Safety and Operating Equipment

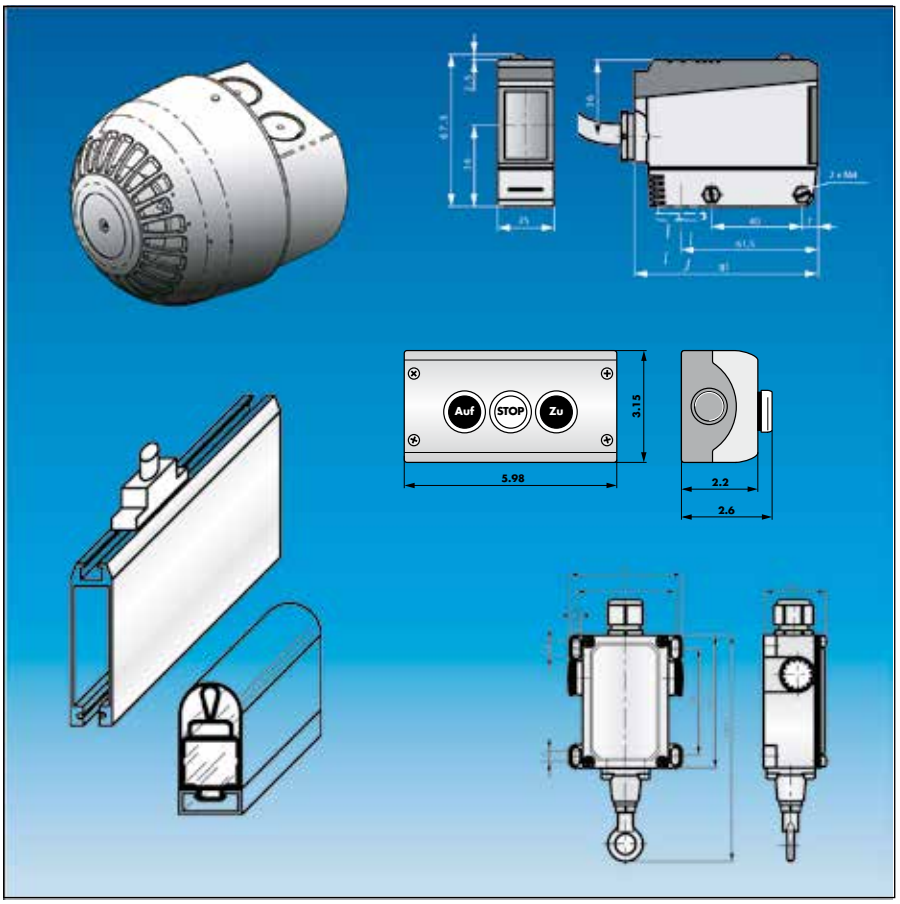
For DICTAMAT Door Operators

Depending on the application of the DICTATOR DICTAMAT door operator there are needed different operating elements. These can be simple hand switches, key switches, pulling switches but also remote control or motion detectors.

In addition usually appropriate safety equipment is required, either to protect people and/or material from damage.

On the following pages you will find a choice of operating and safety equipment. In case of special requirements please ask us. In choosing the safety equipment the requirements of the applying safety standards have to be kept in mind, e.g. EN 12453.

Please observe the maximum capacity of the binders in the control system. The power consumption of the connected devices must not exceed this value. An additional power pack should be ordered if necessary. (Please see the chapter Fire Door Control Solutions in the DICTATOR catalogue).



Summary

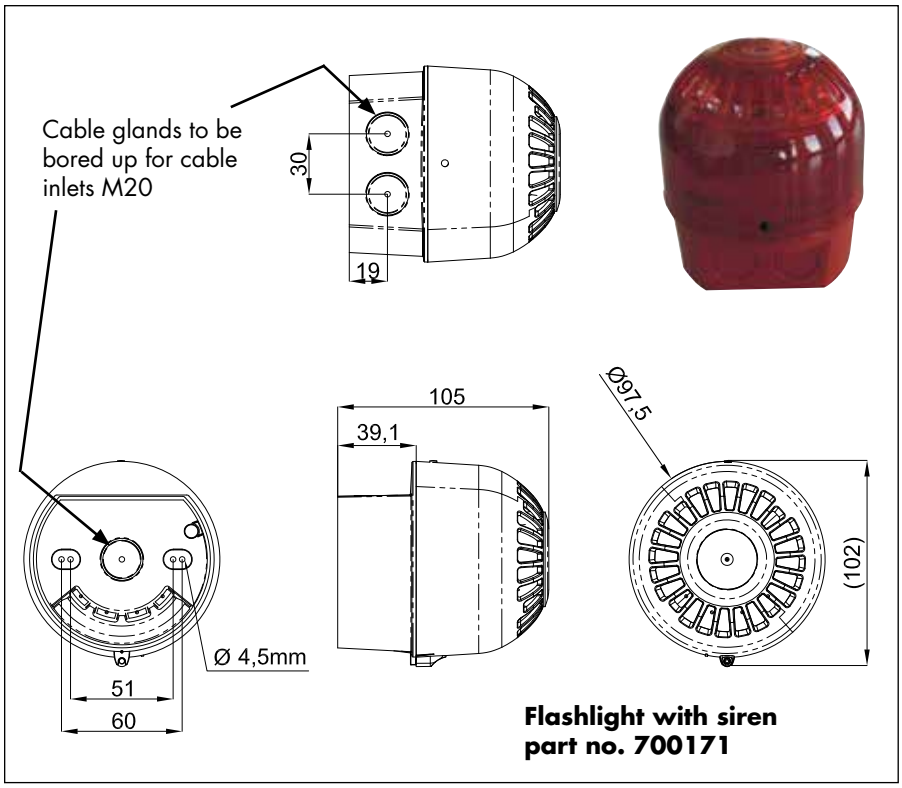
Warning Flashlight with Integrated Siren

Description

The warning flashlight is used to caution people against the movement of automatic doors. Almost all control systems are provided with a relay contact indicating the movements of the door, some even with the possibility to start the flash light before the delayed movement of the door.

The LED flashlight also features a siren. You can choose between 32 different warning tones. The volume can be adjusted by means of a potentiometer. If required, it is possible to completely shut off the siren.

Dimensions



Flashlight with siren part no. 700171

Technical Data

Operating voltage	17 - 60 VDC
Power consumption	flashlight: 5 mA siren: 4 - 45 mA (depending on the volume, the choosen sound and the input voltage)
IP rating	IP 65
Cable inlet	two laterally in the base and one in the bottom, intended for M20 cable inlets
Flashing frequency	1 Hz
Volume	94 - 106 dBA in 1 m distance, can be reduced by the integrated potentiometer or completely shut off
Warning tone	32 different tones adjustable by DIP switches
Material / Colour	impact resistant polycarbonate / red
Operating temperature	-25 °C to +70 °C

Order Information

Flashlight with integrated siren, red	part no. 700171

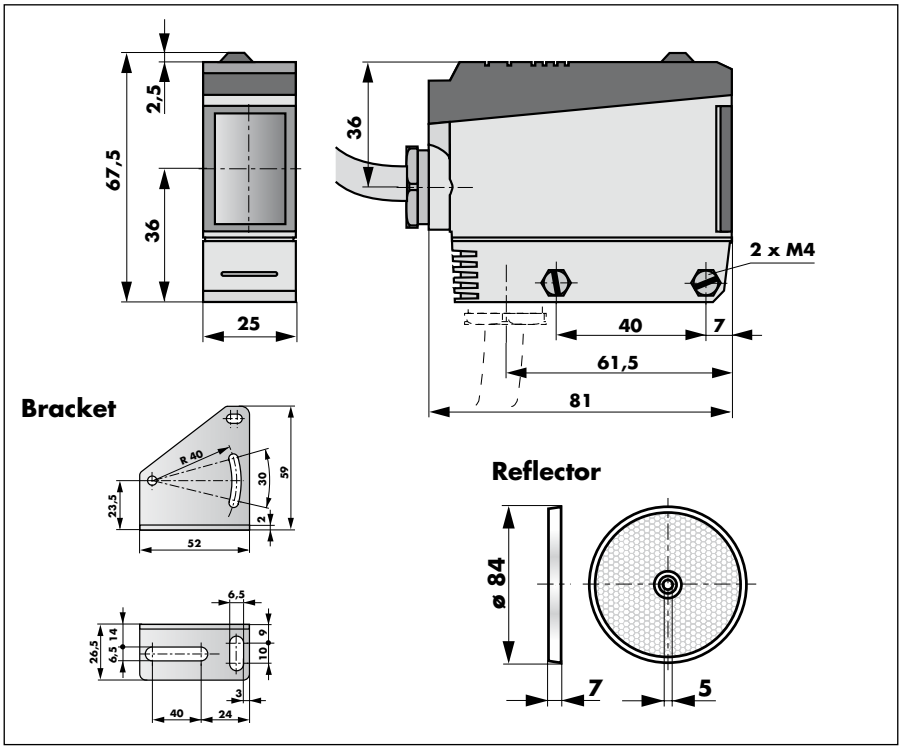
Photoelectric Barriers: Reflecting Photocell up to 10 m

Description

Photoelectric barriers help to detect obstacles in the immediate door surroundings. Whenever the photoelectric barrier is actuated the door will either stop or reverse the direction of movement. In order to increase safety you should install several photoelectric barriers on a door at different heights above the floor. Please observe the relevant safety regulations.

For normal industrial doors with an opening width up to 10 m we recommend our reflecting photoelectric barrier part no. 700116. Only the emitter of the light beam requires electrical connection. The fixing bracket allows for an adaption of the angle of the light beam up to 30°, permitting to adjust it perfectly to the reflector. This photoelectric barrier is suitable for a very large range of different voltages.

Dimensions



Technical Data

Voltage	10.8 - 264 VDC / 21.6 - 264 VAC (45-65 Hz)
Power consumption	≤1.5 W (60 mA) / 2.0 VA
IP rating	IP 67
Cable inlet	PG 13,5
Potential-free relay contact (make-break)	3 A / 30 VDC
	2 A / 250 VAC
Operating temperature	-25 °C to +55 °C
Maximum range	10 m
Light source / Beam spot diameter	880 nm / 280 mm at 4 m
Type of light	infrared
Material of the casing / Colour	reinforced PC/ grey-black
Classification as per EN 12453	"C"

Order Information

Photoelectric barrier with reflector ø 80, up to 10 m	part no. 700116

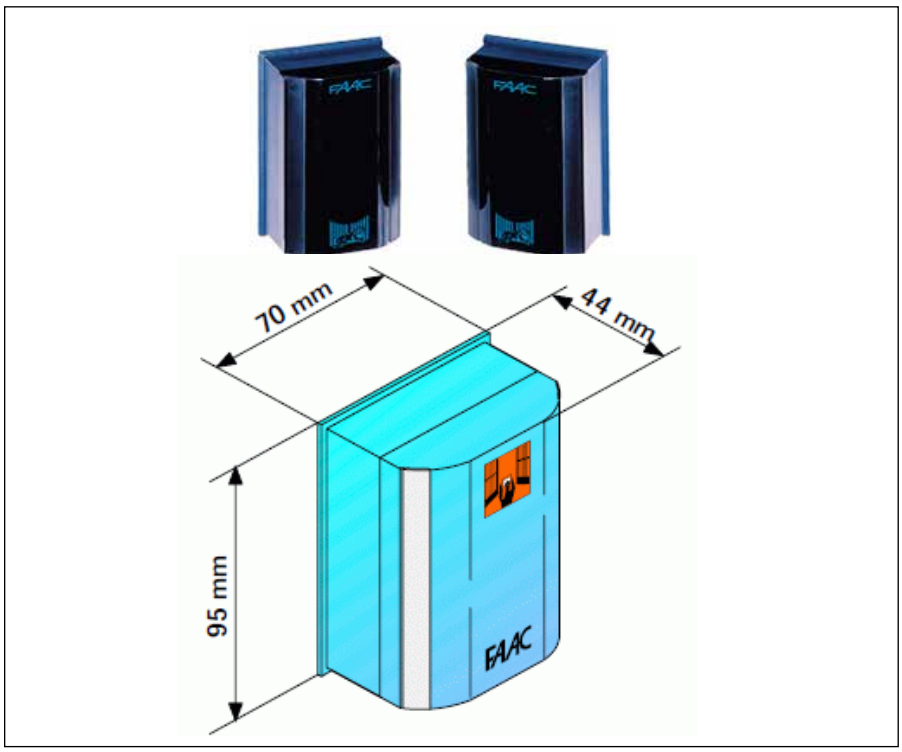
Photoelectric Barriers: One-Way Light Barrier up to 30 m

Description

For large doors DICTATOR furnishes a one-way photoelectric barrier up to 30 m range. It consists of a transmitter and receiver to be installed at the opposite sides of the door opening. Whenever the light beam is shattered the electrical contact of the receiver is switched over (make or break).

In order to achieve a faultless operation it is imperative that both transmitter and receiver are properly aligned (detection angle +/-4°). If two photoelectric barriers are installed on the same door the two transmitters should be placed one on each side, in order to avoid any interference of the photoelectric barriers.

Dimensions



Technical Data

Voltage	24 VDC (19 - 35 VDC)
	24 VAC (21.5 - 25.5 VAC)
Power consumption	transmitter 20 mA, receiver 30 mA
IP rating	IP 54
Cable inlet	at the back and the side, ø 22 mm
Relay contact	make/break contact
	100 mA / 24 VDC
Operating temperature	-20 °C to +55 °C
Maximum range	30 m
Type of light	infrared
Material of the casing / Colour	plastics / dark blue
Classification as per EN 12453	"C"

Order Information

Photoelectric barrier, up to 30 m	part no. 700360

Photoelectric Barriers: Ex-proof photocell up to 30 m

Description

In hazardous areas only devices tested according to the ATEX standard may be used. The ex-proof photoelectric barrier is made up of a transmitter and a receiver. Furthermore a safety relay with a potential-free contact is required to pass on signal to the control system of the door drive.

EU type-examination certificate (no. 93096) according to EN 954-1 for explosion-proof photoelectric barrier with safety relay: **category 4**

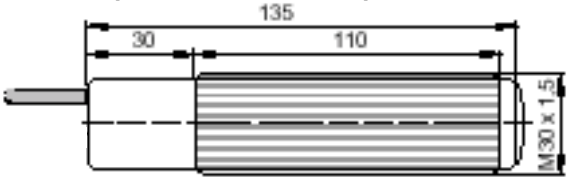
Both transmitter and receiver are provided with a 10 m cable. The safety relay has to be installed outside the hazardous area.

The status of the photoelectric barrier is indicated by LEDs on the receiver.

ATEX-certificate: DMT 99 ATEX 056/N1

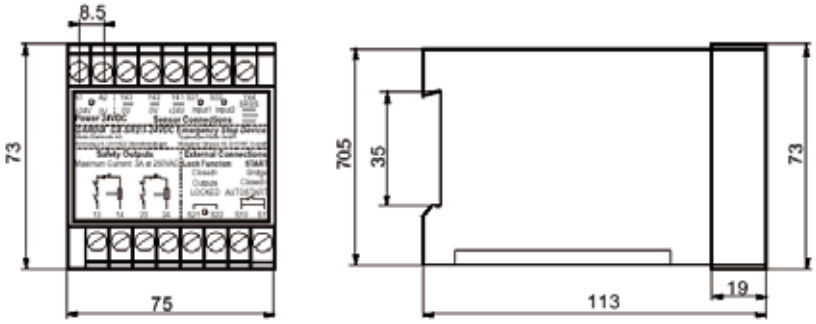
Dimensions

Transmitter / Receiver IGD-30-S/E



(Both transmitter and receiver have the same dimensions.)

Safety relay GX-SR 2/3



Technical Data

Voltage	24 VDC (20 - 28 VDC)
Power consumption	transmitter 30 mA, receiver 50 mA
	safety relay 200 mA
Ex-rating / IP rating	EEx d IIC T6, zones 1, 2, 20/21, 22 / IP 67
Connection cable (pre-wired)	10 m (on demand up to 100 m)
Relay contact (of the safety relay)	break contact, max. 750 VA/3 A at 250 VAC
	max. 100 W/3 A at 30 VDC
Operating temperature	-20 °C to +60 °C
Maximum range	0.5 m to max. 30 m
Type of light / Beam spot diameter	infrared 880 nm
Material of the casing / Colour	M30 brass, nickel plated
Classification as per EN 12453	"C"

Order Information

Photoelectric barrier IGD-30-S/E	part no. 700370
Safety relay GX-SR 2/3	part no. 700373

Safety Contact Edge

Description

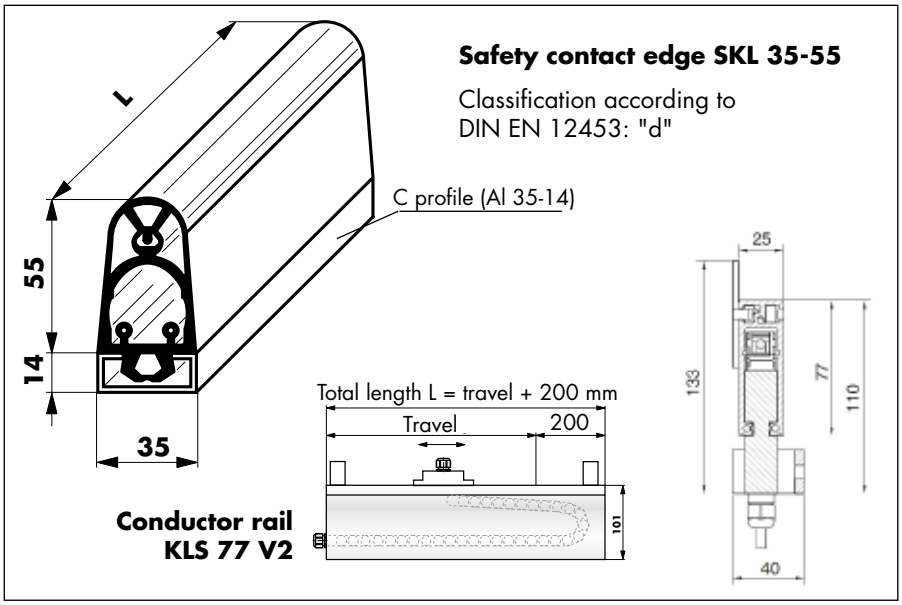
Contact edges on doors protect persons and material. As soon as the contact edge is actuated, the door either stops or opens again.

The **safety contact edge** consists of an aluminium C-profile and a rubber profile with integrated switching element. It is delivered in the required dimension. If two contact edges are installed on a door, one of them has to be a so-called transit strip without final resistor. It is provided with a 2.5 m cable on both sides. The current from the **evaluation device** passes through this strip to the final strip. The evaluation device controls whether the contact is closed or whether the safety circuit has been interrupted, i.e. the contact edge has been actuated. A **conductor rail** that is either situated on top of the door or near the rail of the door, supplies the contact edge with current. For the electrical connection two connection boxes are required: one on the wall and one on the door.

EU type-examination certificate (registration no. 44 205 13031820) **according to EN ISO 13849-1** for safety contact edge with evaluation device: **category 3**

Dimensions

Evaluation device for SKL 35-55 (without casing CI-K)



Technical Data

Voltage evaluation device	230 VAC ±10 %, 50 Hz, 24 AC/DC ±10 %
Power consumption evaluation device	3.5 VA/230 V, 1.5W 24VDC, 1.2VA 24VAC
Relay contact evaluation device	make contact (NO)
IP rating of contact edge	IP 65
Operating temperature	-10 °C to +55 °C
Actuation force / Switching angle	44 N (at 0.1 m/s) / 2 x 45°
Material contact edge	TPE

Order Information

SKL 35-55, end strip incl. aluminium profile, base price	part no. 700785
SKL 35-55, transit strip incl. aluminium profile, base price	part no. 700786
Safety contact edge SKL 35-55, price per cm of contact rail	part no. 700787
Evaluation device for SKL 35-55, 230 V / 24 V AC/DC	part no. 700788
Casing CI-K, 100 x 160 x 145 mm (wxhxd), IP 65	part no. 040585
Conductor rail KLS 77 V2, base price total length L <6m	part no. 700795
Conductor rail KLS 77 V2, base price total length L >6m	part no. 700796
Conductor rail KLS 77 V2, price per cm of travel	part no. 700797

Safety Sensor for Industrial Doors

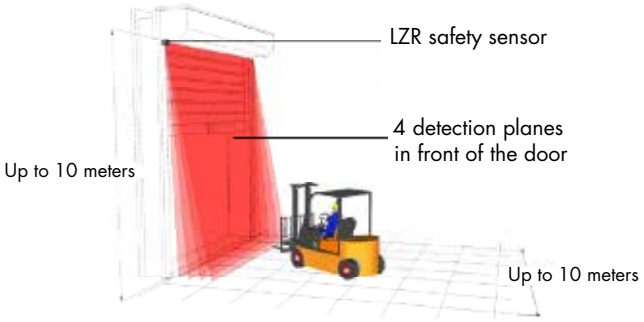
Description

The LZR safety sensor is the optimum solution to ensure safety in the danger areas of doors. As a type E protection device according to EN 12453 it represents the highest possible safety level that makes sure nobody can get into the area of the moving door. Therefore, no other safety devices are needed.

The safety sensor offers the possibility to adjust two separate detection areas during opening and closing and in front of the door four planes of detection with variable depth.

The mounting is very easy as there is only one device to install. The detection ranges are set with an infrared remote control. Three visible laser points make the alignment of the sensor very simple.

LEDs of different colours indicate the state of operation, errors and the states of the relay exits.



Technical Data

Part no.	700384	700385
Max. detection range	5 x 5 m	10 x 10 m
Power supply	10 - 35 VDC at the sensor terminal	
Power consumption	< 5 W	
Response time	typ. 20 ms; max. 80 ms	
Output	2 electronic relays (polarity free)	
	max. switching voltage 35 VDC/24 VAC	
	max. switching current 80 mA (resistive)	
Dimensions	125 mm (w) x 93 mm (d) x 70 mm (h)	
	(mounting bracket + 14 mm)	
Material of casing	PC/ASA	
Colour	white	black
IP rating	IP 65 (not directly with a high-pressure cleaner)	
Temperature range	-30 °C to +60 °C (if powered)	
Humidity	0 - 95 % non-condensing	
Technology	laser scanner, time-of-flight measurement	

Safety categories inter alia:
EN 954-1: category 2
EN 13849-1:2008: Performance level "c"
EN 12454: type E

Components Included

Safety sensor with mounting bracket and 10 m cable

The infrared remote control has to be ordered separately when needed.

Order Information

LZR-i110 safety sensor, max. detection range 5 x 5 m	part no. 700384
LZR-i100 safety sensor, max. detection range 10 x 10 m	part no. 700385
Infrared remote control for setting the safety sensor	part no. 700366

Safety Contact Edge

Description

Safety contact edges are used to secure the movement of hinged doors. They are installed directly on the door leaf. The type depends on the width of the door and the height at which the contact edge is mounted.

The safety contact edge 4 Safe meets the requirements of the standard DIN 18650, when being dimensioned and mounted correctly. It not only secures the moving range of the door leaf but also the squeezing and shearing edges. To provide safety during both opening and closing of the door you need two safety contact edges per door.

Configuration

The safety contact edge is made from two components: the mounting profile and the sensor modules. The number of sensor modules needed depends on the height of mounting and the width of the door. When the door is not wider than 1100 mm and the safety contact edge installed at 1900 mm height on the door, two modules are sufficient to ensure the complete moving range of the door. In case the safety contact edge has to be mounted at less than 1900 mm height, please contact our technical department.

Safety categories inter alia:
EN 954-1: category 2
EN 13849-1:2008: Performance level "c"

The names of the types indicate the width of the door the safety contact edge is designed for - always presumed the installation will be at a minimum height of 1900 mm. The mounting profile of the safety contact edge 700 - 1100 mm is, if necessary, shortened on site to match the door width. Doors being 700 to 1100 mm wide need the same amount of sensor modules. The mounting profiles are delivered with the sensor modules already installed.

The safety contact edge includes an integrated monitoring thus enabling a connected door drive control system to check whether the safety contact edge is working or defect.

Technical Data

Voltage	12 - 30 VDC / 12 - 24 VAC (50 - 60 Hz)
Power consumption	65 mA at 24 VDC, 120 mA at 24 VAC
IP rating	IP 53
Relay contact	2 potential-free contacts (relay)
	max. 42 VAC/DC; max. 1 A (switching current)
	30 W(DC) / 60 VA(AC) (max. switching capacity)
Input	1 potential-free optocoupler
Operating temperature	-25 °C to +55 °C
Detection range	depending on mounting height/number of modules
Material of casing / Colour	ABS and aluminium / anodized alu, black

Order Information

Safety contact edge 4Safe L 700 - 1100 mm	part no. 710133
Safety contact edge 4Safe L 1200 mm	part no. 710134
Safety contact edge 4Safe L 1300 mm	part no. 710135
Safety contact edge 4Safe L 1400 mm	part no. 710136
Safety contact edge 4Safe L 1500 mm	part no. 710137
Flexible cable guide	part no. 710276

Finger Guard Blind

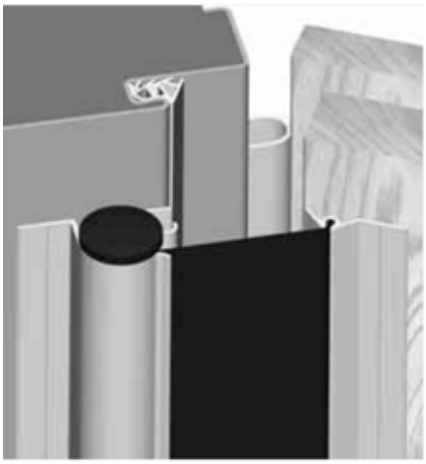
Description

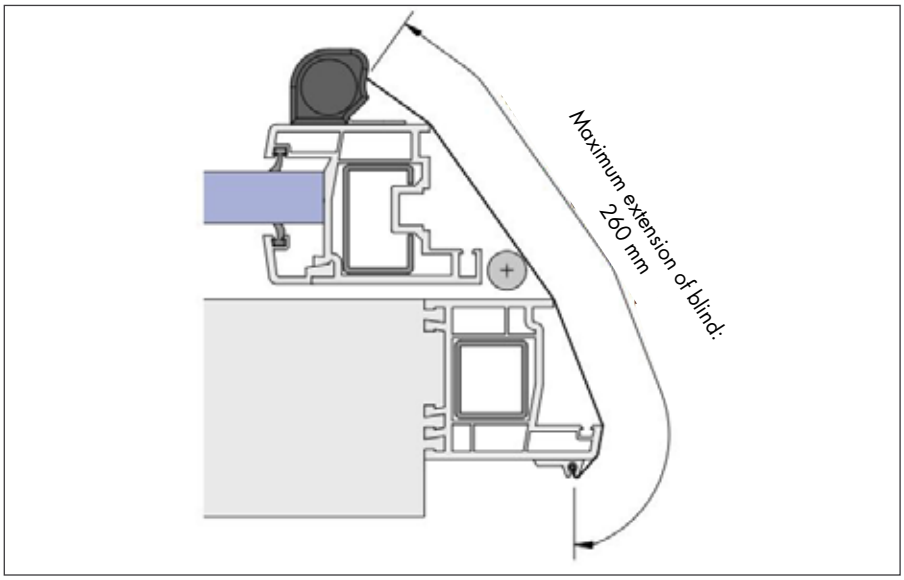
The finger guard blind is designed to secure the secondary closing edge of hinged doors. It prevents fingers to become squeezed between door and frame.

The finger guard blind is fixed to the door and the frame. An integrated spring tightens it constantly. As soon as the door is opened the blind is extended and covers the secondary closing edge. The maximum extension is 260 mm.

The blind is made from washable black coated linen.

The total length of the blind is 1925 mm. It is not possible to shorten it.





Technical Data

Standard length	1925 mm
Maximum extension of blind	260 mm
Material of casing	aluminium AlMgSi 0,5 F22, natural
Material of blind	coated linen, washable, black

Order Information

Finger guard blind for hinged doors to secure the secondary closing edge	part no. 710132

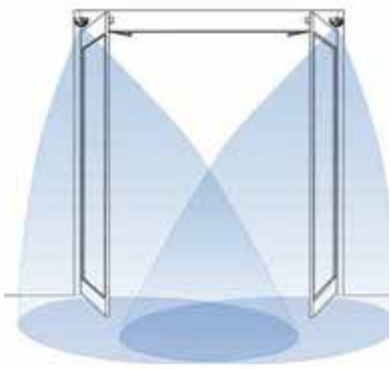
Motion Sensors - Eagle One Radar Motion Sensor

Description

Motion sensors are ideal to set off an OPEN-impulse on higly frequented doors, combined with an automatic closing. As soon as a moving object enters the detection range of the motion sensor, the DICTAMAT door drive will open the door. After the preset hold-open time has expired, the door closes automatically.

The Eagle One radar motion sensor has a very large detection range, also of laterally approaching movements. It only realizes approaching movements and ignores withdrawing ones. The maximum mounting height is 4 m. It can be mounted on the wall as well as to the ceiling. When mounting the motion sensor on the side of the hinges (of a hinged door) it is mounted on the rotation axis.

With the help of a separately available infrared remote control the adjustments can be done quickly and very precisely. As accessories we provide a mounting bracket and a rain cap.



Mounted on the rotation axis
(hinged doors)

Mounting bracket EBA

Rain cap ORA

Technical Data

Voltage	12 V to 24 VDC +30 % / -10 %
	12 V to 24 VAC ±10 % (50 - 60 Hz)
Power consumption	< 2 W (VA)
Cable inlet	with 2.5 m connection cable
Potential-free relay contact	make-break contact
	max. 30 W (DC) / max. 60 VA (AC)
Operating temperature	-20 °C to +55 °C
Detection range	4 m (w) x 2 m (d) at 2.2 m installation height or
	2 m (w) x 2.5 m (d) at 2.2 m installation height
Material of casing / Colour	ABS / black
Dimensions (w x h x d)	120 x 80 x 50 mm

Order Information

Eagle One radar motion sensor	part no. 700389
Remote control to adjust the sensor	part no. 700366
Mounting bracket EBA	part no. 700389EBA
Rain cap ORA	part no. 700389ORA

Remote Control - with 2 Channels

Description

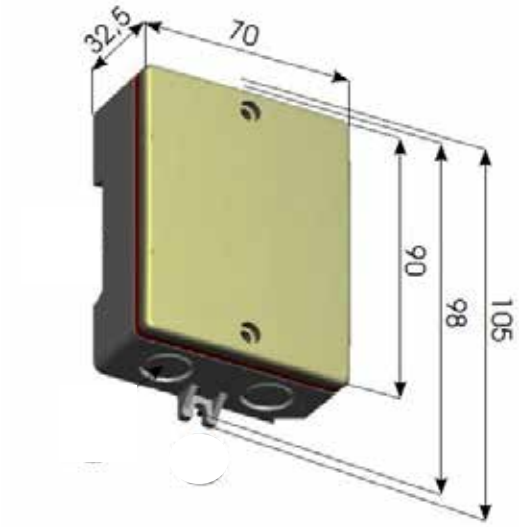
A remote control is recommended to operate doors with a DICTAMAT door operator e.g. when the door is mainly passed by vehicles. The basic and most economic solution is the remote control 868. It is made up by the radio receiver and one or several hand transmitters.

The antenna for receiving the radio signals is fitted into the casing of the receiver.

Dimensions

Hand transmitter white

Hand transmitter black



Two channel receiver

Technical Data

Voltage	24 VDC
Power consumption	100 mA
IP rating receiver	IP 44
Relay output	2 pieces, contact NO (1 x pulse circuit,
	1 x pulse or dedicated (adjustable))
Frequency	868.35 MHz +/-2
Number of codes	250 can be stored
Operating temperature	-20 °C to +55 °C
Range (effective radius) (max.)	50 m (in unobstructed areas)
Dimensions	receiver 70 x 105 x 32.5 mm

Order Information

Radio receiver, two channel, XR2 868C	part no. 700386
Hand transmitter XT2 868 SLH LR white (two channel)	part no. 700387
Hand transmitter XT2 868 SLH LR black (two channel)	part no. 700388

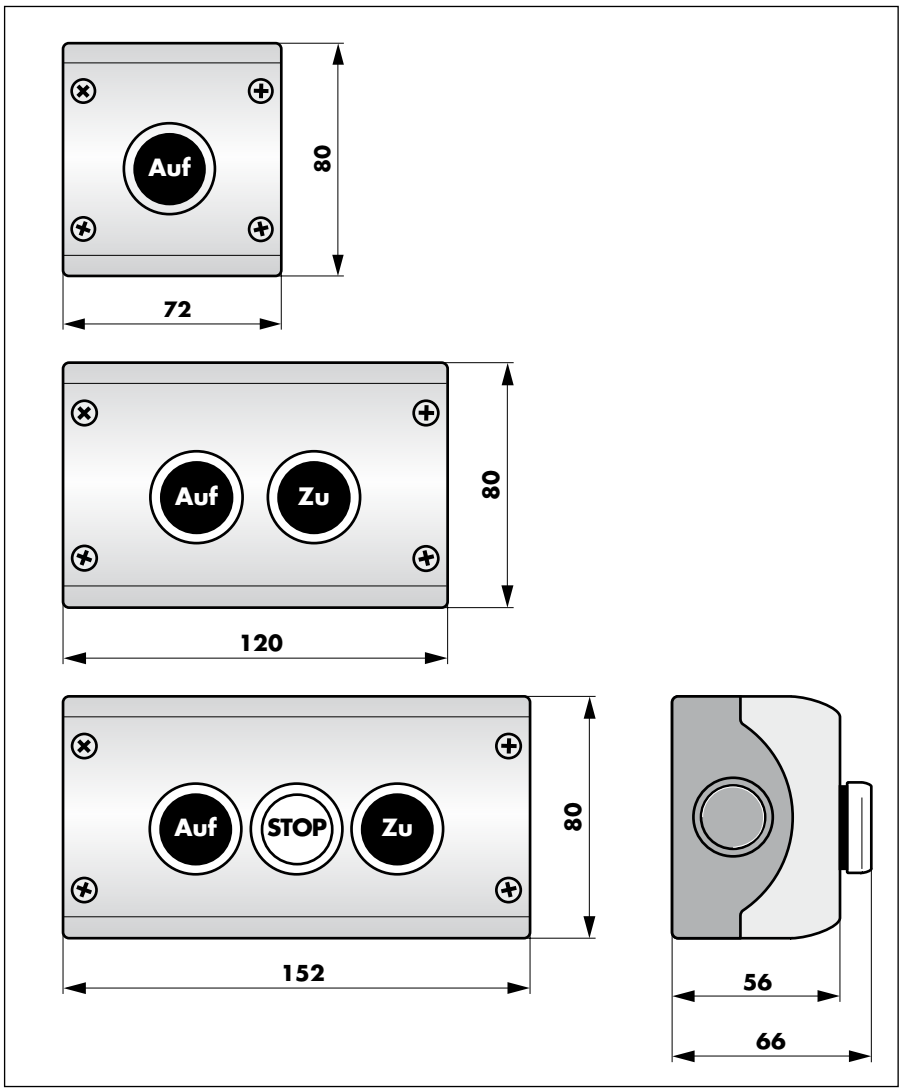
Push Button Switches

Description

DICTATOR furnishes a range of different push button switches to operate the DICTAMAT door operators. Normally a switch with two or three push buttons is used (OPEN/CLOSE or OPEN/STOP/CLOSE). The hand switches shown on this page are provided with the following **contacts**:

OPEN, CLOSE	make contact (NO)
STOP	break contact (NC) or make contact (NO) (depending on the type of the used control system)

Dimensions of the Push Button Switches



Technical Data

IP rating	IP 67
Operating temperature	-25 °C to +70 °C

Order Information

Push button switch OPEN (make contact, NO)	part no. 700185
Push button switch OPEN - CLOSE, (2 make contacts, NO)	part no. 700117
Push button switch OPEN-STOP-CLOSE (STOP = break contact, NC)	part no. 700142
Push button switch OPEN-STOP-CLOSE (STOP = make contact, NO)	part no. 700147

Key Switch

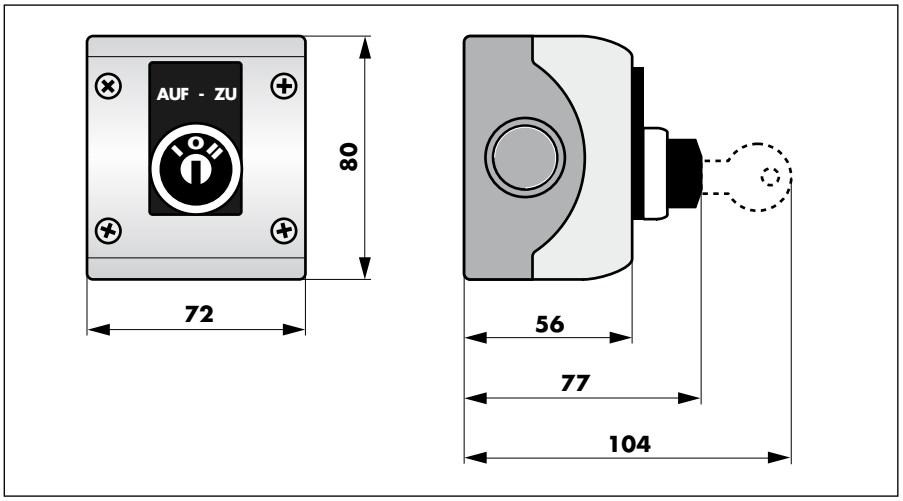
Description

A key switch is used whenever the use or the operation of the door is restricted to certain persons. The key switches offer only two operating possibilities: OPEN and CLOSE. Is the key switch part of a complete locking system the key switches can be furnished with a half profile cylinder, to be replaced with one belonging to the locking system.

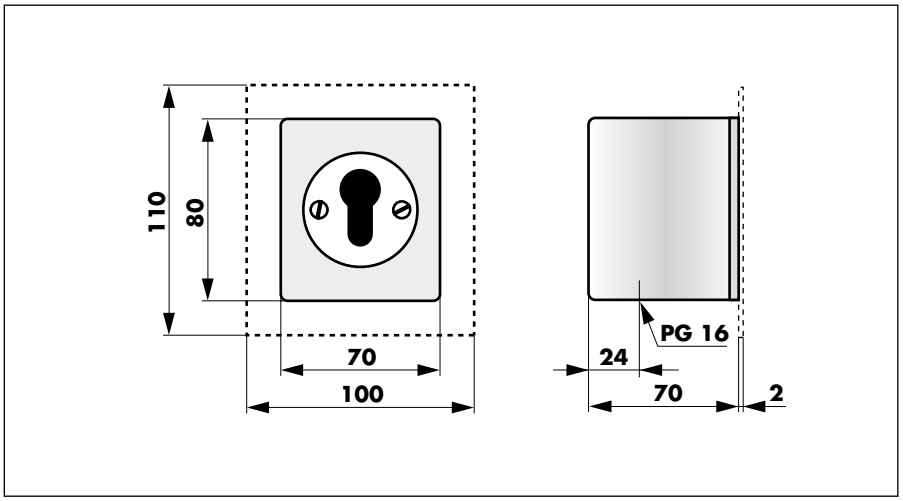
Contacts:

OPEN, CLOSE	make contact (NO)

Dimensions Key Switch



Dimensions Key Switch with Half Profile Cylinder



Technical Data

IP rating key switch	IP 67
IP rating key switch with half profile cylinder	IP 54
Operating temperature	-25 °C to +70 °C

Order Information

Key switch OPEN - CLOSE, surface type	part no. 700113
Key switch OPEN - CLOSE with half profile cylinder, surface type	part no. 700114
Key switch OPEN - CLOSE with half profile cylinder, flush mounting	part no. 700115

Large Surface Switch, Pulling Switch

Description

Large surface switches are recommended when the persons using the door either do not have empty hands and should be able to operate the switch with their elbow, or to facilitate the operating to handicapped persons. Especially for this purpose we furnish the non-contact large surface switch. By changing the colour it indicates if it has been actuated.

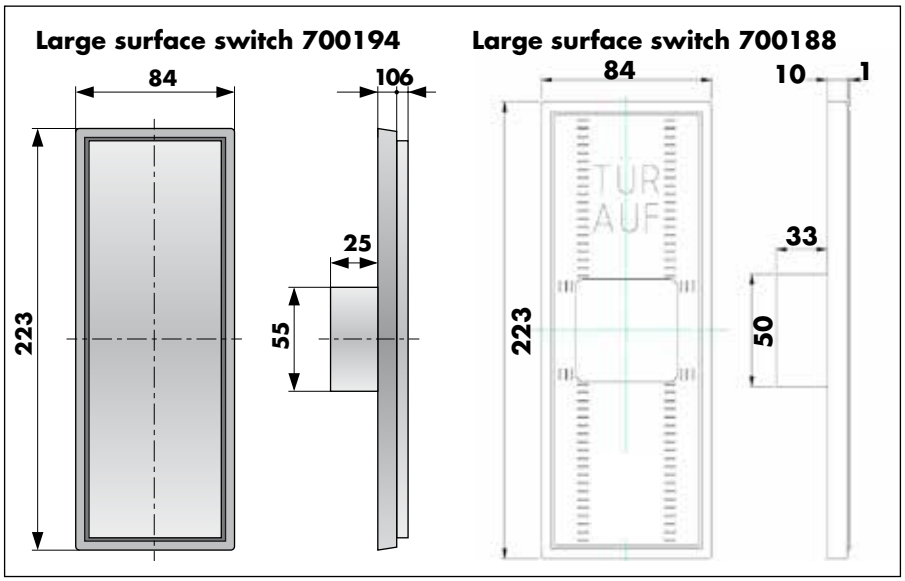
The **pulling switch** is mainly used in combination with the automatic closing when fork lift trucks frequently use the doors.

Contact: make contact (NO)

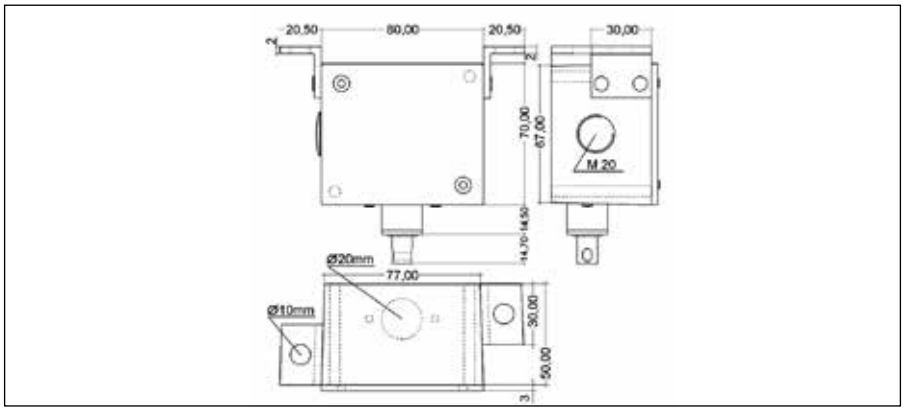
Dimensions Large Surface Switch

700194

700188



Pulling Switch



Technical Data

IP rating large surface switch	IP 30
Operating temperature large surface switch	-20 °C to +50 °C
Power consumption/Voltage 700188	50 mA / 24 VDC
Detection range 700188 (adjustable)	50 - 1500 mm
IP rating pulling switch	IP 65

Order Information

Large surface switch, flush mounting, stainless steel appearance	part no. 700194
Large surface switch, flush mounting, non-contact	part no. 700188
Pulling switch (for alternating impulse OPEN-CLOSE)	part no. 700164

Switches Especially for Fire Protection Doors

Description

Fire protection doors have to close automatically in case of alarm. The alarm can be triggered by a smoke detector or by a hand release switch. In case of the semi-automatic door operators DICTAMAT 560, 570 and 650 a push-to-lock key is required. For the fully automatic door operators the standard **hand release switch**, part no. 040005 or 040053 (see chapter Fire Door Control Solutions) is sufficient.

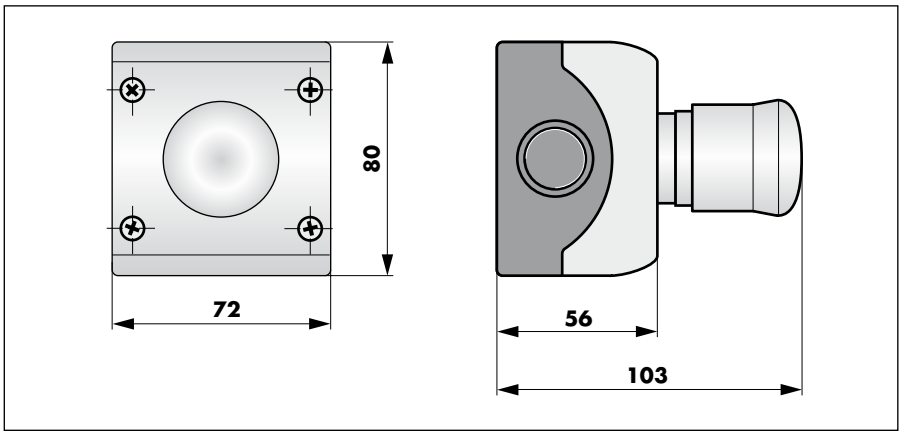
Every alarm requires afterwards a **RESET** command for the control system to resume normal operation.

For the **DICTAMAT 6000** a special hand switch with 2 make contacts (OPEN and RESET command at the same time) is necessary.

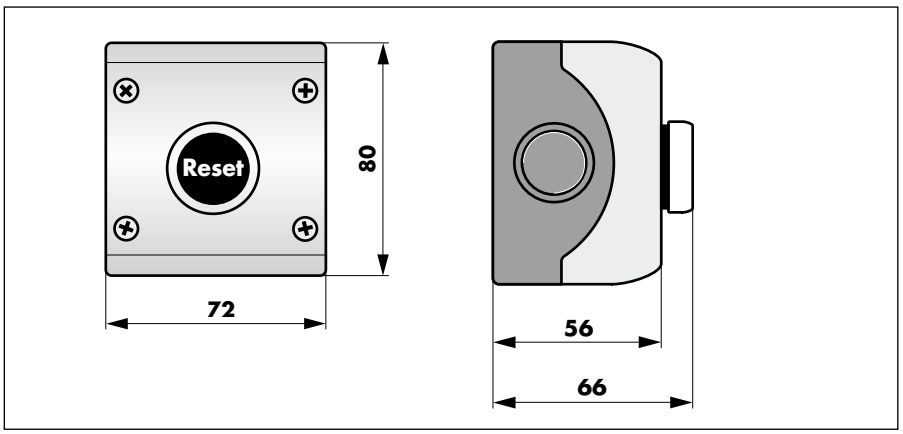
Contacts:

OPEN	2 x make contact (NO)	STOP	make contact (NO)
CLOSE	break contact (NC)		

Dimensions Push-to-lock Hand Switch



Dimensions RESET



Technical Data

IP rating	IP 67
Operating temperature	-25 °C to +70 °C

Order Information

Push-to lock hand switch (break contact - NC)	part no. 700132
RESET switch (make contact - NO)	part no. 700112
Push button switch OPEN - CLOSE for DICTAMAT 6000*	part no. 780640
Push button switch OPEN-STOP-CLOSE for DICTAMAT 6000**	part no. 780641

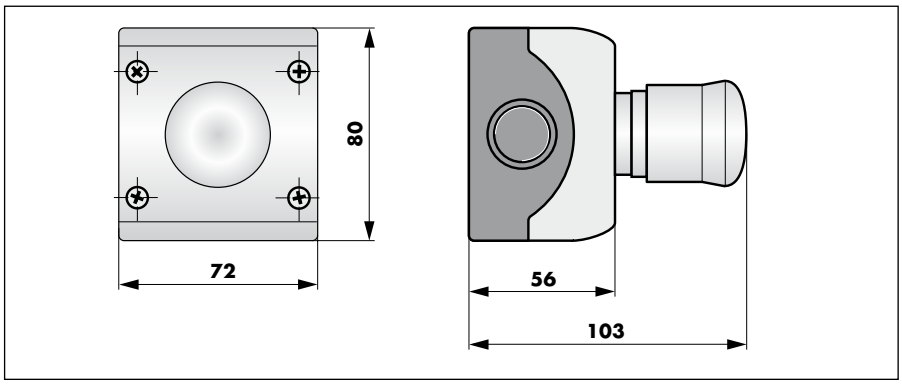
* For dimensions see push button switch 700117, page 04.060.00
** For dimensions see push button switch 700147, page 04.060.00

Other Switches: Emergency-STOP, Limit Switch, Main Switch

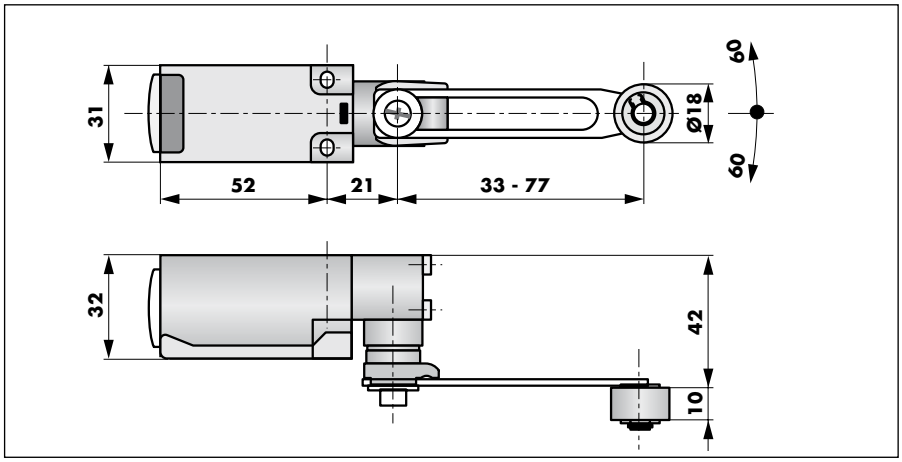
Description

For large sliding doors an **Emergency-STOP switch** should be provided for safety reasons.
Limit switches are necessary for all door drives without integrated position control system.
In order to be able to completely cut off the power supply, a **main switch** should be installed directly in the power supply of the control system.

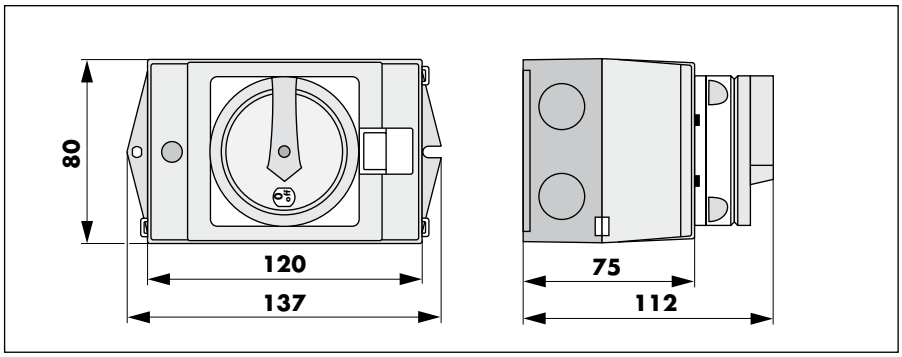
Dimensions Emergency-STOP Switch



Dimensions Limit Switch



Dimensions Main Switch



Technical Data

IP rating	limit switch IP 65
Operating temperature	-25 °C to +70 °C

Order Information

Emergency-STOP switch (push-to-lock) (break contact - NC)	part no. 700198
Limit switch (break contact - NC)	part no. 700156
Lockable main switch (for padlock)	part no. 700179

Explosion-Proof Hand Switches

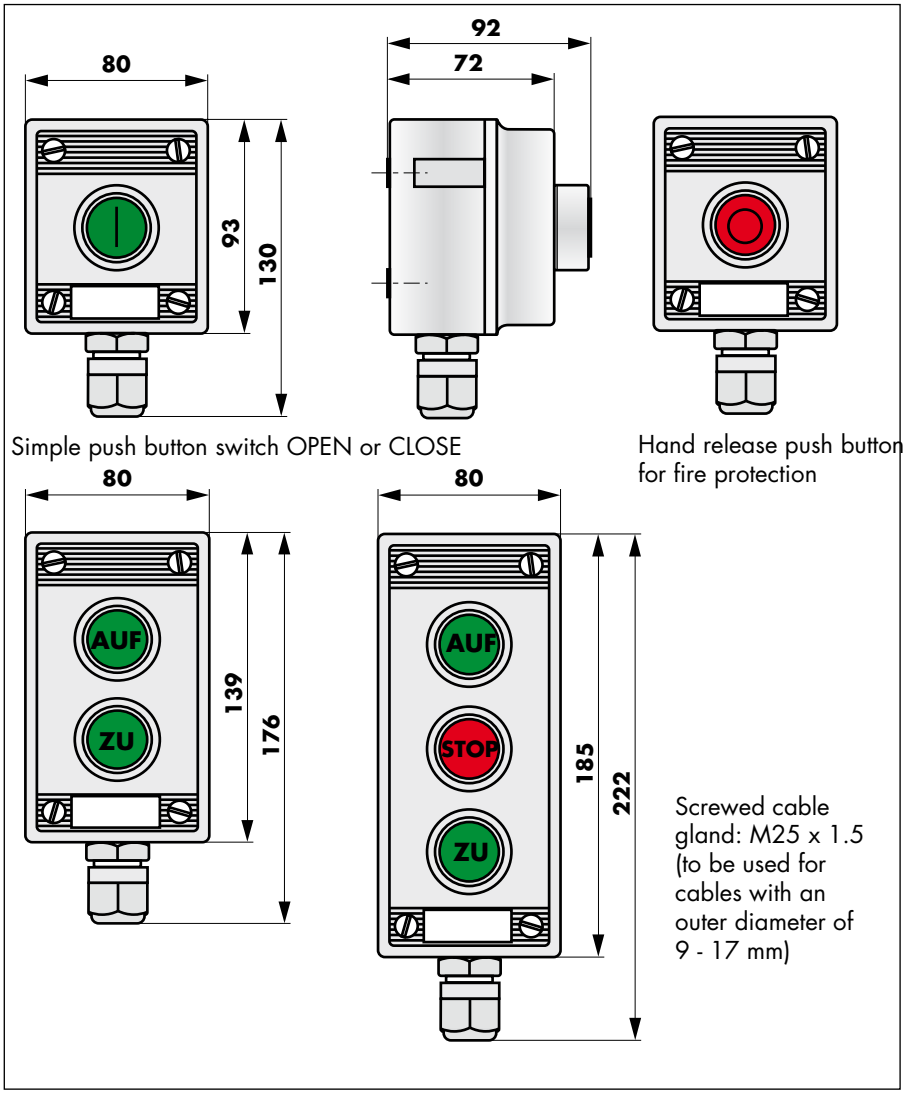
Description

DICTATOR furnishes special door operators for the use in hazardous areas - along with the required operating elements. The push button switches are available as simple, two and 3-keys switches: OPEN, CLOSE, STOP, RESET, hand release switch for fire protection doors.

Contact: All keys can be connected either as make or as break contact. Below are marked the contacts that have to be used together with the DICTATOR door drives. The STOP key has to be connected either as a make or a break contact, depending on the control system.

ATEX-certificate: PTB 01 ATEX 1105

Dimensions Push Button Switches



Technical Data

IP rating	Ex II 2 G EEx dem IIC T6 (zone 1 and 2), IP 66
Casing	glass fibre reinforced polyester resin

Order Information

Ex-proof push button OPEN or CLOSE (make contact, NO)	part no. 700219
Ex-proof push button OPEN - CLOSE (2 make contacts, NO)	part no. 700217
Ex-proof push button OPEN - STOP - CLOSE	part no. 700247
Ex-proof push button RESET (make contact, NO) (blue key)	part no. 700212
Ex-proof hand release push button (fire protection) (break contact, NC)	part no. 700232

Further Explosion-Proof Switches: Pull Switch

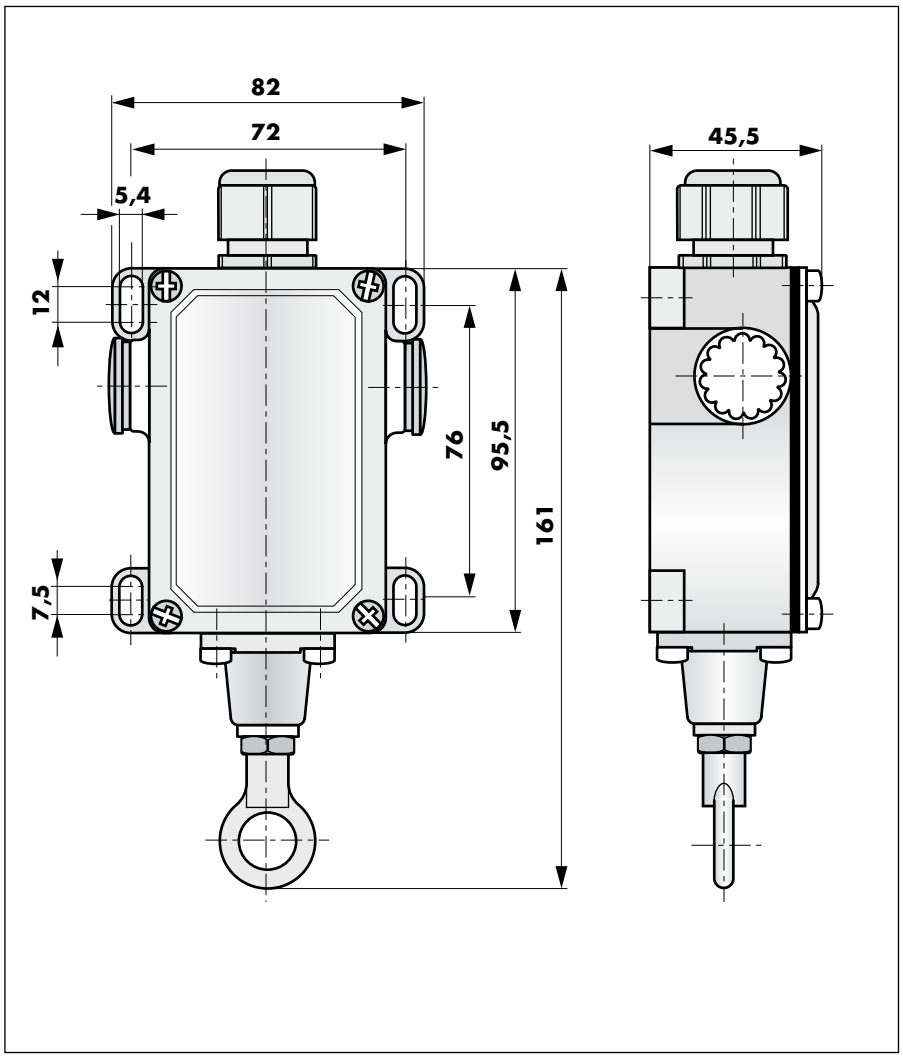
Description

The **pull switch** is mainly used in combination with the automatic closing when fork lift trucks frequently use the door.

Type of contact: The pull switch is provided with both a make and a break contact as all the other ex-proof switches. Normally the break contact is used.

ATEX-certificate: TÜV 03 ATEX 2043X

Dimensions



Technical Data

Ex-rating, IP rating	Ex II 2 G EEx d IIC T6, IP 66/67
Casing / Lid	aluminium diecasted / aluminium sheet metal
Operating temperature	-20 °C to +70 °C

Order Information

Ex-rated pull switch (make contact, NO)	part no. 700239

Further Explosion-Proof Switches: Emergency-STOP Switch, Limit Switch

Description

For safety reasons an **Emergency-STOP switch** should be provided for large sliding doors.

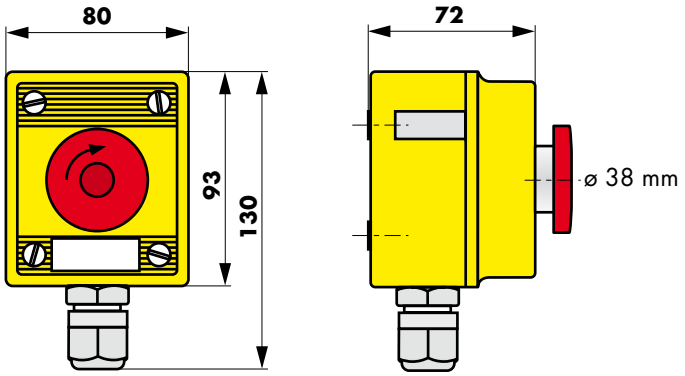
Contact: The Emergency-STOP switch is furnished with both a make and a break contact as all the other ex-proof switches. Normally the break contact is used.

The explosion-proof door drives generally require ex-proof **limit switches** for the position control.

Dimensions Emergency-Stop Switch

In order to unlock the switch turn the key to the right.

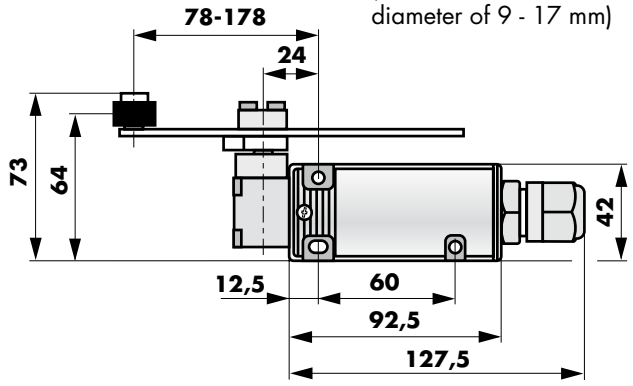
Screwed cable gland: M25 x 1.5 (to be used for cables with an outer diameter of 9 - 17 mm)



ATEX-certificate: PTB 01 ATEX 1105

Dimensions Limit Switch

Screwed cable gland: M25 x 1.5 (to be used for cables with an outer diameter of 9 - 17 mm)



ATEX-certificate: PTB 01 ATEX 1053

Technical Data

Protection rating Emergency-STOP	Ex II 2 G EEx dem IIC T6 (zone 1 and 2), IP 66
Protection rating limit switch	Ex II 2 G EEx ed IIC T6 (zone 1and 2), IP 65
Casing	Glass fiber reinforced polyester resin

Order Information

Ex-proof Emergency-STOP switch (push-to-lock switch) (NO, NC)	part no. 700254
Ex-proof limit switch (NO / NC)	part no. 700223