



PIT es Set/1

Control and signal devices



piltz

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SD means Secure Digital

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Introduction

Validity of documentation

This documentation is valid for the product PIT es Set/1. It is valid until new documentation is published.

This operating manual explains the function and operation, describes the installation and provides guidelines on how to connect the product.

Using the documentation

This document is intended for instruction. Only install and commission the product if you have read and understood this document. The document should be retained for future reference.

Definition of symbols

Information that is particularly important is identified as follows:



DANGER!

This warning must be heeded! It warns of a hazardous situation that poses an immediate threat of serious injury and death and indicates preventive measures that can be taken.



WARNING!

This warning must be heeded! It warns of a hazardous situation that could lead to serious injury and death and indicates preventive measures that can be taken.



CAUTION!

This refers to a hazard that can lead to a less serious or minor injury plus material damage, and also provides information on preventive measures that can be taken.



NOTICE

This describes a situation in which the product or devices could be damaged and also provides information on preventive measures that can be taken. It also highlights areas within the text that are of particular importance.

**INFORMATION**

This gives advice on applications and provides information on special features.

Safety

Intended use

The emergency stop device consists of an E-STOP pushbutton and a contact block. It is intended for use in safety circuits in accordance with IEC/EN 60947-5-1, IEC/EN 60947-5-5, EN 60204-1, EN ISO 13849-1. Before using the device, a safety assessment of the overall system must be performed in accordance with the Machinery Directive.

**CAUTION!**

It must not be possible to defeat the E-STOP pushbuttons, otherwise material damage and severe injuries may result, depending on the application.

The E-STOP pushbutton may not be used in place of other safety measures.

The following is deemed improper use in particular:

- ▶ Any component, technical or electrical modification to the product
- ▶ Use of the product outside the areas described in this manual
- ▶ Use of the product outside the technical details (see chapter entitled "Technical Details").

Safety regulations

Safety assessment

Before using a unit it is necessary to perform a safety assessment in accordance with the Machinery Directive.

Functional safety is guaranteed for the product as a single component. However, this does not guarantee the functional safety of the overall plant/machine. In order to achieve the required safety level for the overall plant/machine, define the safety requirements for the plant/machine and then define how these must be implemented from a technical and organisational standpoint.

Use of qualified personnel

The products may only be assembled, installed, programmed, commissioned, operated, maintained and decommissioned by competent persons.

A competent person is someone who, because of their training, experience and current professional activity, has the specialist knowledge required to test, assess and operate the work equipment, devices, systems, plant and machinery in accordance with the general standards and guidelines for safety technology.

It is the company's responsibility only to employ personnel who:

- ▶ Are familiar with the basic regulations concerning health and safety / accident prevention
- ▶ Have read and understood the information provided in this description under "Safety"
- ▶ And have a good knowledge of the generic and specialist standards applicable to the specific application.

Warranty and liability

All claims to warranty and liability will be rendered invalid if

- ▶ The product was used contrary to the purpose for which it is intended
- ▶ Damage can be attributed to not having followed the guidelines in the manual
- ▶ Operating personnel are not suitably qualified
- ▶ Any type of modification has been made (e.g. exchanging components on the PCB boards, soldering work etc.).

Disposal

- ▶ In safety-related applications, please comply with the mission time T_M in the safety-related characteristic data.
- ▶ When decommissioning, please comply with local regulations regarding the disposal of electronic devices (e.g. Electrical and Electronic Equipment Act).

For your safety

The unit meets all the necessary conditions for safe operation. However, please note the following:

- ▶ Check the function of the pushbutton before commissioning for the first time and then at regular intervals (at least annually).

Unit features

The emergency stop device consists of an E-STOP pushbutton PIT es/1 and a contact block PIT esc/1. Various types are available; these can be ordered as sets or can be put together as modular assemblies.

Features:

- ▶ Panel mount version or surface mount version with two-part surface mount housing
- ▶ Turn in either direction to release or turn right for key release
- ▶ Various mushroom-type pushbuttons
 - Standard mushroom-type pushbutton

- Mushroom-type pushbutton with key-release
- Illuminated mushroom-type pushbutton
- Mushroom-type pushbutton for hygiene critical areas in accordance with DIN EN 1672-2
- Mushroom-type pushbutton with inscribed E-STOP symbol
- ▶ Contact blocks for applications up to PL e of EN ISO 13849-1 and SIL CL 3 of EN IEC 62061
- ▶ Connected to contact blocks via spring-loaded terminal (quick connection), screw connection or M12 connector

Function description

The emergency stop device is used to shut down plant and machine sections in order to reduce or avert imminent or existing hazards to persons and damage to machinery or materials.

Installation



CAUTION!

The emergency stop device should always be installed with the supply voltage switched off.

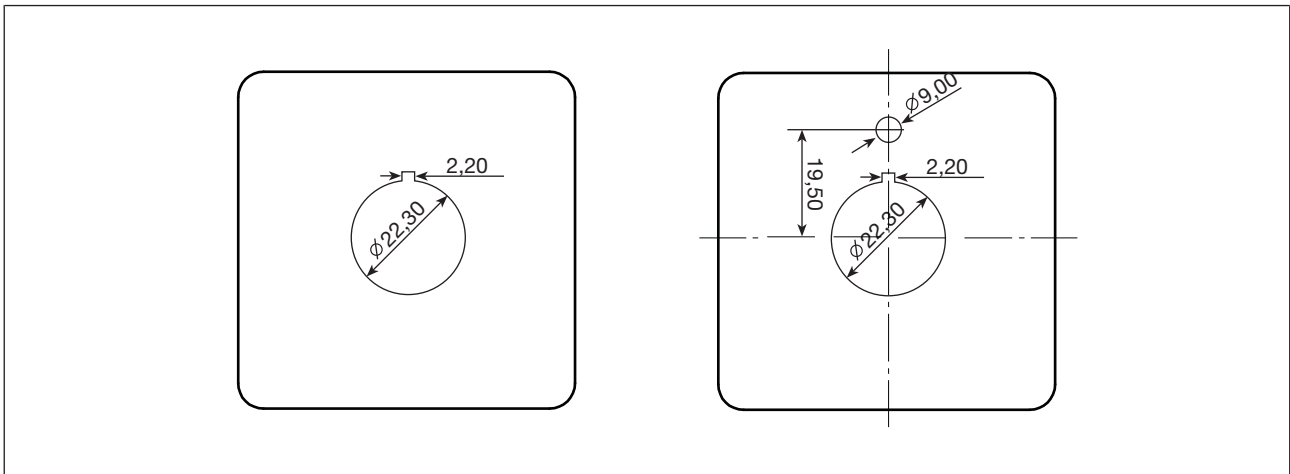
Panel mount version



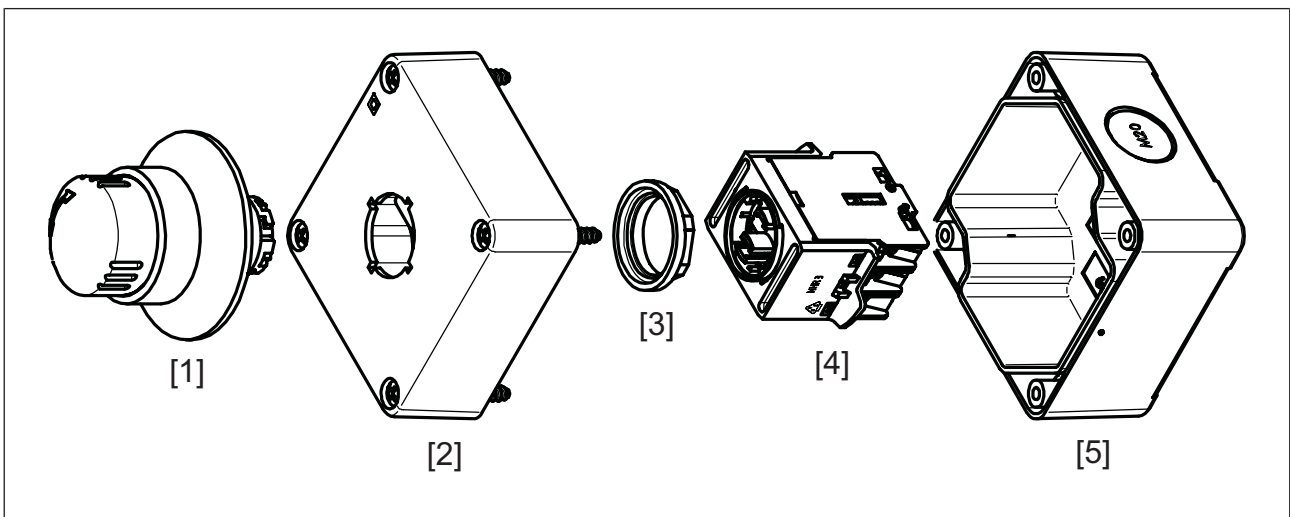
NOTICE

Particularly in hygiene areas, use mounting plates with a smooth surface to ensure a tight seal.

- ▶ Prepare a cutout (Ø 22.3 mm) in the mounting plate.
- ▶ With illuminated E-STOP pushbuttons: Prepare another opening in the mounting plate for the lighting connection
- ▶ Guide the E-STOP pushbutton into the mounting plate opening and secure it using the plastic nut (size 24 spanner). Note the max. torque setting of 1.2 Nm.
- ▶ Connect the contact block to the neck of the E-STOP pushbutton and secure it by turning it to the right.



Surface mount housing



Legend:

- [1]: E-STOP pushbutton
- [2]: Upper part of the surface mount housing
- [3]: Plastic nut
- [4]: Contact block
- [5]: Lower part of the surface mount housing

- ▶ With illuminated E-STOP pushbuttons:
 - Drill through one of the holes indicated on the upper part of the surface mount housing.
 - Attach the contact block to the bracket.
 - Guide the cable through the opening in the upper part of the surface mount housing and connect it to the E-STOP pushbutton.
- ▶ If an M12 connector is not fitted, break out the stuffing box connection on the lower part of the surface mount housing.
- ▶ Use two screws to attach the lower part of the surface mount housing.

- ▶ After connecting the wiring to the contact block: Screw the upper part of the surface mount housing to the lower part.

Preparing for operation

Please note the following when connecting the wiring to the contact blocks:

With PIT es Set/1, the contact blocks are supplied pre-assembled in a bracket. With illuminated E-STOP pushbuttons, the contact block must be attached to the bracket.



NOTICE

Check the function of the emergency stop device before commissioning for the first time and then at regular intervals (at least annually).

On devices with spring-loaded terminals, we recommend cables with crimp connections and a cable cross section of

- ▶ Max. 0.5 mm² for devices with order no. 400451 and 400456
- ▶ Max. 2.5 mm² for all other devices.

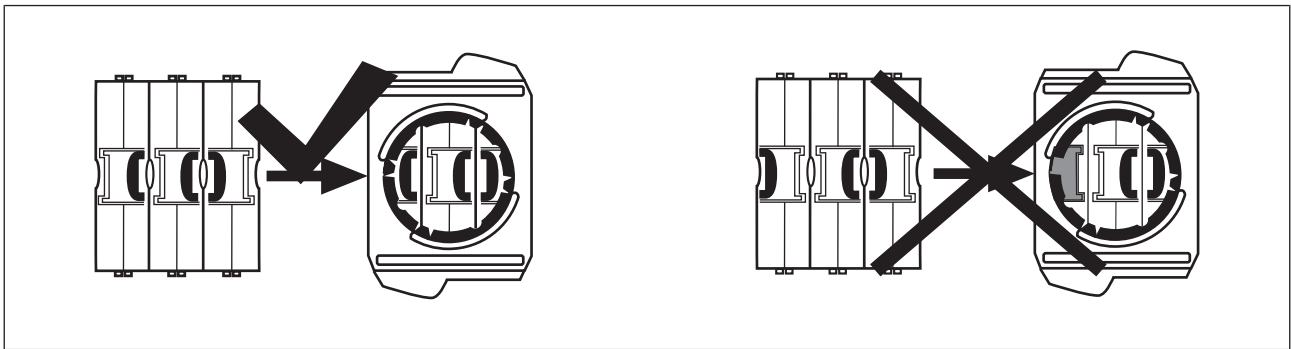
Wiring devices with surface mount housing:

- ▶ With illuminated E-STOP pushbuttons: Break out one of the openings indicated on the upper part of the surface mount housing.
- ▶ To route the cable, break out one of the preprepared openings on the lower part of the surface mount housing.
- ▶ Use a plastic M20 stuffing box for sealing and strain relief (a stuffing box is included with PIT es Set6.5cr). Make sure that the contact blocks which are installed in the enclosure are properly connected, so that - when the unit is used correctly - the requirements with regard to airgap creepage are satisfied for an enclosure with protective insulation.



NOTICE

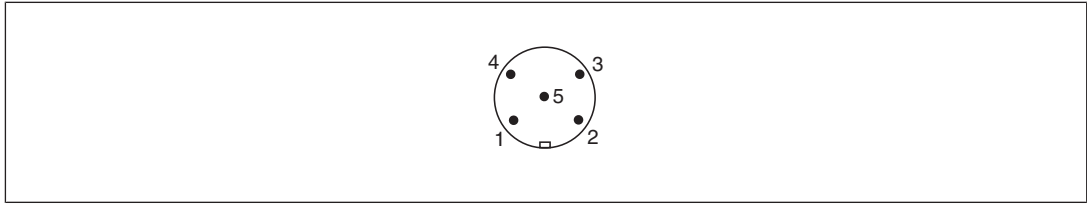
Please note the following when dismantling and reconnecting the individual contact blocks: The slides of the outer contact blocks must be pointing inwards, so that all of the slides are within the ring when the bracket is attached (see Fig. 3).



Assignment of contact blocks

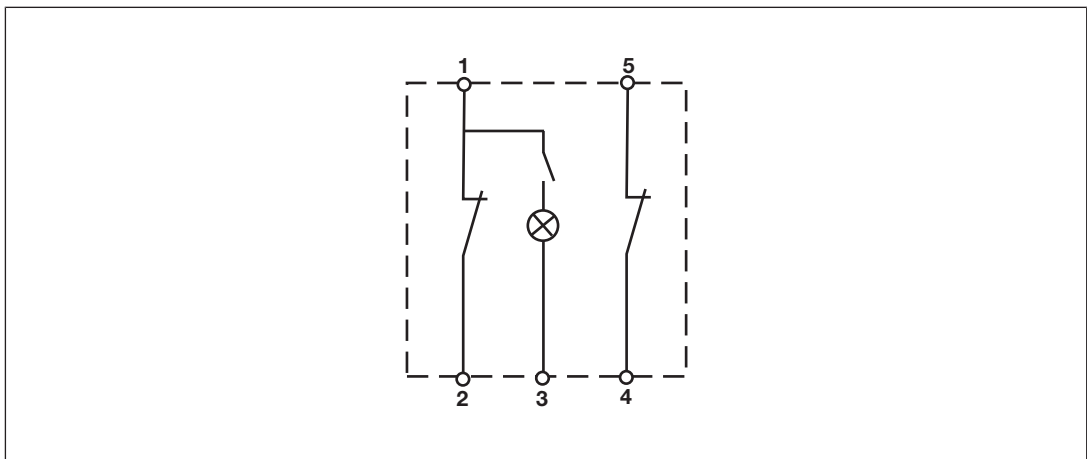
PIT esc1, PIT esc1c	PIT esc2, PIT esc2c	PIT esc3, PIT esc3c	PIT esc4
PIT es Set6.5cr	Illuminated E-STOP	PIT esc6c	PIT esc8c

Assignment of the 5-pin M12 male connector

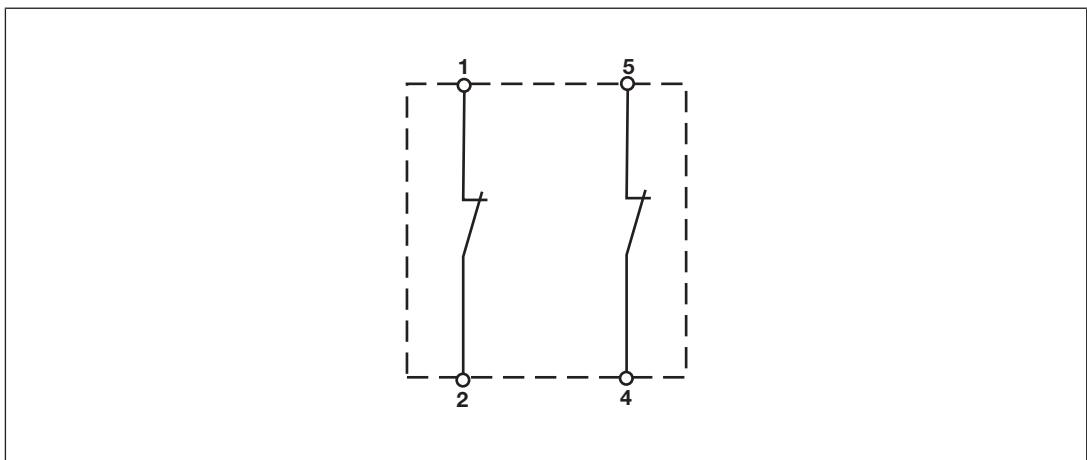


PIN	Function
1	Input, channel 1
2	Output, channel1
3	0 V U _B
4	Output, channel2
5	Input, channel 2

▶ Connection diagram with illumination

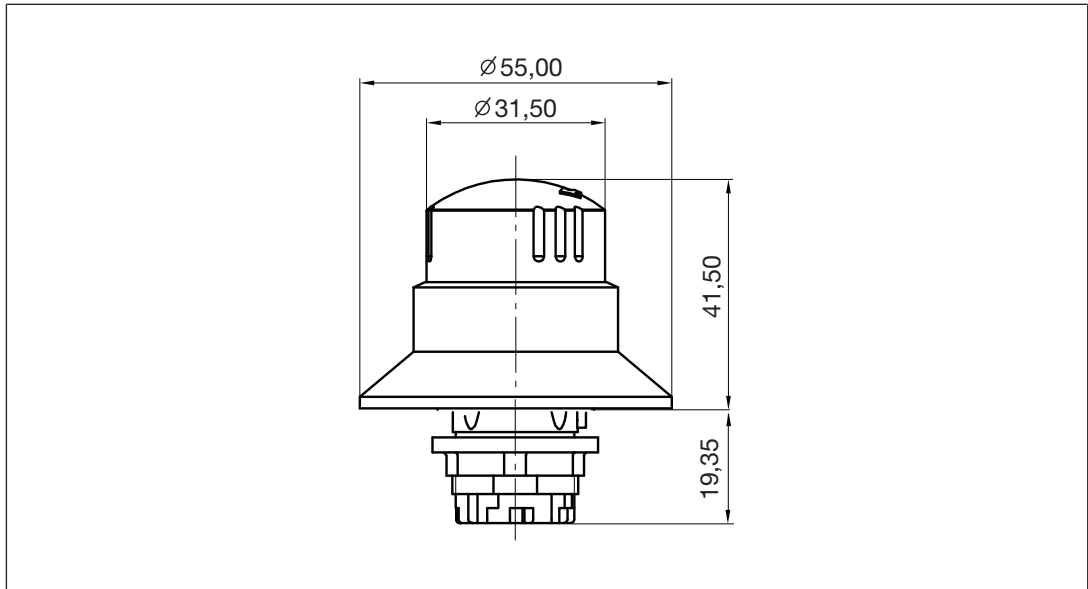


▶ Connection diagram without illumination

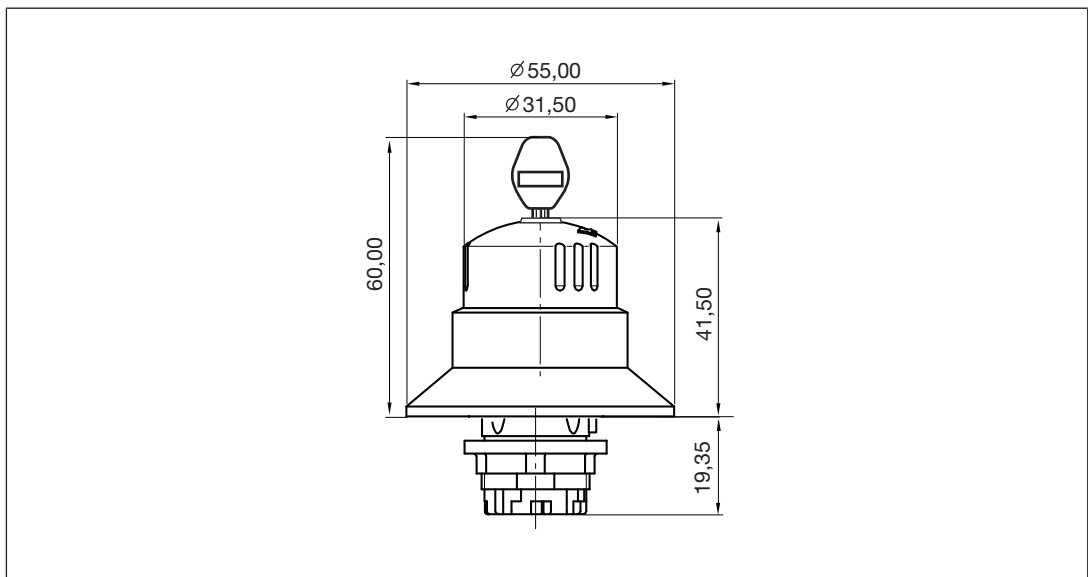


Dimensions

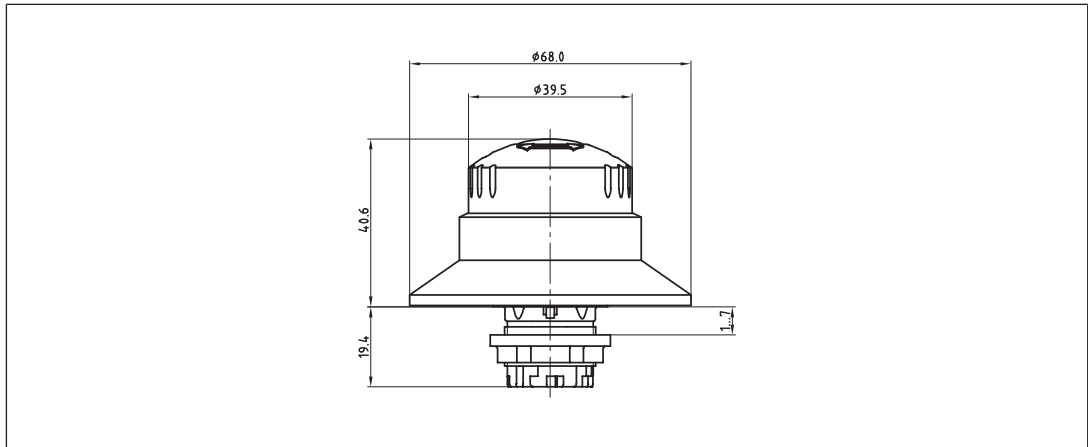
E-STOP pushbutton (PIT es1s, PIT es1u)



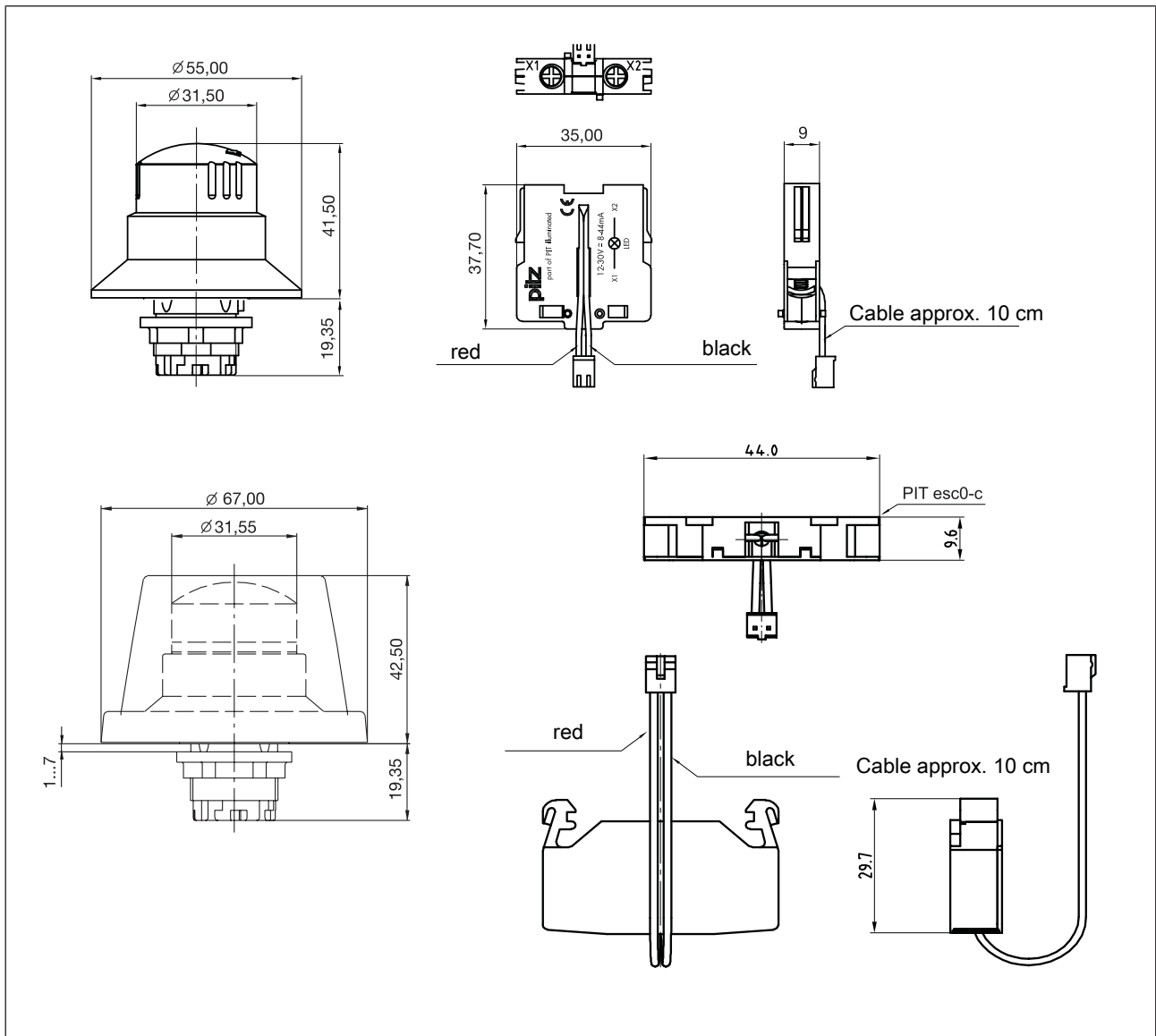
E-STOP pushbutton with key-release (PIT es8s, PIT es8u)



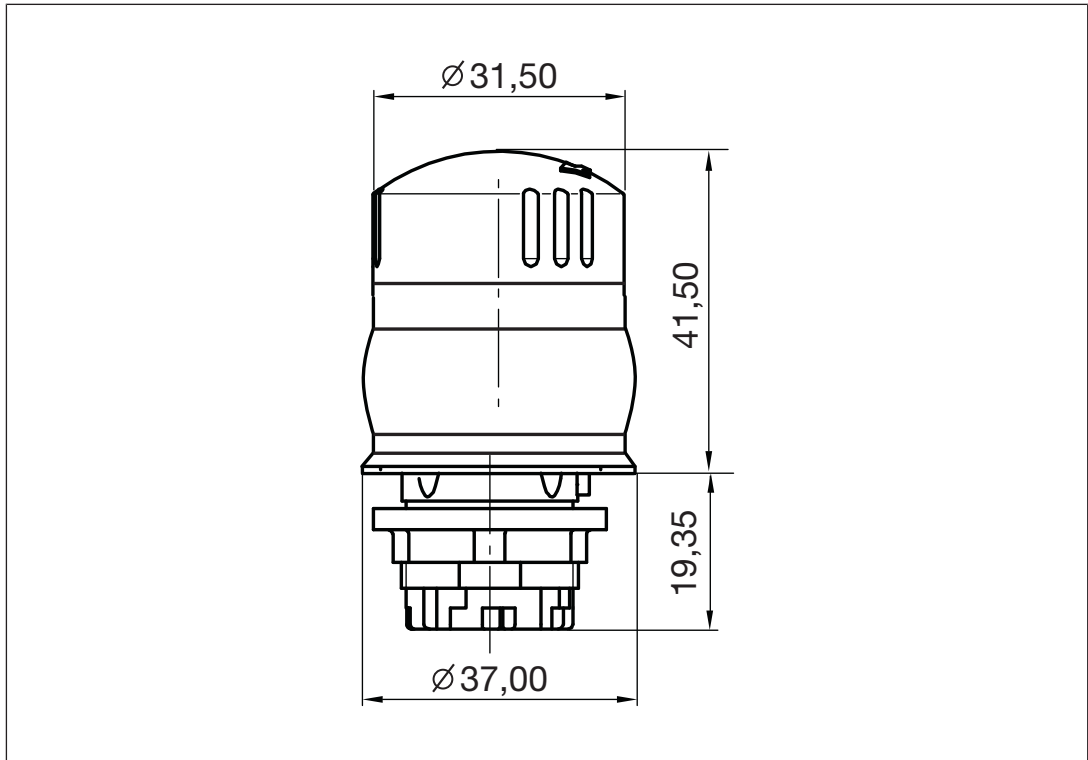
Large E-STOP pushbutton (68 mm) (PIT es 2s, PIT es2u)



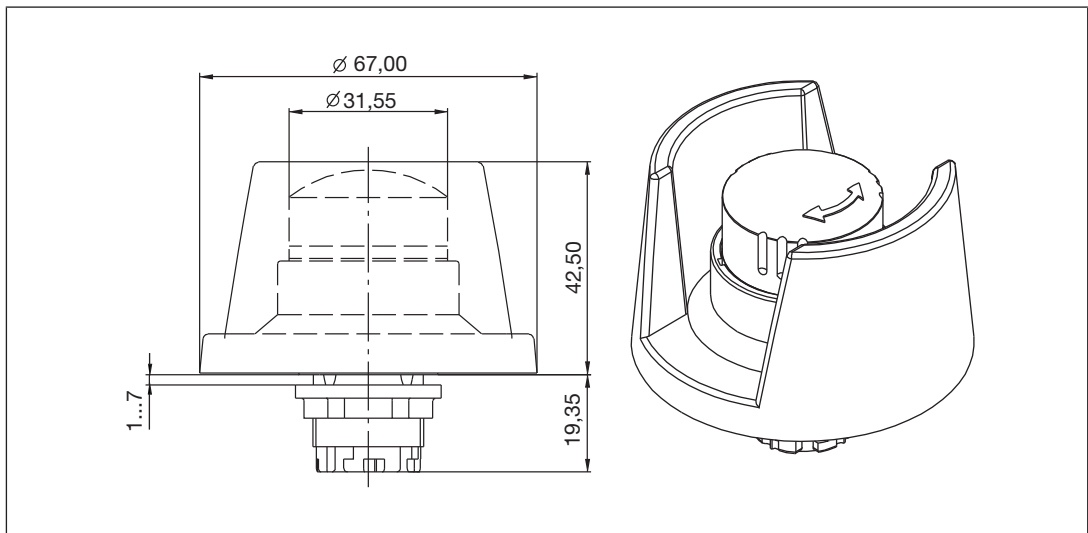
**E-STOP pushbutton with illumination (PIT es3s, PIT es3u)
E-STOP pushbutton with illuminated protective collar (PIT es4s, PIT es4u)**



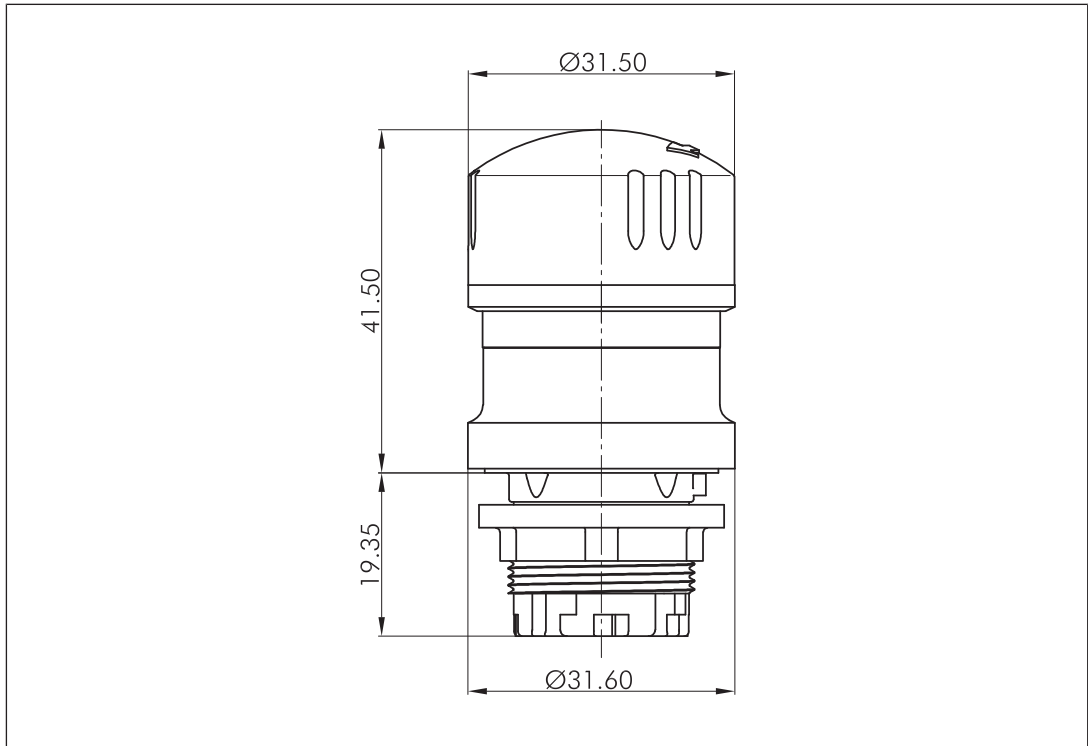
E-STOP pushbutton for hygiene critical areas (PIT es7u)



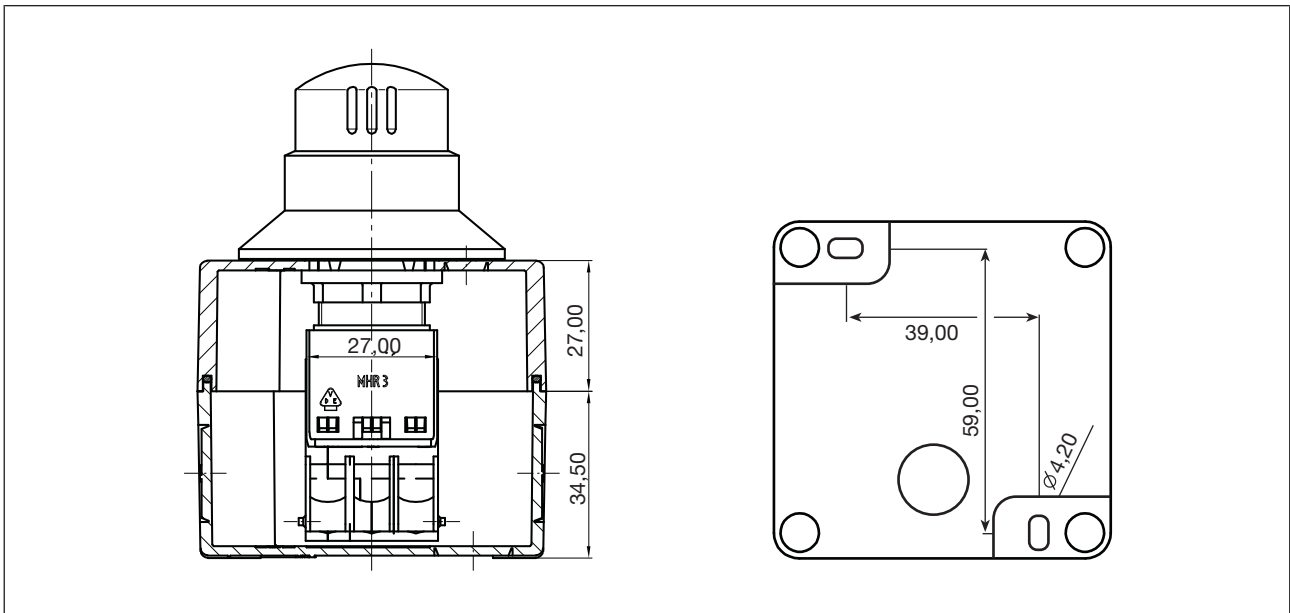
E-STOP pushbutton with protective collar (PIT es5s, PIT es5u)



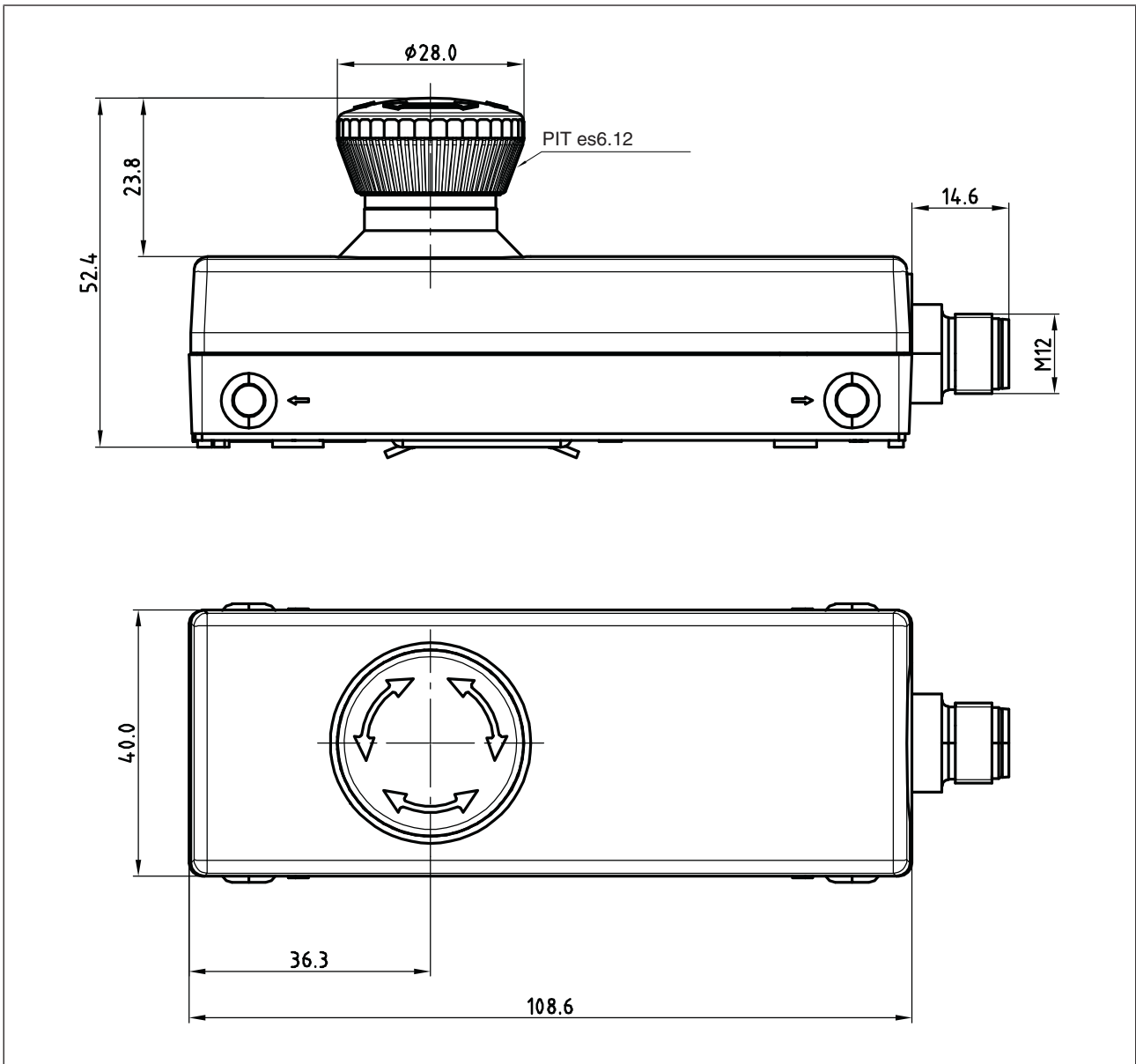
E-STOP pushbutton without protective collar (PIT es9u)

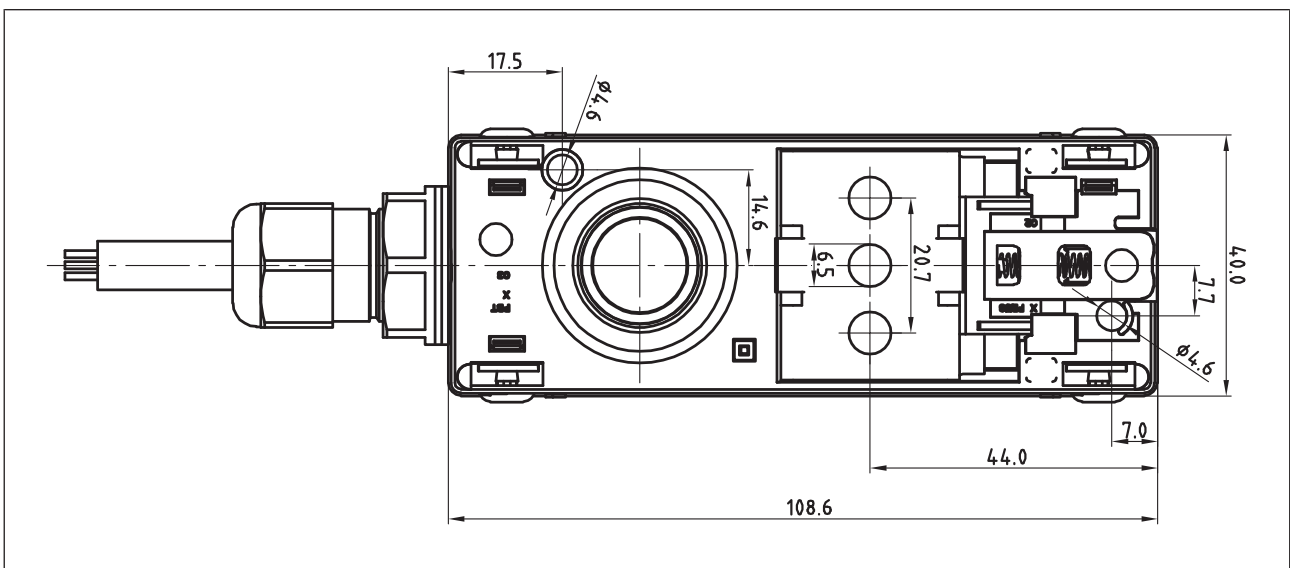
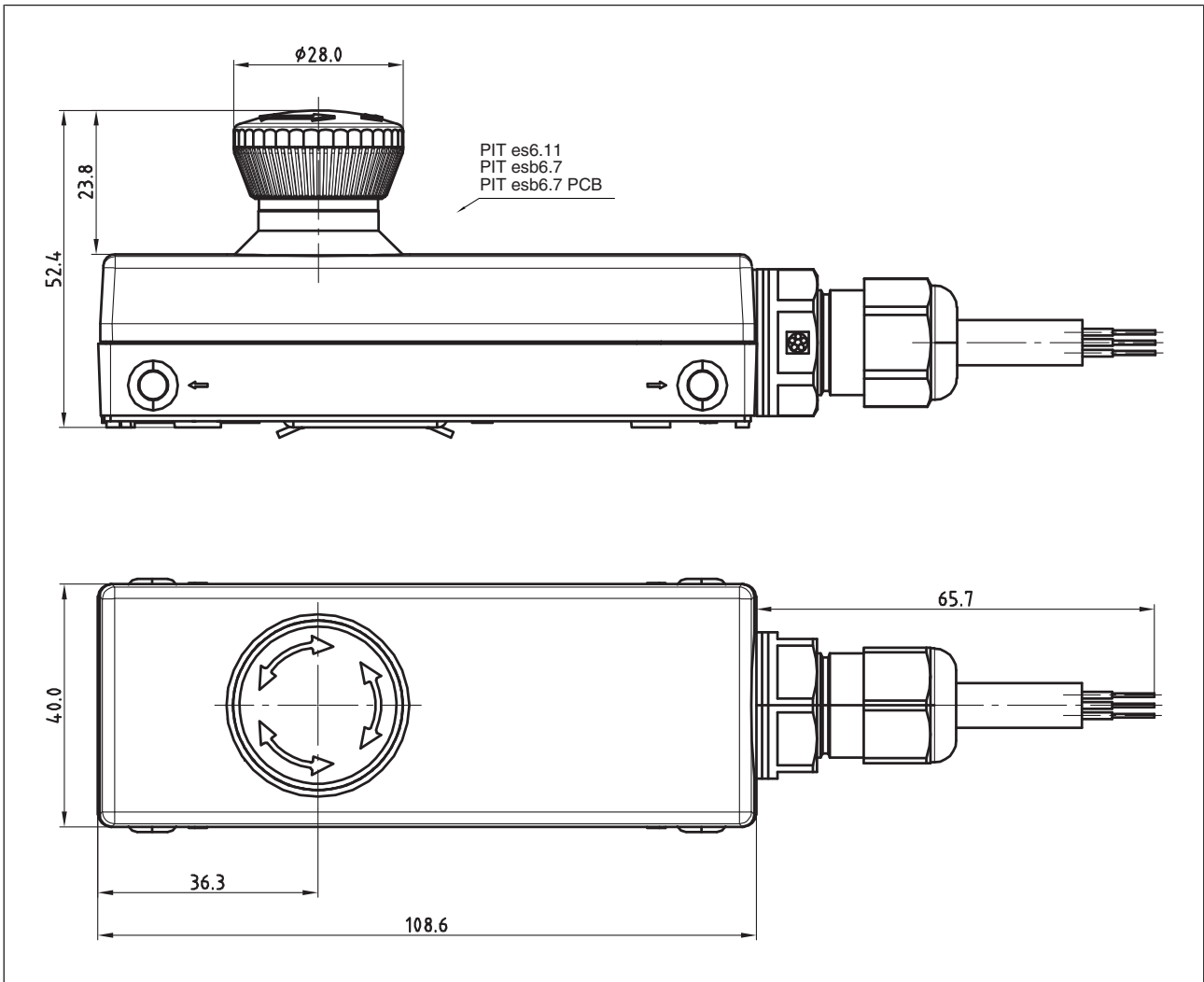


Surface mount version with E-STOP pushbutton

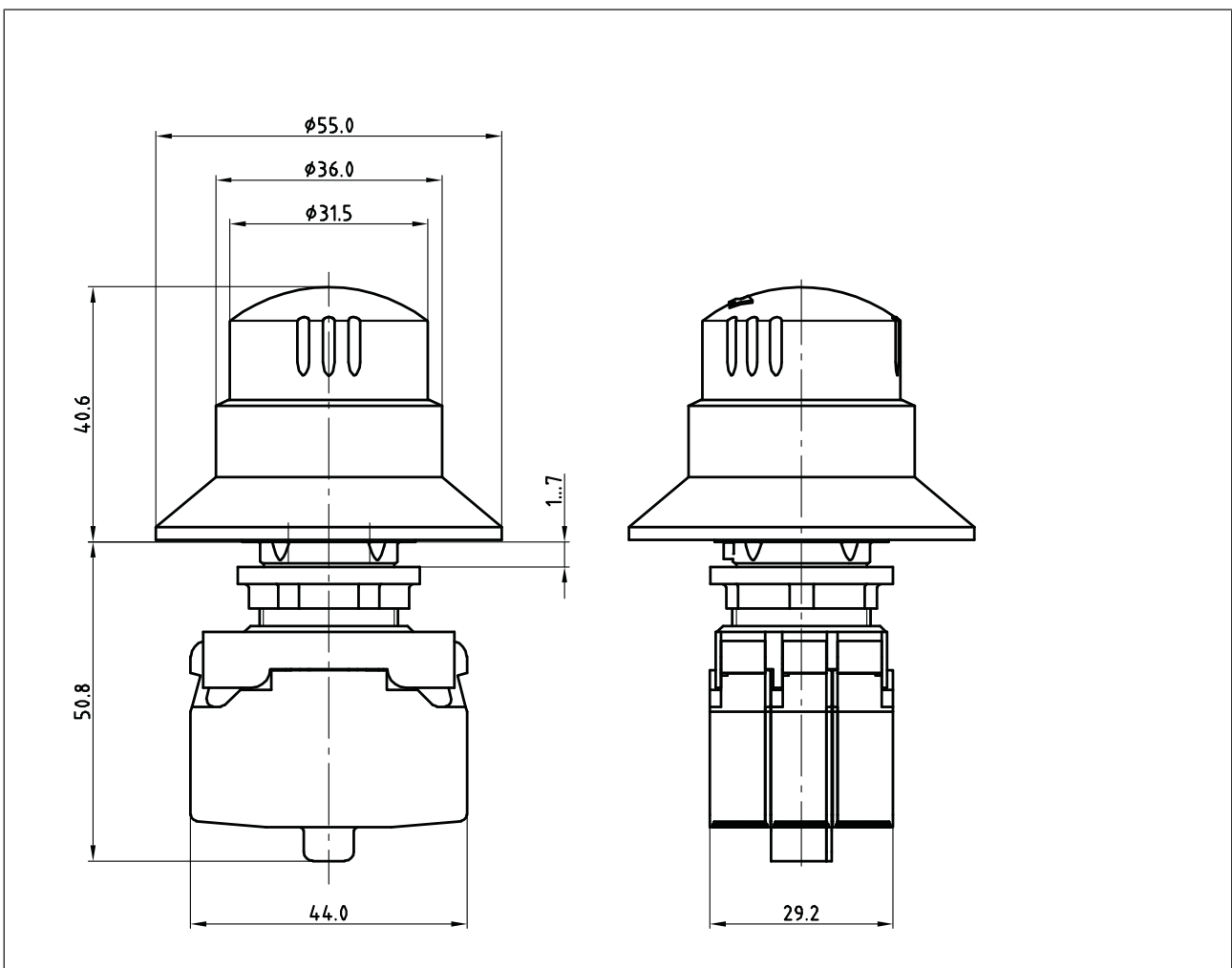
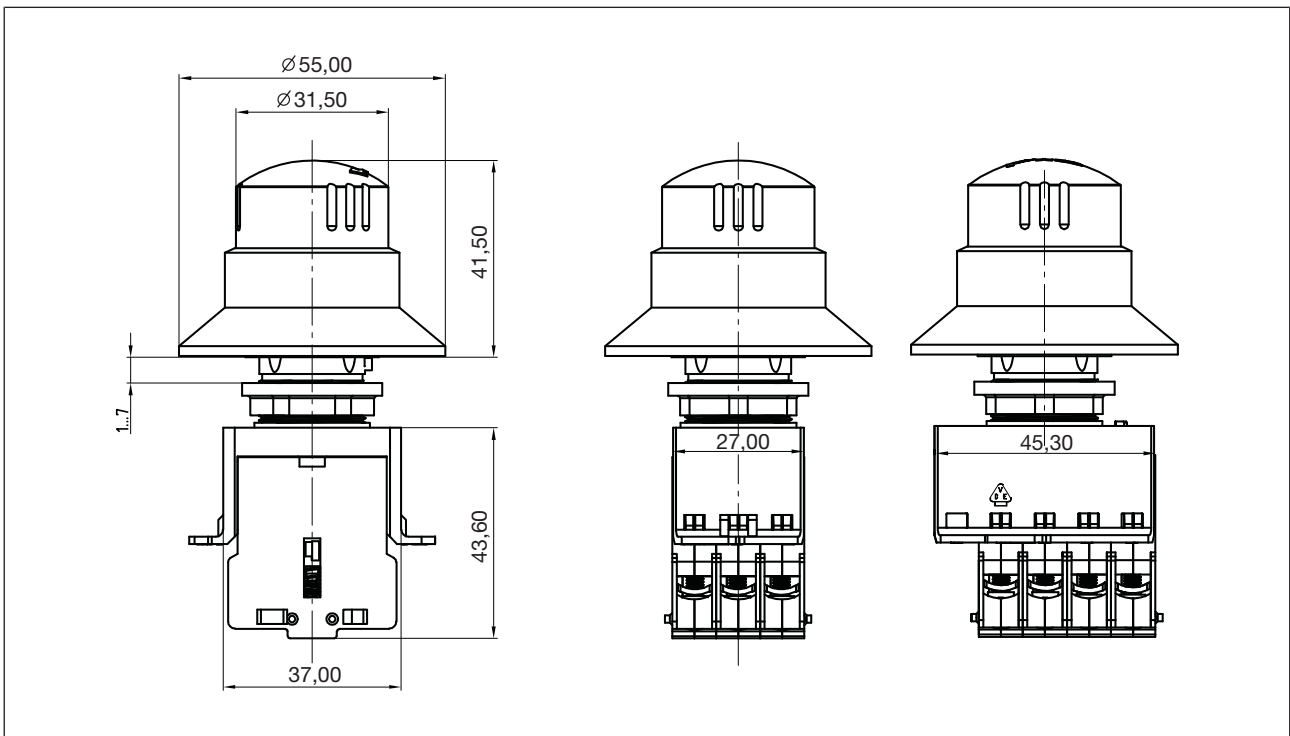


Surface mount version, profile rail, with E-STOP pushbutton (PIT es Set6u-5 nr, PIT es Set6u-5 cr)





Panel mount version with E-STOP pushbutton



Technical Details Order No. 400430-400432

General	400430	400431	400432
Approvals	CE	CE	CE
Electrical data	400430	400431	400432
Volume resistance	100 mOhm	100 mOhm	100 mOhm
Min. contact current	1,00 mA	5,00 mA	1,00 mA
Relay outputs	400430	400431	400432
Utilisation category			
In accordance with the standard	EN 60947-5-1	EN 60947-5-1	EN 60947-5-1
AC15 at	250 V	250 V	250 V
Max. current	3,0 A	3,0 A	3,0 A
DC13 (6 cycles/min) at	24 V	24 V	24 V
Max. current	2,0 A	2,0 A	2,0 A
Conventional thermal current	16,0 A	10,0 A	16,0 A
Contact material	AgNi	AgNi	AgNi
Times	400430	400431	400432
Bounce time	10 ms	10 ms	10 ms
Environmental data	400430	400431	400432
Ambient temperature			
Temperature range	-30 - 70 °C	-25 - 55 °C	-30 - 70 °C
Storage temperature			
Temperature range	-50 - 85 °C	-50 - 85 °C	-50 - 85 °C
Rated insulation voltage	250 V	250 V	250 V
Protection type			
Housing	IP65	IP65	IP65
Mechanical data	400430	400431	400432
Mounting position	Any	Any	Any
Mechanical life	20,000 cycles	50,000 cycles	20,000 cycles
Connection type	Screw terminal	Spring-loaded terminal	Screw terminal
Dimensions			
Height	100,0 mm	92,0 mm	100,0 mm
Width	55,0 mm	55,0 mm	55,0 mm
Weight	54 g	51 g	66 g

Where standards are undated, the 2013-05 latest editions shall apply.

Technical Details Order No. 400433-400435

General	400433	400434	400435
Approvals	CE	CE	CE
Electrical data	400433	400434	400435
Volume resistance	100 mOhm	100 mOhm	100 mOhm
Min. contact current	5,00 mA	1,00 mA	5,00 mA
Relay outputs	400433	400434	400435
Utilisation category			
In accordance with the standard	EN 60947-5-1	EN 60947-5-1	EN 60947-5-1
AC15 at	250 V	250 V	250 V
Max. current	3,0 A	3,0 A	3,0 A
DC13 (6 cycles/min) at	24 V	24 V	24 V
Max. current	2,0 A	2,0 A	2,0 A
Conventional thermal current	10,0 A	16,0 A	10,0 A
Contact material	AgNi	AgNi	AgNi
Times	400433	400434	400435
Bounce time	10 ms	10 ms	10 ms
Environmental data	400433	400434	400435
Ambient temperature			
Temperature range	-25 - 55 °C	-30 - 70 °C	-25 - 55 °C
Storage temperature			
Temperature range	-50 - 85 °C	-50 - 85 °C	-50 - 85 °C
Rated insulation voltage	250 V	250 V	250 V
Protection type			
Housing	IP65	IP65	IP65
Mechanical data	400433	400434	400435
Mounting position	Any	Any	Any
Mechanical life	50,000 cycles	20,000 cycles	50,000 cycles
Connection type	Spring-loaded terminal	Screw terminal	Spring-loaded terminal
Dimensions			
Height	92,0 mm	87,0 mm	92,0 mm
Width	55,0 mm	74,0 mm	68,0 mm
Weight	60 g	74 g	67 g

Where standards are undated, the 2013-05 latest editions shall apply.

Technical Details Order No. 400436-400438

General	400436	400437	400438
Approvals	CE	CE	CE
Electrical data	400436	400437	400438
Supply voltage			
Voltage	12,0 - 30,0 V	12,0 - 30,0 V	–
Kind	AC/DC	AC/DC	–
Max. inrush current at UB	44,00 mA	44,00 mA	–
Volume resistance	100 mOhm	100 mOhm	100 mOhm
Min. contact current	1,00 mA	5,00 mA	1,00 mA
Inputs	400436	400437	400438
Input current range	15,0 mA	15,0 mA	–
Relay outputs	400436	400437	400438
Utilisation category			
In accordance with the standard	EN 60947-5-1	EN 60947-5-1	EN 60947-5-1
AC15 at	250 V	250 V	250 V
Max. current	3,0 A	3,0 A	3,0 A
DC13 (6 cycles/min) at	24 V	24 V	24 V
Max. current	2,0 A	2,0 A	2,0 A
Conventional thermal current	16,0 A	10,0 A	16,0 A
Contact material	AgNi	AgNi	AgNi
Times	400436	400437	400438
Bounce time	10 ms	10 ms	10 ms
Environmental data	400436	400437	400438
Ambient temperature			
Temperature range	-25 - 55 °C	-25 - 55 °C	-30 - 70 °C
Storage temperature			
Temperature range	-25 - 80 °C	-25 - 80 °C	-50 - 85 °C
Rated insulation voltage	250 V	250 V	250 V
Protection type			
Housing	IP65	IP65	IP65
Mechanical data	400436	400437	400438
Mounting position	Any	Any	Any
Mechanical life	20,000 cycles	50,000 cycles	20,000 cycles
Connection type	Screw terminal	Spring-loaded terminal	Screw terminal
Dimensions			
Height	100,0 mm	92,0 mm	100,0 mm
Width	55,0 mm	56,0 mm	68,0 mm
Weight	83 g	75 g	83 g

Where standards are undated, the 2013-05 latest editions shall apply.

Technical Details Order No. 400439-400442

General	400439	400441	400442
Approvals	CE	CE	CE
Electrical data	400439	400441	400442
Volume resistance	100 mOhm	100 mOhm	100 mOhm
Min. contact current	5,00 mA	1,00 mA	5,00 mA
Relay outputs	400439	400441	400442
Utilisation category			
In accordance with the standard	EN 60947-5-1	EN 60947-5-1	EN 60947-5-1
AC15 at	250 V	250 V	250 V
Max. current	3,0 A	3,0 A	3,0 A
DC13 (6 cycles/min) at	24 V	24 V	24 V
Max. current	2,0 A	2,0 A	2,0 A
Conventional thermal current	10,0 A	16,0 A	10,0 A
Contact material	AgNi	AgNi	AgNi
Times	400439	400441	400442
Bounce time	10 ms	10 ms	10 ms
Environmental data	400439	400441	400442
Ambient temperature			
Temperature range	-25 - 55 °C	-30 - 70 °C	-25 - 55 °C
Storage temperature			
Temperature range	-50 - 85 °C	-50 - 85 °C	-50 - 85 °C
Rated insulation voltage	250 V	250 V	250 V
Protection type			
Housing	IP65	IP69K	IP69K
Mechanical data	400439	400441	400442
Mounting position	Any	Any	Any
Mechanical life	50,000 cycles	6050 cycles	6050 cycles
Connection type	Spring-loaded terminal	Screw terminal	Spring-loaded terminal
Dimensions			
Height	92,0 mm	100,0 mm	92,0 mm
Width	68,0 mm	50,0 mm	44,0 mm
Weight	77 g	62 g	56 g

Where standards are undated, the 2013-05 latest editions shall apply.

Technical Details Order No. 400443-400445

General	400443	400444	400445
Approvals	CE	CE	CE
Electrical data	400443	400444	400445
Volume resistance	100 mOhm	100 mOhm	100 mOhm
Min. contact current	1,00 mA	5,00 mA	1,00 mA
Relay outputs	400443	400444	400445
Utilisation category			
In accordance with the standard	EN 60947-5-1	EN 60947-5-1	EN 60947-5-1
AC15 at	250 V	250 V	250 V
Max. current	3,0 A	3,0 A	3,0 A
DC13 (6 cycles/min) at	24 V	24 V	24 V
Max. current	2,0 A	2,0 A	2,0 A
Conventional thermal current	16,0 A	10,0 A	16,0 A
Contact material	AgNi	AgNi	AgNi
Times	400443	400444	400445
Bounce time	10 ms	10 ms	10 ms
Environmental data	400443	400444	400445
Ambient temperature			
Temperature range	-30 - 70 °C	-25 - 55 °C	-30 - 70 °C
Storage temperature			
Temperature range	-50 - 85 °C	-50 - 85 °C	-50 - 85 °C
Rated insulation voltage	250 V	250 V	250 V
Protection type			
Housing	IP65	IP65	IP65
Mechanical data	400443	400444	400445
Mounting position	Any	Any	Any
Mechanical life	20,000 cycles	50,000 cycles	20,000 cycles
Connection type	Screw terminal	Spring-loaded terminal	Screw terminal
Dimensions			
Height	100,0 mm	93,0 mm	100,0 mm
Width	55,0 mm	55,0 mm	55,0 mm
Weight	78 g	72 g	77 g

Where standards are undated, the 2013-05 latest editions shall apply.

Technical Details Order No. 400446-400448

General	400446	400447	400448
Approvals	CE	CE	CE
Electrical data	400446	400447	400448
Volume resistance	100 mOhm	100 mOhm	100 mOhm
Min. contact current	5,00 mA	1,00 mA	5,00 mA
Relay outputs	400446	400447	400448
Utilisation category			
In accordance with the standard	EN 60947-5-1	EN 60947-5-1	EN 60947-5-1
AC15 at	250 V	250 V	250 V
Max. current	3,0 A	3,0 A	3,0 A
DC13 (6 cycles/min) at	24 V	24 V	24 V
Max. current	2,0 A	2,0 A	2,0 A
Conventional thermal current	10,0 A	16,0 A	10,0 A
Contact material	AgNi	AgNi	AgNi
Times	400446	400447	400448
Bounce time	10 ms	10 ms	10 ms
Environmental data	400446	400447	400448
Ambient temperature			
Temperature range	-25 - 55 °C	-25 - 55 °C	-25 - 55 °C
Storage temperature			
Temperature range	-50 - 85 °C	-50 - 85 °C	-50 - 85 °C
Rated insulation voltage	250 V	250 V	250 V
Protection type			
Housing	IP65	IP65	IP65
Mechanical data	400446	400447	400448
Mounting position	Any	Any	Any
Mechanical life	50,000 cycles	20,000 cycles	50,000 cycles
Connection type	Spring-loaded terminal	Screw terminal	Spring-loaded terminal
Dimensions			
Height	92,0 mm	72,0 mm	72,0 mm
Width	55,0 mm	103,0 mm	103,0 mm
Depth	–	72,0 mm	72,0 mm
Weight	69 g	161 g	155 g

Where standards are undated, the 2013-05 latest editions shall apply.

Technical Details Order No. 400449-400451

General	400449	400450	400451
Approvals	CE	CE	CE, EAC (Eurasian)
Electrical data	400449	400450	400451
Supply voltage			
Voltage	12,0 - 30,0 V	–	–
Kind	AC/DC	–	–
Max. inrush current at UB	44,00 mA	–	–
Volume resistance	100 mOhm	100 mOhm	100 mOhm
Min. contact current	1,00 mA	1,00 mA	1,00 mA
Inputs	400449	400450	400451
Input current range	15,0 mA	–	–
Relay outputs	400449	400450	400451
Utilisation category			
In accordance with the standard	EN 60947-5-1	EN 60947-5-1	EN 60947-5-1
AC15 at	250 V	250 V	250 V
Max. current	3,0 A	3,0 A	1,5 A
DC13 (6 cycles/min) at	24 V	24 V	120 V
Max. current	2,0 A	2,0 A	0,6 A
Conventional thermal current	16,0 A	16,0 A	5,0 A
Contact material	AgNi	AgNi	AgNi
Times	400449	400450	400451
Bounce time	10 ms	10 ms	10 ms
Environmental data	400449	400450	400451
Ambient temperature			
Temperature range	-25 - 55 °C	-25 - 55 °C	-25 - 55 °C
Storage temperature			
Temperature range	-25 - 80 °C	-50 - 85 °C	-25 - 80 °C
Rated insulation voltage	250 V	250 V	250 V
Protection type			
Housing	IP65	IP65	IP65
Mechanical data	400449	400450	400451
Mounting position	Any	Any	Any
Mechanical life	20,000 cycles	20,000 cycles	50,000 cycles
Connection type	Screw terminal	Screw terminal	Spring-loaded terminal
Dimensions			
Height	72,0 mm	103,0 mm	51,0 mm
Width	103,0 mm	72,0 mm	42,0 mm
Depth	72,0 mm	72,0 mm	108,0 mm
Weight	178 g	177 g	122 g

Where standards are undated, the 2013-05 latest editions shall apply.

Technical Details Order No. 400452-400454

General	400452	400453	400454
Approvals	CE	CE	CE
Electrical data	400452	400453	400454
Supply voltage			
Voltage	–	–	12,0 - 30,0 V
Kind	–	–	AC/DC
Max. inrush current at UB	–	–	44,00 mA
Volume resistance	100 mOhm	100 mOhm	100 mOhm
Min. contact current	1,00 mA	1,00 mA	1,00 mA
Inputs	400452	400453	400454
Input current range	–	–	15,0 mA
Relay outputs	400452	400453	400454
Utilisation category			
In accordance with the standard	EN 60947-5-1	EN 60947-5-1	EN 60947-5-1
AC15 at	250 V	250 V	250 V
Max. current	3,0 A	3,0 A	3,0 A
DC13 (6 cycles/min) at	24 V	24 V	24 V
Max. current	2,0 A	2,0 A	2,0 A
Conventional thermal current	16,0 A	16,0 A	16,0 A
Contact material	AgNi	AgNi	AgNi
Times	400452	400453	400454
Bounce time	10 ms	10 ms	10 ms
Environmental data	400452	400453	400454
Ambient temperature			
Temperature range	-25 - 55 °C	-25 - 55 °C	-25 - 55 °C
Storage temperature			
Temperature range	-50 - 85 °C	-25 - 80 °C	-25 - 80 °C
Rated insulation voltage	250 V	250 V	250 V
Protection type			
Housing	IP65	IP65	IP65
Mechanical data	400452	400453	400454
Mounting position	Any	Any	Any
Mechanical life	20,000 cycles	20,000 cycles	20,000 cycles
Connection type	Screw terminal	M12	M12
Dimensions			
Height	72,0 mm	103,0 mm	103,0 mm
Width	103,0 mm	72,0 mm	72,0 mm
Depth	72,0 mm	85,0 mm	85,0 mm
Weight	172 g	178 g	212 g

Where standards are undated, the 2013-05 latest editions shall apply.

Technical Details Order No. 400455-400458

General	400455	400457	400458
Approvals	CE, EAC (Eurasian)	CE	CE, EAC (Eurasian)
Electrical data	400455	400457	400458
Volume resistance	100 mOhm	100 mOhm	100 mOhm
Min. contact current	1,00 mA	1,00 mA	1,00 mA
Relay outputs	400455	400457	400458
Utilisation category			
In accordance with the standard	EN 60947-5-1	EN 60947-5-1	EN 60947-5-1
AC15 at	–	250 V	250 V
Max. current	–	3,0 A	3,0 A
DC13 (6 cycles/min) at	–	24 V	24 V
Max. current	–	2,0 A	2,0 A
Conventional thermal current	–	16,0 A	16,0 A
Contact material	AgNi, vergoldet	AgNi	AgNi
Times	400455	400457	400458
Bounce time	10 ms	10 ms	10 ms
Environmental data	400455	400457	400458
Ambient temperature			
Temperature range	-25 - 55 °C	-30 - 70 °C	-30 - 70 °C
Storage temperature			
Temperature range	-25 - 80 °C	-50 - 85 °C	-50 - 85 °C
Rated insulation voltage	250 V	250 V	250 V
Protection type			
Housing	IP65	IP65	IP65
Mechanical data	400455	400457	400458
Mounting position	Any	Any	Any
Mechanical life	50,000 cycles	20,000 cycles	20,000 cycles
Connection type	M12	Screw terminal	Screw terminal
Dimensions			
Height	53,0 mm	100,0 mm	100,0 mm
Width	42,0 mm	50,0 mm	52,0 mm
Depth	123,0 mm	–	–
Weight	113 g	72 g	60 g

Where standards are undated, the 2013-05 latest editions shall apply.

Technical Details Order No. 400459

General	
Approvals	CE, EAC (Eurasian)
Electrical data	
Volume resistance	100 mOhm
Min. contact current	5,00 mA
Relay outputs	
Utilisation category	
In accordance with the standard	EN 60947-5-1
AC15 at	250 V
Max. current	3,0 A
DC13 (6 cycles/min) at	24 V
Max. current	2,0 A
Conventional thermal current	10,0 A
Contact material	AgNi
Times	
Bounce time	10 ms
Environmental data	
Ambient temperature	
Temperature range	-25 - 55 °C
Storage temperature	
Temperature range	-50 - 85 °C
Rated insulation voltage	250 V
Protection type	
Housing	IP65
Mechanical data	
Mounting position	Any
Mechanical life	50,000 cycles
Connection type	Spring-loaded terminal
Dimensions	
Height	88,0 mm
Width	44,0 mm
Weight	53 g

Where standards are undated, the 2013-05 latest editions shall apply.

Safety characteristic data

Safety characteristic data	
B10d in accordance with EN ISO 13849-1 and EN IEC 62061	104.000
Lambda _d /Lambda in accordance with EN IEC 62061	0,20

Order reference

Product

Sets

Product type	Features	Order no.
PIT es Set1s-1	PIT es1s + PIT esc1 + PIT MHR3	400 430
PIT es Set1s-1c	PIT es1s + PIT esc1c + PIT es holder 3c	400 431
PIT es Set1s-5	PIT es1s + PIT esc1 + PIT esc2 + PIT MHR3	400 432
PIT es Set1s-5c	PIT es1s + PIT esc1c + PIT esc2c + PIT es holder 3c	400 433
PIT es Set2s-5	PIT es2s + PIT esc1 + PIT esc2 + PIT MHR3	400 434
PIT es Set2s-5c	PIT es2s + PIT esc1c + PIT esc2c + PIT es holder 3c	400 435
PIT es Set3s-5	PIT es3s + PIT esc1 + PIT esc2 + PIT MHR3	400 436
PIT es Set3s-5c	PIT es3s + PIT esc1c + PIT esc2c + PIT es holder 3c	400 437
PIT es Set5s-5	PIT es5s + PIT esc1 + PIT esc2 + PIT MHR3	400 438
PIT es Set5s-5c	PIT es5s + PIT esc1c + PIT esc2c + PIT es holder 3c	400 439
PIT es Set7u-5	PIT es7s + PIT esc1 + PIT esc2 + PIT MHR3	400 441
PIT es Set7u-5c	PIT es7s + PIT esc1c + PIT esc2c + PIT es holder 3c	400 442
PIT es Set8s-5	PIT es8s + PIT esc1 + PIT esc2 + PIT MHR3	400 443
PIT es Set8s-5c	PIT es8s + PIT esc1c + PIT esc2c + PIT es holder 3c	400 444
PIT es Set1s-6	PIT es1s + PIT esc1 + PIT esc2 + PIT MHR3	400 445
PIT es Set1s-6c	PIT es1s + PIT esc1c + PIT esc2c + PIT esc3c + PIT es holder 3c	400 446
PIT es Set1s-5 s	PIT es1s + PIT es box + PIT esc1 + PIT esc2 + PIT MHR3	400 447
PIT es Set1s-5cs	PIT es1s + PIT es box + PIT esc1c + PIT esc2c + PIT es holder3c	400 448
PIT es Set3s-5 s	PIT es3s + PIT es box + PIT esc1 + PIT esc2 + PIT MHR3	400 449
PIT es Set5s-5 s	PIT es5s + PIT es box + PIT esc1 + PIT esc2 + PIT MHR3	400 450
PIT es Set6u-5cr	Non-modular set for rail mounting	400 451
PIT es Set1s-6 s	PIT es1s + PIT es box + PIT esc1 + PIT esc2 + PIT esc3 + PIT MHR3	400 452
PIT es Set1s-5ns	PIT es1s + PIT es box with M12 connector	400 453
PIT es Set3s-5ns	PIT es3s + PIT es box with M12 connector	400 454
PIT es Set6u-5nr	Non-modular set with M12 connection for rail mounting	400 455
PIT es Set9u-7	PIT es9u + PIT esc1 + PIT esc2 + PIT esc2 + PIT MHR3	400 457
PIT es Set9u-5	PIT es9u + PIT esc1 + PIT esc2 + PIT MHR3	400 458
PIT es Set9u-5c	PIT es9u + PIT esc1c + PIT esc2c + PIT es holder3c	400 459

E-STOP pushbutton

Product type	Features	Order no.
PIT es1s	Inscription: E-STOP symbol	400 131
PIT es1u	Uninscribed	400 531
PIT es2s	Large (60 mm), inscription: E-STOP symbol	400 132
PIT es2u	Large (60 mm), uninscribed	400 532
PIT es3s	Illuminated, inscription: E-STOP symbol	400 133
PIT es3s-c	Illuminated, inscription: E-STOP symbol, with spring-loaded terminals	400 143
PIT es3u	Illuminated, uninscribed	400 533
PIT es3u-c	Illuminated, uninscribed, with spring-loaded terminals	400 543
PIT es4s	Illuminated, inscription: E-STOP symbol, protective collar	400 134
PIT es4u	Illuminated, uninscribed, protective collar	400 534
PIT es5s	Inscription: E-STOP symbol, protective collar	400 135
PIT es5u	Uninscribed, protective collar	400 535
PIT es7u	Uninscribed, IP69K	400 537
PIT es8s	Inscription: E-STOP symbol, key-release	400 138
PIT es8u	Uninscribed, key-release	400 538
PIT es9u	Uninscribed	400 539

Contact blocks

Product type	Features	Order no.
PIT esc1	1 monitored N/C, screw terminal	400 315
PIT esc1c	1 monitored N/C, spring-loaded terminal	400 316
PIT esc2	1 N/C, screw terminal	400 320
PIT esc2c	1 N/C, spring-loaded terminal	400 321
PIT esc3	1 N/O, screw terminal	400 310
PIT esc3c	1 N/O, spring-loaded terminal	400 311
PIT esc4	4 N/C, screw terminal	400 324
PIT esc6c	1 N/C with monitoring, 1 N/O, 1 N/C, spring-loaded terminal	400 308
PIT esc8c	1 N/C, 1 N/O, spring-loaded terminal	400 309

Accessories

Product type	Features	Order no.
PIT MHR3	3 slots	400 330
PIT MHR5	5 slots	400 340
PIT es holder3c	3 slots, for spring-loaded terminals	400 331

EC declaration of conformity

This product/these products meet the requirements of the directive 2006/42/EC for machinery of the European Parliament and of the Council. The complete EC Declaration of Conformity is available on the Internet at www.pilz.com/downloads.

Representative: Norbert Fröhlich, Pilz GmbH & Co. KG, Felix-Wankel-Str. 2, 73760 Ostfildern, Germany

► Support

Technical support is available from Pilz round the clock.

Americas

Brazil
+55 11 97569-2804
Canada
+1 888-315-PILZ (315-7459)
Mexico
+52 55 5572 1300
USA (toll-free)
+1 877-PILZUSA (745-9872)

Asia

China
+86 21 60880878-216
Japan
+81 45 471-2281
South Korea
+82 31 450 0680

Australia

+61 3 95446300

Europe

Austria
+43 1 7986263-0
Belgium, Luxembourg
+32 9 3217575
France
+33 3 88104000
Germany
+49 711 3409-444
Ireland
+353 21 4804983
Italy
+39 0362 1826711

Scandinavia

+45 74436332

Spain

+34 938497433

Switzerland

+41 62 88979-30

The Netherlands

+31 347 320477

Turkey

+90 216 5775552

United Kingdom

+44 1536 462203

You can reach our international hotline on:

+49 711 3409-444
support@pilz.com

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Pilz GmbH & Co. KG
Felix-Wankel-Straße 2
73760 Ostfildern, Germany
Tel.: +49 711 3409-0
Fax: +49 711 3409-133
info@pilz.com
www.pilz.com

pilz
the spirit of safety