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Cable Switch LHPw-10/2-B-S up to 100 m

Cable emergency switches are used for quick switching off conveyor belts or other large machines and equipment by pulling the cable connected with a switch. Cable emergency switches serve as a protection e.g. at a fall on the conveyer, trapping by a machine or towing by the cable etc.

Cable emergency switches of LHPEw-10/2-B-S series are intended for being mounted between two cables. The maximum cable length at each side is 50 m. When one of the cables is pulled, the switch contacts are instantaneously switched over and at the same time automatically blocked, which prevents spontaneous switching back. The switch can only be returned to the neutral position manually directly on it by releasing the blockage.

The switch-off cable trajectory with the length of 34 mm minimizes accidental activations which could occur due to the thermal expansion of the cable, see the chart.

Thanks to the equipment by two tension springs SPF-W the requirement of CSN EN ISO 13850 (automatic switch-off in case of the cable break) is met. The switch cabinet id made of colour glass fibre reinforced polyester.

The switch includes a RL5 cable and two SPF-W springs. If a customer uses unsuitable cable or springs, the manufacturer does not assume liability for the correct function of the switch.

Cable emergency switches of LHPw-10/2-B-S series are produced with the protection class II, where no protective conductor must be led to.

The contacts of A and B switches in this series (without “E” economy in the name) are fitted with synchronisation of disconnecting and the lever angel between the disconnection of individual contacts is 0°. We recommend the synchronisation in connections with a safety module.

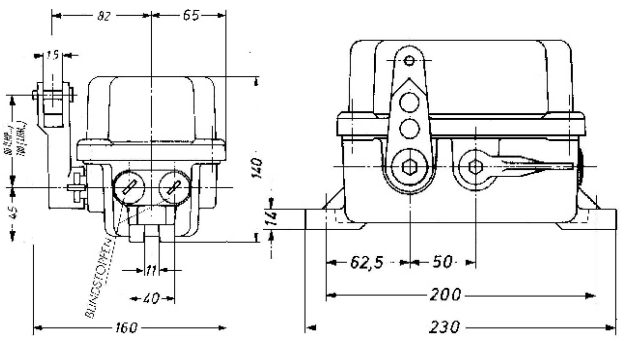
Technical parameters:

Meets standards	ČSN EN 60947 ČSN EN 60204 ČSN EN 60529 ČSN EN ISO 13850 ČSN EN 620
Switching trajectory	34 mm according to the setting of springs for the temperature difference of max. 59°C
Force necessary for switching	>40N
Cable input	2 holes for M25x1.5 with a blank flange
Cabinet material	glass fibre reinforced polyester
Cabinet colour	yellow RAL 1003
Attachment	By two longitudinal M10 belts
Working temperature	-40°C - +85°C
Protection class for the type ... S	Class II
Number and function of contacts	2 disconnecting and 2 connecting
Protection	IP 67
Load-bearing capacity	400VAC/6A, 230VAC/8A, 24VDC/10A ,80VDC/3A
Values for calculating the level of PL properties: B10 = 80,000 cycles	

Accessories for a single LHPw-10/2B-S switch:
They must be specified in the order including the number of pieces and length, see the Catalogue Sheet “Cable Switches Accessories”.

Spring with a chain	SPF-W	2 pcs
Cable	RL5	* m
Tensioning lock	SPS6	2 pcs
Eye on the cable	SKA5	4 pcs
Cable clamp	SKL5	8 pcs
Cable guide eye	SH_	* pcs
Bushing M25 x 1.5	M25 x 1.5	*2 pcs

* The number will be determined according to assembly documentation depending on the conveyer length



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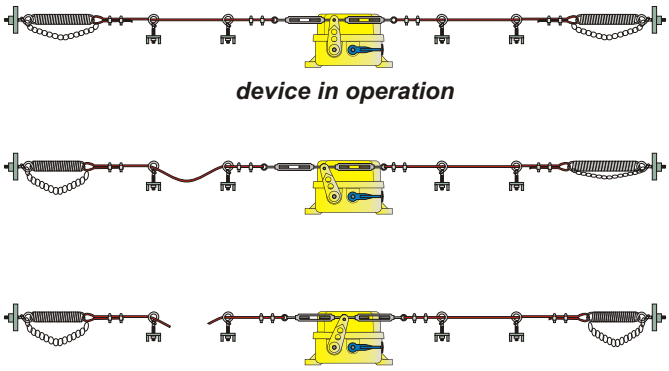
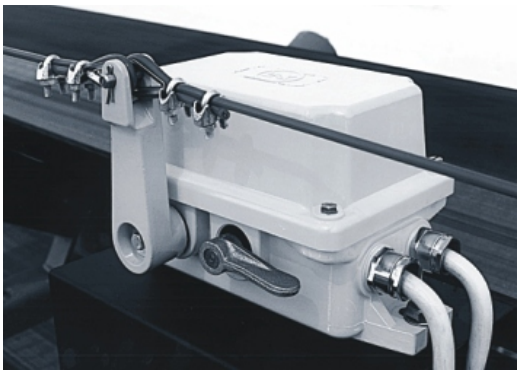
Cable Switch LHPw-10/2-B-S up to 100 m

Switch function



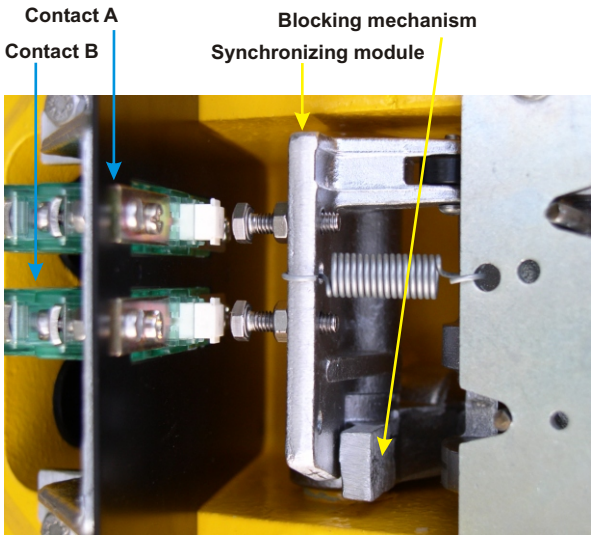
device in operation

Correct switch position

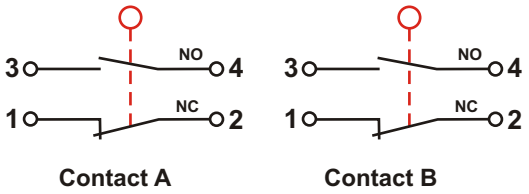


Cable switches as emergency stops are assembled based on the assembly documentation. The assembly documentation describes positions of cable switches, calculations of maximum cable length depending on the temperature and friction. It must take into account inspection round routes, mechanical stress, obstacles, dangerous places, covers, etc.

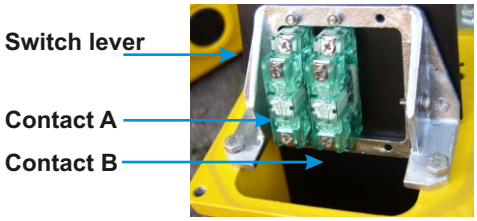
Besides this machinery part it is necessary to perform, based on a protocol of the determined control circuit safety category, correct connection which determines how and how many conveyers will be stopped in case of the emergency stop switch activation. Further information is given in the Catalogue Sheet “Assembly Documentation”.



Switch contacts



Order of contacts in the switch



Formula for calculating the maximum cable length depending on the temperature difference and switching trajectory of the cable switch

$$L = S/\alpha/(T_{max}\ T_{min})$$

L	maximum cable length (m)
S	cable switch switching trajectory (mm)
T	max maximum temperature (°C)
T	minminimum temperature (°C)
α	thermal extension coefficient for steel α = 0.0000115m/m °C1-

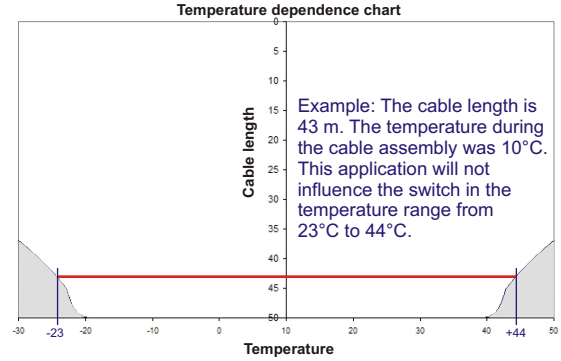
Put the S, Tmax and Tmin values in

L= 0.034 / α/(40 - -15)
S Tmax Tmn

Result:
L = 53.754941

Warning! The length permitted by the manufacturer must not exceed 50 m at one side.

Temperature dependence chart



Example: The cable length is 43 m. The temperature during the cable assembly was 10°C. This application will not influence the switch in the temperature range from 23°C to 44°C.

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Cable Switch LHPEw-10/2-B-S up to 100 m

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Thanks to the equipment by two tension springs SPF-W the requirement of CSN EN ISO 13850 (automatic switch-off in case of the cable break) is met. The switch cabinet is made of colour glass fibre reinforced polyester.

The switch includes a RL5 cable and two SPF-W springs. If a customer uses unsuitable cable or springs, the manufacturer does not assume liability for the correct function of the switch.

Cable emergency switches of LHPEw-10/2-B-S series are produced with the protection class II, where no protective conductor must be led to.

The contacts of A and B switches in this series (E economy in the name) are not fitted with synchronisation of disconnecting and the lever angle between disconnection of contacts can reach up to 2° (approximately 1 mm of the cable trajectory). To synchronize the contacts with 0° angle, the type series of "E" must be used, i.e. LHPw-10/2-B-S.

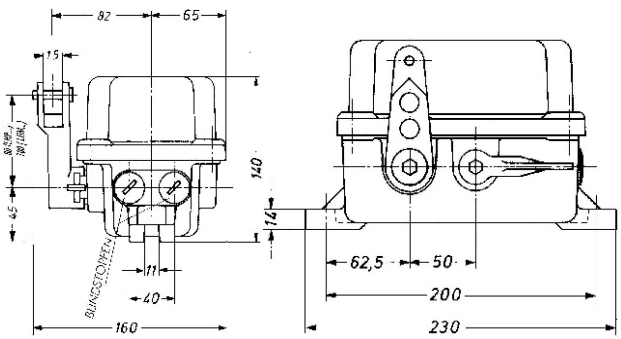
Technical parameters:

Meets standards	ČSN EN 60947 ČSN EN 60204 ČSN EN 60529 ČSN EN ISO 13850 ČSN EN 620
Switching trajectory	34 mm according to the setting of springs for the temperature difference of max. 59°C
Force necessary for switching	>40N
Cable input	2 holes for M25x1.5 with a blank flange
Cabinet material	glass fibre reinforced polyester
Cabinet colour	yellow RAL 1003
Attachment	By two longitudinal M10 belts
Working temperature	-40°C - +85°C
Protection class for the type ... S	Class II
Number and function of contacts	2 disconnecting and 2 connecting
Protection	IP 67
Load-bearing capacity	400VAC/6A, 230VAC/8A, 24VDC/10A ,80VDC/3A
Values for calculating the level of PL properties: B10 = 80,000 cycles	

Accessories for a single LHPEw-10/2B-S switch:
They must be specified in the order including the number of pieces and length, see the Catalogue Sheet "Cable Switches Accessories".

Spring with a chain	SPF-W	2 pcs
Cable	RL5	* m
Tensioning lock	SPS6	2 pcs
Eye on the cable	SKA5	4 pcs
Cable clamp	SKL5	8 pcs
Cable guide eye	SH_	* pcs
Bushing M25 x 1.5	M25 x 1.5	*2 pcs

* The number will be determined according to assembly documentation depending on the conveyer length



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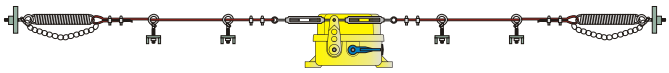
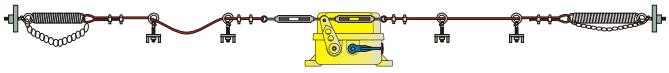
Cable Switch LHPEw-10/2-B-S up to 100 m

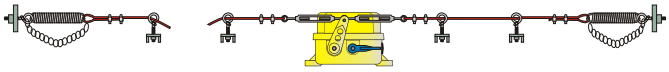
Switch function



device in operation



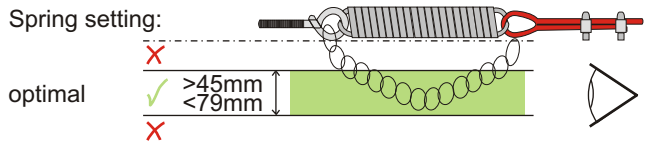
the cable has been pulled



the cable is broken

To achieve the correct switch function, the springs with chains at both ends of cables must be optimally set. The normal line of the looping chain must be at least 45 mm far from the spring.

A temperature change influences the cable length thus also the looping chain. When checking the setting it can be visually determined, whether the chain is correctly set.



Cable switches as emergency stops are assembled based on the assembly documentation. The assembly documentation describes positions of cable switches, calculations of maximum cable length depending on the temperature and friction. It must take into account inspection round routes, mechanical stress, obstacles, dangerous places, covers, etc.

Besides this machinery part it is necessary to perform, based on a protocol of the determined control circuit safety category, correct connection which determines how and how many conveyers will be stopped in case of the emergency stop switch activation. Further information is given in the Catalogue Sheet “Assembly Documentation”.

Formula for calculating the maximum cable length depending on the temperature difference and switching trajectory of the cable switch

$$L = S/\alpha/(T_{max}\ T_{min})$$

L	maximum cable length (m)
S	cable switch switching trajectory (mm)
T	max maximum temperature (°C)
T	minminimum temperature (°C)
α	thermal extension coefficient for steel α = 0.0000115m/m °C1-

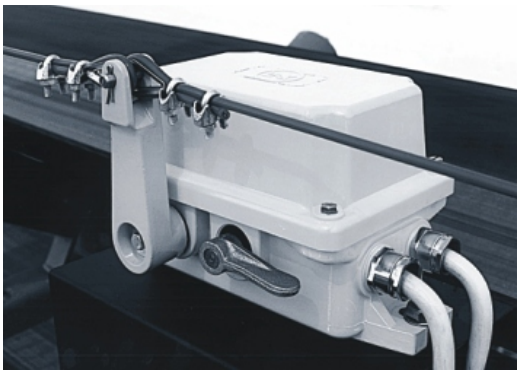
Put the S, Tmax and Tmin values in

$$L = \frac{0.034}{S} / \alpha / \left(\frac{40}{T_{max}} - \frac{-15}{T_{mn}}\right)$$

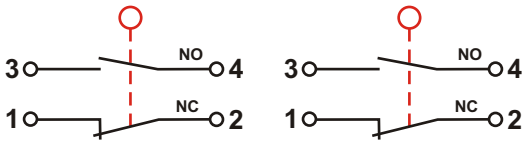
Result:
L = 53.754941

Warning! The length permitted by the manufacturer must not exceed 50 m at one side.

Correct switch position

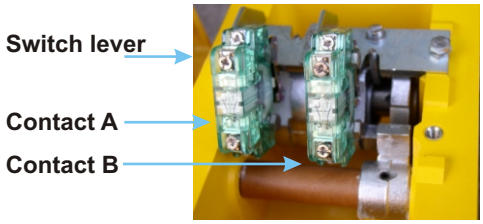


Switch contacts

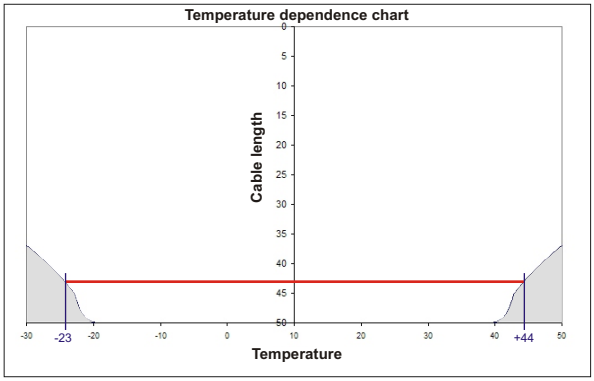


Contact A **Contact B**

Order of contacts in the switch



Example: The cable length is 43 m.
The temperature during the cable assembly was 10°C. This application will not influence the switch in the temperature range from 23°C to 44°C.



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The switch-off cable trajectory with the length of 34 mm minimizes accidental activations which could occur due to the thermal expansion of the cable, see the chart.

Thanks to the equipment by two tension springs SPF-W the requirement of CSN EN ISO 13850 (automatic switch-off in case of the cable break) is met. The switch cabinet id made of colour glass fibre reinforced polyester.

The switch includes a RL5 cable and two SPF-W springs. If a customer uses unsuitable cable or springs, the manufacturer does not assume liability for the correct function of the switch.

Cable emergency switches of LHPw-10/2-B series are produced with the protection class I, where a protective conductor must be led to. The switch must be earthed. If operating conditions require installing any additional protection by the connection at the place of installation, the protective conductor must be led out through one of the bushings at this type. In such a case, the mutual connection of switches cannot do without an additional connection box at every switch or a pair of switches.
To save work and material, it is suitable to use switches with protection class II which need not be earthed (their type is marked “S” in the end).

Technical parameters:

Meets standards	ČSN EN 60947 ČSN EN 60204 ČSN EN 60529 ČSN EN ISO 13850 ČSN EN 620
Switching trajectory	34 mm according to the setting of springs for the temperature difference of max. 59°C
Force necessary for switching	>40N
Cable input	2 holes for M25x1.5 with a blank flange
Cabinet material	glass fibre reinforced polyester
Cabinet colour	yellow RAL 1003
Attachment	By two longitudinal M10 bolts
Working temperature	-40°C - +85°C
Protection class	Class I
Number and function of contacts	2 disconnecting and 2 connecting
Protection	IP 67
Load-bearing capacity	400VAC/6A, 230VAC/8A, 24VDC/10A ,80VDC/3A
Values for calculating the level of PL properties: B10 = 80,000 cycles	

Accessories for a single LHPw-10/2B switch:
They must be specified in the order including the number of pieces and length, see the Catalogue Sheet “Cable Switches Accessories”.

Spring with a chain	SPF-W	2 pcs
Cable	RL5	* m
Tensioning lock	SPS6	2 pcs
Eye on the cable	SKA5	4 pcs
Cable clamp	SKL5	8 pcs
Cable guide eye	SH_	* pcs
Bushing M25 x 1.5	M25x1,5	2 pcs

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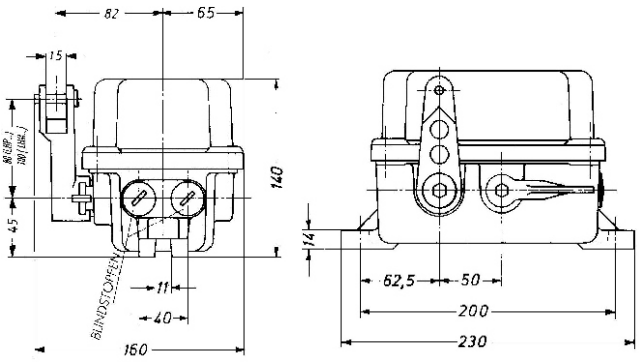

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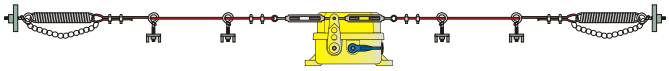
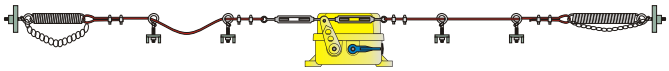
Cable Switch LHPw-10/2-B up to 100 m

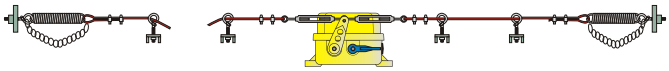
Switch function



device in operation

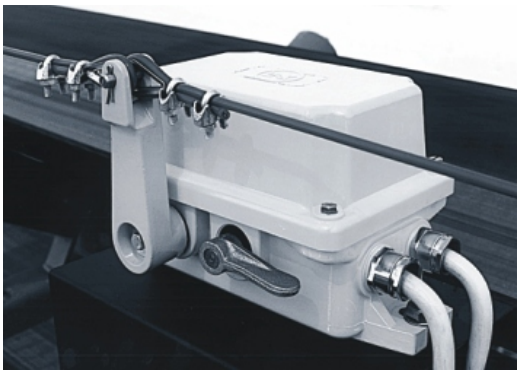


the cable has been pulled



the cable is broken

Correct switch position



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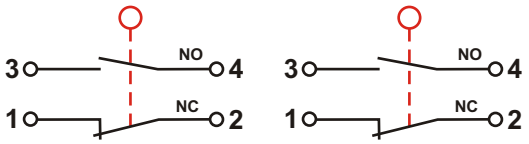
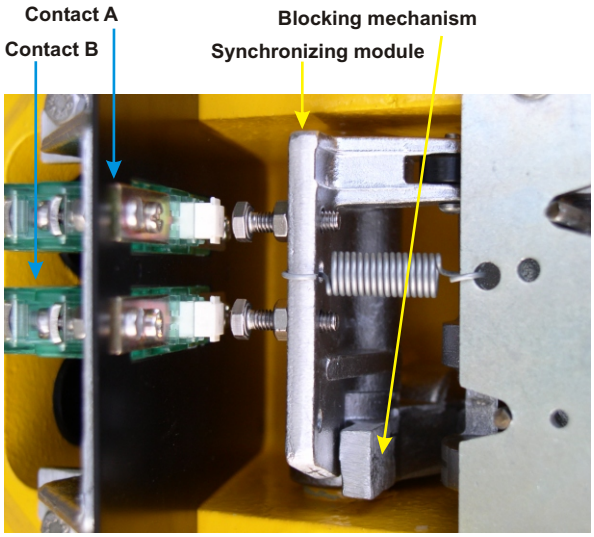
Switch contacts

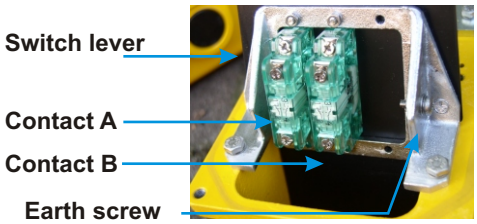


Contact A Contact B



Contacts of A and B switches in this series (without "E" economy in the name) are fitted with the synchronisation of disconnecting and the lever angle between the disconnection of individual contacts is 0°. We recommend the synchronisation for connections with a safety module.

Order of contacts in the switch



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Put the S, Tmax and Tmin values in

L= 0.034 / α/(40 - -15)
S Tmax Tmn

Result:
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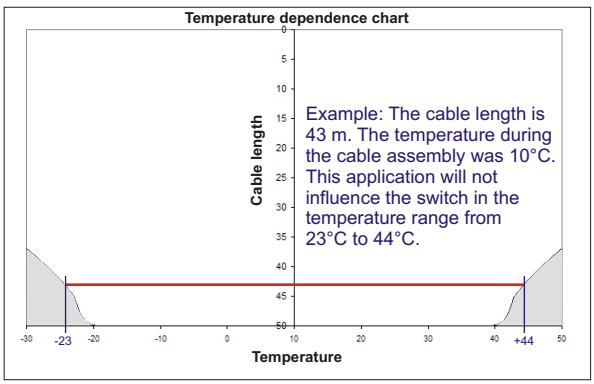
Warning! The length permitted by the manufacturer must not exceed 50 m at one side.

Temperature dependence chart



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Cable Switches Accessories

Cable RL 5

Cable RL 3

Drum with a cable RL5,
he length of 500 m
Drum with a cable RL3,
the length of 500 m

Spring SPF-W with a chain

Eye on the cable

SKA3 **SKA5**

Pulley URL5

Cable clamp

SKL5

SKL3

Type	Description
RL5	Cable, the diameter of 5 mm, galvanized steel with red PVC coating
RL3	Cable, the diameter of 3 mm, galvanized steel with red PVC coating
SPS6	Tension lock
SKA5	Eye on the cable of 5 mm
SKA3	Eye on the cable of 3 mm
SKL5	Cable clamp 5 mm
SKL3	Cable clamp 3 mm
SH...	Cable guiding eye for precise guiding and support to the cable (do not exceed the maximum span of 5 m), delivered in various diameters and as an open or closed type
SPF-W	Spring with a chain, stainless steel
M25x1,5	Bushing M25 x 1.5 Ip68 for a series of LHP... switches
M20x1,5	Bushing M20 x 1.5 Ip68 for a series of SNS... switches
...-VA	Suffix VA means the accessories made of stainless steel to be used in an aggressive environment. Example: RL5-VA cable, the diameter of 5 mm, stainless steel, with red PVC coating

M6 nut,
right thread

M6 nut,
left thread

Tension lock SPS 6

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Cable Switches Accessories

SH1 SH3 SH6

SH0 SH5 SH2

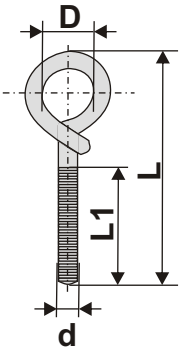
Dimension table of closed guiding eyes

Typ	d	L	L1	D
SH0	M6	80	55	10
SH2	M10	130	85	14
SH4	M8	90	55	23
SH5	M12	100	55	17

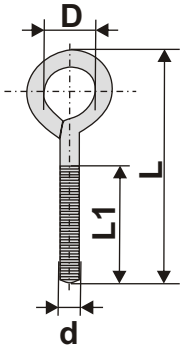
Dimension table of open guiding eyes

Typ	d	L	L1	D
SH1	M8	70	25	20
SH3	M10	120	55	25
SH6	M12	180	60	25

Open guiding eye



Closed guiding eye



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VLS-1 Cable Switch Highlight Flags

Use:
Highlight flags serve for highlighting the cable of an emergency stop switch. They can be used for all types of cable systems if manufacturers do not prohibit this application (see user manuals).

A flag is placed on the cable, where the cable is difficult to be recognized from the surrounding environment e.g. in front of a wire mesh fencing, various braided structures, fastening ropes, etc. It also serves for emphasizing the meaning of the cable due to high dustiness and deposits on the emergency stop cable when its red colour is not clearly seen.

Models:
Flags are produced in several models and colours. The width was determined at 150 mm on the attachment cable part.

The flag is always printed by symbol no. 5638 in compliance with CSN EN ISO 13850.

It also has signs EMERGENCY STOP and STOP written on it. Individually, it can be fitted with a text, number and name of the conveyer.

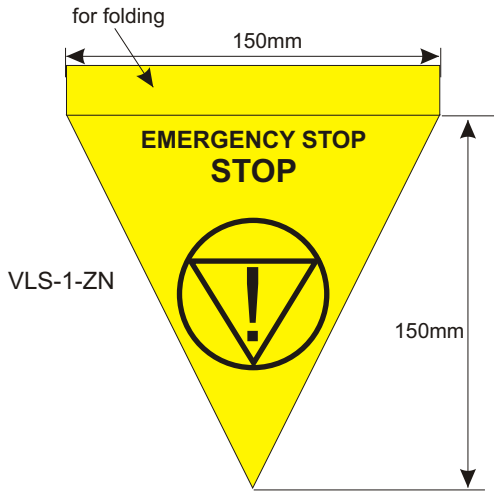
The flag is made of a flexible material and can be grasped with hand.

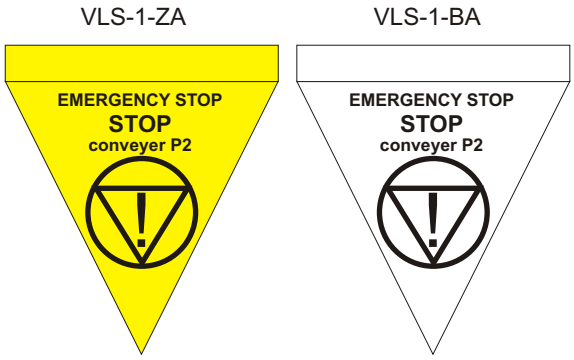
Assembly:
When selecting a position of a flag it must be taken into account that it creates an obstacle in the cable movement. Therefore it must always be placed according to the presumption estimate of the least expected place of grasping and at the same time it must fulfil its highlighting function.

A flag is easy assembled. After you decide on the place of installation, the cable must be thoroughly cleaned and degreased from dirt. The subsequent lifetime of the flag attachment depends on the quality of cleaning.

After cleaning the cable take off the protective band from the flag and attach the flag to the cable. The folder must be carried out in such a way that surfaces with glue firmly connect.

After sticking the connection quality must be tested by pulling the flag.





Designation of type and order possibilities:

Designation	Colour	Conveyer description
VLS-1-ZN	yellow	no
VLS-1-ZA	yellow	yes
VLS-1-BN	white	no
VLS-1-BA	white	yes
VLS-1-S	defined by the user	

Technical parameters:

Weight of the flag	0.1 kg
Dimensions in mm	150 x 150 x 0.28
Permitted ambient temperature	-30°C - +80°C
Material: Optiban based on polyester	
Fibrous structure	dtex 550x550
Tensile strength	490/470 N/2.5 cm
Resistance against breakage	68/68 N

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Conveyor Belt Swing Switch LHPw-10/2-L50

Use:
Conveyer belt swing switches are deployed at belt conveyers to minimize the danger of damage or destruction of the belt when it swings aside from its trajectory.

Description:
The LHPw-10/2-L50 switches are intended for being deployed along a conveyer belt. They are distributed in pairs on the right and left side. In the event of the belt swinging from its presumed trajectory, the belt edge affects a cylindrical lever of the switch and pushes against the self-aligning force of an inside spring.

At the swing angle of 25° contacts are switched over and the belt is automatically blocked. It prevents self-switching on when the swing decreases. The maximum swing of the cylindrical lever is 75°. As soon as the swing decreases, the blockage can only be released manually directly on the switch (a blue control switch). In this way the switch contacts are switched on again.

This type of a switch meets the CSN EN ISO 13850 requirement for its connection in emergency stop circuits locking if activated by the belt against restart. The switch emergency stop is not performed manually (it is not intended for it) but by the conveyer belt.

The contacts of A and B switches in this series (without "E" economy in the name) are fitted with synchronisation of disconnecting and the lever angel between the disconnection of individual contacts is 0°. We recommend the synchronisation in connections with a safety module. Every module of A and B contacts is equipped with a disconnecting and a connecting contact with forced guiding.

The switch cabinet is made of colour glass-fibre reinforced polyester.

Small cylinders with ball bearings of the L50 switch swing sensing lever are made of VA stainless steel. The L50 lever is attached to the axis of the switch in the required angle and tightened with a tie-bolt. An advantage of free setting the lever angle is that the switch can be attached in other positions according to the conveyor structure layout. A disadvantage is that the lever attachment to the switch axis must be more frequently checked, whether it has not loosen thus losing its function.

The effect of the sensing lever to the switch axis is only guaranteed for type "L" (LHPw-10/2-L). For this type the lever angle is set in the production. To align the correct lever angle toward the belt, the whole switch must be turned and fixed at the position.

Recommended distribution:
Swing switches are usually placed at the end of a conveyer behind the hopper and in front of the transfer point. For long conveyors above 30 m these switches should also be located in the middle of the trajectory. Switches are also suitable for inclined conveyers and conveyers with a movable hopper, e.g. propellers, S carriages etc. For impact skid platforms of belt conveyers swing switches must be used although the conveyor is equipped with a mechanical alignment of the belt trajectory.

Technical parameters:

Meets standards	ČSN EN 60947 ČSN EN 60204 ČSN EN 60529 ČSN EN ISO 13850 ČSN EN 620
Switching angle	25°
Maximum lever swinging	75°
Cylindrical lever	VA steel, two ball bearings
Weight	2.9 kg
Cable input	2 holes for M25x1.5 with a blank flange
Cabinet material	glass fibre reinforced polyester
Cabinet colour	yellow RAL 1003
Attachment	By two M10 belts
Working temperature	-40°C - +85°C
Protection class	Class I
Number and function of contacts	2 disconnecting and 2 connecting
Protection	IP 67
Load-bearing capacity	400VAC/6A, 230VAC/8A, 24VDC/10A ,80VDC/3A

Accessory for a single LHPw-10/2-L50 switch:
It must be specified in the order including the number of pieces.

Bushing M25 x 1.5	M25x1,5	*2 pcs

* the number will be determined according to the number of led-in cables - max. 2 pieces

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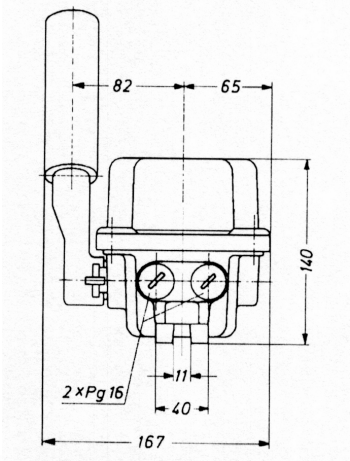
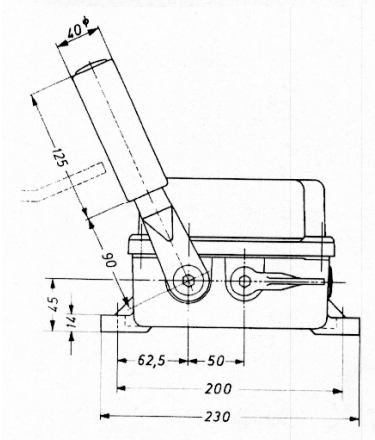
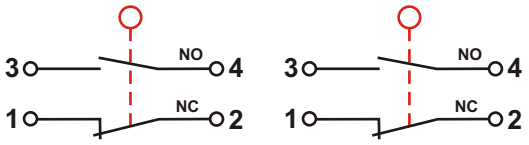
Conveyor Belt Swing Switch LHPw-10/2-L50

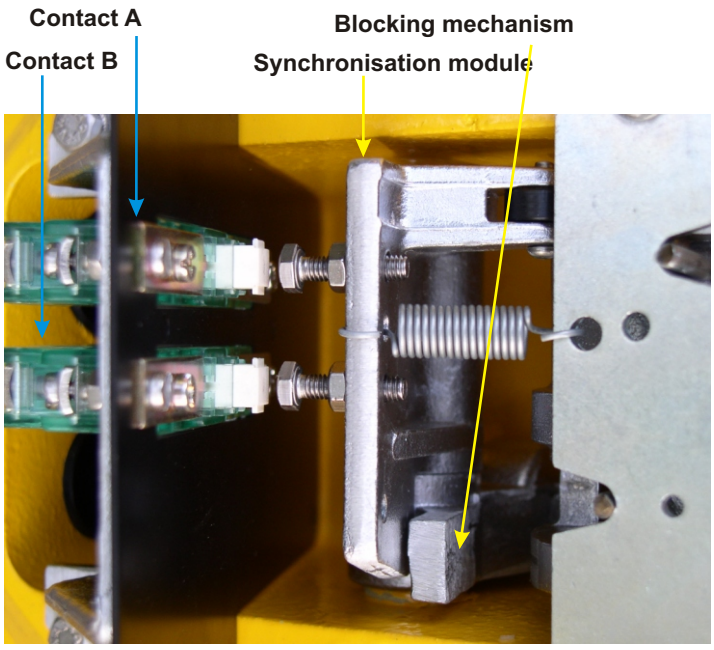




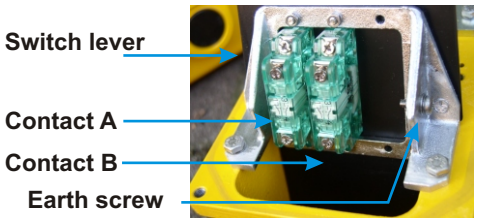
Example of assembly

Switch contacts





Order of contacts in the switch



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Lever End Switches LHPw-10/2-R-H

Use:
Lever end switches are used for controlling the position of machines and their parts in defined points during linear or rotary movements. The LHPw-10/2-R-H type is intended for being connected in emergency stop circuits of travel of conveyers, lifts, cranes, etc. or in case a conveyer belt is broken.

Description:
The LHPw-10/2-R-H lever end switches are equipped with a lever which is pushed to the neutral position by the force of an internal spring. When the lever cylinder runs on the side stop block or overrunning ruler, the lever is deviated from its neutral position against the force of the internal spring to one of the possible sides (to the left or right) which results in switching over of the switch contacts.

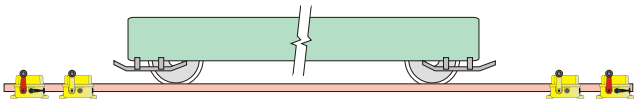
At the swing angle of 30° contacts are switched over and the device is automatically blocked the lever is locked. It prevents self-switching on when the swing angle decreases. The maximum swing of the lever is 75°. As soon as the swing decreases, the blockage can only be released manually directly on the switch (a blue control switch). In this way the switch and its contacts are set again to the neutral position.

This type of a switch meets the CSN EN ISO 13850 requirement for its connection in emergency stop circuits, i.e. locking, if activated, against restart. The switch activation emergency stop is not performed manually (it is not intended for it) but by the machine movement over the defined point of the trajectory in which the switch comes into contact with a machine overrunning ruler, a run on conveyer edge, etc.

The contacts of A and B switches in this series (without "E" economy in the name) are fitted with synchronisation of disconnecting and the lever angel between the disconnection of individual contacts is 0°. We recommend the synchronisation in connections with a safety module. Every module of A and B contacts is equipped with a disconnecting and a connecting contact with forced guiding.

The switch cabinet is made of colour glass-fibre reinforced polyester (LHP) with the protection of IP 67.

Recommended distribution:
Mobile conveyer
End switches are usually placed at the end of a conveyer trajectory behind the last technological position switches. The figure also shows technological switched without locking with the type marking LHP-10/2-R or LHPE-10/1-R. These switches have a yellow lever.



Tensioning station
The end switch for controlling breakage of the conveyer belt is placed in the tensioning station. The lever is set to the rectangular position toward the horizontal and the switch is attached to the structure of the tensioning station. An overrunning ruler, which switches the end switch, is attached on the movable part. When the belt breaks, the weight is released and falls down. When the weight falls down, the overrunning ruler runs on the switch and activates it. The figure on the back side of the sheet schematically shows the switch location in the tensioning station.

Technical parameters:

Meets standards	ČSN EN 60947 ČSN EN 60204 ČSN EN 60529 ČSN EN ISO 13850 ČSN EN 620
Switching angle	30°
Maximum lever swinging	75°
Overrunning ruler height	min. 20 mm, max. 65 mm
Weight	2.3 kg
Cable input	2 holes for M25x1.5 with a blank flange
Cabinet material	glass fibre reinforced polyester
Cabinet colour	yellow RAL 1003 red RAL 3000
Attachment	By two M10 belts
Working temperature	-40°C - +85°C
Protection class	Class I
Number and function of contacts	2 disconnecting and 2 connecting
Protection	IP 67
Load-bearing capacity	400VAC/6A, 230VAC/8A, 24VDC/10A ,80VDC/3A
Lifetime	electrical $1x10^6$ switches on mechanical $5x10^5$ switches on
Weight for calculating the level of PL properties: B10 = 80,000 cycles	

Accessory for a single LHPw-10/2-R-H- switch:
It must be specified in the order including the number of pieces.

Bushing M25 x 1.5	M25x1,5	*2 pcs

* the number will be determined according to the number of led-in cables - max. 2 pieces

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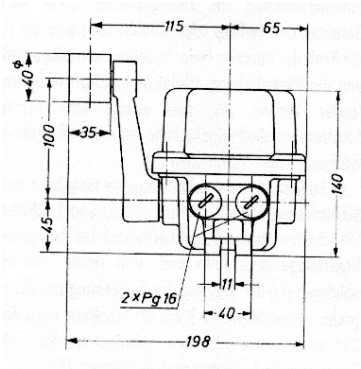
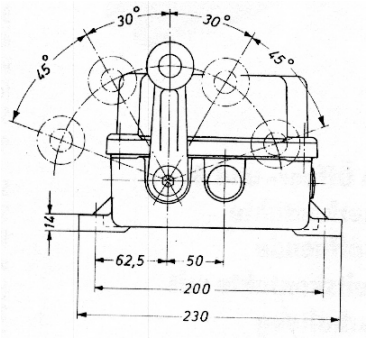
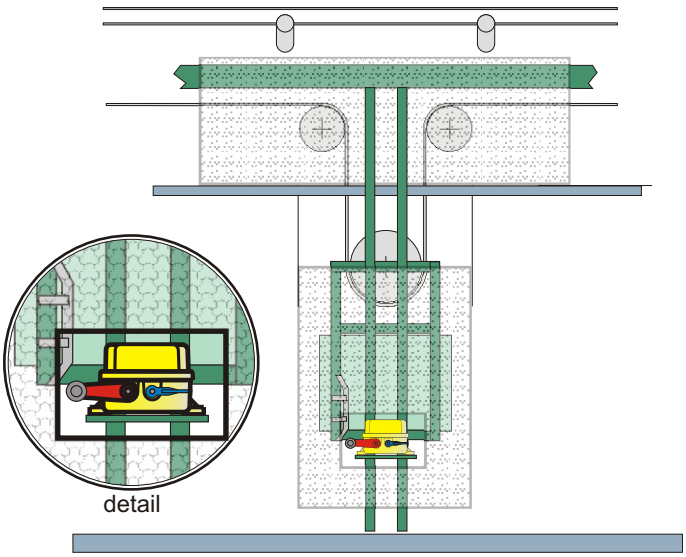
Lever End Switches LHPw-10/2-R-H

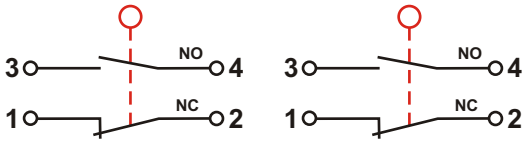




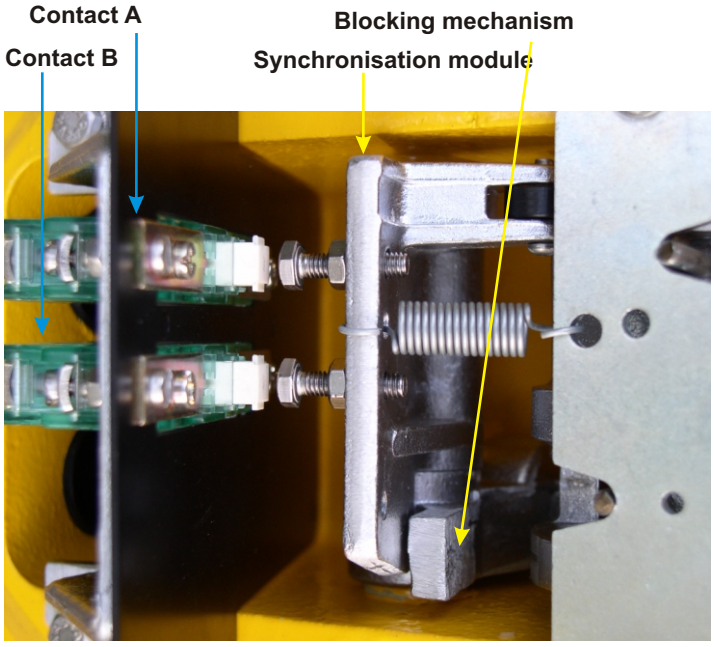
End switch location in the tensioning station



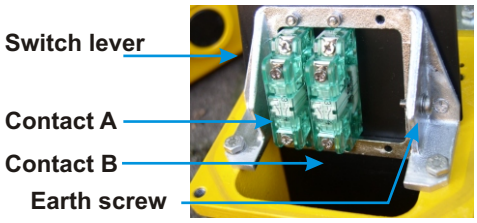
Switch contacts



Contact A Contact B



Order of contacts in the switch



Model in RAL 3000 colour

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Lever End Switches LHPw-10/2-R-H-EX

zone 22

Use:
Lever end switches are used for controlling the position of machines and their parts in defined points during linear or rotary movements. The LHPw-10/2-R-H-EX type is intended for being connected in emergency stop circuits of the travel of conveyers, lifts, cranes, etc. or in case a conveyer belt is broken.

Description:
The LHPw-10/2-R-H-EX lever end switches are equipped with a lever which is pushed to the neutral position by the force of an internal spring. When the lever cylinder runs on the side stop block or overrunning ruler, the lever is deviated from its neutral position against the force of the internal spring to one of the possible sides (to the left or right) which results in switching over of the switch contacts.

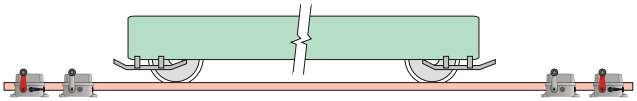
At the swing angle of 30° contacts are switched over and the device is automatically blocked the lever is locked. It prevents self-switching on when the swing angle decreases. The maximum swing of the lever is 75°. As soon as the swing decreases, the blockage can only be released manually directly on the switch (a blue control switch). In this way the switch and its contacts are set again to the neutral position.

This type of a switch meets the CSN EN ISO 13850 requirement for its connection in emergency stop circuits, i.e. locking, if activated, against restart. The switch activation emergency stop is not performed manually (it is not intended for it) but by the machine movement over the defined point of the trajectory in which the switch comes into contact with a machine overrunning ruler, a run on conveyer edge, etc.

The contacts of A and B switches in this series (without "E" economy in the name) are fitted with synchronisation of disconnecting and the lever angel between the disconnection of individual contacts is 0°. We recommend the synchronisation in connections with a safety module. Every module of A and B contacts is equipped with a disconnecting and a connecting contact with forced guiding.

The switch cabinet is made of colour glass-fibre reinforced polyester (LHP) with the protection of IP 67.

Recommended distribution:
Mobile conveyer
End switches are usually placed at the end of a conveyer trajectory behind the last technological position switches. The figure also shows technological switched without locking with the type marking LHP-10/2-R-EX or LHPE-10/1-R-EX. These switches have a yellow lever.



Tensioning station
The end switch for controlling breakage of the conveyer belt is placed in the tensioning station. The lever is set to the rectangular position toward the horizontal and the switch is attached to the structure of the tensioning station. An overrunning ruler, which switches the end switch, is attached on the movable part. When the belt breaks, the weight is released and falls down. When the weight falls down, the overrunning ruler runs on the switch and activates it. The figure on the back side of the sheet schematically shows the switch location in the tensioning station.

Technical parameters:

Model	**II 3D 90°C tD A22 IP67 T90°C**
Meets standards	ČSN EN 60947 ČSN EN 60204 ČSN EN 60529 ČSN EN ISO 13850 ČSN EN 620
Switching angle	30°
Maximum lever swinging	75°
Overrunning ruler height	min. 20 mm, max. 65 mm
Weight	2.3 kg
Cable input	2 holes for M25x1.5 with a blank flange
Cabinet material	glass fibre reinforced polyester
Cabinet colour	black red RAL 3000
Attachment	By two M10 belts
Working temperature	-40°C - +85°C
Number and function of contacts	2 disconnecting and 2 connecting
Protection	IP 67
Load-bearing capacity	400VAC/6A, 230VAC/8A, 24VDC/10A ,80VDC/3A
Lifetime	electrical $1x10^6$ switches on mechanical $5x10^5$ switches on
Weight for calculating the level of PL properties: B10 = 80,000 cycles	

Accessory for a single LHPw-10/2-R-H- switch:
It must be specified in the order including the number of pieces.

Bushing M25 x 1.5	M25x1,5	*2 pcs

* the number will be determined according to the number of led-in cables - max. 2 pieces

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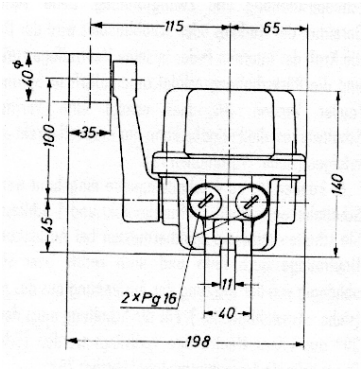
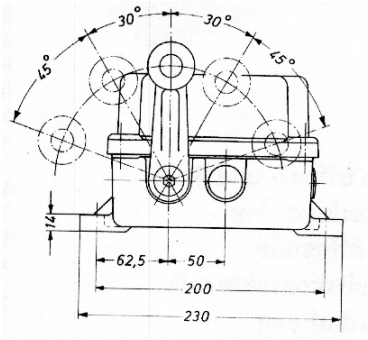
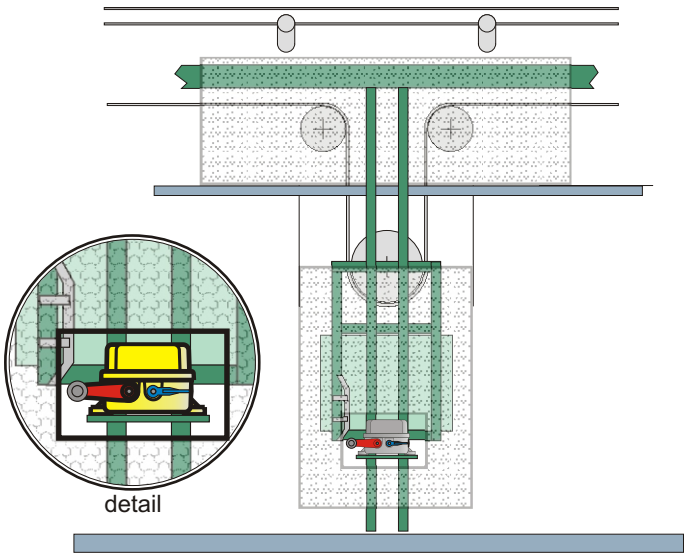
Lever End Switches LHPw-10/2-R-H-EX

zone 22

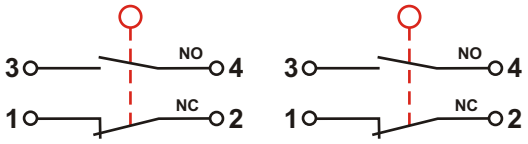


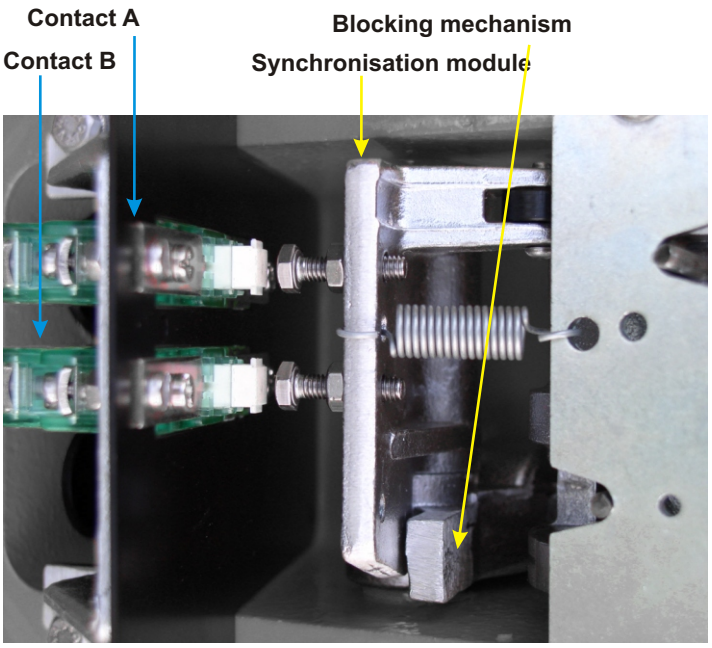


End switch location in the tensioning station

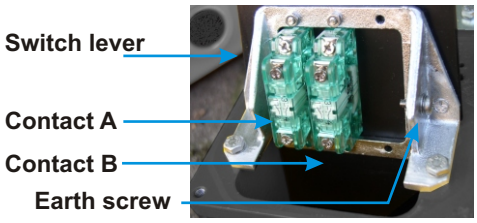


Switch contacts





Order of contacts in the switch



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Beacon FL-02

Technical parameters:

Operating voltage	1+PE+N 230 V, 50 Hz
	3 bushings M25x1.5 Ip68
Protection according to CSN 332000-4-41	
Distribution system	TN-S
Operation mode	Permanent light
Protection	IP65
Operation	Unattended
Weight	1.45 kg
Dimensions	130x170x170
Protection against atmospheric faults	By earth
Ambient temperature	- 20°C 60°C

Nutné vybavení pro zprovoznění systému:

Zařízení ke své činnosti vyžaduje pouze přítomnost napájecího napětí

The FL-02 beacon serves for optical signalling of a single operating status such as operation, travel, opened door, stop, warning, danger, etc. at machines or systems in production processes. It is usually situated near the source of the indicated phenomenon.

Description

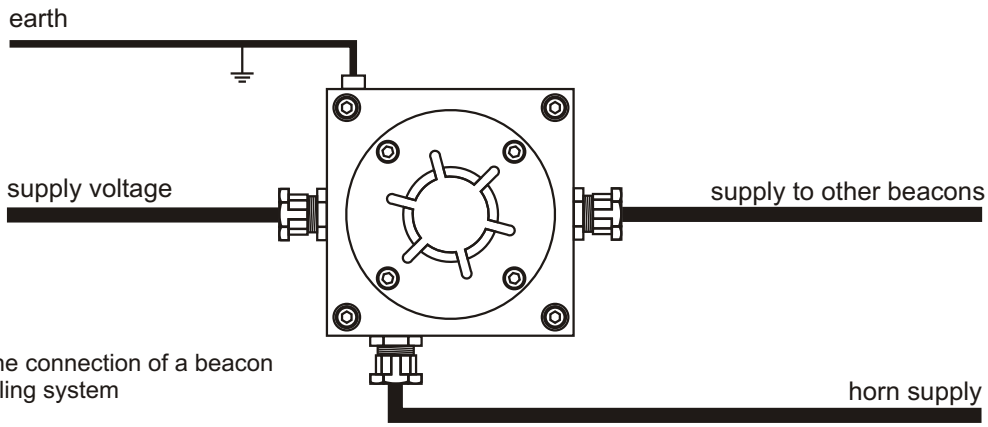
The beacon is installed in a SSe10 type cabinet supplemented by a welded steel basket fixed to the cabinet cover due to the mechanical protection of optical components of the beacon.

The beacon cabinet contains electronics serving for the operation of optical indication and terminal blocks for branching the supply to other types of electrical equipment such as subsequent beacons or horns.

*The required colour of the emitted light must be specified adequately to the nature of the indicated status (green, red, yellow).

The beacon operates in the mode of permanent light if the supply voltage of 1F/230V/50 Hz is delivered. It also serves as a branching multiple cabinet to other pieces of equipment with the supply voltage of 1F/230V/50 Hz. The internal connection is carried out using H05V-K (CYA) conductors with the cross-section of 1 mm2. The cross-section of line-in conductors (or conductors to other electrical devices) must range from 1 mm2 to 2.5 mm2.

The beacon is attached to a solid flat base by four M6 screws. A location with the minimum mechanical and heat stress should be selected.



Example: The connection of a beacon in the signalling system

The catalogue has only those selected important parameters for your final decision. For project designs always ask for the user's guide for this product and any engineering consultation about possible uses.

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V katalogovém listu jsou pouze vybrané důležité parametry pro vaše rozhodování. Pro projektování si vždy vyžádejte uživatelskou příručku, kterou vám rádi zašleme nebo poskytneme na internetu.

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Light signalling LED beacon lamp IP 65

The beacon lamp is comprised of four rows of LED diodes in appropriate colour according to order. It is all-plastic with double insulation and IP 65 protection. The fixing points are at the bottom of the lamp as well as the rubber cable bushing. The beacon has no protection against cable pulling; therefore the cable must be mounted firmly all the way to the bushing. The picture below shows the recommended lamp position. This position is obligatory for outdoor use.

Technical parameters:

Dimensions	100 mm x 138,5 mm
Case	PC/ABS-transparent
Shade	PC - transparent
Mounting	- surface mounting - console mounting - pipe mounting
Connection	screw clamp 0.5 mm^2 1.5 mm^2
Cable	5-7 mm diameter

LED-steady-intermittent light, switchable light image

Interruption frequency	c. 1.5 Hz
Voltage	24V=
Input	<=150 mA

LED-light duration

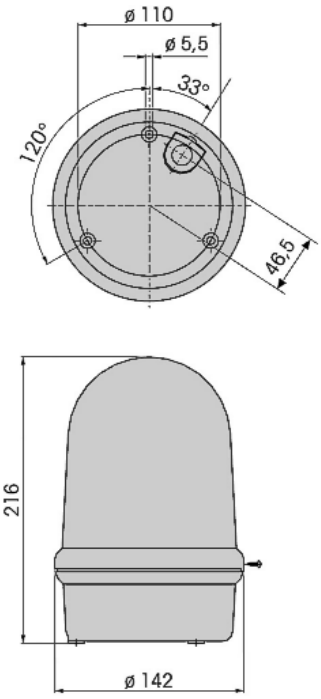
Voltage	115 V~ 230 V~
Input power	<=30 mA <=30 mA

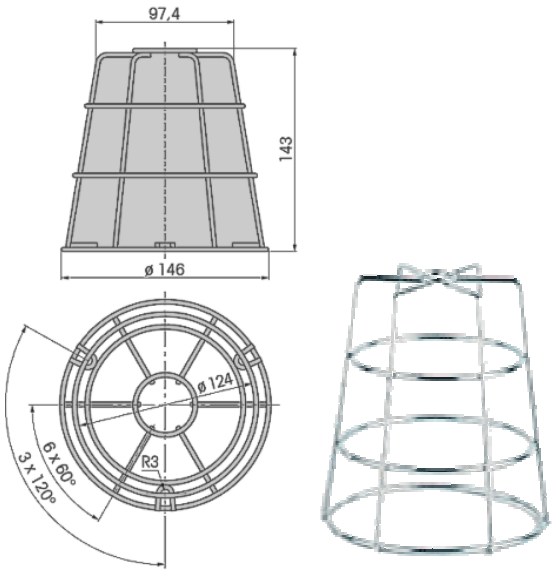
LED-flashing rotating light switchable light image

Interruption frequency	c. 1.5 Hz
Rotation frequency	c. 180 rpm
Voltage	24 V=
Input	<=300 mA

LED-flashing light

Interruption frequency (c.)	1,5Hz 1,5 HZ 1,5 Hz
Voltage	24V= 115V~ 230V~
Input	<30mA <300mA<30mA





The catalogue sheet contains only some parameters important for your decision. For planning always require a corresponding user manual and eventually a technical consultation on the possibilities of use.

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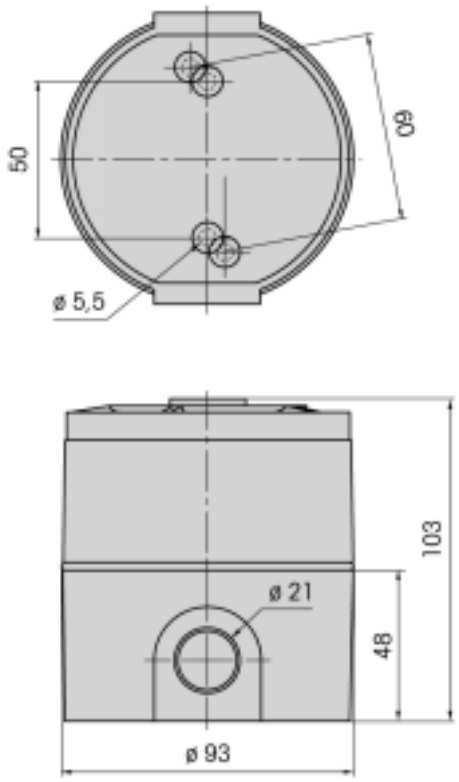
Acoustic signalling electronic multiple-function alarm horn IP 65

Description:
32 tones for various purposes; adjustable volume up to c. 110 dB.
External selection of 2 tones for the low voltage version.
IP 54 or IP 65 protection.

Technical parameters:

Dimensions	93 mm x 103 mm
Case	ABS
Connection	screw clamp max. 2.5 mm^2
Input	<30mA for 9-28V DC <45mA for 110-240V AC
Cable inlet	cable diameter max. 12 mm
Sonic frequency	selectable with coding switch
Tone	selectable with coding switch
Other	see tab. 140 multi-tone alarm horn



The catalogue sheet contains only some parameters important for your decision. For planning always require a corresponding user manual and eventually a technical consultation on the possibilities of use.