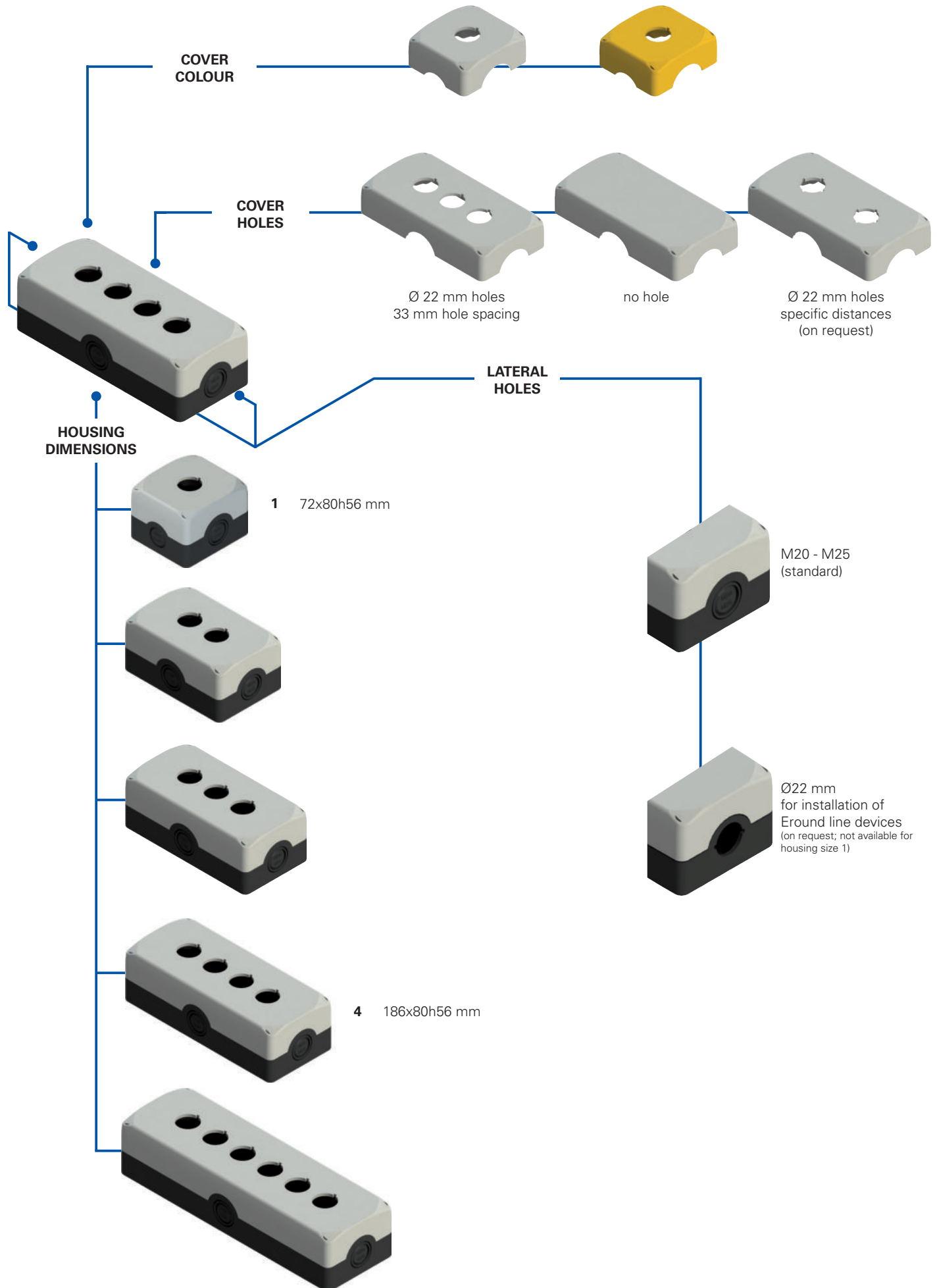


Selection diagram



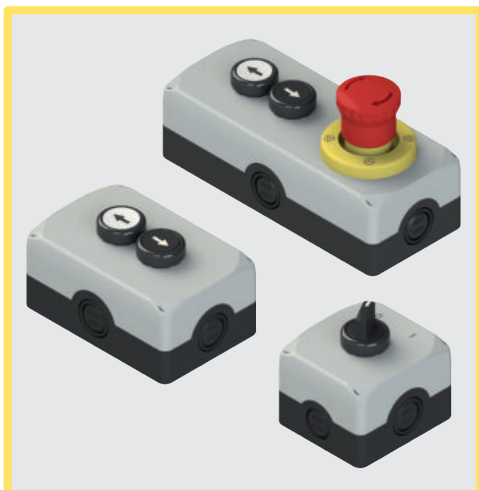
Code structure**Attention!** The feasibility of a code number does not mean the effective availability of a product. Please contact our sales office.**ES 31000**

Body material	
3	polycarbonate PC (standard)

Housing dimensions	
1	72x80h56 mm
2	120x80h56 mm
3	153x80h56 mm
4	186x80h56 mm
6	252x80h56 mm

Configuration	
000	black base, grey cover
001	black base, yellow cover
...	...

Other combinations on request.



Main features

- Protection degrees IP67 and IP69K
- Stainless steel captive screws
- 4 side cable entries
- Screw caps included in the scope of supply

Quality marks:



EAC approval: RU C-IT.YT03.B.00035/19
UL approval: E131787

Technical data

Housing

Material: Self-extinguishing shock-proof polycarbonate with double insulation, UV-resistant and glass fibre reinforced, high shock resistance.

Material of the screws: Stainless steel

Protection degree: IP67 acc. to EN 60529

IP69K acc. to ISO 20653 (cable gland of equal or higher protection degree)

Conduit entries:

Housing (1 hole): 4x knock-out side entries:
2x M20 - 1/2 NPT, 2x M20 - 1/2 NPT - M25
2x M16 knock-out base entries

Housings with 2-3-4-6 holes:

4x knock-out side entries:
4x M20 - 1/2 NPT - M25
2x M20 knock-out base entries

Device installation:

Suitable for the installation of Ø 22 mm control and signalling devices.

Ø 22 mm hole acc. to EN 60947-5-1

Utilization requirements:

see page 169

General data

Ambient temperature: -40°C ... +80°C

Tightening torque of the cover screws: 1 ... 1.4 Nm

In compliance with standards:

IEC 60947-1, IEC 60947-5-1, IEC 60204-1, EN 60947-1, EN 60947-5-1, EN 60204-1, EN IEC 63000, UL 508, CSA C22.2 No. 14.

Compliance with the requirements of:

Low Voltage Directive 2014/35/EU, EMC Directive 2014/30/EU, RoHS Directive 2011/65/EU.

Features approved by UL

- The Tightening Torque value of cover screws: "Torque 1-1.4 Nm"
- The enclosed control box series ES and EA can be provided empty (without actuators and contact blocks) or equipped with actuators and contact blocks
- Empty version of Enclosed Control Stations ES and EA are already provided of holes for actuators
- Enclosed Control Stations ES and EA cannot be provided of mushroom actuators equipped with red head and yellow background
- Enclosed Control Stations ES and EA provided with yellow cover are not suitable for use with mushroom actuator with red head
- The Enclosed Control Stations ES and EA are suitable for conduit connection only
- For the enclosed control box series ES, the hub is to be connected to the conduit before the hub is connected to the enclosure
- For polymeric Enclosures that are intended for field assembly of the bonding means shall be located where visible during installation, such as inside the cover, and consist of the word "CAUTION" and the following or the equivalent, "Bonding between conduit connections is not automatic and must be provided as a part of the installation"; or the word "CAUTION" and the following or equivalent, "Nonmetallic enclosure does not provide grounding between conduit connection. Use grounding bushings and jumper wires"
- The maximum number of contact block for each hole of the Enclosed Control Stations ES and EA is 4
- The illuminated disk VE DL series as polymeric component assembled to Enclosed Control Stations ES and EA covers a hole of 5,5 mm diameter

General data

Protection degrees IP67 and IP69K

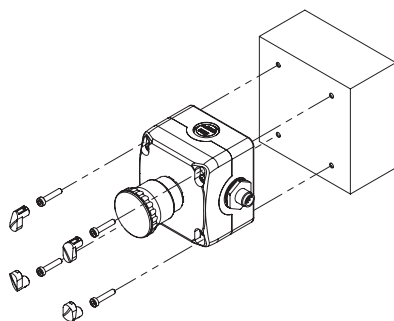
IP69K
IP67

These devices are designed to be used under the toughest environmental conditions, and they pass the IP67 immersion test acc. to EN 60529. They can therefore be used in all environments where the maximum degree of

protection is required for the housing. Due to their special design, these devices are suitable for use in equipment subjected to cleaning with high pressure hot water jets. These devices meet the IP69K test requirements according to ISO 20653 (water jets with 100 bar and 80°C).

Fixing of EROUND housings

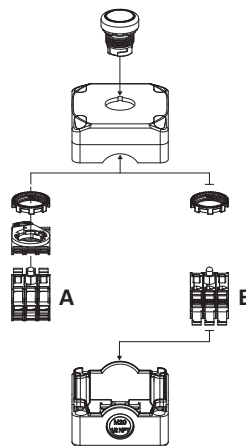
The housings of the EROUND line by Pizzato Elettrica have 4 additional holes on the cover. The holes enable wall fixing from the outside by means of insertion of the screws, without the need to open the cover to access the holes.



The wall fixing screws and the ones for closing the housing cover can be sealed with 4 caps (supplied with the housing). The caps not only give the housing a more pleasant look, but they also prevent the accumulation of dirt inside the recesses of the screws besides making tampering more difficult.

The external fixing of the housings is particularly valuable for already wired housings, since this simplifies the whole installation: you can simply fix the housing and connect the connector that, thanks to the presence of cable entries on the four sides of the housing, can be oriented in the preferred direction.

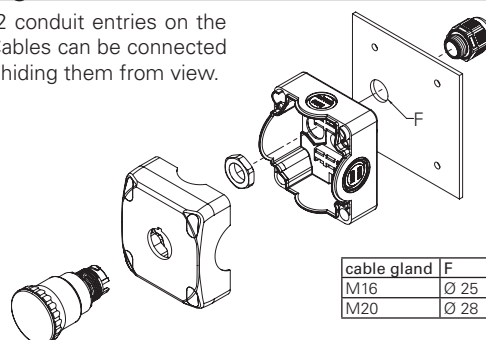
One housing, two solutions



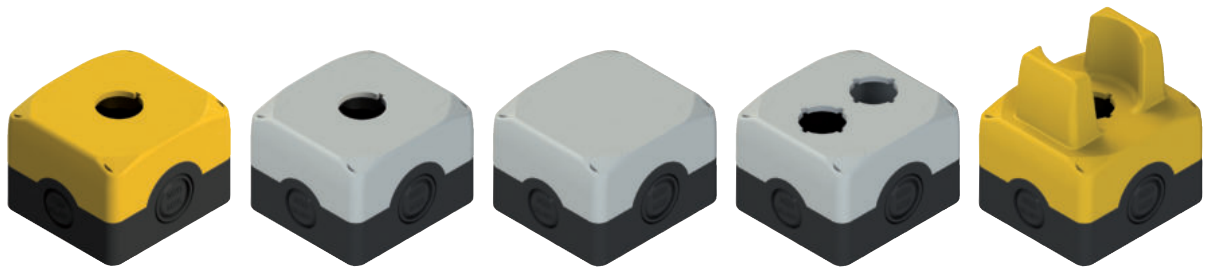
The housing can fit up to 3 contact blocks/LED units (E2 CP, E2 LP) for panel mounting by means of a mounting adapter (A) or up to 3 contact blocks/LED units (E2 CF, E2 LF) for base mounting directly on the bottom of the housing (B).






Wiring through the lower surface

Housings have 2 conduit entries on the lower surface. Cables can be connected via this surface, hiding them from view.





Selection table for housings






Cover colour	Article	Ø 22 mm hole
 yellow RAL 1003	ES 31001	1
 grey RAL 7035	ES 31000	1
 grey RAL 7035	ES 31013	0
 grey RAL 7035	ES 31014	2
 yellow RAL 1003	ES 31015	1






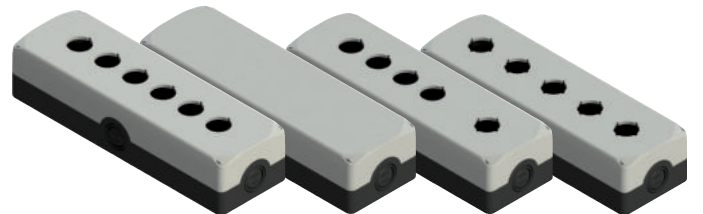
Cover colour	Article	Ø 22 mm hole
 grey RAL 7035	ES 32000	2
 grey RAL 7035	ES 32002	0







Cover colour	Article	Ø 22 mm hole
 grey RAL 7035	ES 33000	3
 grey RAL 7035	ES 33002	0
 grey RAL 7035	ES 33003	2



Cover colour	Article	Ø 22 mm hole
 grey RAL 7035	ES 34000	4
 grey RAL 7035	ES 34002	0
 grey RAL 7035	ES 34003	3



Cover colour	Article	Ø 22 mm hole
 grey RAL 7035	ES 36000	6
 grey RAL 7035	ES 36002	0
 grey RAL 7035	ES 36003	5
 grey RAL 7035	ES 36012	5 equidistant

Note:Item ES 36012 compatible with panel-mounted contact blocks only.

Complete control device units ES AC31***



Housing cover colour	Actuator colour and engraving	Contacts			Flush button black bezel	Projecting button black bezel
		pos. 2	pos. 3	pos. 1		
grey RAL 7035	green	-	1NO	-	ES AC31001 ES 31000 + E2 1PU2R421L2 + E2 CF10G2V1	-
grey RAL 7035	red	-	1NC	-	ES AC31002 ES 31000 + E2 1PU2R321L1 + E2 CF01G2V1	ES AC31017 ES 31000 + E2 1PU2S321L1 + E2 CF01G2V1
grey RAL 7035	green	-	1NO	-	ES AC31015 ES 31000 + E2 1PU2R421GB1 + E2 CF10G2V1	-
grey RAL 7035	red	-	1NC	-	ES AC31016 ES 31000 + E2 1PU2R321GB0 + E2 CF01G2V1	ES AC31018 ES 31000 + E2 1PU2S321GB0 + E2 CF01G2V1

Other combinations on request.

→ For data regarding contact blocks, please see the respective chapters.



Housing cover colour	Positions	Contacts			Black selector switch with 2 positions black bezel
		pos. 2	pos. 3	pos. 1	
grey RAL 7035	∨	-	1NO	-	ES AC31019 ES 31002 + E2 1SE12AVA11AB + E2 CF10G2V1

Housing cover colour	Positions	Contacts			Black key selector switch with 2 positions black bezel
		pos. 2	pos. 3	pos. 1	
grey RAL 7035	⌘	-	1NO	-	ES AC31020 ES 31000 + E2 1SC2AVA11AE + E2 CF10G2V1

Other combinations on request.

→ For data regarding contact blocks, please see the respective chapters.

Other combinations on request.

Legend ∨ Maintained ⌘ Spring-return ⌘ Key extraction position










Housing cover colour	Actuator design and colour	Contacts			Emergency stop button Push-Pull	Emergency stop button rotary release	Emergency stop button, key release
		pos. 2	pos. 3	pos. 1			
yellow RAL 1003	red	-	1NC	-	ES AC31004 ES 31001 + E2 1PEPZ4531 + E2 CF01G2V1	ES AC31003 ES 31001 + E2 1PERZ4531 + E2 CF01G2V1	ES AC31022 ES 31001 + E2 1PEBZ4531 + E2 CF01G2V1
yellow RAL 1003	red	-	1NC	-	ES AC31081 ES 31001 + E2 1PEPZ4531 + E2 CF01S2V1	ES AC31082 ES 31001 + E2 1PERZ4531 + E2 CF01S2V1	ES AC31083 ES 31001 + E2 1PERZ4531 + E2 CF01S2V1
yellow RAL 1003	red	1NC	-	1NC	ES AC31009 ES 31001 + E2 1PEPZ4531 + E2 CF01G2V1 + E2 CF01G2V1	ES AC31005 ES 31001 + E2 1PERZ4531 + E2 CF01G2V1 + E2 CF01G2V1	ES AC31023 ES 31001 + E2 1PEBZ4531 + E2 CF01G2V1 + E2 CF01G2V1
yellow RAL 1003	red	1NC	-	1NO	ES AC31010 ES 31001 + E2 1PEPZ4531 + E2 CF01G2V1 + E2 CF10G2V1	ES AC31006 ES 31001 + E2 1PERZ4531 + E2 CF01G2V1 + E2 CF10G2V1	ES AC31011 ES 31001 + E2 1PEBZ4531 + E2 CF01G2V1 + E2 CF10G2V1
yellow RAL 1003	red	1NC	1NC	1NO	ES AC31146 ES 31001 + E2 1PEPZ4531 + E2 CF01G2V1 + E2 CF01G2V1 + E2 CF10G2V1	ES AC31021 ES 31001 + E2 1PERZ4531 + E2 CF01G2V1 + E2 CF10G2V1	ES AC31024 ES 31001 + E2 1PEBZ4531 + E2 CF01G2V1 + E2 CF01G2V1 + E2 CF10G2V1

Other combinations on request.

→ For data regarding contact blocks and luminous discs, please see the respective chapters.




Complete control device units ES AC31...



Housing cover colour	Actuator design and colour	Contacts			Emergency stop button Push-Pull	Emergency stop button rotary release	Emergency stop button, key release
		pos. 2	pos. 3	pos. 1			
yellow RAL 1003	red	-	1NC 	-	ES AC31054 ES 31015 + E2 1PEPZ4531 + E2 CF01G2V1	ES AC31238 ES 31015 + E2 1PERZ4531 + E2 CF01G2V1	ES AC31606 ES 31015 + E2 1PEBZ4531 + E2 CF01G2V1
yellow RAL 1003	red	-	1NC  SELF-MONITORED	-	ES AC31601 ES 31015 + E2 1PEPZ4531 + E2 CF01S2V1	ES AC31605 ES 31015 + E2 1PERZ4531 + E2 CF01S2V1	ES AC31607 ES 31015 + E2 1PEBZ4531 + E2 CF01S2V1
yellow RAL 1003	red	1NC 	-	1NC 	ES AC31602 ES 31015 + E2 1PEPZ4531 + E2 CF01G2V1 + E2 CF10G2V1	ES AC31050 ES 31015 + E2 1PERZ4531 + E2 CF01G2V1 + E2 CF10G2V1	ES AC31092 ES 31015 + E2 1PEBZ4531 + E2 CF01G2V1 + E2 CF10G2V1
yellow RAL 1003	red	1NC 	-	1NO	ES AC31603 ES 31015 + E2 1PEPZ4531 + E2 CF01G2V1 + E2 CF10G2V1	ES AC31056 ES 31015 + E2 1PERZ4531 + E2 CF01G2V1 + E2 CF10G2V1	ES AC31608 ES 31015 + E2 1PEBZ4531 + E2 CF01G2V1 + E2 CF10G2V1
yellow RAL 1003	red	1NC 	1NC 	1NO	ES AC31604 ES 31015 + E2 1PEPZ4531 + E2 CF01G2V1 + E2 CF01G2V1 + E2 CF10G2V1	ES AC31332 ES 31015 + E2 1PERZ4531 + E2 CF01G2V1 + E2 CF10G2V1	ES AC31609 ES 31015 + E2 1PEBZ4531 + E2 CF01G2V1 + E2 CF10G2V1

Complete control device units ES AC31... with luminous disc



Housing cover colour	Actuator design and colour	Contacts			Emergency stop button Push-Pull Yellow luminous disc, flashing Ø 60 mm, 24 Vac/dc	Emergency stop button rotary release Yellow luminous disc, flashing Ø 60 mm, 24 Vac/dc	Emergency stop button, key release Yellow luminous disc, flashing Ø 60 mm, 24 Vac/dc
		pos. 2	pos. 3	pos. 1			
grey RAL 7035	red	1NO	1NC 	CONNECTION BLOCK	ES AC31430 ES 31000 + E2 1PEPZ4531 + VE DL1A5L13 + E2 1BAC11 + E2 CP10G2V1 + E2 CP01G2V1 + VE BC2PV1	ES AC31433 ES 31000 + E2 1PERZ4531 + VE DL1A5L13 + E2 1BAC11 + E2 CP10G2V1 + E2 CP01G2V1 + VE BC2PV1	ES AC31436 ES 31000 + E2 1PEBZ4531 + VE DL1A5L13 + E2 1BAC11 + E2 CP10G2V1 + E2 CP01G2V1 + VE BC2PV1
grey RAL 7035	red	1NO	1NC  SELF-MONITORED	CONNECTION BLOCK	ES AC31431 ES 31000 + E2 1PEPZ4531 + VE DL1A5L13 + E2 1BAC11 + E2 CP10G2V1 + E2 CP01S2V1 + VE BC2PV1	ES AC31434 ES 31000 + E2 1PERZ4531 + VE DL1A5L13 + E2 1BAC11 + E2 CP10G2V1 + E2 CP01S2V1 + VE BC2PV1	ES AC31437 ES 31000 + E2 1PEBZ4531 + VE DL1A5L13 + E2 1BAC11 + E2 CP10G2V1 + E2 CP01S2V1 + VE BC2PV1
grey RAL 7035	red	1NO	2NC 	CONNECTION BLOCK	ES AC31432 ES 31000 + E2 1PEPZ4531 + VE DL1A5L13 + E2 1BAC11 + E2 CP10G2V1 + E2 CP02G2V1 + VE BC2PV1	ES AC31435 ES 31000 + E2 1PERZ4531 + VE DL1A5L13 + E2 1BAC11 + E2 CP10G2V1 + E2 CP02G2V1 + VE BC2PV1	ES AC31438 ES 31000 + E2 1PEBZ4531 + VE DL1A5L13 + E2 1BAC11 + E2 CP10G2V1 + E2 CP02G2V1 + VE BC2PV1

Other combinations on request.
 → For data regarding contact blocks, please see the respective chapters.

→ The 2D and 3D files are available at www.pizzato.com

Complete control device units ES AC31... with wired M12 connector



Housing cover colour	Actuator design and colour	Contacts			Emergency stop button rotary release with plastic M12 connector
		pos. 2	pos. 3	pos. 1	
yellow RAL 1003	red	-	1NC (⊕)	-	ES AC31025
yellow RAL 1003	red	-	1NC (⊕) SELF-MONITORED	-	ES AC31084
yellow RAL 1003	red	1NC (⊕)	-	1NC (⊕)	ES AC31026
yellow RAL 1003	red	1NC (⊕)	-	1NO	ES AC31027
yellow RAL 1003	red	1NC (⊕)	1NC (⊕)	1NO	ES AC31028

Other combinations on request.

→ For data regarding contact blocks, please see the respective chapters.

Wiring diagram for assembled connectors

ES AC31025 1NC	ES AC31084 1NC SELF-MONITORED	ES AC31026 2NC	ES AC31027 1NO+1NC	ES AC31028 1NO+2NC
M12 connector, 4-pole	M12 connector, 4-pole	M12 connector, 4-pole	M12 connector, 4-pole	M12 connector, 8-pole
Contacts Pin no.	Contacts Pin no.	Contacts Pin no.	Contacts Pin no.	Contacts Pin no.
NC 1-2	NC 1-2	NC 1-2 NC 3-4	NC 1-2 NO 3-4	NC 3-4 NC 5-6 NO 7-8

Spare caps



Article	Description
VETS35RA1	4 spare caps for ES series housing cover. Colour: yellow
VETS39RA1	4 spare caps for ES series housing cover. Colour: grey

Accessories

→ More ACCESSORIES on page 161





ES AC31600

Description	Features	Diagram
Button - 1NO E2 1PU2R221L9 Contacts 1x E2 CP10G2V1	flush, spring-return, white pos. 2 / pos. 3 1NO pos. 1 /	
Button - 1NO E2 1PU2R121L10 Contacts 1x E2 CP10G2V1	flush, spring-return, black pos. 2 / pos. 3 1NO pos. 1 /	






ES AC32010

Description	Features	Diagram
Button - 1NO E2 1PU2R421L35 Contacts 1x E2 CF10G2V1	flush, spring-return, green pos. 2 / pos. 3 1NO pos. 1 /	
Button - 1NC E2 1PU2S321L1 Contacts 1x E2 CF10G2V1	projecting, spring-return, red pos. 2 / pos. 3 1NC ⊖ pos. 1 /	



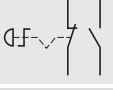



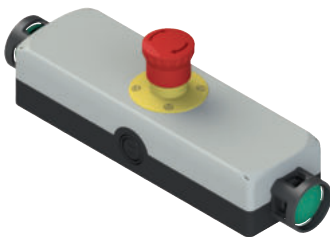
ES AC33017

Description	Features	Diagram
Button - 1NO E2 1PU2R221L9 Contacts 1x E2 CF10G2V1	flush, spring-return, white pos. 2 / pos. 3 1NO pos. 1 /	
Button - 1NC E2 1PU2S321L1 Contacts 1x E2 CF10G2V1	projecting, spring-return, red pos. 2 / pos. 3 1NC ⊖ pos. 1 /	
Button - 1NO E2 1PU2R121L10 Contacts 1x E2 CF10G2V1	flush, spring-return, black pos. 2 / pos. 3 1NO pos. 1 /	


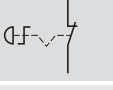



ES AC34035

Description	Features	Diagram
Button - 1NO E2 1PU2R221L9 Contacts 1x E2 CP10G2V1	flush, spring-return, white pos. 2 / pos. 3 1NO pos. 1 /	
Button - 1NO E2 1PU2R121L10 Contacts 1x E2 CP10G2V1	flush, spring-return, black pos. 2 / pos. 3 1NO pos. 1 /	
Emergency stop button E2 1PERZ4531 Contacts 1x E2 CP01G2V1+1x E2 CP10G2V1	rotary release, red pos. 2 1 NO pos. 3 / pos. 1 1NC ⊖	
Luminous disc VE DL1A5L13	Yellow, continuous light 24 Vac/dc	



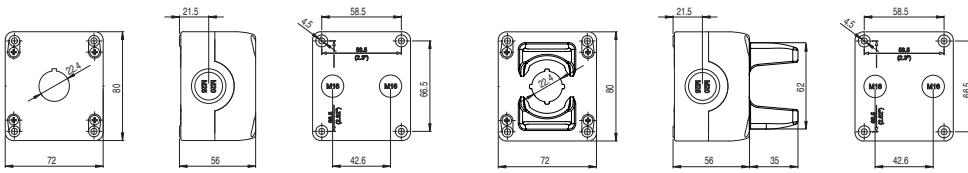
ES AC36041

Description	Features	Diagram
Button - 1NO E2 1PU2F4410 Protection guard 1x VE GP32B1A Contacts 1x E2 CP10G2V1	mushroom, spring-return, green cylindrical, black pos. 2 / pos. 3 1NO pos. 1 /	
Emergency stop button - 1NC E2 1PERZ4531 Contacts 1x E2 CP10G2V1	rotary release, red pos. 2 / pos. 3 1NC ⊖ pos. 1 /	
Button - 1NO E2 1PU2F4410 Protection guard 1x VE GP32B1A Contacts 1x E2 CP10G2V1	mushroom, spring-return, green cylindrical, black pos. 2 / pos. 3 1NO pos. 1 /	

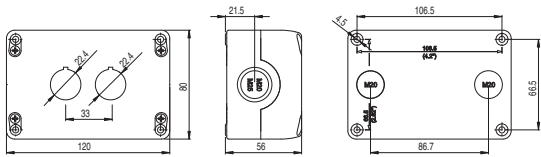
Other combinations on request.

Dimensional drawings

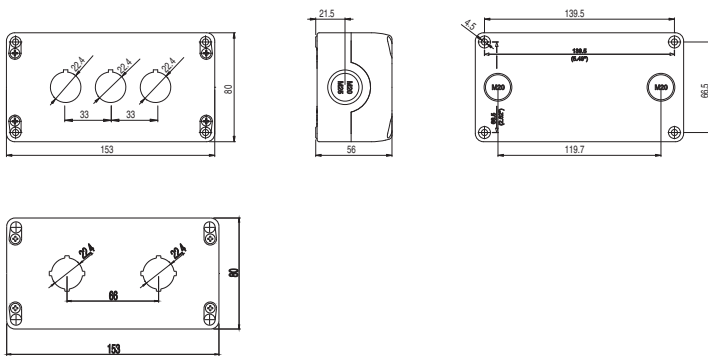
Housings (72 x 80 h 56)



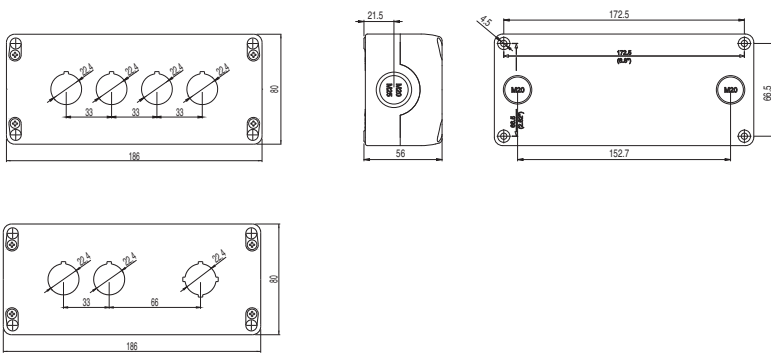
Housings (120 x 80 h 56)



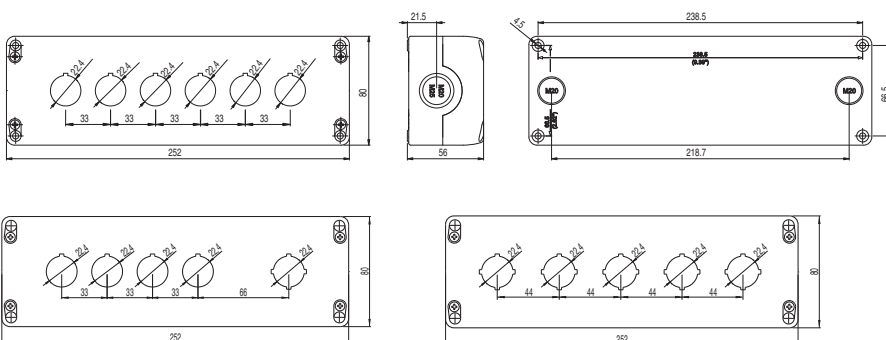
Housings (153 x 80 h 56)



Housings (186 x 80 h 56)



Housings (252 x 80 h 56)



All values in the drawings are in mm

→ The 2D and 3D files are available at www.pizzato.com

