Selection diagram

PUSHBUTTONS

FLUSH

| R12 | R22 | R32 | R42 | R52 | R62 |

PROJECTING

| S12 | S22 | S32 | S42 | S52 | S62 |

BOOTED

| P12 | P22 | P32 | P42 | P52 | P62 |

MUSHROOM

| F14 | F24 | F34 | F44 | F54 | F64 |

ILLUMINATED PUSHBUTTONS

FLUSH

| R22 | R32 | R42 | R52 | R62 |

PROJECTING

| S22 | S32 | S42 | S52 | S62 |

BOOTED

| P22 | P32 | P42 | P52 | P62 |

MUSHROOM

| F24 | F34 | F44 | F54 | F64 |

RING COLOUR

| 1 | 9 |
| black | satin chrome |

Pushbuttons code structure

E2 1PU1R1210-T6

Pushbutton function

| 1 | stay-put |
| 2 | spring-return |

Ambient temperature

| | -25°C ... +85°C (standard) |
| **T6** | -40°C ... +85°C |

Pushbutton shape

F	mushroom
R	flush
S	projecting
P	booted

Pushbutton marking

0	without marking
L1	O
L2	I
...	....

Other markings on request. See page 60.

Pushbutton colour

0	without lens
1	black
2	white
3	red
4	green
5	yellow
6	blue

Ring colour

| 1 | black |
| 9 | satin chrome |

Pushbutton diameter

| 2 | Ø 20 mm |
| 4 | Ø 36 mm (mushroom only) |

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

Illuminated pushbuttons code structure

E2 1PL1R2210-T6

Pushbutton function

| 1 | stay-put |
| 2 | spring-return |

Ambient temperature

| | -25°C ... +85°C (standard) |
| **T6** | -40°C ... +85°C |

Pushbutton shape

F	mushroom
R	flush
S	projecting
P	booted

Pushbutton marking

0	without marking
L1	O
L2	I
...	....

Other markings on request. See page 60.

Pushbutton colour

0	without lens
2	white
3	red
4	green
5	yellow
6	blue

Ring colour

| 1 | black |
| 9 | satin chrome |

Pushbutton diameter

| 2 | Ø 20 mm |
| 4 | Ø 36 mm (mushroom only) |

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

Technical data

General data

Protection degree:	IP67 according to IEC 60529
	IP69K according to DIN 40050
Ambient temperature:	-25°C +80°C
Mechanical endurance:	15 million operations cycles
	(Spring-return pushbutton)
	1 million operations cycles
	(Stay-put pushbutton)
Max operating frequency:	3600 operations cycles/hour
Actuating travel:	2,6 mm (NO contact)
	1,2 mm (NC contact)
Actuating force:	4,7 N (1 NO contact/spring-return pushbutton)
	3,8 N (1 NC contact/spring-return pushbutton)
Additional contact actuating force:	+ 2,6 N (1 NO contact)
	+ 1,7 N (1 NC contact)
Maximum travel:	5 mm
Ring driving torque:	2 ... 2,5 Nm
Utilization requirements:	see page 61

In conformity with standards:
IEC 60947-1, IEC 60947-5-1, IEC 60204-1, EN 60947-1, EN 60947-5-1, EN 60204-1, UL 508, CSA 22-2 N°14

⚠ **Installation for safety applications:**
Use only switches with marking with the symbol ⊖. The safety circuit must always be connected with the **NC contacts** (normally closed contacts: 1-2) as stated in the standard EN 60947-5-1, encl. K, par. 2.

In conformity with requirements requested by:
Low Voltage Directive 2006/95/EC, Machinery Directive 2006/42/EC and Electromagnetic Compatibility 2004/108/EC.
Positive contact opening in conformity with standards:
IEC 60947-5-1, EN 60947-5-1, VDE 0660-206.

Main features
- 4 different shapes
- Standard or illuminated versions
- Reduced actuating force
- Protection degree IP67 and IP69K
- Stay-put or spring-return versions

Markings and quality marks:

CE

General characteristics

Shape

Available in standard or illuminated (LED illumination) versions, the pushbuttons can be flush, projecting, booted or mushroom.

### Protection degree IP67 and IP69K

Designed to be employed also in severe environment conditions, Pizzato Elettrica pushbuttons have protection degree IP67 and IP69K, suitable for use in machineries subjected to intense washing with high pressure and high temperature water jets.

Mechanical endurance

Thanks to the particular design and the materials employed, the spring-return pushbuttons have passed 15 million operations, guaranteeing a remarkable mechanical endurance.

Functions

Depending on the application, Pizzato Elettrica EROUND pushbuttons are available in two versions: stay-put (once the button is pushed a second manual intervention is needed to release it) and spring-return (the pushbutton hasn't any stable stop system).

Stay-put button   Spring-return button
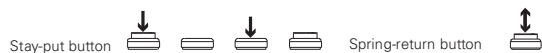
Customizing possibilities

In order to suit the various requests and needs of the customers, Pizzato Elettrica offers the possibility to customize the EROUND control and signalling devices: the rings can be requested in different colours (gold satinized, bright black chrome, white, black and satin chrome), while the lens can be customized with inscriptions, symbols and colours.
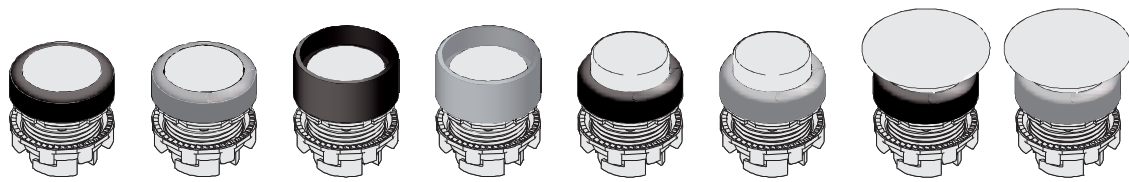
Temperature range extended

-40°C

Special versions can be ordered for use in environments where the temperature changes from +80°C to -40°C.

They can be installed inside cold stores, sterilizers or other equipments with very low ambient temperature. Special materials that have been used to realize these versions, maintain unchanged their features also in these conditions, widening the installation possibilities.
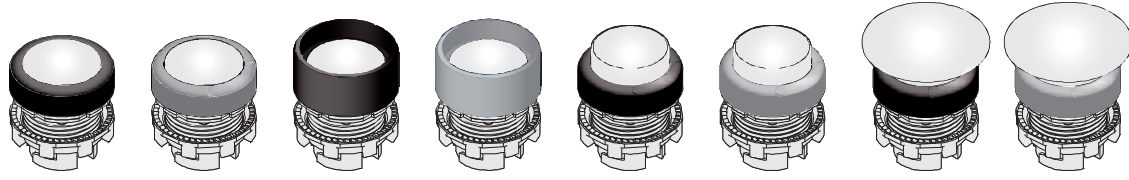
Pushbuttons selection table

Actuator colour and marking	Flush		Booted		Projecting		Mushroom	
	black ring	satin chrome ring	black ring	satin chrome ring	black ring	satin chrome ring	black ring	satin chrome ring
without lens	E2 1PU2R0210	E2 1PU2R0290	E2 1PU2P0210	E2 1PU2P0290	-	-	-	-
black	E2 1PU2R1210	E2 1PU2R1290	E2 1PU2P1210	E2 1PU2P1290	E2 1PU2S1210	E2 1PU2S1290	E2 1PU2F1410	E2 1PU2F1490
white	E2 1PU2R2210	E2 1PU2R2290	E2 1PU2P2210	E2 1PU2P2290	E2 1PU2S2210	E2 1PU2S2290	E2 1PU2F2410	E2 1PU2F2490
red	E2 1PU2R3210	E2 1PU2R3290	E2 1PU2P3210	E2 1PU2P3290	E2 1PU2S3210	E2 1PU2S3290	E2 1PU2F3410	E2 1PU2F3490
green	E2 1PU2R4210	E2 1PU2R4290	E2 1PU2P4210	E2 1PU2P4290	E2 1PU2S4210	E2 1PU2S4290	E2 1PU2F4410	E2 1PU2F4490
yellow	E2 1PU2R5210	E2 1PU2R5290	E2 1PU2P5210	E2 1PU2P5290	E2 1PU2S5210	E2 1PU2S5290	E2 1PU2F5410	E2 1PU2F5490
blue	E2 1PU2R6210	E2 1PU2R6290	E2 1PU2P6210	E2 1PU2P6290	E2 1PU2S6210	E2 1PU2S6290	E2 1PU2F6410	E2 1PU2F6490
O red	E2 1PU2R321L1	E2 1PU2R329L1	-	-	E2 1PU2S321L1	E2 1PU2S329L1	E2 1PU2F341L1	E2 1PU2F349L1
I green	E2 1PU2R421L2	E2 1PU2R429L2	E2 1PU2P421L2	E2 1PU2P429L2	E2 1PU2S421L2	E2 1PU2S429L2	E2 1PU2F441L2	E2 1PU2F449L2
O black	E2 1PU2R121L1	E2 1PU2R129L1	-	-	E2 1PU2S121L1	E2 1PU2S129L1	E2 1PU2F141L1	E2 1PU2F149L1
I white	E2 1PU2R221L2	E2 1PU2R229L2	E2 1PU2P221L2	E2 1PU2P229L2	E2 1PU2S221L2	E2 1PU2S229L2	E2 1PU2F241L2	E2 1PU2F249L2

For ordering a stay-put pushbutton substitute in the article codes 1PU2 with 1PU1.
Example: E2 **1PU2**R0210 → E2 **1PU1**R0210

Illuminated pushbuttons selection table

Actuator colour and marking	Flush		Booted		Projecting		Mushroom	
	black ring	satin chrome ring	black ring	satin chrome ring	black ring	satin chrome ring	black ring	satin chrome ring
without lens	E2 1PL2R0210	E2 1PL2R0290	E2 1PL2P0210	E2 1PL2P0290	-	-	-	-
white	E2 1PL2R2210	E2 1PL2R2290	E2 1PL2P2210	E2 1PL2P2290	E2 1PL2S2210	E2 1PL2S2290	E2 1PL2F2410	E2 1PL2F2490
red	E2 1PL2R3210	E2 1PL2R3290	E2 1PL2P3210	E2 1PL2P3290	E2 1PL2S3210	E2 1PL2S3290	E2 1PL2F3410	E2 1PL2F3490
green	E2 1PL2R4210	E2 1PL2R4290	E2 1PL2P4210	E2 1PL2P4290	E2 1PL2S4210	E2 1PL2S4290	E2 1PL2F4410	E2 1PL2F4490
yellow	E2 1PL2R5210	E2 1PL2R5290	E2 1PL2P5210	E2 1PL2P5290	E2 1PL2S5210	E2 1PL2S5290	E2 1PL2F5410	E2 1PL2F5490
blue	E2 1PL2R6210	E2 1PL2R6290	E2 1PL2P6210	E2 1PL2P6290	E2 1PL2S6210	E2 1PL2S6290	E2 1PL2F6410	E2 1PL2F6490
O red	E2 1PL2R321L1	E2 1PL2R329L1	-	-	E2 1PL2S321L1	E2 1PL2S329L1	E2 1PL2F341L1	E2 1PL2F349L1
I green	E2 1PL2R421L2	E2 1PL2R429L2	E2 1PL2P421L2	E2 1PL2P429L2	E2 1PL2S421L2	E2 1PL2S429L2	E2 1PL2F441L2	E2 1PL2F449L2
O white	E2 1PL2R221L1	E2 1PL2R229L1	-	-	E2 1PL2S221L1	E2 1PL2S229L1	E2 1PL2F241L1	E2 1PL2F249L1
I white	E2 1PL2R221L2	E2 1PL2R229L2	E2 1PL2P221L2	E2 1PL2P229L2	E2 1PL2S221L2	E2 1PL2S229L2	E2 1PL2F241L2	E2 1PL2F249L2

For ordering a stay-put pushbutton substitute in the article codes 1PL2 with 1PL1.
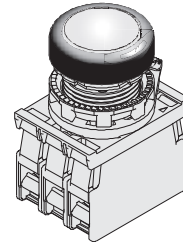Example: E2 **1PL2**R0210 → E2 **1PL1**R0210

Items with code on the **green** background are available in stock

Complete units with pushbuttons

Complete units with illuminated pushbuttons
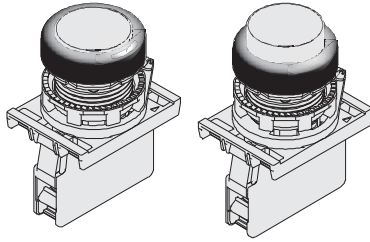
Actuator colour and marking	Contacts			Flush	Projecting
	pos 2	pos 3	pos 1	black ring	black ring
● black	-	1NO	-	**E2 AC-DXBC1204** E2 1PU2R1210 + E2 1BAC11 + E2 CP10G2V1	
○ white	-	1NO	-	**E2 AC-DXBC1200** E2 1PU2R2210 + E2 1BAC11 + E2 CP10G2V1	
● red	-	1NC ⊖	-	**E2 AC-DXBC1208** E2 1PU2R3210 + E2 1BAC11 + E2 CP01G2V1	**E2 AC-DXBC1209** E2 1PU2S3210 + E2 1BAC11 + E2 CP01G2V1
● green	-	1NO	-	**E2 AC-DXBC1201** E2 1PU2R4210 + E2 1BAC11 + E2 CP10G2V1	
● yellow	-	1NO	-	**E2 AC-DXBC1206** E2 1PU2R5210 + E2 1BAC11 + E2 CP10G2V1	
● blue	-	1NO	-	**E2 AC-DXBC1207** E2 1PU2R6210 + E2 1BAC11 + E2 CP10G2V1	
⊙ red	-	1NC ⊖	-	**E2 AC-DXBC1211** E2 1PU2R321L1 + E2 1BAC11 + E2 CP01G2V1	**E2 AC-DXBC1212** E2 1PU2S321L1 + E2 1BAC11 + E2 CP01G2V1
❙ green	-	1NO	-	**E2 AC-DXBC1210** E2 1PU2R421L2 + E2 1BAC11 + E2 CP10G2V1	
⊚ black	-	1NC ⊖	-	**E2 AC-DXBC1227** E2 1PU2R121L1 + E2 1BAC11 + E2 CP01G2V1	
❘ white	-	1NO	-	**E2 AC-DXBC1226** E2 1PU2R221L2 + E2 1BAC11 + E2 CP10G2V1	

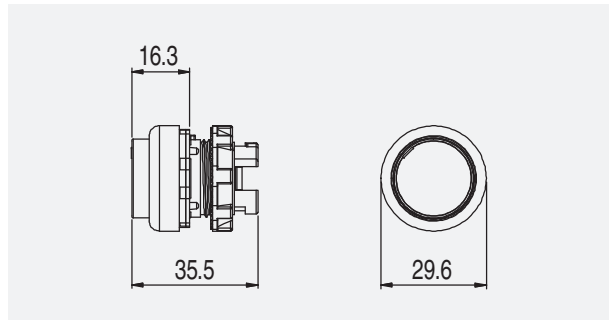| Actuator colour and marking	Contacts			Flush
	pos 2	pos 3	pos 1	black ring
○ white	1NC ⊖	LED	1NO	**E2 AC-DXBC0400** E2 1PL2R2210 + E2 1BAC11 + E2 CP01G2V1 + E2 LP1A2V1 + E2 CP10G2V1
● red	1NC ⊖	LED	1NO	**E2 AC-DXBC0402** E2 1PL2R3210 + E2 1BAC11 + E2 CP01G2V1 + E2 LP1A3V1 + E2 CP10G2V1
● green	1NC ⊖	LED	1NO	**E2 AC-DXBC0401** E2 1PL2R4210 + E2 1BAC11 + E2 CP01G2V1 + E2 LP1A4V1 + E2 CP10G2V1
● yellow	1NC ⊖	LED	1NO	**E2 AC-DXBC0404** E2 1PL2R5210 + E2 1BAC11 + E2 CP01G2V1 + E2 LP1A2V1 + E2 CP10G2V1
● blue	1NC ⊖	LED	1NO	**E2 AC-DXBC0403** E2 1PL2R6210 + E2 1BAC11 + E2 CP01G2V1 + E2 LP1A6V1 + E2 CP10G2V1

➔ For the contact block and LED block characteristics see the respective chapters.
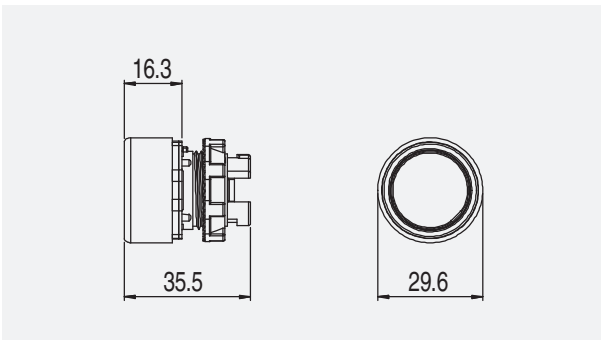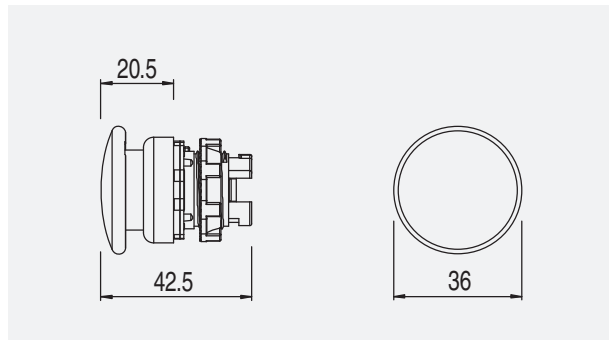
Dimensions

Flush pushbutton
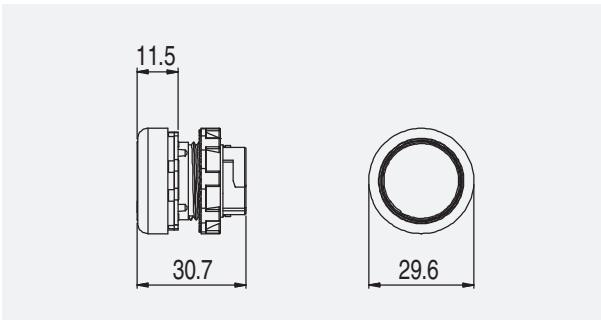
11.5
30.7
29.6

Projecting pushbutton

16.3
35.5
29.6

Booted pushbutton

16.3
35.5
29.6

Mushroom pushbutton

20.5
42.5
36

All measures in the drawings are in mm

Lenses for E2 1PU pushbuttons

For ordering E2 1PU lenses with marking:
in the article code substitute ●●● with the marking code in the table at page 60.
Example: lens for flush pushbuttons with "O" marking, black colour.
VE LP 21R1●●● → VE LP 21R1L1

Article	Marking	Description	Colours	Pcs/Packs
VE LP21R10		Lens for black flush pushbutton, without marking	●	10
VE LP21R20		Lens for white flush pushbutton, without marking	○	10
VE LP21R30		Lens for red flush pushbutton, without marking	●	10
VE LP21R40		Lens for green flush pushbutton, without marking	●	10
VE LP21R50		Lens for yellow flush pushbutton, without marking	●	10
VE LP21R60		Lens for blue flush pushbutton, without marking	●	10
VE LP21S10		Lens for black projecting pushbutton, without marking	●	10
VE LP21S20		Lens for white projecting pushbutton, without marking	○	10
VE LP21S30		Lens for red projecting pushbutton, without marking	●	10
VE LP21S40		Lens for green projecting pushbutton, without marking	●	10
VE LP21S50		Lens for yellow projecting pushbutton, without marking	●	10
VE LP21S60		Lens for blue projecting pushbutton, without marking	●	10
VE LP21R1●●●		Lens for black flush pushbutton, with marking	●	1
VE LP21R2●●●		Lens for white flush pushbutton, with marking	○	1
VE LP21R3●●●		Lens for red flush pushbutton, with marking	●	1
VE LP21R4●●●		Lens for green flush pushbutton, with marking	●	1
VE LP21R5●●●		Lens for yellow flush pushbutton, with marking	●	1
VE LP21R6●●●		Lens for blue flush pushbutton, with marking	●	1
VE LP21S1●●●		Lens for black projecting pushbutton, with marking	●	1
VE LP21S2●●●		Lens for white projecting pushbutton, with marking	○	1
VE LP21S3●●●		Lens for red projecting pushbutton, with marking	●	1
VE LP21S4●●●		Lens for green projecting pushbutton, with marking	●	1
VE LP21S5●●●		Lens for yellow projecting pushbutton, with marking	●	1
VE LP21S6●●●		Lens for blue projecting pushbutton, with marking	●	1

Lenses for E2 1PL illuminated pushbuttons

For ordering E2 1PL lenses with marking:
in the article code substitute ●●● with the marking code in the table at page 60.
Example: lens for flush pushbuttons with "O" marking, black colour.
VE LP 22R1●●● → VE LP 22R1L1

Article	Marking	Description	Colours	Pcs/Packs
VE LP22R20		Lens for white illuminated flush pushbutton, without marking	○	10
VE LP22R30		Lens for red illuminated flush pushbutton, without marking	●	10
VE LP22R40		Lens for green illuminated flush pushbutton, without marking	●	10
VE LP22R50		Lens for yellow illuminated flush pushbutton, without marking	●	10
VE LP22R60		Lens for blue illuminated flush pushbutton, without marking	●	10
VE LP22S20		Lens for white illuminated projecting pushbutton, without marking	○	10
VE LP22S30		Lens for red illuminated projecting pushbutton, without marking	●	10
VE LP22S40		Lens for green illuminated projecting pushbutton, without marking	●	10
VE LP22S50		Lens for yellow illuminated projecting pushbutton, without marking	●	10
VE LP22S60		Lens for blue illuminated projecting pushbutton, without marking	●	10
VE LP22R2●●●		Lens for white illuminated flush pushbutton, with marking	○	1
VE LP22R3●●●		Lens for red illuminated flush pushbutton, with marking	●	1
VE LP22R4●●●		Lens for green illuminated flush pushbutton, with marking	●	1
VE LP22R5●●●		Lens for yellow illuminated flush pushbutton, with marking	●	1
VE LP22R6●●●		Lens for blue illuminated flush pushbutton, with marking	●	1
VE LP22S2●●●		Lens for white illuminated projecting pushbutton, with marking	○	1
VE LP22S3●●●		Lens for red illuminated projecting pushbutton, with marking	●	1
VE LP22S4●●●		Lens for green illuminated projecting pushbutton, with marking	●	1
VE LP22S5●●●		Lens for yellow illuminated projecting pushbutton, with marking	●	1
VE LP22S6●●●		Lens for blue illuminated projecting pushbutton, with marking	●	1

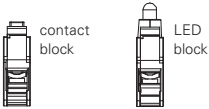Items with code on the **green** background are available in stock

Blanking plug

Article	Description
VE AS1211	Central blanking plug for E2 1PL illuminated pushbuttons

It closes the illuminated button central hole allowing to install a contact instead of the LED.
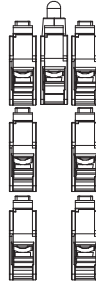
Accessories

➔ More ACCESSORIES at page 57

Contacts maximum number

contact block

LED block

Spring-return pushbuttons
E2 1PU1 series

Illuminated spring-return pushbuttons
E2 1PL1 series
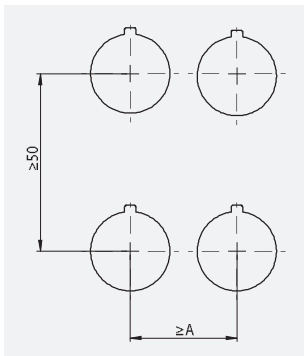
Stay-put pushbuttons
E2 1PU2 series

Illuminated stay-put pushbuttons
E2 1PL2 series

Assembling minimum distances

≥50

≥A

All measures in the drawings are in mm

Control and signalling devices EROUND line pizzato elettrica

Notes