



Die-Cast Models

Stainless Steel Models

## Using Conveyor Belt Alignment Switches

### Application:

Conveyor Belt Alignment switches are mounted on sections of plant conveyors to protect against excessive belt drift due to an unintentional movement. They can be fitted at appropriate points along the conveyor length to ensure that should the belt position drift, the roller arm of the switch will move to a pre-determined position and cause activation of a control circuit.

All switches conform to European Standard IEC 60947-5-1 and provide positively operated contacts at the point of tripping. They can be used to satisfy the requirements of EN 620 with regard to conveyor control hazards caused by shifting of the belt position during running.

They are available in different roller diameters to provide heavy duty performance and long life.

### Operation:

The steel roller of the switch is placed near the running edge of the conveyor belt such that deflection of the roller and arm will cause activation "tripping" of the internal contacts of the switch. Adjustment of the tripping angles and necessary activation torque is provided by the switch.

### Installation Guide:

1. Installation of all switch systems must be in accordance with a risk assessment for the individual application. Installation must only be carried out by competent personnel and in accordance with these instructions.
2. M5 mounting bolts must be used to fix the switches. Tightening torque for mounting bolts to ensure reliable fixing is 4 Nm. Tightening torque for the lid screws, conduit entry plugs and cable glands must be 1.5 Nm to ensure IP seal. Only use the correct size gland for the conduit entry and cable outside diameter.
3. The position of the roller must be chosen to ensure that in normal use the belt does not touch the roller, but that should the belt move beyond its normal guides it will make contact with the roller. After selecting the correct mounting position, the switching points of the internal contact blocks can be finely adjusted via internal cams. There are 2 internal contact blocks one to provide a "STOP" signal the other to provide a "WARNING" signal. The blocks offer NC and NO circuits.

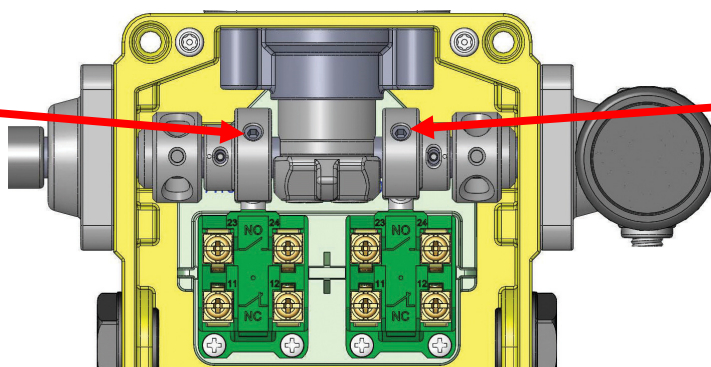
Final Adjustment of contact block action:

#### WARNING SIGNAL

Contact block 1  
Adjustment cam.  
  
Allen screw (2.5mm)  
Tightening Torque 2Nm  
  
Factory setting 14 degrees  
(Adjustable 10 to 18 degrees)

#### STOP SIGNAL

Contact block 2  
Adjustment cam.  
  
Allen screw (2.5mm)  
Tightening Torque 2Nm  
  
Factory setting 25 degrees.  
(Adjustable 15 to 35 degrees)

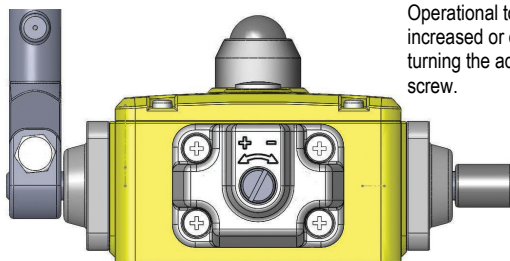
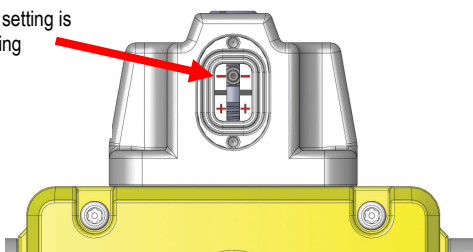


Block 1

Block 2

4. The operational torque can be adjusted to cope with belt sensitivity or mounting angle.

Factory setting is low setting



Operational torque can be increased or decreased by turning the adjustment screw.

# Conveyor Belt Alignment Switches from IDEM

## Maintenance:

Every month: Check correct operation at all switch locations along all coverage length. Check for nominal warning and trip angle, re-set if necessary.  
Every 6 months: Isolate power and remove cover. Check screw terminal tightness and check for signs of moisture ingress. Never attempt to repair any switch.

## Contact operation/Deflection of roller. (Factory settings shown.)

0 Degrees      14 Degrees      25 Degrees      65 Degrees  
WARNING      STOP

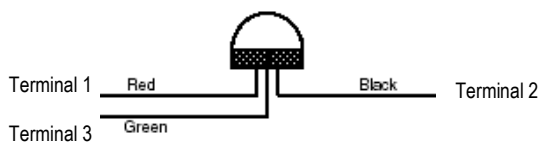
		1NC 1NO			
WARNING SIGNAL Contact Block 1	NC	11/12			
	NO	23/24			
STOP SIGNAL Contact Block 2	NC	11/12			
	NO	23/24			

Contact open
Contact closed

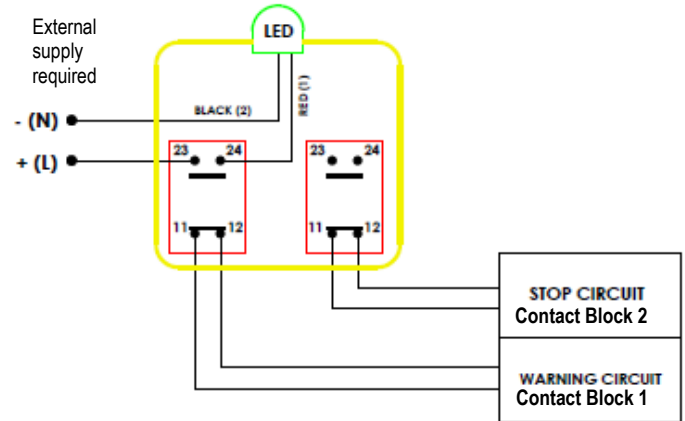
Direction of roller

## Wiring examples (standard version)

LED Flashing Red or Steady Green (Bi-colour)

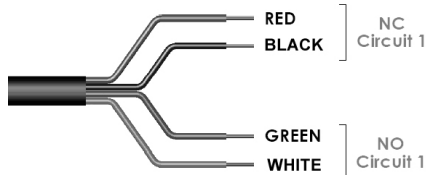


When power is applied to the Red wire, the lamp will illuminate Red and Flash.  
When power is applied to the Green Wire, the Lamp will illuminate Green.  
Black is 0V.dc or Neutral for 110Vac and 230Vac versions.

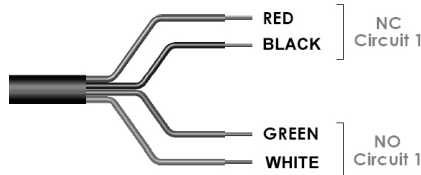


## Wiring Colours for EX versions

WARNING SIGNAL (Contact Block 1)



STOP SIGNAL (Contact Block 2)



**IMPORTANT-  
SPECIFIC CONDITIONS OF USE FOR  
EX VERSIONS:**  
THE INTEGRAL CABLE SHALL BE  
SUITABLY PROTECTED FROM  
PHYSICAL DAMAGE AND ABRASION.  
THE INTEGRAL CABLE IS TO BE  
TERMINATED IN A SUITABLE  
TERMINAL FACILITY.

**Standards:** IEC 60947-5-1 EN 620

### Mechanical Features:

Enclosure / Cover	Die-Cast (Painted Yellow) or Stainless Steel
External Parts	Stainless Steel
IP Rating	IP67 (IP69K S/Steel versions).
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
Mechanical Reliability	150,000 operations at 100mA load
Switching range	WARNING signal 10 to 18 degrees STOP signal 15 to 35 degrees

Operating Torque range (adjustable) Medium Duty 1.8Nm to 2.8Nm  
Heavy Duty 3.0Nm to 5.0Nm

Maximum tilt angle (mounting angle) 30 degrees  
Maximum Deflection 65 degrees

### Electrical:

Safety Contact type	IEC 60947-5-1 Double break Type Zb
Contact Material	Silver
Termination	Clamp up to 2.5 sq. mm conductors
Rating	Utilisation Category : AC15
Operational Rating	AC15 A300 240V. 3A. / 120V. 6A. ac 24V. 2.5A dc
Thermal Current (Ith)	10A.
Rated Insulation Voltage (Ui)	500V.
Withstand Voltage (Uimp)	2500V.
Short Circuit Overload Protection	Fuse Externally 10A. (FF)

Optional EX internal switch Type LS-EX

Classification	ATEX Zones 1,2,1,2,22 Ex d IIC T6 (-20C Ta 60C) Gb Ex tb IIIC T85C (-20C Ta 60C) Db
Rated Voltage	250V ac/dc
Rated Current	2 pole 4A.

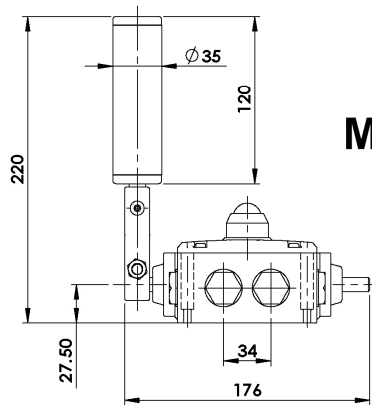
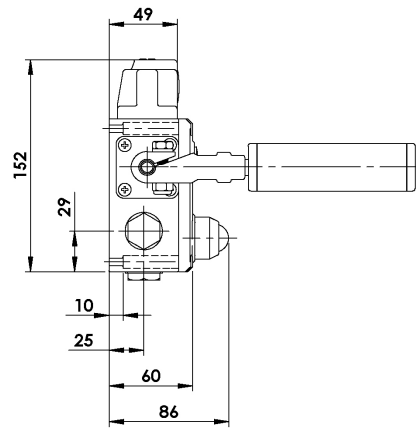
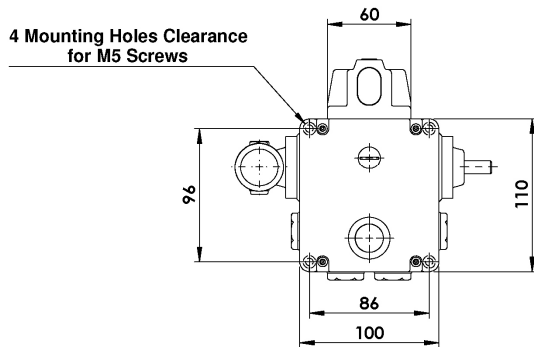
### Information with regard to UL 508:

Type 1 Enclosures.  
Use 16 - 14AWG copper conductors, rated 70°C only.  
Intended for same polarity use.  
Electrical Rating: A300 240V.ac 3A. (6,000 cycles)  
120V.ac 60A. Making 6A. Breaking PF >0.38 (100,000 cycles)  
240V.ac 10A. carry only.  
Torque 7lb/in (0.8Nm)  
LED powered by LVLC or Class 2 only.  
Earth bonding terminal inside enclosure if required.

The device is permitted to control more than one load provided the total load connected to the line at one time does not exceed 1440 volt-amperes, or have a current rating greater than 30 amperes at 51-150 volts or 20 amperes at 151 to 300 volts.

# Conveyor Belt Alignment Switches from IDEM

## MODELS:



## MEDIUM DUTY - DIE-CAST

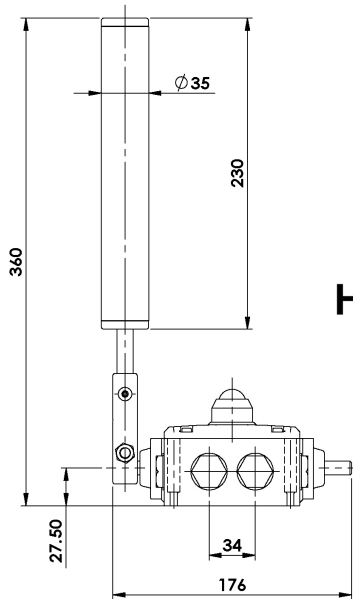
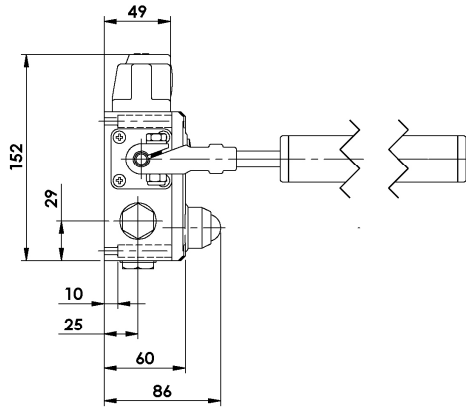
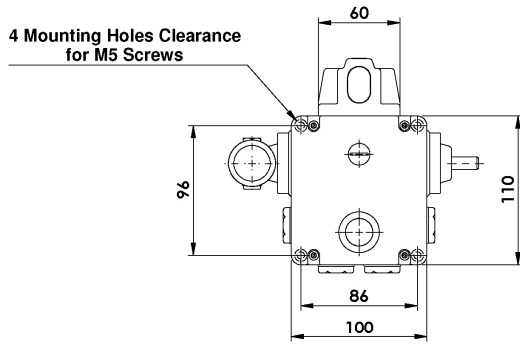
### Belt Switch - 35mm Short Roller

All Dimensions in mm



Description	Sales Part No.	Medium Duty		
		Operating Torque	WARNING	STOP
Belt Switch 35mm Roller Short M20 2NC 2NO	500001	1.8Nm to 2.8Nm  (Factory set : 1.8Nm)	10-18 degrees  (Factory set: 14 degrees)	15-35 degrees  (Factory set: 25 degrees)
Belt Switch 35mm Roller Short ½" 2NC 2NO	500002			
Belt Switch 35mm Roller Short M20 2NC 2NO 24v LED	500003A			
Belt Switch 35mm Roller Short M20 2NC 2NO 110v LED	500003B			
Belt Switch 35mm Roller Short M20 2NC 2NO 230v LED	500003C			
Belt Switch 35mm Roller Short ½" 2NC 2NO 24v LED	500004A			
Belt Switch 35mm Roller Short ½" 2NC 2NO 110v LED	500004B			
Belt Switch 35mm Roller Short ½" 2NC 2NO 230v LED	500004C			
Belt Switch 35mm Roller Short M20 2NC 2NO EX 3m PRE-WIRED	500021			

# Conveyor Belt Alignment Switches from IDEM



## HEAVY DUTY - DIE-CAST

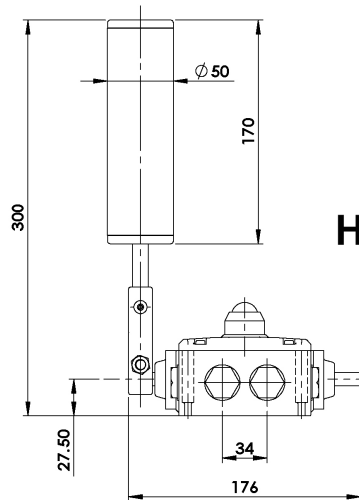
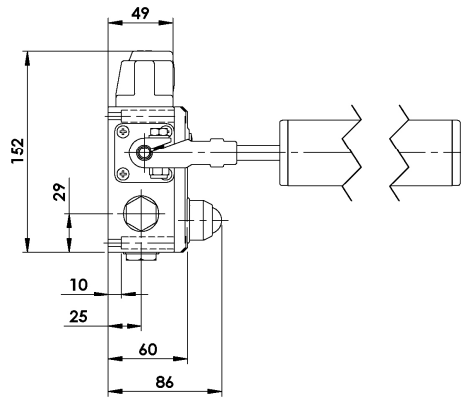
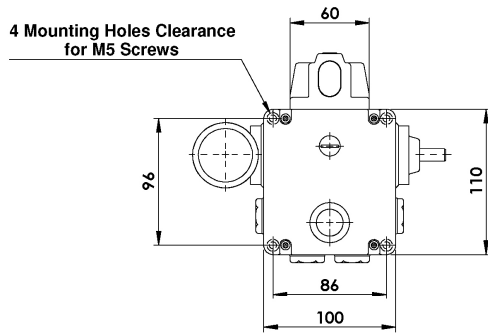
### Belt Switch - 35mm Long Roller

All Dimensions in mm



Description	Sales Part No.	Heavy Duty		
		Operating Torque	WARNING	STOP
Belt Switch 35mm Roller Long M20 2NC 2NO	500005	3.0Nm to 5.0Nm  (Factory set : 3.0Nm)	10-18 degrees  (Factory set: 14 degrees)	15-35 degrees  (Factory set: 25 degrees)
Belt Switch 35mm Roller Long ½" 2NC 2NO	500006			
Belt Switch 35mm Roller Long M20 2NC 2NO 24v LED	500007A			
Belt Switch 35mm Roller Long M20 2NC 2NO 110v LED	500007B			
Belt Switch 35mm Roller Long M20 2NC 2NO 230v LED	500007C			
Belt Switch 35mm Roller Long ½" 2NC 2NO 24v LED	500008A			
Belt Switch 35mm Roller Long ½" 2NC 2NO 110v LED	500008B			
Belt Switch 35mm Roller Long ½" 2NC 2NO 230v LED	500008C			
Belt Switch 35mm Roller Long M20 2NC 2NO EX 3m PRE-WIRED	500051			

# Conveyor Belt Alignment Switches from IDEM



## HEAVY DUTY - DIE-CAST

### Belt Switch - 50mm Roller

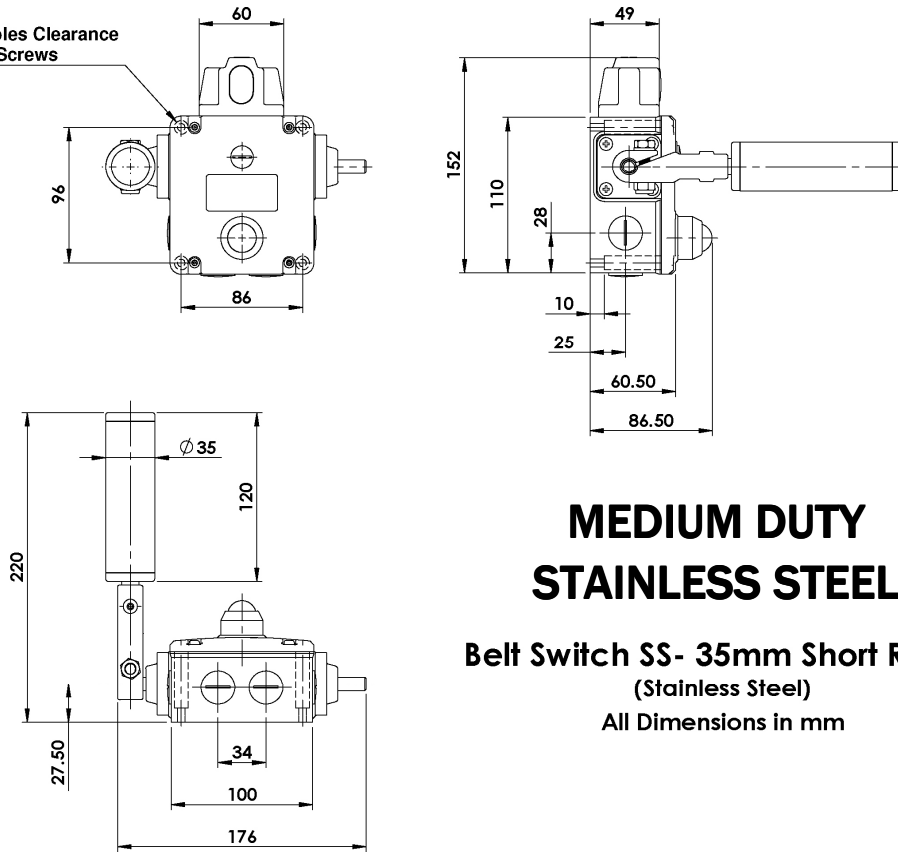
All Dimensions in mm



Description	Sales Part No.	Heavy Duty		
		Operating Torque	WARNING	STOP
Belt Switch 50mm Roller M20 2NC 2NO	500009	3.0Nm to 5.0Nm  (Factory set : 3.0Nm)	10-18 degrees  (Factory set: 14 degrees)	15-35 degrees  (Factory set: 25 degrees)
Belt Switch 50mm Roller ½" 2NC 2NO	500010			
Belt Switch 50mm Roller M20 2NC 2NO 24v LED	500011A			
Belt Switch 50mm Roller M20 2NC 2NO 110v LED	500011B			
Belt Switch 50mm Roller M20 2NC 2NO 230v LED	500011C			
Belt Switch 50mm Roller ½" 2NC 2NO 24v LED	500012A			
Belt Switch 50mm Roller ½" 2NC 2NO 110v LED	500012B			
Belt Switch 50mm Roller ½" 2NC 2NO 230v LED	500012C			
Belt Switch 50mm Roller M20 2NC 2NO EX 3m PRE-WIRED	500091			

# Conveyor Belt Alignment Switches from IDEM

4 Mounting Holes Clearance  
for M5 Screws



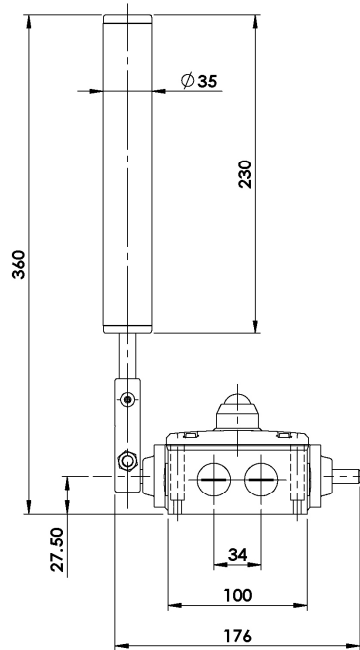
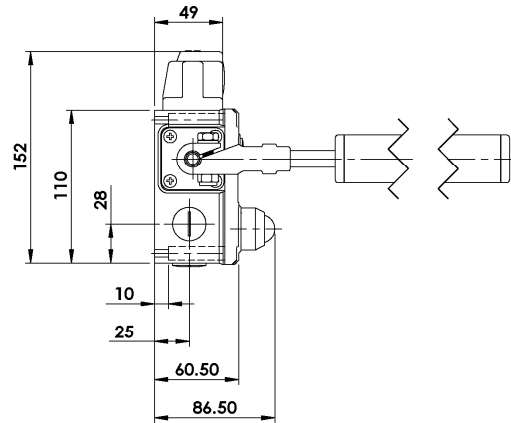
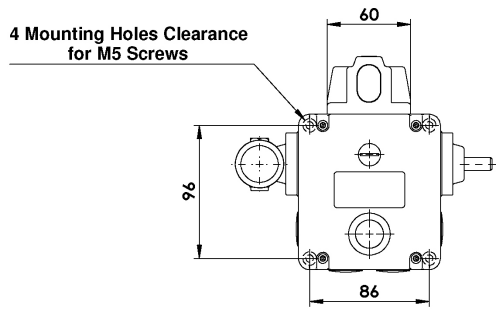
## MEDIUM DUTY STAINLESS STEEL

**Belt Switch SS- 35mm Short Roller**  
(Stainless Steel)  
All Dimensions in mm



Description	Sales Part No.	Medium Duty		
		Operating Torque	WARNING	STOP
Belt Switch SS 35mm Roller Short M20 2NC 2NO	501001	1.8Nm to 2.8Nm  (Factory set : 1.8Nm)	10-18 degrees  (Factory set: 14 degrees)	15-35 degrees  (Factory set: 25 degrees)
Belt Switch SS 35mm Roller Short ½" 2NC 2NO	501002			
Belt Switch SS 35mm Roller Short M20 2NC 2NO 24v LED	501003A			
Belt Switch SS 35mm Roller Short M20 2NC 2NO 110v LED	501003B			
Belt Switch SS 35mm Roller Short M20 2NC 2NO 230v LED	501003C			
Belt Switch SS 35mm Roller Short ½" 2NC 2NO 24v LED	501004A			
Belt Switch SS 35mm Roller Short ½" 2NC 2NO 110v LED	501004B			
Belt Switch SS 35mm Roller Short ½" 2NC 2NO 230v LED	501004C			
Belt Switch SS 35mm Roller Short M20 2NC 2NO EX 3m PRE-WIRED	501021			

# Conveyor Belt Alignment Switches from IDEM



## HEAVY DUTY STAINLESS STEEL

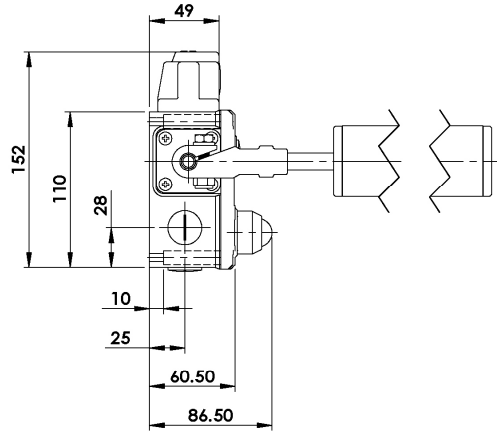
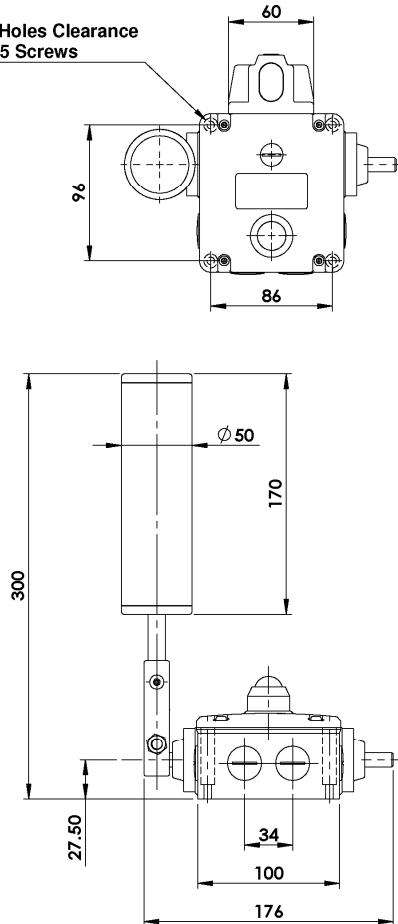
**Belt Switch SS- 35mm Long Roller**  
(Stainless Steel)  
All Dimensions in mm



Description	Sales Part No.	Heavy Duty		
		Operating Torque	WARNING	STOP
Belt Switch SS 35mm Roller Long M20 2NC 2NO	501005	3.0Nm to 5.0Nm  (Factory set : 3.0Nm)	10-18 degrees  (Factory set: 14 degrees)	15-35 degrees  (Factory set: 25 degrees)
Belt Switch SS 35mm Roller Long ½" 2NC 2NO	501006			
Belt Switch SS 35mm Roller Long M20 2NC 2NO 24v LED	501007A			
Belt Switch SS 35mm Roller Long M20 2NC 2NO 110v LED	501007B			
Belt Switch SS 35mm Roller Long M20 2NC 2NO 230v LED	501007C			
Belt Switch SS 35mm Roller Long ½" 2NC 2NO 24v LED	501008A			
Belt Switch SS 35mm Roller Long ½" 2NC 2NO 110v LED	501008B			
Belt Switch SS 35mm Roller Long ½" 2NC 2NO 230v LED	501008C			
Belt Switch SS 35mm Roller Long M20 2NC 2NO EX 3m PRE-WIRED	501051			

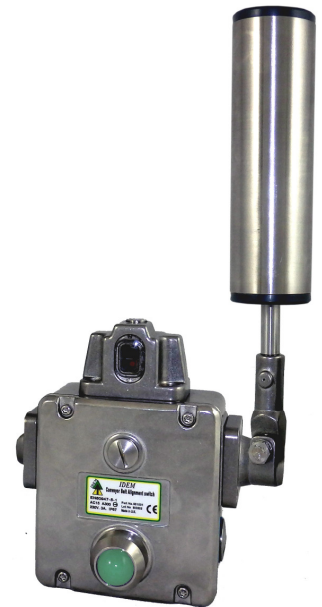
# Conveyor Belt Alignment Switches from IDEM

4 Mounting Holes Clearance  
for M5 Screws



## HEAVY DUTY STAINLESS STEEL

**Belt Switch SS- 50mm Roller**  
(Stainless Steel)  
All Dimensions in mm



Description	Sales Part No.	Heavy Duty		
		Operating Torque	WARNING	STOP
Belt Switch SS 50mm Roller M20 2NC 2NO	501009	3.0Nm to 5.0Nm  (Factory set : 3.0Nm)	10-18 degrees  (Factory set: 14 degrees)	15-35 degrees  (Factory set: 25 degrees)
Belt Switch SS 50mm Roller ½" 2NC 2NO	501010			
Belt Switch SS 50mm Roller M20 2NC 2NO 24v LED	501011A			
Belt Switch SS 50mm Roller M20 2NC 2NO 110v LED	501011B			
Belt Switch SS 50mm Roller M20 2NC 2NO 230v LED	501011C			
Belt Switch SS 50mm Roller ½" 2NC 2NO 24v LED	501012A			
Belt Switch SS 50mm Roller ½" 2NC 2NO 110v LED	501012B			
Belt Switch SS 50mm Roller ½" 2NC 2NO 230v LED	501012C			
Belt Switch SS 50mm Roller M20 2NC 2NO EX 3m PRE-WIRED	501091			