment available is 56mm.



Feed the Pull-Wire through the tensioner by pressing on the spring-loaded thimble to allow the wire to pass through.

Place wire end in the second hole.

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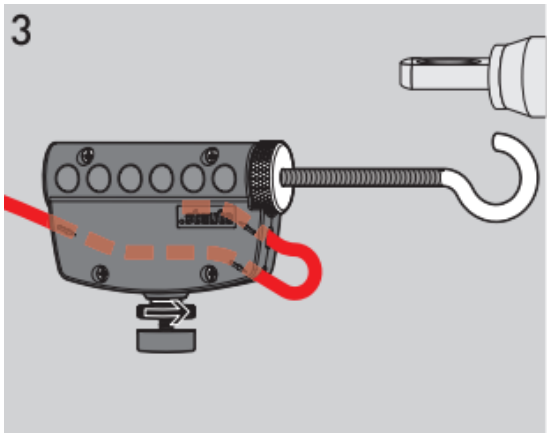
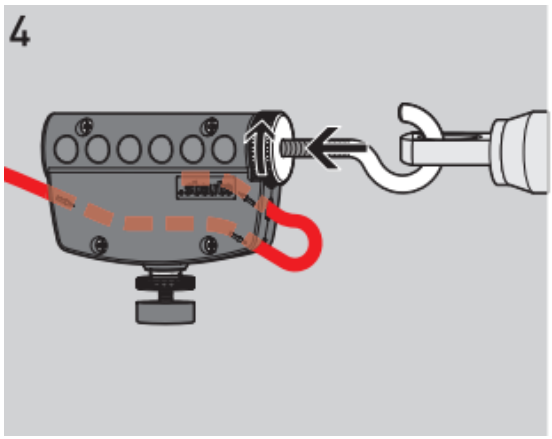


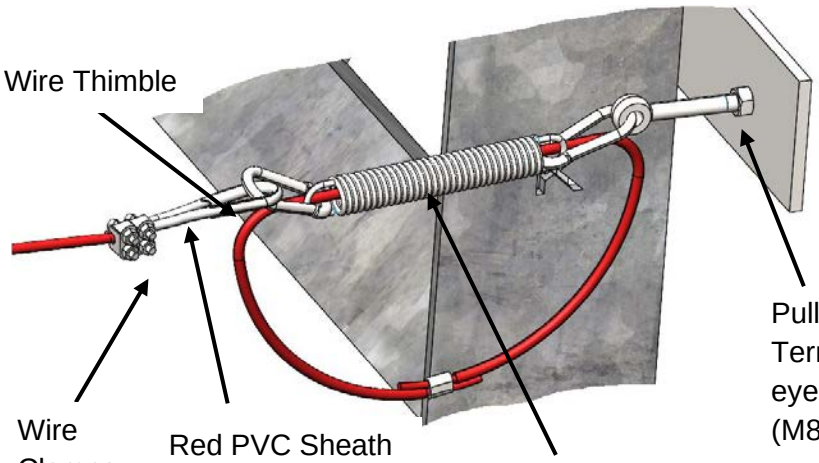
Screw on the threaded section of the thimble clockwise. This will secure the Pull-wire in place, preventing it from being pulled out while under tension.



Adjust the threaded thimble to allow the hook to fit in the actuating Lever.

Compensation Spring Mounting

1. Mount the compensation spring to the termination eyebolt.
2. The Spring has travel limitation as shown below,



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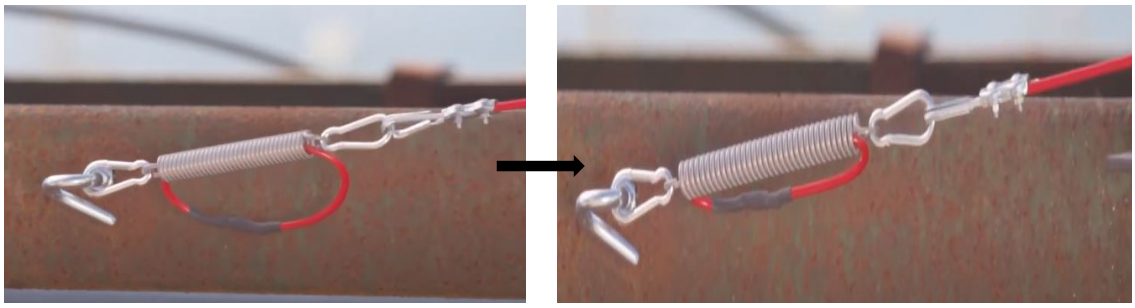
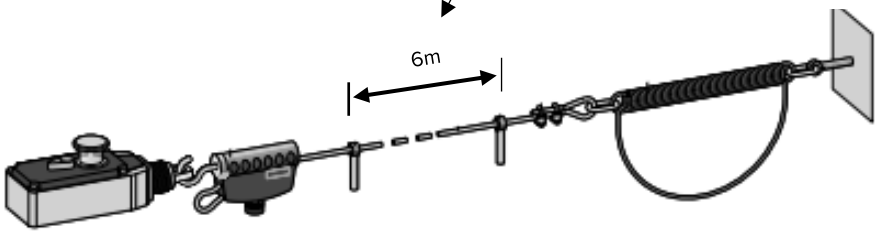
3. Pull on the wire until the spring is tensioned and fit the tensioner hook on the actuating lever of the switch.



4. Adjust the tensioner until it fits in the Actuating lever.
5. Reset the Switch.

After mounting, check that the specifications of the relevant standards are complied with:

Pull wire support Eyebolts to be at maximum 6m and minimum 3m intervals.



Emergency Pull Wire Test

- Maximum Pull wire actuation distance: 300mm
- Maximum Pull wire actuation force: 70N

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MAINTENANCE

With careful mounting as described above, only minor maintenance is necessary. A recommended routine maintenance is as follows:

- Check pull-wire function.
- Removal of dirt around Pull wire switch actuator, Reset switch and Push button (for Push button models).
- Check sealing of the cable or conduit connection through the M20 cable entry points.
- Check tension Spring and travel limiting pull wire.
- Check wire clamps are tightened to prevent pull wire from detaching.
- Check TS65 Tensioning system adjustment thimbles are tightened.

CLEANING:

⚠ WARNING!!

Live parts. Electric shock hazard! Clean in accordance with degree of protection IP65/66/67 (see product label)

- Clean by hand with a hand brush or cloth. Use mild, non-scratching, non-chafing cleaners.
- Do not use knives or sharp-edged tools.
- Do not use any aggressive cleaners or solvents.

⚠ WARNING

Electric Shock hazard! Do not repair defective or damaged devices. Replace them. Alternative: Repair of defective device by trained personnel in agreement with Steute and with Steute spare parts.

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TECHNICAL DATA	
Applied standards	EN 60947-5-1, EN 60947-5-5; EN ISO 13850; EN ISO 13849-1 AS/NZS 4024.3610-2015-2.10.6.2
Enclosure	Fibreglass-reinforced, shockproof thermo-plastic, self-extinguishing UL 94 V-0
Cover	Fibreglass-reinforced, shockproof thermo-plastic, self-extinguishing UL 94 V-0
Tightening Torque	Cover screws: 1.8 Nm
Degree of protection	IP67 to IEC/EN 60529
Contact material	Silver
Switching Elements	2 NC/2 NO, 3 NC/1 NO or 4 NC, type Zb
Switching System	Slow action, positive break NC contacts
Connection	2 x 4-pole terminal block
Cable cross-section	Max. 2.5 mm² (incl. conductor ferrules)
Cable Entry	3 x M20 x 1.5 (press-out blanks in enclosure)
B10d (10% nominal load)	200 000
T_M	Max. 20 years
U_{imp}	2.5kV
U_I	250V
I_{the}	2A
Utilisation category	AC-15; DC-13
I_e/U_e	2 A/250 VAC; 0.25 A/230 VDC; 2 A/24 VDC
Short-circuit protection	2 A gG/gN fuse
Mechanical life	> 100,000 operations
Max. wire length	75m
Wire support	Maximum of every 6m
Features	Wire pull and breakage detection
Ambient temperature	-25°C … +70°C

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