

Pull Wire Switches BK400 / BK500



TECHNICAL SPECS

Complies with	AS/NZS 4024.3610:2015 BS EN ISO 13850:2008
Material	BK400 - LM6 Marine Grade Powder Coated Aluminium BK500 - UV Resistant Glass Reinforced Nylon
IP Rating	IP66/67
SIL Capability	SIL2 Capable – IEC 61508 CERTIFIED
Contact Rating	240V - 16A
Contacts	2 x N/C & 2 X N/O *Combination of any 4 contacts available on request
Ambient Temp	-40 +50°C



SMART PULL TYPE / PULL & SLACK TYPE

The Smart Series Pull Wire Switches include the Pull & Slack Trip Type (BK400PS/BK500PS) and the Pull Trip Type (BK400P/BK500P). These switches are designed to enhance safety and operational efficiency in conveyor systems by immediately stopping the conveyor when there is a pull activation, slack wire or when there is a break in the wire. This is to ensure a quick response in emergencies.

The BK400 is manufactured from marine-grade aluminium and the BK500 from Glass Reinforced Nylon. Both exhibit excellent resistance to corrosion under extreme atmospheric and marine conditions. All internal components are manufactured from corrosion-resistant material including stainless steel, nylon, copper and brass.

Safety is paramount, with both switch types rated at Safety Integrity Level 2 (SIL2 Capable). They comply with AS/NZS 4024.3610:2015 and BS EN ISO 13850:2008 standards, meeting stringent safety and operational requirements. The IP66/67 rating provides strong protection against dust and water ingress.

Designed for simple setup and adjustment, the switches feature spacious compartments for easy termination and mounting of electronics. Optional extras like pre-start sirens and LED indications are available to enhance functionality.



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A CLOSER LOOK AT THE PULL KEY (OUTSIDE)

P PS

PRE START SIREN **OPTIONAL**

RUBBER BOOT
Rubber boot to prevent water and dust from entering the pullkey.

STAINLESS THIMBLE
Crimps are finished with heat shrink.

LED INDICATION **OPTIONAL**

LID LANYARD
The front lid equipped with an attached lanyard.

BALANCING LENS
The top of the pullkey is fitted with a lens to indicate when the shaft is in the balanced position.

SCREW-IN LID
Stainless screws remain in the lid when upside down.

MECHANICAL FLAG
The flag consists of a reflective tape that is visible over a long distance at night to indicate a Pullkey trip.

GLAND ENTRY

REFLECTIVE TAPE
Better visibility day/night

A CLOSER LOOK AT THE PULL KEY (INSIDE)

P PS

SPACIOUS COMPARTMENT
225 x 170 x 50mm (external measurements) compartment allow for ease of termination and space to mount electronics (no need for additional junction box).

SWITCH
The switch has a knife action that cleans itself every time it switches.

O RING SEAL
Both compartments are fitted with o-ring seal inside or on the lid to prevent moisture and dust from entering. (Rated IP66/67)

PRE-START SIREN **OPTIONAL**
Pre-Start Siren with LED for Trip Indication.
LED Light (front) Siren (front)

PRE-START SIREN **OPTIONAL**
Pre-Start Siren with LED for Trip Indication.
LED Light (side) Siren (back)

GLAND ENTRY
• 3 Standard M20 Gland entries at bottom
• 2 Std M25 Gland entries on sides (Additional entries are optional)

TERMINALS
Weidmuller A Series push-in technology terminals with galvanic isolation, pull-out, shock and vibration resistance.

LEGEND
Relevant to Pull type and Pull & Slack type Pull Wire Switch
P PS

PSW4 **OPTIONAL**
PRE-START Warning Node

SLM3 **OPTIONAL**
Monitoring Node



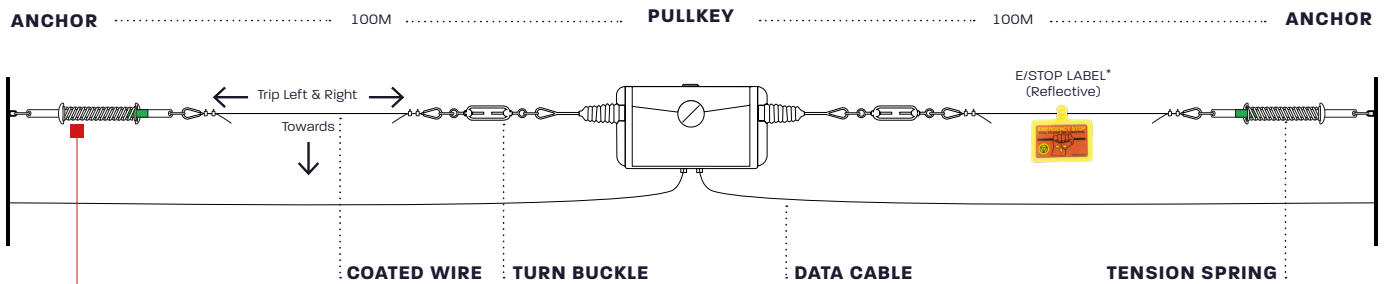
PULL & SLACK TYPE RECOMMENDED INSTALLATION

PS

Single trip shaft pullkeys where both ends of the shaft are to be connected to a tensioning spring in order to **operate as a balanced system**. This system uses Lanyard Pull Wire to activate trip condition and trip signal runs in separate data cable in secure cable tray or conduit.

This Pull and Slack wire trip type Pullkey is available in both **marine-grade LM6 aluminium** (BK400PS) and **UV-resistant Glass Reinforced Nylon** (BK500PS). Maximum distance between Pullkeys are 200 meters (100m from Pullkey to anchor point).

REAR COMPARTMENT



TENSIONING KIT COMPLIANCE INDICATOR

Easy visual compliance checks to ensure lanyard tension complies to the 70N pull force specified in the AS/NZS 4024.3610 standard.



The pull & slack wire switch has been tested to trip under the following conditions:

- Breaking, slacking or removal of the pull wire shall activate the device.
- The conveyor shall stop in the event of the pull wire being broken or removed.
- Pull force under 70N at right angle between lanyard supports, with no more than 300mm movement.
- Pull force under 230N along the axis of the wire.
- Manual trip via reset knob

* An emergency stop label is required to be fitted every 30 metres on all conveyor pull wire trip systems (To AS/NZS 4024.3610)

PULL & SLACK TYPE ESSENTIALS

PS

To complete the full conveyor control solution, please refer to our range of Smart Series Essentials that **include Spring Tensioning Kit, Lanyard Pull Wire, Control Cable, Pigtails, and E/Stop Label**.



PULL TYPE RECOMMENDED INSTALLATION

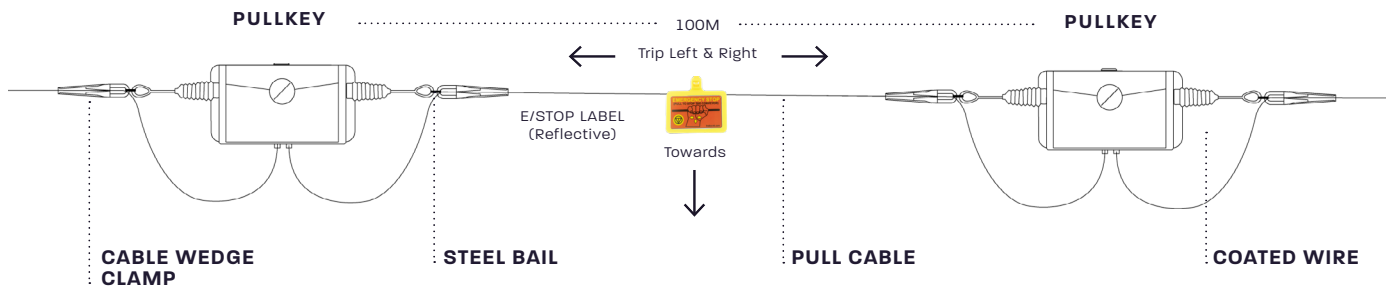
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This Pullkey is a dual trip shaft pullkey where each trip shaft is completely independent from the other. For this Pullkey it is recommended to connect to pull trip cable from Pullkey to Pullkey. In this option the data cable is used as the lanyard pull wire. No cable trays or additional conduits is required for this

installation. The maximum distance between Pullkeys are 100 meters.

This Pull wire trip type Pullkey is available in both **Marine Grade LM6 Aluminium** (BK400P) and **UV-resistant Glass Reinforced Nylon** (BK500P).

REAR COMPARTMENT



The Pull Cable Switch has been tested to trip under the following conditions:

- When the cable is pulled to the left or the right.
- Breaking or removal of the pull cable shall trip the conveyor (electrical disconnect)
- Pull force under 70 N at right angle between lanyard supports, with no more than 300mm movement.
- Pull force under 230 N along the axis of the wire
- Manual trip via reset knob.

PULL TYPE ESSENTIALS

P

To complete the full conveyor control solution, please refer to our range of Smart Series Essentials that include **lanyard pull control cable, pigtails, cable wedge clamps and e/stop labels.**

E/Stop Label (Reflective)



Black Line Cable Wedge Clamp



Control Pull Cable secured with Wedge Clamps



Standard Pigtails



Quick Clip Pigtail



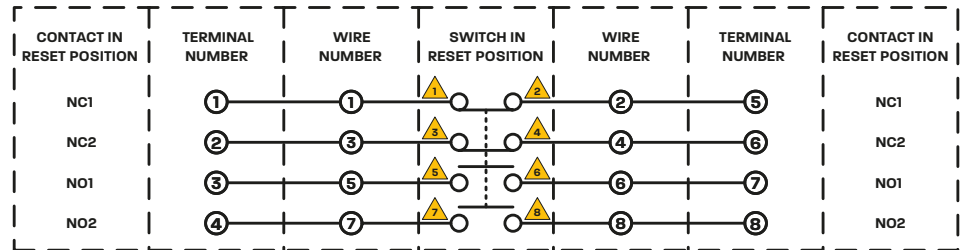
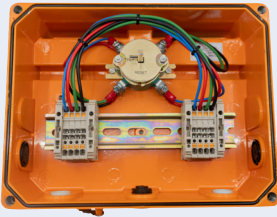
PULL WIRE SWITCH OPTIONS

P PS

OPTION 1

WIRING DIAGRAM

STANDARD



ORDERING DATA

Part No.	Description
SSPK-BK400PS-STD	BK400PS Pull Wire Switch, Aluminium, Pull & Slack Trip type, Standard
SSPK-BK500PS-STD	BK500PS Pull Wire Switch, Glass Reinforced Nylon, Pull & Slack Trip type, Standard
SSPK-BK400P-STD	BK400P Pull Wire Switch, Aluminium, Pull Trip type, Standard
SSPK-BK500P-STD	BK500P Pull Wire Switch, Glass Reinforced Nylon, Pull Trip type, Standard

OPTION 2

WIRING DIAGRAM

MONITORING WITH SLM3 / LED

This option includes SLM3 Node for fault location and LED for local indication.

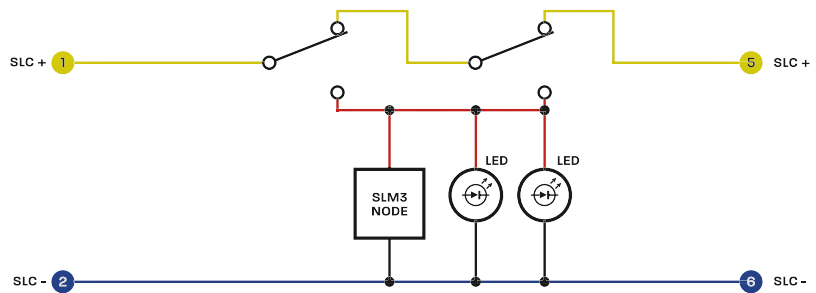


SLM3



LED Light

INCOMING CABLE



OUTGOING CABLE

ORDERING DATA

Part No.	Description
SSPK-BK400PS-SLM3-L	BK400PS Aluminium Pullkey, Pull & Slack type, c/w SLM3 Node, 2 x LED's
SSPK-BK500PS-SLM3-L	BK500PS Glass Filled Nylon Pullkey, Pull & Slack type, c/w SLM3 Node, 2 x LED's
SSPK-BK400P-SLM3-L	BK400PS Aluminium Pullkey, Pull Trip type, c/w SLM3 Node, 2 x LED's
SSPK-BK500P-SLM3-L	BK500PS Glass Filled Nylon Pullkey, Pull Trip type, c/w SLM3 Node, 2 x LED's

TECHNICAL SPEC

SLM3 SMART MONITOR	
Power Input	24 VDC, 3.5VA
Addressable Display	256 Addresses for Fault Location.

For more information, refer to SLM3 Monitor Data Sheet.



PULL WIRE SWITCH OPTIONS CONTINUED

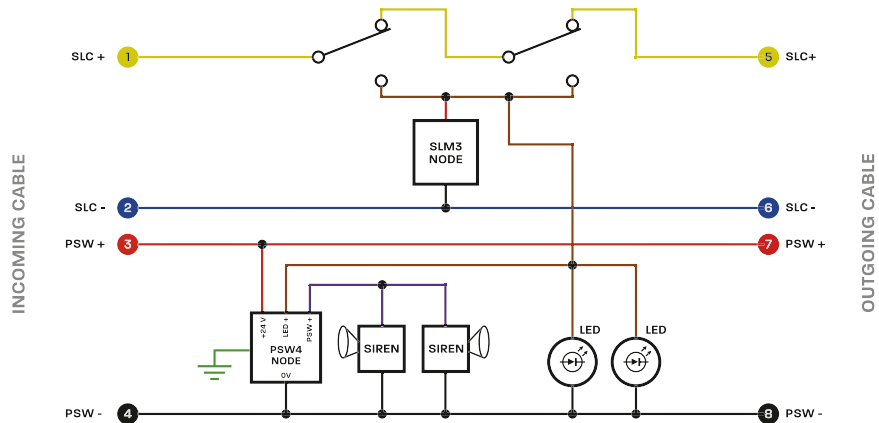
P PS

OPTION 3

WIRING DIAGRAM

MONITORING WITH SLM3 / PSW4 / Siren & LED

This option includes SLM3 Node for fault location and LED for local indication, as well as pre-start sirens with LED visual.



ORDERING DATA

Part No.	Description
SSPK-BK400PS-SLM3-PL	BK400PS Aluminium Pullkey, Pull & Slack type, c/w SLM3 Node, PSW4, 2 x PSW & LED's
SSPK-BK500PS-SLM3-PL	BK500PS Glass Filled Nylon Pullkey, Pull & Slack type, c/w SLM3 Node, PSW4, 2 x PSW & LED's
SSPK-BK400P-SLM3-PL	BK400PS Aluminium Pullkey, Pull Trip type, c/w SLM3 Node, PSW4, 2 x PSW & LED's
SSPK-BK500P-SLM3-PL	BK500PS Glass Filled Nylon Pullkey, Pull Trip type, c/w SLM3 Node, PSW4, 2 x PSW & LED's

TECHNICAL SPEC

SLM3 SMART MONITOR	
Power Input	24 VDC, 3.5VA
Addressable Display	256 Addresses for Fault Location.
PSW4 SIREN & LED INDICATOR LIGHT	
Loudness	102dB @ 30cm / Siren
Power consumption	PSW Node with 2x Sirens & 2x LED's = 2-3mA
Supply Voltage	24VDC

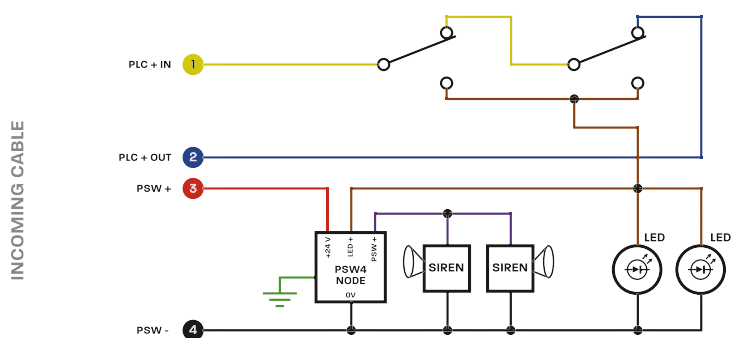
For more information, refer to PSW4 Pre-Start Data Sheet

OPTION 4

WIRING DIAGRAM

PLC MONITORING WITH PSW4 / Siren & LED

Wiring direct to PLC via interposing relay for hardwire trip (Two contact wired in series for redundancy). This option includes local indication, as well as Pre-start siren with LED visual.



ORDERING DATA

Part No.	Description
SSPK-BK400PS-PLC-PL	BK400PS Aluminium Pullkey, Pull & Slack PLC type, c/w PSW4, 2 x PSW & LED's
SSPK-BK500PS-PLC-PL	BK500PS Glass Filled Nylon Pullkey, Pull & Slack PLC type, c/w PSW4, 2 x PSW & LED's
SSPK-BK400P-PLC-PL	BK400PS Aluminium Pullkey, Pull Trip PLC type, c/w PSW4, 2 x PSW & LED's
SSPK-BK500P-PLC-PL	BK500PS Glass Filled Nylon Pullkey, Pull Trip PLC type, c/w PSW4, 2 x PSW & LED's

TECHNICAL SPEC

PSW4 SIREN & LED INDICATOR LIGHT	
Loudness	102dB @ 30cm / Siren
Power consumption	PSW Node with 2x Sirens & 2x LED's = 2-3mA
Supply Voltage	24VDC



PULL WIRE SWITCH OPTIONS CONTINUED

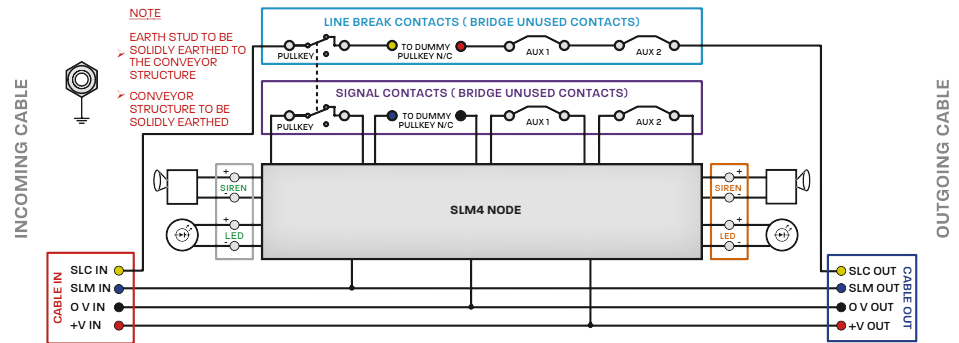


OPTION 5

WIRING DIAGRAM

MONITORING WITH SLM4 / PSW4 / Siren & LED

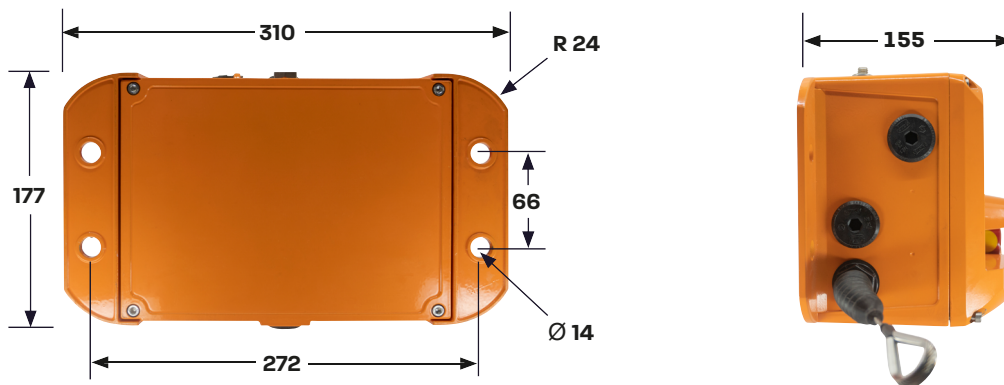
This option offers fault location via SLM4 with LED local indication, pre-start with LED indication as well as additional inputs for monitoring on belt Drift, Rip, Tear, etc..



ORDERING DATA & TECHNICAL SPECIFICATIONS

Currently not available in Australia till January 2025. For more information, please contact our technical team.

DIMENSIONS



ASK ABOUT OUR OPTIONAL EXTRAS

- Contact Configuration (Any 4 contacts N/O or N/C).
- Pre-Start Sirens & LED Indication (Monitoring System Dependent).
- Pull Key Canopy – Additional UV and Mechanical Protection.
- Control Cable (System dependent).
- Monitoring Options – Third party product (Client Preference). e.g., iMAC, Ringway.



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