with VDE and UKCA

Series 04 *Versatile. Robust and reliable.*

https://eao.com/04





04 Information about the Series

Key advantages

- Versatile and reliable range of products
- Ideal for driver's cabs
- Modern and robust designSafe and ergonomically friendly in use
- Pronounced tactile feedback
- Customised and standardised markings

Typical application areas

- Driver's desks
- Control panels
- Control cabinets
- Special vehicles
- Machinery

Functions

- Pushbutton
- Illuminated pushbutton
- Mushroom-head pushbutton
- Selector switch
- Keylock switch
- · Key insert switch
- Lever switch
- Indicator
- Potentiometer
- Stop switch Emergency stop switch

Design

- Flush
- Raised

IP front protection

- IP40
- IP54
- IP65
- IP67

Raitings

= 500 VAC (10 A)

Mounting cut-outs

- Ø 22.3 mm
- Ø 30.5 mm
- 30 mm x 30 mm

Terminal

- Plug-in terminal
- Double plug-in terminal .
- Screw terminal
- Push-in terminal (PIT) .

Lens Material

- Aluminium
- Stainless steel
- Plastic

Markings

- Engraving
- Hot stamping
- Pad printing
- Screen print
- Under eloxal printing

Approvals

- CB (IEC 60947)
- cULus
- DNV GOST
- NFF 16-102
- Conformities

- CE

- UKCA



- EN 45545 • ECE R 118
- 2006/42/EU (MD)
- 2011/65/EU (RoHS)
- REACH
- CCC

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Pushbutton square, IP65



Product can differ from the current configuration.

General information

Max. 3 switching elements can be clipped on







Mounting cut-outs [mm]

- A = Screw terminal
- B = Push-in terminal (PIT)
- C = Plug-in terminal 6.3 mm x 0.8 mm
- D = Double plug-in terminal 6.3 mm x 0.8 mm



To obtain a complete unit, please select the red components from the pages shown.



Actuator, Front dimension 35 mm x 35 mm

Switching action	Front bezel colour	Front bezel material	Lens colour	Lens material	Housing colour	Housing material	Part No.	Wiring diagram
Momentary	Black	Plastic	Black	Plastic	Black	Plastic	704.209.000	72
	Black	Plastic	Red	Plastic	Black	Plastic	704.209.200	72
	Black	Plastic	Yellow	Plastic	Black	Plastic	704.209.400	72
	Black	Plastic	Green	Plastic	Black	Plastic	704.209.500	72
	Black	Plastic	Blue	Plastic	Black	Plastic	704.209.600	72
	Black	Plastic	Colourless	Plastic	Black	Plastic	704.209.700	72
	Silver	Plastic	Black	Plastic	Black	Plastic	704.210.008	72
	Silver	Plastic	Red	Plastic	Black	Plastic	704.210.208	72
	Silver	Plastic	Yellow	Plastic	Black	Plastic	704.210.408	72
	Silver	Plastic	Green	Plastic	Black	Plastic	704.210.508	72
	Silver	Plastic	Blue	Plastic	Black	Plastic	704.210.608	72
	Silver	Plastic	Colourless	Plastic	Black	Plastic	704.210.708	72
Maintained	Black	Plastic	Red	Plastic	Black	Plastic	704.239.200	73
	Black	Plastic	Yellow	Plastic	Black	Plastic	704.239.400	73
	Black	Plastic	Blue	Plastic	Black	Plastic	704.239.600	73
	Black	Plastic	Colourless	Plastic	Black	Plastic	704.239.700	73
	Silver	Plastic	Red	Plastic	Black	Plastic	704.240.208	73
	Silver	Plastic	Yellow	Plastic	Black	Plastic	704.240.408	73
	Silver	Plastic	Green	Plastic	Black	Plastic	704.240.508	73
	Silver	Plastic	Colourless	Plastic	Black	Plastic	704.240.708	73

Flush design $\mathbf{04}$



Pushbutton round, IP65



Product can differ from the current configuration.

General information

- Max. 3 switching elements can be clipped on
- The colour of anodised aluminium parts can vary due to technical production reasons







Mounting cut-outs [mm]

- A = Screw terminal
- B = Push-in terminal (PIT)
- C = Plug-in terminal 6.3 mm x 0.8 mm D = Double plug-in terminal 6.3 mm x 0.8 mm



To obtain a complete unit, please select the red

components from the pages shown.



Actuator, Front dimension Ø 35 mm

Switching action	Front bezel colour	Front bezel material	Front bezel surface	Lens colour	Lens material	Housing colour	Housing material	Part No.	Wiring diagram
Momentary	Nature	Aluminium	anodised	Black	Aluminium	Grey	Plastic	704.011.018	72
	Nature	Aluminium	anodised	Red	Aluminium	Grey	Plastic	704.011.218	72
	Nature	Aluminium	anodised	Gold	Aluminium	Grey	Plastic	704.011.418	72
	Nature	Aluminium	anodised	Olive green	Aluminium	Grey	Plastic	704.011.518	72
	Nature	Aluminium	anodised	Blue	Aluminium	Grey	Plastic	704.011.618	72
	Nature	Aluminium	anodised	Nature	Aluminium	Grey	Plastic	704.011.818	72
	Nature	Aluminium	anodised	Black	Plastic	Grey	Plastic	704.012.018	72
	Nature	Aluminium	anodised	Red	Plastic	Grey	Plastic	704.012.218	72
	Nature	Aluminium	anodised	Yellow	Plastic	Grey	Plastic	704.012.418	72
	Nature	Aluminium	anodised	Green	Plastic	Grey	Plastic	704.012.518	72
	Nature	Aluminium	anodised	Blue	Plastic	Grey	Plastic	704.012.618	72
	Nature	Aluminium	anodised	Colour- less	Plastic	Grey	Plastic	704.012.718	72
Maintained	Nature	Aluminium	anodised	Black	Plastic	Grey	Plastic	704.042.018	73
	Nature	Aluminium	anodised	Red	Plastic	Grey	Plastic	704.042.218	73
	Nature	Aluminium	anodised	Yellow	Plastic	Grey	Plastic	704.042.418	73
	Nature	Aluminium	anodised	Green	Plastic	Grey	Plastic	704.042.518	73
	Nature	Aluminium	anodised	Blue	Plastic	Grey	Plastic	704.042.618	73
	Nature	Aluminium	anodised	Colour- less	Plastic	Grey	Plastic	704.042.718	73

Flush design $\mathbf{04}$



Pushbutton square, IP65

Product can differ from the current configuration.

Max. 3 switching elements can be clipped on

General information



Dimensions [mm] A = Screw terminal

R1.2 max.

+0.5

Mounting cut-outs [mm]

B = Push-in terminal (PIT)

C = Plug-in terminal 6.3 mm x 0.8 mm D = Double plug-in terminal 6.3 mm x 0.8 mm

A = Screw terminal

30

Equipment consisting of (schematic overview) Lens 37 Lens holder Actuator Press frame (\mathbf{A}) Bayonet flange min. 65

Switching element Page 213

Page 199

Page 201

Page 203

Each Part Number listed below includes all the black components shown in the 3D-drawing.

To obtain a complete unit, please select the red components from the pages shown.



Actuator, Front dimension 35 mm x 35 mm

Switching action	Front bezel colour	Front bezel material	Housing colour	Housing material	Part No.	Wiring diagram
Momentary	Black	Plastic	Black	Plastic	704.741.0	72
	Silver	Plastic	Black	Plastic	704.741.8	72
Maintained	Black	Plastic	Black	Plastic	704.742.0	73
	Silver	Plastic	Black	Plastic	704.742.8	73

35 min.

+

30 0 0

50 min.

(B)(C)(D)



Pushbutton round, IP65

Equipment co	Front bezel set Lens Marking Plate	Page 202 Page 199 Page 201	$\begin{array}{c} 2 \\ 40 \\ \hline \\ 23 \\ \hline 23 \\$	
	Actuator		Dimensions [mm] A = Screw terminal	Product can differ from the current configuration. General information • Max. 3 switching elements can be clipped on
	Bayonet flange	Page 203		 The colour of anodised aluminium parts can vary due to technical production reasons
	Switching element	Page 213		

Each Part Number listed below includes all the black components shown in the 3D-drawing.

A = Screw terminal

To obtain a complete unit, please select the red components from the pages shown.

Mounting cut-outs [mm]

- B = Push-in terminal (PIT)
- C = Plug-in terminal 6.3 mm x 0.8 mm
- D = Double plug-in terminal 6.3 mm x 0.8 mm



Actuator, Front dimension Ø 35 mm

Switching action	Housing colour	Housing material	Part No.	Wiring diagram
Momentary	Grey	Plastic	704.631.1	72
Maintained	Grey	Plastic	704.632.1	73

Wiring diagrams



04

Illuminated pushbutton square, IP65



Product can differ from the current configuration.

General information

04

- Max. 3 switching elements can be clipped on
- The lamp block will be delivered with screw terminal







Mounting cut-outs [mm]

- A = Screw terminal
- B = Push-in terminal (PIT)
- C = Plug-in terminal 6.3 mm x 0.8 mm
- D = Double plug-in terminal 6.3 mm x 0.8 mm



To obtain a complete unit, please select the red components from the pages shown.

Actuator, Front dimension 35 mm x 35 mm

Switching action	Front bezel colour	Front bezel material	Lens colour	Lens material	Housing colour	Housing material	Part No.	Wiring diagram
Momentary	Black	Plastic	Red	Plastic	Black	Plastic	704.229.200	74
	Black	Plastic	Yellow	Plastic	Black	Plastic	704.229.400	74
	Black	Plastic	Green	Plastic	Black	Plastic	704.229.500	74
	Black	Plastic	Blue	Plastic	Black	Plastic	704.229.600	74
	Black	Plastic	Colourless	Plastic	Black	Plastic	704.229.700	74
	Silver	Plastic	Red	Plastic	Black	Plastic	704.230.208	74
	Silver	Plastic	Yellow	Plastic	Black	Plastic	704.230.408	74
	Silver	Plastic	Green	Plastic	Black	Plastic	704.230.508	74
	Silver	Plastic	Blue	Plastic	Black	Plastic	704.230.608	74
	Silver	Plastic	Colourless	Plastic	Black	Plastic	704.230.708	74
Maintained	Black	Plastic	Red	Plastic	Black	Plastic	704.259.200	75
	Black	Plastic	Yellow	Plastic	Black	Plastic	704.259.400	75
	Black	Plastic	Green	Plastic	Black	Plastic	704.259.500	75
	Black	Plastic	Blue	Plastic	Black	Plastic	704.259.600	75
	Black	Plastic	Colourless	Plastic	Black	Plastic	704.259.700	75
	Silver	Plastic	Red	Plastic	Black	Plastic	704.260.208	75
	Silver	Plastic	Yellow	Plastic	Black	Plastic	704.260.408	75
	Silver	Plastic	Green	Plastic	Black	Plastic	704.260.508	75
	Silver	Plastic	Blue	Plastic	Black	Plastic	704.260.608	75
	Silver	Plastic	Colourless	Plastic	Black	Plastic	704.260.708	75

Wiring diagrams







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Illuminated pushbutton round, IP65





Actuator, Front dimension Ø 35 mm

Switching action	Front bezel colour	Front bezel material	Front bezel surface	Lens colour	Lens material	Housing colour	Housing material	Part No.	Wiring diagram
Momentary	Nature	Aluminium	anodised	Red	Plastic	Grey	Plastic	704.032.218	74
	Nature	Aluminium	anodised	Yellow	Plastic	Grey	Plastic	704.032.418	74
	Nature	Aluminium	anodised	Green	Plastic	Grey	Plastic	704.032.518	74
	Nature	Aluminium	anodised	Blue	Plastic	Grey	Plastic	704.032.618	74
	Nature	Aluminium	anodised	Colour- less	Plastic	Grey	Plastic	704.032.718	74
Maintained	Nature	Aluminium	anodised	Red	Plastic	Grey	Plastic	704.062.218	75
	Nature	Aluminium	anodised	Yellow	Plastic	Grey	Plastic	704.062.418	75
	Nature	Aluminium	anodised	Green	Plastic	Grey	Plastic	704.062.518	75
	Nature	Aluminium	anodised	Blue	Plastic	Grey	Plastic	704.062.618	75
	Nature	Aluminium	anodised	Colour- less	Plastic	Grey	Plastic	704.062.718	75

04

04







Modern. Tactile and long-lasting. Series 04 illuminated selector switches.

Intuitive and reliable operation for enhanced safety in public transportation.

- Bright, single or bi-colour LED illumination
- Modern, ergonomic design
- Rounded edges (in accordance with DIN 5566-1)
- Excellent tactile feedback
- Long service life and robust construction
- · Wide range of possible combinations and options

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Your Expert Partner for Human Machine Interfaces

Illuminated pushbutton square, IP65



Product can differ from the current configuration.

General information

04

Max. 3 switching elements can be clipped on







Mounting cut-outs [mm]

A = Screw terminal

B = Push-in terminal (PIT)

 $C = Plug-in terminal 6.3 mm \times 0.8 mm$

D = Double plug-in terminal 6.3 mm x 0.8 mm

Equipment consisting of (schematic overview) Lens Page 199 Lens holder Page 201 Actuator Press frame Bayonet flange Page 203 LED Page 204 Lamp block Page 210 Switching element Page 213 Each Part Number listed below includes all the

Each Part Number listed below includes all the black components shown in the 3D-drawing.

To obtain a complete unit, please select the red components from the pages shown.

Actuator, Front dimension 35 mm x 35 mm

Switching action	Front bezel colour	Front bezel material	Housing colour	Housing material	Part No.	Wiring diagram
Momentary	Black	Plastic	Black	Plastic	704.741.0	72
	Silver	Plastic	Black	Plastic	704.741.8	72
Maintained	Black	Plastic	Black	Plastic	704.742.0	73
	Silver	Plastic	Black	Plastic	704.742.8	73



Illuminated pushbutton round, IP65



Each Part Number listed below includes all the black components shown in the 3D-drawing.

To obtain a complete unit, please select the red components from the pages shown.



Actuator, Front dimension Ø 35 mm

Switching action	Housing colour	Housing material	Part No.	Wiring diagram
Momentary	Grey	Plastic	704.631.1	72
Maintained	Grey	Plastic	704.632.1	73



Mushroom-head pushbutton, IP65



Mounting cut-outs [mm]

- A = Screw terminal
- B = Push-in terminal (PIT)
- C = Plug-in terminal 6.3 mm x 0.8 mm D = Double plug-in terminal 6.3 mm x 0.8 mm



Actuator, Front dimension Ø 40 mm

Switching action	Front bezel colour	Front bezel material	Front bezel surface	Lens colour	Lens material	Housing colour	Housing material	Part No.	Wiring diagram
Momentary	Black	Aluminium	anodised	Red	Plastic	Grey	Plastic	704.071.210	72
	Nature	Aluminium	anodised	Red	Plastic	Grey	Plastic	704.071.218	72
	Black	Aluminium	anodised	Yellow	Plastic	Grey	Plastic	704.071.410	72
	Nature	Aluminium	anodised	Yellow	Plastic	Grey	Plastic	704.071.418	72

Wiring diagrams



04

Selector switch illuminated, 2 positions, short lever, square, IP65



Each Part Number listed below includes all the black components shown in the 3D-drawing.

To obtain a complete unit, please select the red components from the pages shown.



Actu

Actuator, Front dimension 35 mm x 35 mm

Switching action	Front bezel colour	Front bezel material	Switching angle	Part No.	Wiring diagram
Rest - Maintained	Black	Plastic	90° right	704.510.0001	85
	Silver	Plastic	90° right	704.510.0081	85
Rest - Momentary	Black	Plastic	42° right	704.512.0001	84
	Silver	Plastic	42° right	704.512.0081	84

Wiring diagrams





Dimensions [mm] A = Screw terminal



Mounting cut-outs [mm]

- A = Screw terminal
- B = Push-in terminal (PIT) C = Plug-in terminal 6.3 mm x 0.8 mm
- D = Double plug-in terminal 6.3 mm x 0.8 mm



Selector switch illuminated 2 positions short lever, round, IP65



Product can differ from the current configuration.

General information

04

- Max. 3 switching elements can be clipped on
- The colour of anodised aluminium parts can vary due to technical production reasons







Mounting cut-outs [mm]

A = Screw terminal

B = Push-in terminal (PIT)

C = Plug-in terminal 6.3 mm x 0.8 mm

D = Double plug-in terminal 6.3 mm x 0.8 mm



Each Part Number listed below includes all the black components shown in the 3D-drawing.

To obtain a complete unit, please select the red components from the pages shown.



Actuator, Front dimension Ø 35 mm

Switching action	Front bezel colour	Front bezel material	Switching angle	Front bezel surface	Part No.	Wiring diagram
Rest - Maintained	Black	Aluminium	90° right	anodised	704.411.010	85
	Nature	Aluminium	90° right	anodised	704.411.018	85
Rest - Momentary	Black	Aluminium	42° right	anodised	704.413.010	84
	Nature	Aluminium	42° right	anodised	704.413.0181	84



Selector switch 2 positions short lever, square, IP65



Mounting cut-outs [mm]

- A = Screw terminal
- B = Push-in terminal (PIT)
- $C = Plug-in terminal 6.3 mm \times 0.8 mm$
- D = Double plug-in terminal 6.3 mm x 0.8 mm

30 0 0



Actuator.	Front	dimension	35	mm	x 35	mm

Switching action	Front bezel colour	Front bezel material	Switching angle	Part No.	Wiring diagram
Rest - Maintained	Black	Plastic	90° right	704.510.000	87
	Silver	Plastic	90° right	704.510.008	87
Rest - Momentary	Black	Plastic	42° right	704.512.000	86
	Silver	Plastic	42° right	704.512.008	86

Wiring diagrams



04

Selector switch 2 positions, short lever, round, IP65



Mounting cut-outs [mm]

A = Screw terminal

B = Push-in terminal (PIT)

C = Plug-in terminal 6.3 mm x 0.8 mm

D = Double plug-in terminal 6.3 mm x 0.8 mm



Actuator, Front dimension Ø 35 mm

Switching action	Front bezel colour	Front bezel material	Switching angle	Front bezel surface	Part No.	Wiring diagram
Rest - Maintained	Black	Aluminium	90° right	anodised	704.411.010	87
	Nature	Aluminium	90° right	anodised	704.411.018	87
Rest - Momentary	Black	Aluminium	42° right	anodised	704.413.010	86
	Nature	Aluminium	42° right	anodised	704.413.018	86



Selector switch 2 positions, short lever, square, IP65



- Mounting cut-outs [mm]
- A = Screw terminal
- B = Push-in terminal (PIT)
- C = Plug-in terminal 6.3 mm x 0.8 mm
- D = Double plug-in terminal 6.3 mm x 0.8 mm

30 0 0 0



Actuator, Front dimension 35 mm x 35 mm

Switching action	Front bezel colour	Front bezel material	Switching angle	Part No.	Wiring diagram
Rest - Maintained	Black	Plastic	90° right	704.510.000.12	87
	Silver	Plastic	90° right	704.510.008.12	87



Selector switch 2 positions, short lever, round, IP65



Mounting cut-outs [mm]

- A = Screw terminal
- B = Push-in terminal (PIT)
- C = Plug-in terminal 6.3 mm x 0.8 mm D = Double plug-in terminal 6.3 mm x 0.8 mm



Actuator, Front dimension Ø 35 mm

Swi	itching action	Front bezel colour	Front bezel material	Switching angle	Front bezel surface	Part No.	Wiring diagram
Res	st - Maintained	Black	Aluminium	90° right	anodised	704.411.010.12	87
		Nature	Aluminium	90° right	anodised	704.411.018.12	87



Selector switch illuminated, 2 positions, long lever, square, IP65





Dimensions [mm] A = Screw terminal

Mounting cut-outs [mm]

B = Push-in terminal (PIT)

C = Plug-in terminal 6.3 mm x 0.8 mm D = Double plug-in terminal $6.3v \times 0.8$ mm

A = Screw terminal



Each Part Number listed below includes all the black components shown in the 3D-drawing.

To obtain a complete unit, please select the red components from the pages shown.



Actuator, Front dimension 35 mm x 35 mm

Switching action	Front bezel colour	Front bezel material	Switching angle	Part No.	Wiring diagram
Rest - Maintained	Black	Plastic	90° right	704.300.0001	85
	Silver	Plastic	90° right	704.300.0081	85
Rest - Momentary	Black	Plastic	42° right	704.302.0001	84
	Silver	Plastic	42° right	704.302.0081	84

Wiring diagrams



Product can differ from the current configuration.

General information

• Max. 3 switching elements can be clipped on

04

Selector switch illuminated, 2 positions, long lever, round, IP65



Product can differ from the current configuration.

General information

04

- Max. 3 switching elements can be clipped on
- The colour of anodised aluminium parts can vary due to technical production reasons







Mounting cut-outs [mm]

A = Screw terminal

B = Push-in terminal (PIT)

C = Plug-in terminal 6.3 mm x 0.8 mm D = Double plug-in terminal 6.3 mm x 0.8 mm

Equipment consisting of (schematic overview) Actuator Pressure ring Bayonet flange LED Page 204 Page 210 Lamp block Switching element Page 213

Each Part Number listed below includes all the black components shown in the 3D-drawing.

To obtain a complete unit, please select the red components from the pages shown.



Actuator, Front dimension Ø 35 mm

Switching action	Front bezel colour	Front bezel material	Switching angle	Front bezel surface	Part No.	Wiring diagram
Rest - Maintained	Black	Aluminium	90° right	anodised	704.101.0101	85
	Nature	Aluminium	90° right	anodised	704.101.018	85
Rest - Momentary	Nature	Aluminium	42° right	anodised	704.103.0181	84



Selector switch 2 positions, long lever, square, IP65





Dimensions [mm] A = Screw terminal





Product can differ from the current configuration.

General information

Max. 3 switching elements can be clipped on •

To obtain a complete unit, please select the red components from the pages shown.



Mounting cut-outs [mm]

- A = Screw terminal
- B = Push-in terminal (PIT)
- C = Plug-in terminal 6.3 mm x 0.8 mm D = Double plug-in terminal 6.3v x 0.8 mm



Actuator, Front dimension 35 mm x 35 mm

Switching action	Front bezel colour	Front bezel material	Switching angle	Part No.	Wiring diagram
Rest - Maintained	Black	Plastic	90° right	704.300.000	87
	Silver	Plastic	90° right	704.300.008	87
Rest - Momentary	Black	Plastic	42° right	704.302.000	86
	Silver	Plastic	42° right	704.302.008	86



Selector switch 2 positions, long lever, round, IP65



Mounting cut-outs [mm]

- A = Screw terminal
- B = Push-in terminal (PIT)

Ø30.5⁺⁰

- C = Plug-in terminal 6.3 mm x 0.8 mm
- D = Double plug-in terminal 6.3 mm x 0.8 mm



Actuator, Front dimension Ø 35 mm

Switching action	Front bezel colour	Front bezel material	Switching angle	Front bezel surface	Part No.	Wiring diagram
Rest - Maintained	Black	Aluminium	90° right	anodised	704.101.010	87
	Nature	Aluminium	90° right	anodised	704.101.018	87
Rest - Momentary	Nature	Aluminium	42° right	anodised	704.103.018	86



Selector switch 2 positions, 12 o'clock, long lever, square, IP65



To obtain a complete unit, please select the red components from the pages shown.



Dimensions [mm] A = Screw terminal





Product can differ from the current configuration.

General information

• Max. 3 switching elements can be clipped on

Mounting cut-outs [mm]

- A = Screw terminal
- B = Push-in terminal (PIT)
- $C = Plug-in terminal 6.3 mm \times 0.8 mm$ $D = Double plug-in terminal 6.3v \times 0.8 mm$





Actuator, Front dimension 35 mm x 35 mm

Switching action	Front bezel colour	Front bezel material	Switching angle	Part No.	Wiring diagram
Rest - Maintained	Black	Plastic	90° right	704.300.000.12	87
	Silver	Plastic	90° right	704.300.008.12	87



Selector switch 2 positions, long lever, round, IP65



Mounting cut-outs [mm]

- A = Screw terminal
- B = Push-in terminal (PIT)
- $C = Plug-in terminal 6.3 mm \times 0.8 mm$
- D = Double plug-in terminal 6.3 mm x 0.8 mm

04

Actuator, Front dimension Ø 35 mm

Switching action	Front bezel colour	Front bezel material	Switching angle	Front bezel surface	Part No.	Wiring diagram
Rest - Maintained	Black	Aluminium	90° right	anodised	704.101.010.12	87
	Nature	Aluminium	90° right	anodised	704.101.018.12	87



Selector switch illuminated, 3 positions, short lever, square, IP65



black components shown in the 3D-drawing.

To obtain a complete unit, please select the red

Dimensions [mm] A = Screw terminal



Mounting cut-outs [mm]

- A = Screw terminal
- B = Push-in terminal (PIT)
- C = Plug-in terminal 6.3 mm x 0.8 mm D = Double plug-in terminal 6.3 mm x 0.8 mm

components from the pages shown.

Actuator, Front dimension 35 mm x 35 mm

Switching action	Front bezel colour	Front bezel material	Switching angle	Part No.	Wiring diagram
Maintained - Rest - Maintained	Black	Plastic	42° left / 42° right	704.502.0001	91
	Silver	Plastic	42° left / 42° right	704.502.0081	91
Momentary - Rest - Momentary	Black	Plastic	42° left / 42° right	704.504.0001	90
	Silver	Plastic	42° left / 42° right	704.504.0081	90
Maintained - Rest - Momentary	Black	Plastic	42° left / 42° right	704.506.0001	89
	Silver	Plastic	42° left / 42° right	704.506.0081	89
Momentary - Rest - Maintained	Black	Plastic	42° left / 42° right	704.508.0001	88
	Silver	Plastic	42° left / 42° right	704.508.0081	88

Wiring diagrams





Product can differ from the current configuration.

General information

• Max. 3 switching elements can be clipped on





Selector switch illuminated, 3 positions, short lever, round, IP65



Page 213

Each Part Number listed below includes all the black components shown in the 3D-drawing.

To obtain a complete unit, please select the red components from the pages shown.

15 40 15.5 23 23 (A)(A)37 2 ... 6

Dimensions [mm] X = Screw terminal



Mounting cut-outs [mm]

- A = Screw terminal
- B = Push-in terminal (PIT) C = Plug-in terminal 6.3 mm x 0.8 mm
- D = Double plug-in terminal 6.3 mm x 0.8 mm

Actuator, Front dimension Ø 35 mm

Switching action	Front bezel colour	Front bezel material	Switching angle	Front bezel surface	Part No.	Wiring diagram
Maintained - Rest - Maintained	Black	Aluminium	42° left / 42° right	anodised	704.403.010	91
	Nature	Aluminium	42° left / 42° right	anodised	704.403.018	91
Momentary - Rest - Momentary	Black	Aluminium	42° left / 42° right	anodised	704.405.010	90
	Nature	Aluminium	42° left / 42° right	anodised	704.405.018	90
Maintained - Rest - Momentary	Black	Aluminium	42° left / 42° right	anodised	704.407.010	89
	Nature	Aluminium	42° left / 42° right	anodised	704.407.018	89
Momentary - Rest - Maintained	Black	Aluminium	42° left / 42° right	anodised	704.409.010	88
	Nature	Aluminium	42° left / 42° right	anodised	704.409.0181	88

Wiring diagrams





Product can differ from the current configuration.

General information

- Max. 3 switching elements can be clipped on •
- The colour of anodised aluminium parts can vary • due to technical production reasons



Selector switch 3 positions, short lever, square, IP65



To obtain a complete unit, please select the red components from the pages shown.



Dimensions [mm] A = Screw terminal





Product can differ from the current configuration.

General information

• Max. 3 switching elements can be clipped on

Mounting cut-outs [mm]

- A = Screw terminal
- B = Push-in terminal (PIT)
- C = Plug-in terminal 6.3 mm x 0.8 mm
- D = Double plug-in terminal 6.3 mm x 0.8 mm

Actuator, Front dimension 35 mm x 35 mm

Switching action	Front bezel colour	Front bezel material	Switching angle	Part No.	Wiring diagram
Maintained - Rest - Maintained	Black	Plastic	42° left / 42° right	704.502.000	95
	Silver	Plastic	42° left / 42° right	704.502.008	95
Momentary - Rest - Momentary	Black	Plastic	42° left / 42° right	704.504.000	94
	Silver	Plastic	42° left / 42° right	704.504.008	94
Maintained - Rest - Momentary	Black	Plastic	42° left / 42° right	704.506.000	93
	Silver	Plastic	42° left / 42° right	704.506.008	93
Momentary - Rest - Maintained	Black	Plastic	42° left / 42° right	704.508.000	92
	Silver	Plastic	42° left / 42° right	704.508.008	92

F~	F~~	F~	F~~~-
Wiring diagram 92	Wiring diagram 93	Wiring diagram 94	Wiring diagram 95

Selector switch 3 positions, short lever, round, IP65



Mounting cut-outs [mm]

- A = Screw terminal
- B = Push-in terminal (PIT)
- $C = Plug-in terminal 6.3 mm \times 0.8 mm$
- D = Double plug-in terminal 6.3 mm x 0.8 mm

Actuator, Front dimension Ø 35 mm

Wiring Switching action Front bezel colour Front bezel material Switching angle Front bezel surface Part No. diagram Maintained - Rest - Maintained 704.403.010 95 Black Aluminium 42° left / 42° right anodised Nature Aluminium 42° left / 42° right anodised 704.403.018 95 Momentary - Rest - Momentary Aluminium 42° left / 42° right anodised 704.405.010 94 Black 42° left / 42° right 94 Nature Aluminium anodised 704.405.018 42° left / 42° right Maintained - Rest - Momentary Black Aluminium anodised 704.407.010 93 42° left / 42° right anodised 704 407 018 93 Nature Aluminium Momentary - Rest - Maintained Black Aluminium 42° left / 42° right anodised 704.409.010 92 Nature Aluminium 42° left / 42° right anodised 704.409.018 92

Wiring diagrams

_F~	F~~	F~	F~~~-
Wiring diagram 92	Wiring diagram 93	Wiring diagram 94	Wiring diagram 95

04
Selector switch illuminated, 3 positions, long lever, square, IP65







Page 213

Each Part Number listed below includes all the black components shown in the 3D-drawing.

To obtain a complete unit, please select the red components from the pages shown.





Mounting cut-outs [mm]

- A = Screw terminal
- B = Push-in terminal (PIT)
- C = Plug-in terminal 6.3 mm x 0.8 mm D = Double plug-in terminal $6.3v \times 0.8$ mm



Actuator, Front dimension 35 mm x 35 mm

Switching action	Front bezel colour	Front bezel material	Switching angle	Part No.	Wiring diagram
Maintained - Rest - Maintained	Black	Plastic	42° left / 42° right	704.292.0001	91
	Silver	Plastic	42° left / 42° right	704.292.0081	91
Momentary - Rest - Momentary	Black	Plastic	42° left / 42° right	704.294.0001	90
	Silver	Plastic	42° left / 42° right	704.294.0081	90
Maintained - Rest - Momentary	Black	Plastic	42° left / 42° right	704.296.0001	89
	Silver	Plastic	42° left / 42° right	704.296.0081	89
Momentary - Rest - Maintained	Black	Plastic	42° left / 42° right	704.298.0001	88
	Silver	Plastic	42° left / 42° right	704.298.0081	88

Wiring diagrams





Product can differ from the current configuration.

General information

• Max. 3 switching elements can be clipped on

Wiring diagrams





Modern. Tactile and long-lasting. Series 04 illuminated selector switches.

Intuitive and reliable operation for enhanced safety in public transportation.

- Bright, single or bi-colour LED illumination
- Modern, ergonomic design
- Rounded edges (in accordance with DIN 5566-1)
- Excellent tactile feedback
- Long service life and robust construction
- · Wide range of possible combinations and options

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Selector switch illuminated, 3 positions long lever, round, IP65



Dimensions [mm] A = Screw terminal

Mounting cut-outs [mm]

B = Push-in terminal (PIT)

C = Plug-in terminal 6.3 mm x 0.8 mm

D = Double plug-in terminal 6.3 mm x 0.8 mm

A = Screw terminal





Product can differ from the current configuration.

General information

- Max. 3 switching elements can be clipped on
- The colour of anodised aluminium parts can vary due to technical production reasons

Each Part Number listed below includes all the black components shown in the 3D-drawing.

To obtain a complete unit, please select the red components from the pages shown.

Actuator, Front dimension Ø 35 mm

Switching action	Front bezel colour	Front bezel material	Switching angle	Front bezel surface	Part No.	Wiring diagram
Maintained - Rest - Maintained	Black	Aluminium	42° left / 42° right	anodised	704.093.0101	91
	Nature	Aluminium	42° left / 42° right	anodised	704.093.0181	91
Momentary - Rest - Momentary	Black	Aluminium	42° left / 42° right	anodised	704.095.0101	90
	Nature	Aluminium	42° left / 42° right	anodised	704.095.0181	90
Maintained - Rest - Momentary	Black	Aluminium	42° left / 42° right	anodised	704.097.0101	89
	Nature	Aluminium	42° left / 42° right	anodised	704.097.0181	89
Momentary - Rest - Maintained	Black	Aluminium	42° left / 42° right	anodised	704.099.0101	88
	Nature	Aluminium	42° left / 42° right	anodised	704.099.0181	88



Wiring diagrams





04

Selector switch 3 positions, long lever, quare, IP65





Dimensions [mm] A = Screw terminal





Product can differ from the current configuration.

General information

• Max. 3 switching elements can be clipped on

Each Part Number listed below includes all the black components shown in the 3D-drawing.

To obtain a complete unit, please select the red components from the pages shown.



- A = Screw terminal
- B = Push-in terminal (PIT)
- C = Plug-in terminal 6.3 mm x 0.8 mm
- $D = Double plug-in terminal 6.3v \times 0.8 mm$



Actuator, Front dimension 35 mm x 35 mm

Switching action	Front bezel colour	Front bezel material	Switching angle	Part No.	Wiring diagram
Maintained - Rest - Maintained	Black	Plastic	42° left / 42° right	704.292.000	95
	Silver	Plastic	42° left / 42° right	704.292.008	95
Momentary - Rest - Momentary	Black	Plastic	42° left / 42° right	704.294.000	94
	Silver	Plastic	42° left / 42° right	704.294.008	94
Maintained - Rest - Momentary	Black	Plastic	42° left / 42° right	704.296.000	93
	Silver	Plastic	42° left / 42° right	704.296.008	93
Momentary - Rest - Maintained	Black	Plastic	42° left / 42° right	704.298.000	92
	Silver	Plastic	42° left / 42° right	704.298.008	92

F~~-	F~~	F~	F~~~-
Wiring diagram 92	Wiring diagram 93	Wiring diagram 94	Wiring diagram 95

Selector switch 3 positions, long lever, round, IP65



Product can differ from the current configuration.

General information

- Max. 3 switching elements can be clipped on
- The colour of anodised aluminium parts can vary due to technical production reasons









Mounting cut-outs [mm]

- A = Screw terminal
- B = Push-in terminal (PIT)
- C = Plug-in terminal 6.3 mm x 0.8 mm D = Double plug-in terminal 6.3 mm x 0.8 mm

Actuator, Front dimension Ø 35 mm

Switching action	Front bezel colour	Front bezel material	Switching angle	Front bezel surface	Part No.	Wiring diagram
Maintained - Rest - Maintained	Black	Aluminium	42° left / 42° right	anodised	704.093.010	95
	Nature	Aluminium	42° left / 42° right	anodised	704.093.018	95
Momentary - Rest - Momentary	Black	Aluminium	42° left / 42° right	anodised	704.095.010	94
	Nature	Aluminium	42° left / 42° right	anodised	704.095.018	94
Maintained - Rest - Momentary	Black	Aluminium	42° left / 42° right	anodised	704.097.010	93
	Nature	Aluminium	42° left / 42° right	anodised	704.097.018	93
Momentary - Rest - Maintained	Black	Aluminium	42° left / 42° right	anodised	704.099.010	92
	Nature	Aluminium	42° left / 42° right	anodised	704.099.018	92

F~-	F~~	F~	F~~~-
Wiring diagram 92	Wiring diagram 93	Wiring diagram 94	Wiring diagram 95

Selector rotary switch, short lever rounded, round, IP65



Bayonet flange

Pressure ring

Actuator

Switching element Page 227

Each Part Number listed below includes all the black components shown in the 3D-drawing.

To obtain a complete unit, please select the red components from the pages shown.





Product can differ from the current configuration.

General information

The colour of anodised aluminium parts can vary • due to technical production reasons

Dimensions [mm]

- 1 = Kraus & Naimer switching element A = (Number of stages x 12) + 66.5 mm
- 2 = Santon switching element
- B = (Number of stages x 13,5) + 65.5 mm



Mounting cut-outs [mm]



Actuator, Front dimension Ø 35 mm

Front bezel colour	Front bezel material	Switching positions	Front bezel surface	Part No.
Black	Aluminium	Rest = 12 oʻclock	anodised	704.411.010KNI
Nature	Aluminium	Rest = 12 oʻclock	anodised	704.411.018KNI
	Aluminium	Rest = 9 oʻclock	anodised	704.411.118KNI

Selector rotary switch, short lever, square, IP65



Product can differ from the current configuration.





To obtain a complete unit, please select the red components from the pages shown.

Dimensions [mm]

1 = Kraus & Naimer switching element

A = (Number of stages x 12) + 66.5 mm

2 = Santon switching element

B = (Number of stages x 13,5) + 65.5 mm



Switching positions

Rest = 9 o'clock

Rest = 9 o'clock

Mounting cut-outs [mm]

Actuator, Front dimension 35 mm x 35 mm

Plastic

Plastic

Front bezel material

Front bezel colour

Black

Silver

Part No.

704.510.100KN

704.510.108KN

Selector rotary switch short lever, round, IP65



To obtain a complete unit, please select the red components from the pages shown.





Product can differ from the current configuration.

General information

The colour of anodised aluminium parts can vary • due to technical production reasons

Dimensions	[mm]
Dimensions	

Page 227

- 1 = Kraus & Naimer switching element A = (Number of stages x 12) + 66.5 mm
- 2 = Santon switching element
- B = (Number of stages x 13,5) + 65.5 mm



Mounting cut-outs [mm]



Actuator, Front dimension Ø 35 mm

Front bezel colour	Front bezel material	Switching positions	Front bezel surface	Part No.
Black	Aluminium	Rest = 12 oʻclock	anodised	704.411.010KN
Nature	Aluminium	Rest = 12 oʻclock	anodised	704.411.018KN
Black	Aluminium	Rest = 9 o'clock	anodised	704.411.110KN
Nature	Aluminium	Rest = 9 oʻclock	anodised	704.411.118KN

Selector rotary switch, long lever rounded, round, IP65



Product can differ from the current configuration.

General information

• The colour of anodised aluminium parts can vary due to technical production reasons





Each Part Number listed below includes all the black components shown in the 3D-drawing.

To obtain a complete unit, please select the red components from the pages shown.

Dimensions [mm]

- 1 = Kraus & Naimer switching element
- A = (Number of stages x 12) + 66.5 mm
- 2 = Santon switching element
- B = (Number of stages x 13,5) + 65.5 mm



Mounting cut-outs [mm]



Actuator, Front dimension Ø 35 mm

Front bezel colour	Front bezel material	Switching positions	Front bezel surface	Part No.
Nature	Aluminium	Rest = 12 oʻclock	anodised	704.101.018KNI
Black	Aluminium	Rest = 9 o'clock	anodised	704.101.110KNI
Nature	Aluminium	Rest = 9 o'clock	anodised	704.101.118KNI

Selector rotary switch long lever, square, IP65



Bayonet flange

Switching element Page 227

Each Part Number listed below includes all the black components shown in the 3D-drawing.

To obtain a complete unit, please select the red components from the pages shown.





Product can differ from the current configuration.

Dimensions [mm]

- 1 = Kraus & Naimer switching element A = (Number of stages x 12) + 66.5 mm
- 2 = Santon switching element
- B = (Number of stages x 13,5) + 65.5 mm



Mounting cut-outs [mm]



Actuator, Front dimension 35 mm x 35 mm

Front bezel colour	Front bezel material	Switching positions	Part No.
Black	Plastic	Rest = 9 oʻclock	704.300.100KN
Silver	Plastic	Rest = 9 oʻclock	704.300.108KN

Selector rotary switch long lever, round, IP65



Product can differ from the current configuration.

General information

 The colour of anodised aluminium parts can vary due to technical production reasons





Each Part Number listed below includes all the black components shown in the 3D-drawing.

To obtain a complete unit, please select the red components from the pages shown.



1 = Kraus & Naimer switching element A = (Number of stages \times 12) + 66.5 mm

2 = Santon switching element

B = (Number of stages x 13,5) + 65.5 mm



Mounting cut-outs [mm]



Actuator, Front dimension Ø 35 mm

Front bezel colour	Front bezel material	Switching positions	Front bezel surface	Part No.
Nature	Aluminium	Rest = 12 oʻclock	anodised	704.101.018KN
Black	Aluminium	Rest = 9 o'clock	anodised	704.101.110KN
Nature	Aluminium	Rest = 9 o'clock	anodised	704.101.118KN

Keylock switch 2 positions, square, IP65





Dimensions [mm] A = Screw terminal





Product can differ from the current configuration.

General information

Max. 3 switching elements can be clipped on •

The standard lock Ronis 251

Mounting cut-outs [mm]

- A = Screw terminal
- B = Push-in terminal (PIT) C = Plug-in terminal 6.3 mm x 0.8 mm
- D = Double plug-in terminal 6.3 mm x 0.8 mm



Actuator, Front dimension 35 mm x 35 mm

Switching action	Front bezel colour	Front bezel material	Switching angle	Part No.	Wiring diagram
Rest - Maintained (a)	Black	Plastic	90° right	704.340.000	79
	Silver	Plastic	90° right	704.340.008	79
Rest (a) - Maintained	Black	Plastic	90° right	704.341.000	79
	Silver	Plastic	90° right	704.341.008	79
Rest (a) - Maintained (a)	Black	Plastic	90° right	704.342.000	79
	Silver	Plastic	90° right	704.342.008	79
Rest (a) - Momentary	Black	Plastic	42° right	704.343.000	78
	Silver	Plastic	42° right	704.343.008	78

a = Key remove



Keylock switch 2 positions, round, IP65



Mounting cut-outs [mm]

- A = Screw terminal
- B = Push-in terminal (PIT) C = Plug-in terminal 6.3 mm x 0.8 mm
- D = Double plug-in terminal 6.3 mm x 0.8 mm



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Actuator, Front dimension Ø 35 mm

Switching action	Front bezel colour	Front bezel material	Switching angle	Part No.	Wiring diagram
Rest - Maintained (a)	Nature	Aluminium	90° right	704.120.018	79
Rest (a) - Maintained	Nature	Aluminium	90° right	704.121.018	79
Rest (a) - Maintained (a)	Nature	Aluminium	90° right	704.122.018	79
Rest (a) - Momentary	Nature	Aluminium	42° right	704.123.018	78

a = Key remove



Keylock switch 3 positions, square, IP65



To obtain a complete unit, please select the red components from the pages shown.



Dimensions [mm] A = Screw terminal





Product can differ from the current configuration.

General information

- Max. 3 switching elements can be clipped on •
- The standard lock Ronis 251 .

Mounting cut-outs [mm]

- A = Screw terminal
- B = Push-in terminal (PIT) C = Plug-in terminal 6.3 mm x 0.8 mm
- D = Double plug-in terminal 6.3 mm x 0.8 mm

Actuator, Front dimension 35 mm x 35 mm

Switching action	Front bezel colour	Front bezel material	Switching angle	Part No.	Wiring diagram
Maintained (a) - Rest (a) - Maintained (a)	Black	Plastic	90° left / 90° right	704.333.000	83
	Silver	Plastic	90° left / 90° right	704.333.008	83
Maintained - Rest (a) - Maintained	Black	Plastic	42° left / 42° right	704.334.000	83
	Silver	Plastic	42° left / 42° right	704.334.008	83
Momentary - Rest (a) - Momentary	Black	Plastic	42° left / 42° right	704.335.000	82
	Silver	Plastic	42° left / 42° right	704.335.008	82
Maintained (a) - Rest - Maintained (a)	Black	Plastic	42° left / 42° right	704.336.000	83
	Silver	Plastic	42° left / 42° right	704.336.008	83
Maintained (a) - Rest - Momentary	Black	Plastic	42° left / 42° right	704.337.000	81
	Silver	Plastic	42° left / 42° right	704.337.008	81
Momentary - Rest (a) - Maintained	Black	Plastic	42° left / 42° right	704.338.000	80
	Silver	Plastic	42° left / 42° right	704.338.008	80
Maintained (a) - Rest (a) - Momentary	Black	Plastic	42° left / 42° right	704.344.000	81
	Silver	Plastic	42° left / 42° right	704.344.008	81

a = Key remove

8~-	8	8	8
Wiring diagram 80	Wiring diagram 81	Wiring diagram 82	Wiring diagram 83



Keylock switch 3 positions, round, IP65



2 71.5 23 37 (A)(A)23 2 ... 6

Dimensions [mm] A = Screw terminal





Product can differ from the current configuration.

General information

- Max. 3 switching elements can be clipped on •
- The standard lock Ronis 251
- The colour of anodised aluminium parts can vary . due to technical production reasons

To obtain a complete unit, please select the red components from the pages shown.



- A = Screw terminal
- B = Push-in terminal (PIT)
- C = Plug-in terminal 6.3 mm x 0.8 mm D = Double plug-in terminal 6.3 mm x 0.8 mm

Actuator, Front dimension Ø 35 mm

Switching action	Front bezel colour	Front bezel material	Switching angle	Part No.	Wiring diagram
Maintained (a) - Rest (a) - Maintained (a)	Nature	Aluminium	90° left / 90° right	704.113.018	83
Maintained - Rest (a) - Maintained	Nature	Aluminium	42° left / 42° right	704.114.018	83
Momentary - Rest (a) - Momentary	Nature	Aluminium	42° left / 42° right	704.115.018	82
Maintained (a) - Rest - Maintained (a)	Nature	Aluminium	42° left / 42° right	704.116.018	83
Maintained (a) - Rest - Momentary	Nature	Aluminium	42° left / 42° right	704.117.018	81
Momentary - Rest (a) - Maintained	Nature	Aluminium	42° left / 42° right	704.118.018	80
Maintained (a) - Rest (a) - Momentary	Nature	Aluminium	42° left / 42° right	704.124.018	81

a = Key remove

Wiring diagrams

8~-	8-~~	8	8-~~~-
Wiring diagram 80	Wiring diagram 81	Wiring diagram 82	Wiring diagram 83

04

Keylock rotary switch, IP65



Product can differ from the current configuration.

General information

- The standard lock Ronis 251
- The colour of anodised aluminium parts can vary due to technical production reasons





Dimensions [mm]

- 1 = Kraus & Naimer switching element
- A = (Number of stages x 12) + 66,5 mm
- 2 = Santon switching element
- B = (Number of stages x 13,5) + 65,5 mm



Mounting cut-outs [mm]

Each Part Number listed below includes all the black components shown in the 3D-drawing.

To obtain a complete unit, please select the red components from the pages shown.

Actuator, Front dimension Ø 35 mm

Switching action	Front bezel colour	Front bezel material	Switching positions	Part No.
Maintained - Rest (a)	Nature	Aluminium	Rest = 12 o'clock	704.123.018KN
	Nature	Aluminium	Rest = 9 o'clock	704.123.118KN

a = Key remove

Key-insert switch 2 positions, IP67



Each Part Number listed below includes all the black components shown in the 3D-drawing.

To obtain a complete unit, please select the red components from the pages shown.



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Mounting cut-outs [mm]

- A = Screw terminal
- B = Push-in terminal (PIT) C = Plug-in terminal 6.3 mm x 0.8 mm
- D = Double plug-in terminal 6.3 mm x 0.8 mm



Actuator, Front dimension Ø 38 mm

Switching action	Front bezel colour	Front bezel material	Switching angle	Part No.	Wiring diagram
Rest - Maintained	Nature	Stainless steel	90° right	704.101.0x28	97
Rest - Momentary	Nature	Stainless steel	45° left	704.103.0x28	98



Key-insert switch 3 positions, IP67



Product can differ from the current configuration.

General information

- Max. 3 switching elements can be clipped on
- In the Part-No. "x" stands for not defined actuator









. . . .

- Mounting cut-outs [mm] A = Screw terminal
- B = Push-in terminal (PIT)
- C = Plug-in terminal (.17)C = Plug-in terminal 6.3 mm x 0.8 mm
- D = Double plug-in terminal 6.3 mm x 0.8 mm

Actuator, Front dimension Ø 38 mm

Switching action	Front bezel colour	Front bezel material	Switching angle	Part No.	Wiring diagram
Maintained - Rest - Maintained	Nature	Stainless steel	45° left / 45° right	704.093.0x28	99
Momentary - Rest - Momentary	Nature	Stainless steel	45° left / 45° right	704.095.0x28	100
Maintained - Rest - Momentary	Nature	Stainless steel	45° left / 45° right	704.097.0x28	101
Momentary - Rest - Maintained	Nature	Stainless steel	45° left / 45° right	704.099.0x28	102

8-~~-	8	8-~~	8
Wiring diagram 99	Wiring diagram 100	Wiring diagram 101	Wiring diagram 102

Key-insert switch 3 positions, conductor switch, IP67





38 min.

 (\mathbf{A})

65

50 min. min.

R1.2 max.

 $(\mathbf{B})(\mathbf{C})(\mathbf{D})$



Product can differ from the current configuration.

General information

Max. 1 switching element can be clipped on •

Mounting cut-outs [mm]

+0.5

Ø33

A = Screw terminal

Dimensions [mm]

A = Screw terminal

- B = Push-in terminal (PIT)
- C = Plug-in terminal 6.3 mm x 0.8 mm D = Double plug-in terminal 6.3 mm x 0.8 mm

+

30^{+0.5}



Actuator, Front dimension Ø 38 mm

Switching action	Front bezel colour	Front bezel material	Switching angle	Part No.	Wiring diagram
Momentary - Rest - Momentary	Nature	Stainless steel	42° left / 42° right	704.095.0T28N	100



Lever switch, IP54



Product can differ from the current configuration.

General information

- For all units are the levers 02 (black), 03, 04, 05, 06 (yellow) 13, 14, 15 and 16 available (levers 6 + 16 according UIC 612). Special levers on request
- Front bezel can also be delivered in black version
- Functions and properties, including lever style and switching positions of the lever switch are being produced according to customer specifications. Please contact your local EAO Sales Office
- Micro-switch contacts: The micro-switch is available with a silver contact or a gold plated silver contact. Contact without positive opening operation is used in the lever switches S41, S42 and S43
- Each lever switch includes a maximum of five micro-switches. Contact with positive opening operation is used in the lever switches S44 and S45. Each lever switch includes a maximum of four micro-switches



Actuator, Front dimension Ø 40 mm

Product attributes	Front bezel colour	Front bezel material	Front bezel surface	Switching system	Contacts	Part No.
S41: Cage clamp 1.0 mm 1.5 mm ² , 1 contact element	Nature	Aluminium	anodised	Snap-action switching element	1 NC / 1 NO	704.151.XXX
S42: JST connector max. 0.2 mm ² (counter plug is supplied), 1 contact element	Nature	Aluminium	anodised	Snap-action switching element	1 NC / 1 NO	704.152.XXX
S43: Plug-in terminal 6.3 mm x 0.8 mm, 1 contact element	Nature	Aluminium	anodised	Snap-action switching element	1 NC / 1 NO	704.153.XXX
S44: Cage clamp 1.0 mm 1.5 mm ² , 1 contact element positive opend	Nature	Aluminium	anodised	Snap-action switching element	1 NC / 1 NO	704.154.XXX
S45: Screw terminal or plug-in terminal 6.3 mm x 0.8 mm, 1 contact element positive opend	Nature	Aluminium	anodised	Snap-action switching element	1 NC / 1 NO	704.155.XXX

Contacts: NC = Normally closed, NO = Normally open

Product can differ from the current configuration.

Indicator square, IP65



39 3 17.5 40 2 ... 6

Dimensions [mm] A = Screw terminal



Mounting cut-outs [mm] A = Screw terminal

black components shown in the 3D-drawing.

To obtain a complete unit, please select the red components from the pages shown.



Actuator, Front dimension 35 mm x 35 mm

Housing colour	Housing ma- terial	Lens colour	Front bezel colour	Front bezel material	Marking plate colour	Marking plate optics	Part No.	Wiring diagram
Black	Plastic	Red	Silver	Plastic	White	translucent	704.202.208	4
	Plastic	Yellow	Silver	Plastic	White	translucent	704.202.408	4
	Plastic	Green	Silver	Plastic	White	translucent	704.202.508	4
	Plastic	Blue	Silver	Plastic	White	translucent	704.202.608	4
	Plastic	Colourless	Silver	Plastic	White	translucent	704.202.708	4
	Plastic	Red	Black	Plastic	White	translucent	704.206.200	4
	Plastic	Yellow	Black	Plastic	White	translucent	704.206.400	4
	Plastic	Green	Black	Plastic	White	translucent	704.206.500	4
	Plastic	Blue	Black	Plastic	White	translucent	704.206.600	4
	Plastic	Colourless	Black	Plastic	White	translucent	704.206.700	4





Indicator round, IP65









Mounting cut-outs [mm] A = Screw terminal





Actuator, Front dimension Ø 35 mm

Housing colour	Housing material	Lens colour	Front bezel colour	Front bezel material	Front bezel surface	Part No.	Wiring diagram
Grey	Plastic	Red	Nature	Aluminium	anodised	704.006.218	4
	Plastic	Yellow	Nature	Aluminium	anodised	704.006.418	4
	Plastic	Green	Nature	Aluminium	anodised	704.006.518	4
	Plastic	Blue	Nature	Aluminium	anodised	704.006.618	4
	Plastic	Colourless	Nature	Aluminium	anodised	704.006.718	4



Product can differ from the current configuration.

Indicator square, IP65









Mounting cut-outs [mm]

- A = Screw terminal
- B = Push-in terminal (PIT) C = Plug-in terminal 6.3 mm x 0.8 mm
- D = Double plug-in terminal 6.3 mm x 0.8 mm

To obtain a complete unit, please select the red components from the pages shown.



Actuator, Front dimension 35 mm x 35 mm

Housing colour	Housing material	Front bezel colour	Front bezel material	Part No.	Wiring diagram
Black	Plastic	Black	Plastic	704.743.0	4
	Plastic	Silver	Plastic	704.743.8	4





x1-







Mounting cut-outs [mm]

A = Screw terminal

B = Push-in terminal (PIT)

C = Plug-in terminal 6.3 mm x 0.8 mm

D = Double plug-in terminal 6.3 mm x 0.8 mm

Equipment con	sisting of (schematic ov	erview)
	Front bezel set	Page 202
	Lens	Page 199
\bigcirc	Marking Plate	Page 201
	Actuator	
	Bayonet flange	Page 203
	LED	Page 204
	Lamp block	Page 210
	nber listed below includes ents shown in the 3D-dra	
	mplete unit, please selec	t the red

components from the pages shown.

Actuator, Front dimension Ø 35 mm

Housing colour	Housing material	Part No.	Wiring diagram
Grey	Plastic	704.633.1	4



Flasher without LED square, IP65



To obtain a complete unit, please select the red components from the pages shown.



Dimensions [mm] A = Screw terminal



Mounting cut-outs [mm] A = Screw terminal B = Push-in terminal (PIT)



Product can differ from the current configuration.





Actuator, Front dimension 35 mm x 35 mm

Housing colour	Housing ma- terial	Lens colour	Front bezel colour	Front bezel material	Marking plate colour	Marking plate optics	Part No.	Wiring diagram
Black	Plastic	Red	Silver	Plastic	White	translucent	704.202.208	4
	Plastic	Yellow	Silver	Plastic	White	translucent	704.202.408	4
	Plastic	Green	Silver	Plastic	White	translucent	704.202.508	4
	Plastic	Blue	Silver	Plastic	White	translucent	704.202.608	4
	Plastic	Colourless	Silver	Plastic	White	translucent	704.202.708	4
	Plastic	Red	Black	Plastic	White	translucent	704.206.200	4
	Plastic	Yellow	Black	Plastic	White	translucent	704.206.400	4
	Plastic	Green	Black	Plastic	White	translucent	704.206.500	4
	Plastic	Blue	Black	Plastic	White	translucent	704.206.600	4
	Plastic	Colourless	Black	Plastic	White	translucent	704.206.700	4

Wiring diagrams



Wiring diagram 4



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Flasher without LED round, IP65





Dimensions [mm] A = Screw terminal





Product can differ from the current configuration.

Mounting cut-outs [mm] A = Screw terminal B = Push-in terminal (PIT)

Each Part Number listed below includes all the

To obtain a complete unit, please select the red components from the pages shown.



Actuator, Front dimension Ø 35 mm

Housing colour	Housing material	Lens colour	Front bezel colour	Front bezel material	Front bezel surface	Part No.	Wiring diagram
Grey	Plastic	Red	Nature	Aluminium	anodised	704.006.218	4
	Plastic	Yellow	Nature	Aluminium	anodised	704.006.418	4
	Plastic	Green	Nature	Aluminium	anodised	704.006.518	4
	Plastic	Blue	Nature	Aluminium	anodised	704.006.618	4
	Plastic	Colourless	Nature	Aluminium	anodised	704.006.718	4



Flasher square, IP65



Product can differ from the current configuration.







Mounting cut-outs [mm] A = Screw terminalB = Push-in terminal (PIT)

Equipment consisting of (schematic overview)							
\bigcirc	Lens	Page 199					
	Lens holder	Page 201					
	Actuator						
	Press frame						
	Bayonet flange	Page 203					
	LED	Page 204					
	Lamp block	Page 210					
	Flasher element	Page 235					
	Each Part Number listed below includes all the black components shown in the 3D-drawing.						

To obtain a complete unit, please select the red components from the pages shown.



Actuator, Front dimension 35 mm x 35 mm

Housing colour	Housing material	Front bezel colour	Front bezel material	Part No.	Wiring diagram
Black	Plastic	Black	Plastic	704.743.0	4
	Plastic	Silver	Plastic	704.743.8	4



Product can differ from the current configuration.

04



Flasher round, IP65

Equipment consisting of (schematic overview)								
	Front bezel set	Page 202						
\bigcirc	Lens	Page 199						
\bigcirc	Marking Plate	Page 201						
	Actuator							
	Bayonet flange	Page 203						
	LED	Page 204						
	Lamp block	Page 210						
	Flasher element	Page 235						
	Each Part Number listed below includes all the black components shown in the 3D-drawing							

2 40 15.5 28 40 \square 2 ... 6

Dimensions [mm] A = Screw terminal



Mounting cut-outs [mm] A = Screw terminal B = Push-in terminal (PIT)

black components shown in the 3D-drawing.

To obtain a complete unit, please select the red components from the pages shown.



Actuator, Front dimension Ø 35 mm

Housing colour	Housing material	Part No.	Wiring diagram
Grey	Plastic	704.633.1	4





Buzzer, IP65



Product can differ from the current configuration.



Dimensions [mm]



 Equipment consisting of (schematic overview)

 Actuator

 Pressure ring

 Fixing nut

Each Part Number listed below includes all the black components shown in the 3D-drawing.

General information

04

• Further information see Technical data

Mounting cut-outs [mm]



Actuator, Front dimension Ø 35 mm

Terminal	Operating voltage	Front cap colour	Front cap material	Front cap surface	Part No.	Wiring diagram
Plug-in terminal	24 V DC	Black	Aluminium	anodised	14-810.910	71
	24 V DC	Nature	Aluminium	anodised	14-810.918	71

Wiring diagrams



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Potentiometer, IP65





Actuator, Front dimension Ø 36 mm

Housing material	Front bezel colour	Front bezel material	Front bezel surface	Resistance	Part No.	Wiring diagram
Plastic		Metal	matt chrome	10 kOhm	44-745.20-10K1	104
	Matt grey	Plastic		10 kOhm	44-745.60-10K1	104



Stop switch, IP65



To obtain a complete unit, please select the red components from the pages shown.

Mounting cut-outs [mm]

- A = Screw terminal
- B = Push-in terminal (PIT)
- $C = Plug-in terminal 6.3 mm \times 0.8 mm$
- D = Double plug-in terminal 6.3 mm x 0.8 mm



Actuator, Front dimension Ø 40 mm

Switching action	Lens colour	Front bezel colour	Front bezel material	Front bezel surface	Marking	Part No.	Wiring diagram
Maintained	Red	Black	Aluminium	anodised	Arrows	704.074.210	76
	Red	Nature	Aluminium	anodised	Arrows	704.075.218	76
	Red	Black	Aluminium	anodised	Stop	704.075.310	76
	Red	Nature	Aluminium	anodised	Stop	704.075.318	76



Raised design 04

Pushbutton square, IP67





Dimensions [mm] A = Screw terminal



Product can differ from the current configuration.

General information

Max. 3 switching elements can be clipped on

black components shown in the 3D-drawing.

To obtain a complete unit, please select the red components from the pages shown.

Mounting cut-outs [mm] A = Screw terminal

- B = Push-in terminal (PIT)
- C = Plug-in terminal 6.3 mm x 0.8 mm
- D = Double plug-in terminal 6.3 mm x 0.8 mm



Actuator, Front dimension 30 mm x 30 mm

Switching action	Front bezel colour	Front bezel material	Lens colour	Lens material	Housing colour	Housing material	Part No.	Wiring diagram
Momentary	Black	Plastic	Black	Plastic	Black	Plastic	704.209.0	72
	Black	Plastic	Red	Plastic	Black	Plastic	704.209.2	72
	Black	Plastic	Yellow	Plastic	Black	Plastic	704.209.4	72
	Black	Plastic	Green	Plastic	Black	Plastic	704.209.5	72
	Black	Plastic	Blue	Plastic	Black	Plastic	704.209.6	72
	Black	Plastic	Colourless	Plastic	Black	Plastic	704.209.7	72
	Grey	Plastic	Black	Plastic	Black	Plastic	704.210.0	72
	Grey	Plastic	Red	Plastic	Black	Plastic	704.210.2	72
	Grey	Plastic	Yellow	Plastic	Black	Plastic	704.210.4	72
	Grey	Plastic	Green	Plastic	Black	Plastic	704.210.5	72
	Grey	Plastic	Blue	Plastic	Black	Plastic	704.210.6	72
	Grey	Plastic	Colourless	Plastic	Black	Plastic	704.210.7	72
Maintained	Black	Plastic	Black	Plastic	Black	Plastic	704.239.0	73
	Black	Plastic	Red	Plastic	Black	Plastic	704.239.2	73
	Black	Plastic	Green	Plastic	Black	Plastic	704.239.5	73
	Black	Plastic	Colourless	Plastic	Black	Plastic	704.239.7	73
	Grey	Plastic	Black	Plastic	Black	Plastic	704.240.0	73
	Grey	Plastic	Red	Plastic	Black	Plastic	704.240.2	73
	Grey	Plastic	Yellow	Plastic	Black	Plastic	704.240.4	73
	Grey	Plastic	Green	Plastic	Black	Plastic	704.240.5	73
	Grey	Plastic	Colourless	Plastic	Black	Plastic	704.240.7	73

04

04 Raised design

Wiring diagrams

04





Modern. Tactile and long-lasting. Series 04 illuminated selector switches.

Intuitive and reliable operation for enhanced safety in public transportation.

- Bright, single or bi-colour LED illumination
- Modern, ergonomic design
- Rounded edges (in accordance with DIN 5566-1)
- Excellent tactile feedback
- Long service life and robust construction
- · Wide range of possible combinations and options

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Pushbutton round



To obtain a complete unit, please select the red components from the pages shown.



Dimensions [mm] A = Screw terminal





Product can differ from the current configuration.

General information

Max. 3 switching elements can be clipped on

Mounting cut-outs [mm]

- A = Screw terminal
- B = Push-in terminal (PIT)
- C = Plug-in terminal 6.3 mm x 0.8 mm
- D = Double plug-in terminal 6.3 mm x 0.8 mm



Actuator, Front dimension Ø 29 mm

Switching action	Front bezel colour	Front bezel material	Front bezel surface	Lens colour	Lens material	Housing colour	Housing material	IP front protection	Part No.	Wiring diagram
Momentary	Black	Plastic		Black	Plastic	Grey	Plastic	IP65	704.009.0	72
	Black	Plastic		Red	Plastic	Grey	Plastic	IP65	704.009.2	72
	Black	Plastic		Yellow	Plastic	Grey	Plastic	IP65	704.009.4	72
	Black	Plastic		Green	Plastic	Grey	Plastic	IP65	704.009.5	72
	Black	Plastic		Blue	Plastic	Grey	Plastic	IP65	704.009.6	72
	Black	Plastic		Colour- less	Plastic	Grey	Plastic	IP65	704.009.7	72
	Grey	Plastic		Black	Plastic	Grey	Plastic	IP65	704.010.0	72
	Grey	Plastic		Red	Plastic	Grey	Plastic	IP65	704.010.2	72
	Grey	Plastic		Yellow	Plastic	Grey	Plastic	IP65	704.010.4	72
	Grey	Plastic		Green	Plastic	Grey	Plastic	IP65	704.010.5	72
	Grey	Plastic		Blue	Plastic	Grey	Plastic	IP65	704.010.6	72
	Grey	Plastic		Colour- less	Plastic	Grey	Plastic	IP65	704.010.7	72
	Nature	Aluminium	anodised	Black	Alumi- nium	Grey	Plastic	IP65	704.011.0	72

Switching action	Front bezel colour	Front bezel material	Front bezel surface	Lens colour	Lens material	Housing colour	Housing material	IP front protection	Part No.	Wiring diagra
Momentary	Nature	Aluminium	anodised	Red	Alumi- nium	Grey	Plastic	IP65	704.011.2	72
	Nature	Aluminium	anodised	Gold	Alumi- nium	Grey	Plastic	IP65	704.011.4	72
	Nature	Aluminium	anodised	Olive green	Alumi- nium	Grey	Plastic	IP65	704.011.5	72
	Nature	Aluminium	anodised	Blue	Alumi- nium	Grey	Plastic	IP65	704.011.6	72
	Nature	Aluminium	anodised	Nature	Alumi- nium	Grey	Plastic	IP65	704.011.8	72
	Nature	Aluminium	anodised	Black	Plastic	Grey	Plastic	IP65	704.012.0	72
	Nature	Aluminium	anodised	Red	Plastic	Grey	Plastic	IP65	704.012.2	72
	Nature	Aluminium	anodised	Yellow	Plastic	Grey	Plastic	IP65	704.012.4	72
	Nature	Aluminium	anodised	Green	Plastic	Grey	Plastic	IP65	704.012.5	72
	Nature	Aluminium	anodised	Blue	Plastic	Grey	Plastic	IP65	704.012.6	72
	Nature	Aluminium	anodised	Colour- less	Plastic	Grey	Plastic	IP65	704.012.7	72
Maintained	Black	Plastic		Black	Plastic	Grey	Plastic	IP65	704.039.0	73
	Black	Plastic		Red	Plastic	Grey	Plastic	IP65	704.039.2	73
	Black	Plastic		Yellow	Plastic	Grey	Plastic	IP65	704.039.4	73
	Black	Plastic		Green	Plastic	Grey	Plastic	IP65	704.039.5	73
	Black	Plastic		Blue	Plastic	Grey	Plastic	IP65	704.039.6	73
	Black	Plastic		Colour- less	Plastic	Grey	Plastic	IP65	704.039.7	73
	Grey	Plastic		Red	Plastic	Grey	Plastic	IP65	704.040.2	73
	Grey	Plastic		Yellow	Plastic	Grey	Plastic	IP65	704.040.4	73
	Grey	Plastic		Green	Plastic	Grey	Plastic	IP65	704.040.5	73
	Grey	Plastic		Blue	Plastic	Grey	Plastic	IP65	704.040.6	73
	Grey	Plastic		Colour- less	Plastic	Grey	Plastic	IP65	704.040.7	73
	Nature	Aluminium	anodised	Black	Alumi- nium	Grey	Plastic	IP65	704.041.0	73
	Nature	Aluminium	anodised	Red	Alumi- nium	Grey	Plastic	IP65	704.041.2	73
	Nature	Aluminium	anodised	Olive green	Alumi- nium	Grey	Plastic	IP65	704.041.5	73
	Nature	Aluminium	anodised		Alumi- nium	Grey	Plastic	IP65	704.041.6	73
	Nature	Aluminium	anodised	Nature	Alumi- nium	Grey	Plastic	IP65	704.041.8	73
	Nature	Aluminium	anodised	Black	Plastic	Grey	Plastic	IP65	704.042.0	73
	Nature	Aluminium	anodised	Red	Plastic	Grey	Plastic	IP65	704.042.2	73
	Nature	Aluminium	anodised	Yellow	Plastic	Grey	Plastic	IP65	704.042.4	73
	Nature	Aluminium	anodised	Green	Plastic	Grey	Plastic	IP65	704.042.5	73
	Nature	Aluminium	anodised	Blue	Plastic	Grey	Plastic	IP65	704.042.6	73
	Nature	Aluminium	anodised	Colour- less	Plastic	Grey	Plastic	IP65	704.042.7	73
Nomentary	Nature	Aluminium	anodised	Black	Plastic	Grey	Plastic	IP67	704.013.0	72
	Nature	Aluminium	anodised	Red	Plastic	Grey	Plastic	IP67	704.013.2	72
	Nature	Aluminium	anodised	Yellow	Plastic	Grey	Plastic	IP67	704.013.4	72
	Nature	Aluminium	anodised	Green	Plastic	Grey	Plastic	IP67	704.013.5	72
	Nature	Aluminium	anodised	Blue	Plastic	Grey	Plastic	IP67	704.013.6	72
	Nature	Aluminium	anodised	Colour- less	Plastic	Grey	Plastic	IP67	704.013.7	72
	Nature	Aluminium	anodised	Red	Plastic	Grey	Plastic	IP67	704.043.2	73
	Nature	Aluminium	anodised	Colour-	Plastic	Grey	Plastic	IP67	704.043.7	73

Wiring diagrams





Pushbutton square, IP65



Product can differ from the current configuration.

General information

Max. 3 switching elements can be clipped on







Mounting cut-outs [mm]

- A = Screw terminal
- B = Push-in terminal (PIT)C = Plug-in terminal 6.3 mm x 0.8 mm
- D = Double plug-in terminal 6.3 mm x 0.8 mm



Each Part Number listed below includes all the black components shown in the 3D-drawing.

To obtain a complete unit, please select the red components from the pages shown.



Actuator, Front dimension 30 mm x 30 mm

	Switching action	Housing colour	Housing material	Part No.	Wiring diagram
ſ	Momentary	Black	Plastic	704.731.0	72
		Grey	Plastic	704.731.1	72
ĺ	Maintained	Black	Plastic	704.732.0	73
l		Grey	Plastic	704.732.1	73



Pushbutton round, IP65

Equipment consisting of (schematic overview)							
\bigcirc	Front bezel	Page 202					
\bigcirc	Lens	Page 199					
\bigcirc	Marking Plate	Page 201					
	Actuator						
	Bayonet flange	Page 203					
	Switching element	Page 213					
Each Part Number listed below includes all the black components shown in the 3D-drawing.							



Dimensions [mm] A = Screw terminal





Product can differ from the current configuration.

General information

- Frontring with protective cover to be mounted • with a torque of 0.4 Nm onto actuator
- Max. 3 switching elements can be clipped on •

To obtain a complete unit, please select the red components from the pages shown.



- A = Screw terminal
- B = Push-in terminal (PIT)
- C = Plug-in terminal 6.3 mm x 0.8 mm D = Double plug-in terminal 6.3 mm x 0.8 mm



Actuator, Front dimension Ø 29 mm

Switching action	Housing colour	Housing material	Part No.	Wiring diagram
Momentary	Grey	Plastic	704.631.1	72
Maintained	Grey	Plastic	704.632.1	73

Wiring diagrams



Illuminated pushbutton square, IP65



Product can differ from the current configuration.

General information

Max. 3 switching elements can be clipped on







Mounting cut-outs [mm]

A = Screw terminal

B = Push-in terminal (PIT)

C = Plug-in terminal 6.3 mm x 0.8 mm

D = Double plug-in terminal 6.3 mm x 0.8 mm

Equipment constitution of (schematic overview)

Image: Second constraints

Image: Second constres

Image: Second con

To obtain a complete unit, please select the red components from the pages shown.



Actuator, Front dimension 30 mm x 30 mm

Switching action	Front bezel colour	Front bezel material	Lens colour	Lens material	Housing colour	Housing material	Part No.	Wiring diagram
Momentary	Black	Plastic	Red	Plastic	Black	Plastic	704.229.2	74
	Black	Plastic	Yellow	Plastic	Black	Plastic	704.229.4	74
	Black	Plastic	Green	Plastic	Black	Plastic	704.229.5	74
	Black	Plastic	Blue	Plastic	Black	Plastic	704.229.6	74
	Black	Plastic	Colourless	Plastic	Black	Plastic	704.229.7	74
	Grey	Plastic	Red	Plastic	Black	Plastic	704.230.2	74
	Grey	Plastic	Yellow	Plastic	Black	Plastic	704.230.4	74
	Grey	Plastic	Green	Plastic	Black	Plastic	704.230.5	74
	Grey	Plastic	Blue	Plastic	Black	Plastic	704.230.6	74
	Grey	Plastic	Colourless	Plastic	Black	Plastic	704.230.7	74
Maintained	Black	Plastic	Red	Plastic	Black	Plastic	704.259.2	75
	Black	Plastic	Yellow	Plastic	Black	Plastic	704.259.4	75
	Black	Plastic	Green	Plastic	Black	Plastic	704.259.5	75
	Black	Plastic	Blue	Plastic	Black	Plastic	704.259.6	75
	Black	Plastic	Colourless	Plastic	Black	Plastic	704.259.7	75
	Grey	Plastic	Red	Plastic	Black	Plastic	704.260.2	75
	Grey	Plastic	Yellow	Plastic	Black	Plastic	704.260.4	75
	Grey	Plastic	Green	Plastic	Black	Plastic	704.260.5	75
	Grey	Plastic	Blue	Plastic	Black	Plastic	704.260.6	75
	Grey	Plastic	Colourless	Plastic	Black	Plastic	704.260.7	75



Illuminated pushbutton round



04

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Actuator, Front dimension Ø 29 mm

Switching action	Front bezel colour	Front bezel material	Front bezel surface	Lens colour	Lens material	Housing colour	Housing material	Part No.	Wiring diagram
Momentary	Black	Plastic		Red	Plastic	Grey	Plastic	704.029.2	74
	Black	Plastic		Yellow	Plastic	Grey	Plastic	704.029.4	74
	Black	Plastic		Green	Plastic	Grey	Plastic	704.029.5	74
	Black	Plastic		Blue	Plastic	Grey	Plastic	704.029.6	74
	Black	Plastic		Colour- less	Plastic	Grey	Plastic	704.029.7	74
	Grey	Plastic		Red	Plastic	Grey	Plastic	704.030.2	74
	Grey	Plastic		Yellow	Plastic	Grey	Plastic	704.030.4	74
	Grey	Plastic		Green	Plastic	Grey	Plastic	704.030.5	74
	Grey	Plastic		Blue	Plastic	Grey	Plastic	704.030.6	74
	Grey	Plastic		Colour- less	Plastic	Grey	Plastic	704.030.7	74
	Nature	Aluminium	anodised	Red	Plastic	Grey	Plastic	704.032.2	74
	Nature	Aluminium	anodised	Yellow	Plastic	Grey	Plastic	704.032.4	74
	Nature	Aluminium	anodised	Green	Plastic	Grey	Plastic	704.032.5	74
	Nature	Aluminium	anodised	Blue	Plastic	Grey	Plastic	704.032.6	74
	Nature	Aluminium	anodised	Colour- less	Plastic	Grey	Plastic	704.032.7	74
	Nature	Aluminium	anodised	Red	Plastic	Grey	Plastic	704.033.2	74

Switching action	Front bezel colour	Front bezel material	Front bezel surface	Lens colour	Lens material	Housing colour	Housing material	Part No.	Wiring diagram
Momentary	Nature	Aluminium	anodised	Yellow	Plastic	Grey	Plastic	704.033.4	74
	Nature	Aluminium	anodised	Green	Plastic	Grey	Plastic	704.033.5	74
	Nature	Aluminium	anodised	Blue	Plastic	Grey	Plastic	704.033.6	74
	Nature	Aluminium	anodised	Colour- less	Plastic	Grey	Plastic	704.033.7	74
Maintained	Black	Plastic		Red	Plastic	Grey	Plastic	704.059.2	75
	Black	Plastic		Yellow	Plastic	Grey	Plastic	704.059.4	75
	Black	Plastic		Green	Plastic	Grey	Plastic	704.059.5	75
	Black	Plastic		Colour- less	Plastic	Grey	Plastic	704.059.7	75
	Grey	Plastic		Red	Plastic	Grey	Plastic	704.060.2	75
	Grey	Plastic		Yellow	Plastic	Grey	Plastic	704.060.4	75
	Grey	Plastic		Green	Plastic	Grey	Plastic	704.060.5	75
	Grey	Plastic		Blue	Plastic	Grey	Plastic	704.060.6	75
	Grey	Plastic		Colour- less	Plastic	Grey	Plastic	704.060.7	75
	Nature	Aluminium	anodised	Red	Plastic	Grey	Plastic	704.062.2	75
	Nature	Aluminium	anodised	Yellow	Plastic	Grey	Plastic	704.062.4	75
	Nature	Aluminium	anodised	Green	Plastic	Grey	Plastic	704.062.5	75
	Nature	Aluminium	anodised	Blue	Plastic	Grey	Plastic	704.062.6	75
	Nature	Aluminium	anodised	Colour- less	Plastic	Grey	Plastic	704.062.7	75
	Nature	Aluminium	anodised	Red	Plastic	Grey	Plastic	704.063.2	75
	Nature	Aluminium	anodised	Yellow	Plastic	Grey	Plastic	704.063.4	75
	Nature	Aluminium	anodised	Green	Plastic	Grey	Plastic	704.063.5	75
	Nature	Aluminium	anodised	Blue	Plastic	Grey	Plastic	704.063.6	75
	Nature	Aluminium	anodised	Colour- less	Plastic	Grey	Plastic	704.063.7	75



Illuminated pushbutton square, IP65





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Actuator, Front dimension 30 mm x 30 mm

Switching action	Housing colour	Housing material	Part No.	Wiring diagram
Momentary	Black	Plastic	704.731.0	72
	Grey	Plastic	704.731.1	72
Maintained	Black	Plastic	704.732.0	73
	Grey	Plastic	704.732.1	73



Illuminated pushbutton round, IP65





Actuator, Front dimension Ø 29 mm

Switching action	Housing colour	Housing material	Part No.	Wiring diagram
Momentary	Grey	Plastic	704.631.1	72
Maintained	Grey	Plastic	704.632.1	73

Wiring diagrams



Mushroom-head pushbutton, IP65





Actuator, Front dimension Ø 40 mm

Switching action	Front bezel colour	Front bezel material	Front bezel surface	Lens colour	Lens material	Housing colour	Housing material	Part No.	Wiring diagram
Momentary	Grey	Plastic		Black	Plastic	Grey	Plastic	704.070.0	72
	Grey	Plastic		Red	Plastic	Grey	Plastic	704.070.2	72
	Grey	Plastic		Yellow	Plastic	Grey	Plastic	704.070.4	72
	Grey	Plastic		Green	Plastic	Grey	Plastic	704.070.5	72
	Nature	Aluminium	anodised	Black	Plastic	Grey	Plastic	704.071.0	72
	Nature	Aluminium	anodised	Red	Plastic	Grey	Plastic	704.071.2	72
	Nature	Aluminium	anodised	Yellow	Plastic	Grey	Plastic	704.071.4	72
	Nature	Aluminium	anodised	Green	Plastic	Grey	Plastic	704.071.5	72
	Nature	Aluminium	anodised	Red	Aluminium	Grey	Plastic	704.079.2	72
Maintained	Grey	Plastic		Black	Plastic	Grey	Plastic	704.072.0	73
	Grey	Plastic		Red	Plastic	Grey	Plastic	704.072.2	73
	Nature	Aluminium	anodised	Black	Plastic	Grey	Plastic	704.073.0	73
	Nature	Aluminium	anodised	Red	Plastic	Grey	Plastic	704.073.2	73
	Nature	Aluminium	anodised	Yellow	Plastic	Grey	Plastic	704.073.4	73
	Nature	Aluminium	anodised	Green	Plastic	Grey	Plastic	704.073.5	73
	Nature	Aluminium	anodised	Red	Aluminium	Grey	Plastic	704.075.21	73

04

Wiring diagrams





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Intuitive and reliable operation for enhanced safety in public transportation.

Bright, single or bi-colour LED illumination

- Modern, ergonomic design
- Rounded edges (in accordance with DIN 5566-1)
- Excellent tactile feedback
- Long service life and robust construction
- · Wide range of possible combinations and options

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Mushroom-head pushbutton illuminated, IP65



Mounting cut-outs [mm] A = Screw terminal

Each Part Number listed below includes all the
black components shown in the 3D-drawing.
To obtain a complete unit, please select the red
components from the pages shown.



Actuator, Front dimension Ø 40 mm

Switching action	Front bezel colour	Front bezel material	Lens colour	Lens material	Housing colour	Housing material	Part No.	Wiring diagram
Momentary	Grey	Plastic	Red	Plastic	Grey	Plastic	704.084.2	74
	Grey	Plastic	Yellow	Plastic	Grey	Plastic	704.084.4	74
	Grey	Plastic	Green	Plastic	Grey	Plastic	704.084.5	74
	Grey	Plastic	Blue	Plastic	Grey	Plastic	704.084.6	74
	Grey	Plastic	Colourless	Plastic	Grey	Plastic	704.084.7	74
Maintained	Grey	Plastic	Red	Plastic	Grey	Plastic	704.086.2	75
	Grey	Plastic	Yellow	Plastic	Grey	Plastic	704.086.4	75
	Grey	Plastic	Green	Plastic	Grey	Plastic	704.086.5	75



Selector switch illuminated, 2 positions, short lever, square, IP65





Dimensions [mm] A = Screw terminal





Product can differ from the current configuration.

General information

Max. 3 switching elements can be clipped on •

components from the pages shown.



- A = Screw terminal
- B = Push-in terminal (PIT)
- C = Plug-in terminal 6.3 mm x 0.8 mm D = Double plug-in terminal 6.3 mm x 0.8 mm



Actuator, Front dimension 30 mm x 30 mm

Switching action	Front bezel colour	Front bezel material	Switching angle	Part No.	Wiring diagram
Rest - Maintained	Grey	Plastic	90° right	704.510.0i	85
Rest - Momentary	Grey	Plastic	42° right	704.512.0i	84



Selector switch illuminated, 2 positions, short lever, round, IP65



Product can differ from the current configuration.

General information

- Max. 3 switching elements can be clipped on
- The colour of anodised aluminium parts can vary due to technical production reasons







Mounting cut-outs [mm]

- A = Screw terminal
- B = Push-in terminal (PIT)C = Plug-in terminal 6.3 mm x 0.8 mm
- D = Double plug-in terminal 6.3 mm x 0.8 mm



Actuator, Front dimension Ø 29 mm

Switching action	Front bezel colour	Front bezel material	Switching angle	Front bezel surface	Part No.	Wiring diagram
Rest - Maintained	Grey	Plastic	90° right		704.410.0i	85
	Grey	Plastic	90° right (-45° +45°)		704.410.1i	85
	Nature	Aluminium	90° right	anodised	704.411.0i	85
Rest - Momentary	Grey	Plastic	42° right		704.412.0i	84
	Nature	Aluminium	42° right	anodised	704.413.0i	84

Wiring diagrams





To obtain a complete unit, please select the red components from the pages shown.

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Selector switch 2 positions, short lever, square, IP65



Mounting cut-outs [mm]

- A = Screw terminal
- B = Push-in terminal (PIT) C = Plug-in terminal 6.3 mm x 0.8 mm
- D = Double plug-in terminal 6.3 mm x 0.8 mm



Actuator, Front dimension 30 mm x 30 mm

Switching action	Front bezel colour	Front bezel material	Switching angle	Part No.	Wiring diagram
Rest - Maintained	Grey	Plastic	90° right	704.510.0	87
Rest - Momentary	Grey	Plastic	42° right	704.512.0	86

Wiring diagrams



Selector switch 2 positions, short lever, round, IP65



Mounting cut-outs [mm]

- A = Screw terminal
- B = Push-in terminal (PIT)C = Plug-in terminal 6.3 mm x 0.8 mm
- D = Double plug-in terminal 6.3 mm x 0.8 mm



Actuator, Front dimension Ø 29 mm

Switching action	Front bezel colour	Front bezel material	Switching angle	Front bezel surface	Part No.	Wiring diagram
Rest - Maintained	Grey	Plastic	90° right		704.410.0	87
	Nature	Aluminium	90° right	anodised	704.411.0	87
Rest - Momentary	Grey	Plastic	42° right		704.412.0	86
	Nature	Aluminium	42° right	anodised	704.413.0	86



Selector switch 2 positions, short lever, square, IP65



- A = Screw terminal
- B = Push-in terminal (PIT)
- C = Plug-in terminal 6.3 mm x 0.8 mm
- D = Double plug-in terminal 6.3 mm x 0.8 mm



Actuator, Front dimension 30 mm x 30 mm

Switching action	Front bezel colour	Front bezel material	Switching angle	Part No.	Wiring diagram
Rest - Maintained	Grey	Plastic	90° right	704.510.0.12	87

Wiring diagrams



Selector switch 2 positions, short lever, round, IP65



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(B)(C)(D)

• The colour of anodised aluminium parts can vary due to technical production reasons

Mounting cut-outs [mm]

- A = Screw terminal
- B = Push-in terminal (PIT)

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- C = Plug-in terminal 6.3 mm x 0.8 mm D = Double plug-in terminal 6.3 mm x 0.8 mm



Actuator, Front dimension Ø 29 mm

s	witching action	Front bezel colour	Front bezel material	Switching angle	Front bezel surface	Part No.	Wiring diagram
F	est - Maintained	Grey	Plastic	90° right		704.410.0.12	87
		Nature	Aluminium	90° right	anodised	704.411.0.12	87
		Nature	Aluminium	90° right	anodised	704.411.0B.12	87

Wiring diagrams



black components shown in the 3D-drawing.

components from the pages shown.

To obtain a complete unit, please select the red

Selector switch illuminated, 2 positions, long lever, square, IP65



27 28.5 15.5 23 23 37 (A)(A)20 2 ... 7

Dimensions [mm] A = Screw terminal





Product can differ from the current configuration.

General information

• Max. 3 switching elements can be clipped on

To obtain a complete unit, please select the red components from the pages shown.

Mounting cut-outs [mm]

- A = Screw terminal
- B = Push-in terminal (PIT)
- C = Plug-in terminal 6.3 mm x 0.8 mm D = Double plug-in terminal 6.3 mm x 0.8 mm

Actuator, Front dimension 30 mm x 30 mm

Switching action	Front bezel colour	Front bezel material	Switching angle	Part No.	Wiring diagram
Rest - Maintained	Grey	Plastic	90° right	704.300.0i	85
Rest - Momentary	Grey	Plastic	42° right	704.302.0i	84



Selector switch illuminated, 2 positions, long lever, round, IP65



General information

Actuator, Front dimension Ø 29 mm

Switching action	Front bezel colour	Front bezel material	Switching angle	Front bezel surface	Part No.	Wiring diagram
Rest - Maintained	Grey	Plastic	90° right		704.100.0i	85
	Nature	Aluminium	90° right	anodised	704.101.0i	85
Rest - Momentary	Grey	Plastic	42° right		704.102.0i	84
	Nature	Aluminium	42° right	anodised	704.103.0i	84

C = Plug-in terminal 6.3 mm x 0.8 mm D = Double plug-in terminal 6.3 mm x 0.8 mm

Wiring diagrams



Selector switch 2 positions, long lever, square, IP65



- B = Push-in terminal (PIT)
- C = Plug-in terminal 6.3 mm x 0.8 mm
- D = Double plug-in terminal 6.3 mm x 0.8 mm



Actuator, Front dimension 30 mm x 30 mm

Switching action	Front bezel colour	Front bezel material	Switching angle	Part No.	Wiring diagram
Rest - Maintained	Grey	Plastic	90° right	704.300.0	87
Rest - Momentary	Grey	Plastic	42° right	704.302.0	86



Selector switch 2 positions, long lever, round, IP65



Product can differ from the current configuration.

General information

04

- Max. 3 switching elements can be clipped on
- The colour of anodised aluminium parts can vary due to technical production reasons









Each Part Number listed below includes all the black components shown in the 3D-drawing.

To obtain a complete unit, please select the red components from the pages shown.



- A = Screw terminal
- B = Push-in terminal (PIT)
- $C = Plug-in terminal 6.3 mm \times 0.8 mm$
- D = Double plug-in terminal 6.3 mm x 0.8 mm

Actuator, Front dimension Ø 29 mm

Swite	ching action	Front bezel colour	Front bezel material	Switching angle	Front bezel surface	Part No.	Wiring diagram
Rest	- Maintained	Grey	Plastic	90° right		704.100.0	87
		Nature	Aluminium	90° right	anodised	704.101.0	87
Rest	- Momentary	Grey	Plastic	42° right		704.102.0	86
		Nature	Aluminium	42° right	anodised	704.103.0	86



Selector switch 2 positions, long lever, square, IP65



- B = Push-in terminal (PIT) C = Plug-in terminal 6.3 mm x 0.8 mm
- D = Double plug-in terminal 6.3 mm x 0.8 mm



Actuator, Front dimension 30 mm x 30 mm

Switching action	Front bezel colour	Front bezel material	Switching angle	Part No.	Wiring diagram
Rest - Maintained	Grey	Plastic	90° right	704.300.0.12	87



Selector switch 2 positions, long lever, round, IP65



Mounting cut-outs [mm]

- A = Screw terminal
- B = Push-in terminal (PIT)
- C = Plug-in terminal 6.3 mm x 0.8 mm
- D = Double plug-in terminal 6.3 mm x 0.8 mm



Actuator, Front dimension Ø 29 mm

Switching action	Front bezel colour	Front bezel material	Switching angle	Front bezel surface	Part No.	Wiring diagram
Rest - Maintained	Grey	Plastic	90° right		704.100.0.12	87
	Nature	Aluminium	90° right	anodised	704.101.0.12	87



Selector switch illuminated, 3 positions, short lever, square, IP65



Dimensions [mm] A = Screw terminal





Product can differ from the current configuration.

General information

• Max. 3 switching elements can be clipped on

To obtain a complete unit, please select the red components from the pages shown.



- A = Screw terminal
- B = Push-in terminal (PIT) C = Plug-in terminal 6.3 mm x 0.8 mm
- D = Double plug-in terminal 6.3 mm x 0.8 mm

Actuator, Front dimension 30 mm x 30 mm

Switching action	Front bezel colour	Front bezel material	Switching angle	Part No.	Wiring diagram
Maintained - Rest - Maintained	Grey	Plastic	42° left / 42° right	704.502.0i	91
Momentary - Rest - Momentary	Grey	Plastic	42° left / 42° right	704.504.0i	90
Maintained - Rest - Momentary	Grey	Plastic	42° left / 42° right	704.506.0i	89
Momentary - Rest - Maintained	Grey	Plastic	42° left / 42° right	704.508.0i	88

Wiring diagrams



Wiring diagrams







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Selector switch illuminated, 3 positions, short lever, round, IP65



Each Part Number listed below includes all the black components shown in the 3D-drawing.

To obtain a complete unit, please select the red components from the pages shown.



Dimensions [mm] A = Screw terminal





Product can differ from the current configuration.

General information

- Max. 3 switching elements can be clipped on
- The colour of anodised aluminium parts can vary due to technical production reasons

Mounting cut-outs [mm]

- A = Screw terminal
- B = Push-in terminal (PIT)
- C = Plug-in terminal 6.3 mm x 0.8 mm D = Double plug-in terminal 6.3 mm x 0.8 mm
- 0 || | 0 || | 0 || 0 || • || | 2 + 5 || | 2 + 5 || | 2 + 2 ||

Actuator, Front dimension Ø 29 mm

Switching action	Front bezel colour	Front bezel material	Switching angle	Front bezel surface	Part No.	Wiring diagram
Maintained - Rest - Maintained	Grey	Plastic	42° left / 42° right		704.402.0i	91
	Nature	Aluminium	42° left / 42° right	anodised	704.403.0i	91
Momentary - Rest - Momentary	Grey	Plastic	42° left / 42° right		704.404.0i	90
	Nature	Aluminium	42° left / 42° right	anodised	704.405.0i	90
Maintained - Rest - Momentary	Grey	Plastic	42° left / 42° right		704.406.0i	89
	Nature	Aluminium	42° left / 42° right	anodised	704.407.0i	89
Momentary - Rest - Maintained	Grey	Plastic	42° left / 42° right		704.408.0i	88
	Nature	Aluminium	42° left / 42° right	anodised	704.409.0i	88



Wiring diagrams





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- Excellent tactile feedback
- Long service life and robust construction
- · Wide range of possible combinations and options



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Selector switch 3 positions, short lever, square, IP65



- Mounting cut-outs [mm]
- A = Screw terminal
- B = Push-in terminal (PIT)
- $C = Plug-in terminal 6.3 mm \times 0.8 mm$
- D = Double plug-in terminal 6.3 mm x 0.8 mm

Actuator, Front dimension 30 mm x 30 mm

Switching action	Front bezel colour	Front bezel material	Switching angle	Part No.	Wiring diagram
Maintained - Rest - Maintained	Grey	Plastic	42° left / 42° right	704.502.0	95
Momentary - Rest - Momentary	Grey	Plastic	42° left / 42° right	704.504.0	94
Maintained - Rest - Momentary	Grey	Plastic	42° left / 42° right	704.506.0	93
Momentary - Rest - Maintained	Grey	Plastic	42° left / 42° right	704.508.0	92



Selector switch 3 positions, short lever, round, IP65



- A = Screw terminal
- B = Push-in terminal (PIT)C = Plug-in terminal 6.3 mm x 0.8 mm
- D = Double plug-in terminal 6.3 mm x 0.8 mm



Actuator, Front dimension Ø 29 mm

Switching action	Front bezel colour	Front bezel material	Switching angle	Front bezel surface	Part No.	Wiring diagram
Maintained - Rest - Maintained	Grey	Plastic	42° left / 42° right		704.402.0	95
	Nature	Aluminium	42° left / 42° right	anodised	704.403.0	95
Momentary - Rest - Momentary	Grey	Plastic	42° left / 42° right		704.404.0	94
	Nature	Aluminium	42° left / 42° right	anodised	704.405.0	94
Maintained - Rest - Momentary	Grey	Plastic	42° left / 42° right		704.406.0	93
	Nature	Aluminium	42° left / 42° right	anodised	704.407.0	93
Momentary - Rest - Maintained	Grey	Plastic	42° left / 42° right		704.408.0	92
	Nature	Aluminium	42° left / 42° right	anodised	704.409.0	92

Wiring diagrams

_F~	F~~	F~	F~~~-
Wiring diagram 92	Wiring diagram 93	Wiring diagram 94	Wiring diagram 95

Selector switch illuminated, 3 positions, long lever, square, IP65

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Page 213





Dimensions [mm] A = Screw terminal





Product can differ from the current configuration.

General information

• Max. 3 switching elements can be clipped on

Each Part Number listed below includes all the black components shown in the 3D-drawing.

Switching element

Lamp block

To obtain a complete unit, please select the red components from the pages shown.



- Mounting cut-outs [mm]
- A = Screw terminal
- B = Push-in terminal (PIT) C = Plug-in terminal 6.3 mm x 0.8 mm
- D = Double plug-in terminal 6.3 mm x 0.8 mm



Actuator, Front dimension 30 mm x 30 mm

Switching action	Front bezel colour	Front bezel material	Switching angle	Part No.	Wiring diagram
Maintained - Rest - Maintained	Grey	Plastic	42° left / 42° right	704.292.0i	91
Momentary - Rest - Momentary	Grey	Plastic	42° left / 42° right	704.294.0i	90
Maintained - Rest - Momentary	Grey	Plastic	42° left / 42° right	704.296.0i	89
Momentary - Rest - Maintained	Grey	Plastic	42° left / 42° right	704.298.0i	88

Wiring diagrams





Selector switch illuminated, 3 positions, long lever, round, IP65





Each Part Number listed below includes all the black components shown in the 3D-drawing.

To obtain a complete unit, please select the red components from the pages shown.



Dimensions [mm] A = Screw terminal





Product can differ from the current configuration.

General information

- Max. 3 switching elements can be clipped on
- The colour of anodised aluminium parts can vary due to technical production reasons

Mounting cut-outs [mm]

- A = Screw terminal
- B = Push-in terminal (PIT)
- $C = Plug-in terminal 6.3 mm \times 0.8 mm$ D = Double plug-in terminal 6.3 mm x 0.8 mm



Actuator, Front dimension Ø 29 mm

Switching action	Front bezel colour	Front bezel material	Switching angle	Front bezel surface	Part No.	Wiring diagram
Maintained - Rest - Maintained	Grey	Plastic	42° left / 42° right		704.092.0i	91
	Nature	Aluminium	42° left / 42° right	anodised	704.093.0i	91
Momentary - Rest - Momentary	Grey	Plastic	42° left / 42° right		704.094.0i	90
	Nature	Aluminium	42° left / 42° right	anodised	704.095.0i	90
Maintained - Rest - Momentary	Grey	Plastic	42° left / 42° right		704.096.0i	89
	Nature	Aluminium	42° left / 42° right	anodised	704.097.0i	89
Momentary - Rest - Maintained	Grey	Plastic	42° left / 42° right		704.098.0i	88
	Nature	Aluminium	42° left / 42° right	anodised	704.099.0i	88

Wiring diagrams



Wiring diagrams

04




Selector switch 3 positions, long lever, square, IP65



- Mounting cut-outs [mm]
- A = Screw terminal
- B = Push-in terminal (PIT)
- $C = Plug-in terminal 6.3 mm \times 0.8 mm$
- D = Double plug-in terminal 6.3 mm x 0.8 mm



Actuator, Front dimension 30 mm x 30 mm

Switching action	Front bezel colour	Front bezel material	Switching angle	Part No.	Wiring diagram
Maintained - Rest - Maintained	Grey	Plastic	42° left / 42° right	704.292.0	95
Momentary - Rest - Momentary	Grey	Plastic	42° left / 42° right	704.294.0	94
Maintained - Rest - Momentary	Grey	Plastic	42° left / 42° right	704.296.0	93
Momentary - Rest - Maintained	Grey	Plastic	42° left / 42° right	704.298.0	92

F~	F~~	F~	F~~~-
Wiring diagram 92	Wiring diagram 93	Wiring diagram 94	Wiring diagram 95

Selector switch 3 positions, long lever, round, IP65



Product can differ from the current configuration.

General information

- Max. 3 switching elements can be clipped on
- The colour of anodised aluminium parts can vary due to technical production reasons









Each Part Number listed below includes all the black components shown in the 3D-drawing.

To obtain a complete unit, please select the red components from the pages shown.



- A = Screw terminal
- B = Push-in terminal (PIT)
- $C = Plug-in terminal 6.3 mm \times 0.8 mm$
- D = Double plug-in terminal 6.3 mm x 0.8 mm



Actuator, Front dimension Ø 29 mm

Switching action	Front bezel colour	Front bezel material	Switching angle	Front bezel surface	Part No.	Wiring diagram
Maintained - Rest - Maintained	Grey	Plastic	42° left / 42° right		704.092.0	95
	Nature	Aluminium	42° left / 42° right	anodised	704.093.0	95
Momentary - Rest - Momentary	Grey	Plastic	42° left / 42° right		704.094.0	94
	Nature	Aluminium	42° left / 42° right	anodised	704.095.0	94
Maintained - Rest - Momentary	Grey	Plastic	42° left / 42° right		704.096.0	93
	Nature	Aluminium	42° left / 42° right	anodised	704.097.0	93
Momentary - Rest - Maintained	Grey	Plastic	42° left / 42° right		704.098.0	92
	Nature	Aluminium	42° left / 42° right	anodised	704.099.0	92

F~~-	F~~	F~	F~~~-
	Wiring diagram 93	Wiring diagram 94	Wiring diagram 95

Selector rotary switch, short lever, rounded, square, IP65





A



Product can differ from the current configuration.

Dimensions [mm]

- 1 = Kraus & Naimer switching element A = (Number of stages x 12) + 66.5 mm
- 2 = Santon switching element
- B = (Number of stages x 13,5) + 65.5 mm



Mounting cut-outs [mm]



Actuator, Front dimension 30 mm x 30 mm

Front bezel colour	Front bezel material	Switching positions	Part No.
Grey	Plastic	Rest = 9 oʻclock	704.510.1KNI

Selector rotary switch, short lever rounded, round, IP65



Product can differ from the current configuration.

General information

The colour of anodised aluminium parts can vary . due to technical production reasons





Dimensions [mm]

- 1 = Kraus & Naimer switching element A = (Number of stages \times 12) + 66.5 mm
- 2 = Santon switching element
- B = (Number of stages x 13,5) + 65.5 mm



Mounting cut-outs [mm]



Actuator, Front dimension Ø 29 mm

Front bezel colour	Front bezel material	Switching positions	Front bezel surface	Part No.
Nature	Aluminium	Rest = 9 o'clock	anodised	704.411.1KNI

Selector rotary switch, short lever, square, IP65







Product can differ from the current configuration.

Dimensions [mm]

- 1 = Kraus & Naimer switching element A = (Number of stages x 12) + 66.5 mm
- 2 = Santon switching element
- B = (Number of stages x 13,5) + 65.5 mm



Mounting cut-outs [mm]



Actuator, Front dimension 30 mm x 30 mm

Front bezel colour	Front bezel material	Switching positions	Part No.
Grey	Plastic	Rest = 9 oʻclock	704.510.1KN

Selector rotary switch, short lever, round, IP65



Product can differ from the current configuration.

General information

The colour of anodised aluminium parts can vary • due to technical production reasons





To obtain a complete unit, please select the red components from the pages shown.



- 1 = Kraus & Naimer switching element A = (Number of stages \times 12) + 66.5 mm
- 2 = Santon switching element
- B = (Number of stages x 13,5) + 65.5 mm



Mounting cut-outs [mm]



Actuator, Front dimension Ø 29 mm

Front bezel colour	Front bezel material	Switching positions	Front bezel surface	Part No.
Nature	Aluminium	Rest = 9 o'clock	anodised	704.411.1KN

Selector rotary switch, long lever rounded, square, IP65







Product can differ from the current configuration.



- 1 = Kraus & Naimer switching element A = (Number of stages x 12) + 66.5 mm
- 2 = Santon switching element
- B = (Number of stages x 13,5) + 65.5 mm

2 ... 7



Mounting cut-outs [mm]



Actuator, Front dimension 30 mm x 30 mm

Front bezel colour	Front bezel material	Switching positions	Part No.
Grey	Plastic	Rest = 9 oʻclock	704.300.1KNI

Selector rotary switch, long lever rounded, round, IP65



Product can differ from the current configuration.

General information

The colour of anodised aluminium parts can vary . due to technical production reasons





To obtain a complete unit, please select the red components from the pages shown.



1 = Kraus & Naimer switching element A = (Number of stages \times 12) + 66.5 mm

- 2 = Santon switching element
- B = (Number of stages x 13,5) + 65.5 mm



Mounting cut-outs [mm]

Actuator, Front dimension Ø 29 mm

Front bezel colour	Front bezel material	Switching positions	Front bezel surface	Part No.
Nature	Aluminium	Rest = 9 o'clock	anodised	704.101.1KNI

Selector rotary switch, long lever, square, IP65



- 2 = Santon switching element
- B = (Number of stages x 13,5) + 65.5 mm



Mounting cut-outs [mm]



Actuator, Front dimension 30 mm x 30 mm

Front bezel colour	Front bezel material	Switching positions	Part No.
Grey	Plastic	Rest = 9 oʻclock	704.300.1KN

Selector rotary switch, long lever, round, IP65



Product can differ from the current configuration.

General information

The colour of anodised aluminium parts can vary due to technical production reasons





components from the pages shown.



1 = Kraus & Naimer switching element A = (Number of stages \times 12) + 66.5 mm

7

- 2 = Santon switching element
- B = (Number of stages x 13,5) + 65.5 mm



Mounting cut-outs [mm]

Actuator, Front dimension Ø 29 mm

Front bezel colour	Front bezel material	Switching positions	Front bezel surface	Part No.
Nature	Aluminium	Rest = 12 o'clock	anodised	704.101.0KN
	Aluminium	Rest = 9 o'clock	anodised	704.101.1KN

Keylock switch 2 positions, square, IP65





Dimensions [mm] A = Screw terminal





Product can differ from the current configuration.

General information

- Max. 3 switching elements can be clipped on •
- The standard lock Ronis 251



- A = Screw terminal
- B = Push-in terminal (PIT)
- C = Plug-in terminal 6.3 mm x 0.8 mm
- D = Double plug-in terminal 6.3 mm x 0.8 mm



Actuator, Front dimension 30 mm x 30 mm

Switching action	Front bezel colour	Front bezel material	Switching angle	Part No.	Wiring diagram
Rest - Maintained (a)	Grey	Plastic	90° right	704.340.0	79
Rest (a) - Maintained	Grey	Plastic	90° right	704.341.0	79
Rest (a) - Maintained (a)	Grey	Plastic	90° right	704.342.0	79
Rest (a) - Momentary	Grey	Plastic	42° right	704.343.0	78

a = Key remove

Wiring diagrams



Keylock switch 2 positions, round, IP65



Mounting cut-outs [mm]

- A = Screw terminal
- B = Push-in terminal (PIT)
- C = Plug-in terminal 6.3 mm x 0.8 mm
- D = Double plug-in terminal 6.3 mm x 0.8 mm



Actuator, Front dimension Ø 29 mm

Switching action	Front bezel colour	Front bezel material	Switching angle	Part No.	Wiring diagram
Rest - Maintained (a)	Nature	Aluminium	90° right	704.120.0	79
Rest (a) - Maintained	Nature	Aluminium	90° right	704.121.0	79
Rest (a) - Maintained (a)	Nature	Aluminium	90° right	704.122.0	79
Rest (a) - Momentary	Nature	Aluminium	42° right	704.123.0	78

a = Key remove

Wiring diagrams



Keylock switch 3 positions, square, IP65



To obtain a complete unit, please select the red components from the pages shown.



Dimensions [mm] A = Screw terminal





Product can differ from the current configuration.

General information

- Max. 3 switching elements can be clipped on
- The standard lock Ronis 251

Mounting cut-outs [mm]

- A = Screw terminal
- B = Push-in terminal (PIT)
- C = Plug-in terminal 6.3 mm x 0.8 mm D = Double plug-in terminal 6.3 mm x 0.8 mm



Actuator, Front dimension 30 mm x 30 mm

Switching action	Front bezel colour	Front bezel material	Switching angle	Part No.	Wiring diagram
Maintained (a) - Rest (a) - Maintained (a)	Grey	Plastic	90° left / 90° right	704.333.0	83
Maintained - Rest (a) - Maintained	Grey	Plastic	42° left / 42° right	704.334.0	83
Momentary - Rest (a) - Momentary	Grey	Plastic	42° left / 42° right	704.335.0	82
Maintained (a) - Rest - Momentary	Grey	Plastic	42° left / 42° right	704.337.0	81
Maintained (a) - Rest (a) - Momentary	Grey	Plastic	42° left / 42° right	704.344.0	81

a = Key remove

8-~	8	8
Wiring diagram 81	Wiring diagram 82	Wiring diagram 83

04

Keylock switch 3 positions, round, IP65



Mounting cut-outs [mm]

- A = Screw terminal
- B = Push-in terminal (PIT)
- $C = Plug-in terminal 6.3 mm \times 0.8 mm$
- D = Double plug-in terminal 6.3 mm x 0.8 mm

Actuator, Front dimension Ø 29 mm

Switching action	Front bezel colour	Front bezel material	Switching angle	Part No.	Wiring diagram
Maintained (a) - Rest (a) - Maintained (a)	Nature	Aluminium	90° left / 90° right	704.113.0	83
Maintained - Rest (a) - Maintained	Nature	Aluminium	42° left / 42° right	704.114.0	83
Momentary - Rest (a) - Momentary	Nature	Aluminium	42° left / 42° right	704.115.0	82
Maintained (a) - Rest - Maintained (a)	Nature	Aluminium	42° left / 42° right	704.116.0	83
Maintained (a) - Rest - Momentary	Nature	Aluminium	42° left / 42° right	704.117.0	81
Momentary - Rest (a) - Maintained	Nature	Aluminium	42° left / 42° right	704.118.0	80
Maintained (a) - Rest (a) - Momentary	Nature	Aluminium	42° left / 42° right	704.124.0	81

a = Key remove

Wiring diagrams

8~-	8-~~	8	8
Wiring diagram 80	Wiring diagram 81	Wiring diagram 82	Wiring diagram 83

Indicator full-face illumination compact, round, IP65





Actuator, Front dimension Ø 29 mm

Product attributes	Housing colour	Housing material	Lens cap colour	Marking cap colour	Part No.	Wiring diagram
Filament lamp max. 2.6 W or LED	Grey	Plastic	Red	White	704.020.2	4
	Grey	Plastic	Yellow	White	704.020.4	4
	Grey	Plastic	Green	White	704.020.5	4
	Grey	Plastic	Blue	White	704.020.6	4
	Grey	Plastic	Colourless	White	704.020.7	4
	Grey	Plastic	Red	Colourless	704.021.2	4
	Grey	Plastic	Yellow	Colourless	704.021.4	4
	Grey	Plastic	Green	Colourless	704.021.5	4
	Grey	Plastic	Blue	Colourless	704.021.6	4
	Grey	Plastic	Colourless	Colourless	704.021.7	4
Filament lamp 130 V, max. 2.6 W with integrated	Grey	Plastic	Red	White	704.022.2	105
series resistor 230/130 V	Grey	Plastic	Yellow	White	704.022.4	105
	Grey	Plastic	Green	White	704.022.5	105
	Grey	Plastic	Blue	White	704.022.6	105
	Grey	Plastic	Colourless	White	704.022.7	105

Wiring diagrams





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Indicator full-face illumination compact, round, IP65



13 52 B 0 2 ... 7

Dimensions [mm]



Product can differ from the current configuration.

black components shown in the 3D-drawing.

To obtain a complete unit, please select the red components from the pages shown.



Mounting cut-outs [mm]



Actuator, Front dimension Ø 29 mm

Product attributes	Housing colour	Housing material	Part No.	Wiring diagram
Without built-in series resistor	Grey	Plastic	704.642.0	4
With series resistor for 220/240 V and filament lamp 130 V, 20 mA	Grey	Plastic	704.642.1	105
With series resistor for 110/125 V and filament lamp 60 V, 33 $$ mA	Grey	Plastic	704.642.2	105

Wiring diagrams



Indicator full-face illumination, square, IP65



Product can differ from the current configuration.



Dimensions [mm]



Mounting cut-outs [mm]

To obtain a complete unit, please select the red components from the pages shown.



Actuator, Front dimension 30 mm x 30 mm

Housing colour	Housing material	Front bezel colour	Lens cap colour	Marking cap colour	Diffusor cap colour	Part No.	Wiring diagram
Grey	Plastic	Black	Red	White	White	704.199.2	4
	Plastic	Black	Yellow	White	White	704.199.4	4
	Plastic	Black	Green	White	White	704.199.5	4
	Plastic	Black	Colourless	White	White	704.199.7	4
	Plastic	Grey	Red	White	White	704.200.2	4
	Plastic	Grey	Yellow	White	White	704.200.4	4
	Plastic	Grey	Green	White	White	704.200.5	4
	Plastic	Grey	Blue	White	White	704.200.6	4
	Plastic	Grey	Colourless	White	White	704.200.7	4



Indicator full-face illumination, round, IP65



Each Part Number listed below includes all the black components shown in the 3D-drawing.

To obtain a complete unit, please select the red components from the pages shown.





Product can differ from the current configuration.



Mounting cut-outs [mm]



Actuator, Front dimension Ø 29 mm

Housing colour	Housing material	Lens cap colour	Marking cap colour	Diffusor cap colour	Part No.	Wiring diagram
Grey	Plastic	Red	White	White	704.000.2	4
	Plastic	Yellow	White	White	704.000.4	4
	Plastic	Green	White	White	704.000.5	4
	Plastic	Blue	White	White	704.000.6	4
	Plastic	Colourless	White	White	704.000.7	4
	Plastic	Red	Colourless	White	704.001.2	4
	Plastic	Yellow	Colourless	White	704.001.4	4
Plastic Plastic Plastic	Green	Colourless	White	704.001.5	4	
	Blue	Colourless	White	704.001.6	4	
	Plastic	Colourless	Colourless	White	704.001.7	4

Wiring diagrams



Indicator full-face illumination, square, IP65



Product can differ from the current configuration.



Dimensions [mm] A = Screw terminal



Mounting cut-outs [mm]

A = Screw terminal

B = Push-in terminal (PIT)C = Plug-in terminal 6.3 mm x 0.8 mm

D = Double plug-in terminal 6.3 mm x 0.8 mm



Each Part Number listed below includes all the black components shown in the 3D-drawing.

To obtain a complete unit, please select the red components from the pages shown.



Actuator, Front dimension 30 mm x 30 mm

Housing colour	Housing material	Part No.	Wiring diagram
Black	Plastic	704.730.0	4
Grey	Plastic	704.730.1	4

Wiring diagrams



Indicator full-face illumination, round, IP65



To obtain a complete unit, please select the red components from the pages shown.

Mounting cut-outs [mm]

- A = Screw terminal
- B = Push-in terminal (PIT) C = Plug-in terminal 6.3 mm x 0.8 mm
- D = Double plug-in terminal 6.3 mm x 0.8 mm



Actuator, Front dimension Ø 29 mm

Housing colour	Housing material	Part No.	Wiring diagram
Grey	Plastic	704.630.1	4

Wiring diagrams



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Indicator front illumination, square, IP65



Product can differ from the current configuration.



Dimensions [mm]



Mounting cut-outs [mm]



To obtain a complete unit, please select the red components from the pages shown.

Actuator, Front dimension 30 mm x 30 mm

Housing colour	Housing material	Front bezel colour	Lens colour	Marking plate colour	Marking plate optics	Part No.	Wiring diagram
Black	Plastic	Grey	Red	White	translucent	704.202.2	4
	Plastic	Grey	Yellow	White	translucent	704.202.4	4
	Plastic	Grey	Green	White	translucent	704.202.5	4
	Plastic	Grey	Blue	White	translucent	704.202.6	4
	Plastic	Grey	Colourless	White	translucent	704.202.7	4
	Plastic	Grey	Red	Colourless	transparent	704.203.2	4
	Plastic	Grey	Yellow	Colourless	transparent	704.203.4	4
	Plastic	Grey	Green	Colourless	transparent	704.203.5	4
	Plastic	Grey	Colourless	Colourless	transparent	704.203.7	4
	Plastic	Black	Red	White	translucent	704.206.2	4
	Plastic	Black	Yellow	White	translucent	704.206.4	4
	Plastic	Black	Green	White	translucent	704.206.5	4
	Plastic	Black	Blue	White	translucent	704.206.6	4
	Plastic	Black	Colourless	White	translucent	704.206.7	4
	Plastic	Black	Green	Colourless	transparent	704.207.5	4







Modern. Tactile and long-lasting. Series 04 illuminated selector switches.

Intuitive and reliable operation for enhanced safety in public transportation.

- Bright, single or bi-colour LED illumination
- Modern, ergonomic design
- Rounded edges (in accordance with DIN 5566-1)
- Excellent tactile feedback
- Long service life and robust construction
- · Wide range of possible combinations and options

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Indicator front illumination, round, IP65



Product can differ from the current configuration.



Dimensions [mm]



Mounting cut-outs [mm]



Each Part Number listed below includes all the black components shown in the 3D-drawing.

To obtain a complete unit, please select the red components from the pages shown.



Actuator, Front dimension Ø 29 mm

Product attributes	Housing colour	Housing ma- terial	Front bezel colour	Lens colour	Marking plate colour	Marking plate optics	Part No.	Wiring diagram
Filament lamp or	Grey	Plastic	Grey	Red	White	translucent	704.002.2	4
LED	Grey	Plastic	Grey	Yellow	White	translucent	704.002.4	4
	Grey	Plastic	Grey	Green	White	translucent	704.002.5	4
	Grey	Plastic	Grey	Blue	White	translucent	704.002.6	4
	Grey	Plastic	Grey	Colourless	White	translucent	704.002.7	4
	Grey	Plastic	Grey	Red	Colourless	transparent	704.003.2	4
	Grey	Plastic	Grey	Yellow	Colourless	transparent	704.003.4	4
	Grey	Plastic	Grey	Green	Colourless	transparent	704.003.5	4
	Grey	Plastic	Grey	Blue	Colourless	transparent	704.003.6	4
	Grey	Plastic	Grey	Colourless	Colourless	transparent	704.003.7	4
Filament lamp or	Grey	Plastic	Black	Red	White	translucent	704.006.2	4
LED	Grey	Plastic	Black	Yellow	White	translucent	704.006.4	4
	Grey	Plastic	Black	Green	White	translucent	704.006.5	4
	Grey	Plastic	Black	Blue	White	translucent	704.006.6	4
	Grey	Plastic	Black	Colourless	White	translucent	704.006.7	4







Indicator front illumination, square, IP65



Product can differ from the current configuration.







Mounting cut-outs [mm]

A = Screw terminal

B = Push-in terminal (PIT)

 $C = Plug-in terminal 6.3 mm \times 0.8 mm$

D = Double plug-in terminal 6.3 mm x 0.8 mm

Equipment co	Equipment consisting of (schematic overview)							
	Front bezel	Page 202						
\bigcirc	Lens	Page 199						
	Lens holder	Page 201						
	Actuator							
	Bayonet flange	Page 203						
	LED	Page 204						
	Lamp block	Page 210						

Each Part Number listed below includes all the black components shown in the 3D-drawing.

To obtain a complete unit, please select the red components from the pages shown.



Actuator, Front dimension 30 mm x 30 mm

Housing colour	Housing material	Part No.	Wiring diagram
Black	Plastic	704.733.0	4
Grey	Plastic	704.733.1	4



Indicator front illumination, round, IP65





Actuator, Front dimension Ø 29 mm

Housing colour	Housing material	Part No.	Wiring diagram
Grey	Plastic	704.633.1	4

Wiring diagrams



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Flasher full-face illumination, square, IP65



Product can differ from the current configuration.

General information

04

The lamp block will be delivered with screw terminal



Dimensions [mm] A = Screw terminal



Mounting cut-outs [mm] A = Screw terminal

B = Push-in terminal (PIT)

Equipment consisting of (schematic overview) Image: Constraint of the second second



Actuator, Front dimension 30 mm x 30 mm

Housing colour	Housing ma- terial	Front bezel colour	Front bezel material	Diffusor cap colour	Lens cap colour	Marking cap colour	Part No.	Wiring diagram
Grey	Plastic	Black	Plastic	White	Red	White	704.199.2	4
	Plastic	Black	Plastic	White	Yellow	White	704.199.4	4
	Plastic	Black	Plastic	White	Green	White	704.199.5	4
	Plastic	Black	Plastic	White	Colourless	White	704.199.7	4
	Plastic	Grey	Plastic	White	Red	White	704.200.2	4
	Plastic	Grey	Plastic	White	Yellow	White	704.200.4	4
	Plastic	Grey	Plastic	White	Green	White	704.200.5	4
	Plastic	Grey	Plastic	White	Blue	White	704.200.6	4
	Plastic	Grey	Plastic	White	Colourless	White	704.200.7	4





Flasher full-face illumination, round, IP65





Actuator, Front dimension Ø 29 mm

Housing colour	Housing ma- terial	Diffusor cap colour	Diffusor cap surface	Lens cap colour	Marking cap colour	Marking cap surface	Part No.	Wiring diagram
Grey	Plastic	White		Red	White		704.000.2	4
	Plastic	White		Yellow	White		704.000.4	4
	Plastic	White		Green	White		704.000.5	4
	Plastic	White		Blue	White		704.000.6	4
	Plastic	White		Colourless	White		704.000.7	4
	Plastic	White		Red	Colourless	ribbed	704.001.2	4
	Plastic	White	ribbed	Yellow	Colourless	ribbed	704.001.4	4
	Plastic	White	ribbed	Green	Colourless	ribbed	704.001.5	4
Plastic Plastic	Plastic	White	ribbed	Blue	Colourless	ribbed	704.001.6	4
	Plastic	White	ribbed	Colourless	Colourless	ribbed	704.001.7	4

Wiring diagrams



Flasher full-face illumination, square, IP65



Each Part Number listed below includes all the black components shown in the 3D-drawing.

To obtain a complete unit, please select the red components from the pages shown.



Actuator, Front dimension 30 mm x 30 mm

Housing colour	Housing material	Part No.	Wiring diagram
Black	Plastic	704.730.0	4
Grey	Plastic	704.730.1	4



Flasher full-face illumination, round, IP65



Actuator, Front dimension Ø 29 mm

Housing colour	Housing material	Part No.	Wiring diagram
Grey	Plastic	704.630.1	4



Flasher front illumination, square, IP65



black components shown in the 3D-drawing.

To obtain a complete unit, please select the red components from the pages shown.



Dimensions [mm] A = Screw terminal

Mounting cut-outs [mm] A = Screw terminal B = Push-in terminal (PIT)





Product can differ from the current configuration.

General information

The lamp block will be delivered with screw • terminal

Actuator, Front dimension 30 mm x 30 mm

Housing colour	Housing ma- terial	Lens colour	Front bezel colour	Front bezel material	Marking plate colour	Marking plate optics	Part No.	Wiring diagram
Black	Plastic	Red	Grey	Plastic	White	translucent	704.202.2	4
	Plastic	Yellow	Grey	Plastic	White	translucent	704.202.4	4
	Plastic	Green	Grey	Plastic	White	translucent	704.202.5	4
	Plastic	Blue	Grey	Plastic	White	translucent	704.202.6	4
	Plastic	Colourless	Grey	Plastic	White	translucent	704.202.7	4
	Plastic	Red	Grey	Plastic	Colourless	transparent	704.203.2	4
	Plastic	Yellow	Grey	Plastic	Colourless	transparent	704.203.4	4
	Plastic	Green	Grey	Plastic	Colourless	transparent	704.203.5	4
	Plastic	Colourless	Grey	Plastic	Colourless	transparent	704.203.7	4
	Plastic	Red	Black	Plastic	White	translucent	704.206.2	4
	Plastic	Yellow	Black	Plastic	White	translucent	704.206.4	4
	Plastic	Green	Black	Plastic	White	translucent	704.206.5	4
	Plastic	Blue	Black	Plastic	White	translucent	704.206.6	4
	Plastic	Colourless	Black	Plastic	White	translucent	704.206.7	4
	Plastic	Green	Black	Plastic	Colourless	transparent	704.207.5	4

Wiring diagrams



Wiring diagram 4





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Flasher front illumination, round, IP65



To obtain a complete unit, please select the red



Dimensions [mm] A = Screw terminal





Product can differ from the current configuration.

General information

The lamp block will be delivered with screw terminal

Mounting cut-outs [mm]
A = Screw terminal
B = Push-in terminal (PIT)

black components shown in the 3D-drawing.

To obtain a complete unit, please select the red components from the pages shown.



Actuator, Front dimension Ø 29 mm

Housing colour	Housing ma- terial	Lens colour	Front bezel colour	Front bezel material	Marking plate colour	Marking plate optics	Part No.	Wiring diagram
Grey	Plastic	Red	Grey	Plastic	White	translucent	704.002.2	4
	Plastic	Yellow	Grey	Plastic	White	translucent	704.002.4	4
	Plastic	Green	Grey	Plastic	White	translucent	704.002.5	4
	Plastic	Blue	Grey	Plastic	White	translucent	704.002.6	4
	Plastic	Colourless	Grey	Plastic	White	translucent	704.002.7	4
	Plastic	Red	Grey	Plastic	Colourless	transparent	704.003.2	4
	Plastic	Yellow	Grey	Plastic	Colourless	transparent	704.003.4	4
	Plastic	Green	Grey	Plastic	Colourless	transparent	704.003.5	4
	Plastic	Blue	Grey	Plastic	Colourless	transparent	704.003.6	4
	Plastic	Colourless	Grey	Plastic	Colourless	transparent	704.003.7	4
	Plastic	Red	Black	Plastic	White	translucent	704.006.2	4
	Plastic	Yellow	Black	Plastic	White	translucent	704.006.4	4
	Plastic	Green	Black	Plastic	White	translucent	704.006.5	4
	Plastic	Blue	Black	Plastic	White	translucent	704.006.6	4
	Plastic	Colourless	Black	Plastic	White	translucent	704.006.7	4

Wiring diagrams


Flasher front illumination, square, IP65



To obtain a complete unit, please select the red

black components shown in the 3D-drawing.

components from the pages shown.



Dimensions [mm] A = Screw terminal



- Mounting cut-outs [mm] A = Screw terminal
- B = Push-in terminal (PIT)



Product can differ from the current configuration.

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Actuator, Front dimension 30 mm x 30 mm

Housing colour	Housing material	Part No.	Wiring diagram
Black	Plastic	704.733.0	4
Grey	Plastic	704.733.1	4



Flasher front illumination, round, IP65



Product can differ from the current configuration.







Mounting cut-outs [mm] A = Screw terminalB = Push-in terminal (PIT)

Equipment co	nsisting of (schematic o	verview)
	Front bezel	Page 202
\bigcirc	Lens	Page 199
\bigcirc	Marking Plate	Page 201
	Actuator	
	Bayonet flange	Page 203
٩	LED	Page 204
	Lamp block	Page 210
	Flasher element	Page 235
	mber listed below includ nents shown in the 3D-d	
	omplete unit, please sele from the pages shown.	ct the red



Actuator, Front dimension Ø 29 mm

Housing colour	Housing material	Part No.	Wiring diagram
Grey	Plastic	704.633.1	4

Wiring diagrams



Buzzer, IP65





Dimensions [mm]

Mounting cut-outs [mm]





Product can differ from the current configuration.

General information

- Further information see Technical data
- The colour of anodised aluminium parts can vary due to technical production reasons



Actuator, Front dimension Ø 29 mm

Terminal	Operating voltage	Front cap colour	Front cap material	Front cap surface	Part No.	Wiring diagram
Plug-in terminal	24 V DC	Black	Plastic		14-810.002	71
	24 V DC	Nature	Aluminium	anodised	14-810.902	71

Wiring diagrams



Terminal	Operating voltage	Front cap colour	Front cap material	Front cap surface	Part No.	Wiring diagram
Plug-in terminal	24 V DC	Black	Plastic		14-810.002	71
	24 V DC	Nature	Aluminium	anodised	14-810.902	71

Potentiometer, IP65







Mounting cut-outs [mm]



General information

• Resistor 10 kOhm / linear, series E3

Actuator, Front dimension Ø 28 mm

Housing material	Front bezel colour	Front bezel material	Front bezel surface	Resistance	Part No.	Wiring diagram
Plastic		Metal	matt chrome	10 kOhm	44-745.20-10K1	104
	Matt grey	Plastic		10 kOhm	44-745.60-10K1	104

Wiring diagrams



Stop switch Ø 37 mm, IP65



black components shown in the 3D-drawing.

To obtain a complete unit, please select the red components from the pages shown.



Mounting cut-outs [mm]



Actuator, Front dimension Ø 37 mm

Switching action	Housing colour	Housing material	Lens colour	Marking	Product attributes	Part No.	Wiring diagram
Maintained	Yellow	Plastic	Red	Arrows	Twist to unlock clockwise	704.064.2	363
	Yellow	Plastic	Red	Arrows	Key to unlock clockwise	704.066.2	364

Wiring diagrams



Stop switch Ø 40 mm, IP65



Product can differ from the current configuration.

General information

04

- The standard lock Ronis 251
- The colour of anodised aluminium parts can vary due to technical production reasons







 Equipment consisting of (schematic overview)

 Image: Constraint of the second structure

 Image: Constraint of the second stru

Each Part Number listed below includes all the black components shown in the 3D-drawing.

To obtain a complete unit, please select the red components from the pages shown.

Mounting cut-outs [mm]

- A = Screw terminal
- B = Push-in terminal (PIT)C = Plug-in terminal 6.3 mm x 0.8 mm
- D = Double plug-in terminal 6.3 mm x 0.8 mm
- = Double plug-interminal 6.3 min x 0.8 min



Actuator, Front dimension Ø 40 mm

Switching action	Housing colour	Housing material	Lens colour	Marking	Product attributes	Front bezel colour	Front bezel material	Front bezel surface	Part No.	Wiring diagram
Maintained	Grey	Plastic	Red	Arrows	Twist to unlock clockwise	Grey	Plastic		704.074.2	363
	Grey	Plastic	Red	Stop	Twist to unlock clockwise	Grey	Plastic		704.074.3	363
	Grey	Plastic	Red	Arrows	Twist to unlock clockwise	Nature	Aluminium	anodised	704.075.2	363
	Grey	Plastic	Red	Stop	Twist to unlock clockwise	Nature	Aluminium	anodised	704.075.3	363
	Grey	Plastic	Red		Key to unlock clockwise	Grey	Plastic		704.076.0	364
	Grey	Plastic	Red		Key to unlock clockwise	Nature	Aluminium	anodised	704.078.0	364

Wiring diagrams



Emergency stop switch, foolproof EN IEC 60974-5-5, IP65



To obtain a complete unit, please select the red components from the pages shown.



Dimensions [mm] A = Screw terminal

Mounting cut-outs [mm]





Product can differ from the current configuration.

General information

- Max. 2 switching elements can be clipped on
- Shaft yellow



Actuator, Front dimension Ø 37 mm

Switching action	Housing colour	Housing material	Lens colour	Marking	Product attributes	Part No.	Wiring diagram
Maintained	Yellow	Plastic	Red	Arrows	Twist to unlock anti-clock- wise	704.064.2A	363
	Yellow	Plastic	Red	Arrows	Key release to unlock anti-clockwise	704.066.2A	364

Wiring diagrams





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Emergency call switch, IP65



Mounting cut-outs [mm]

- A = Screw terminal
- B = Push-in terminal (PIT)
- C = Plug-in terminal 6.3 mm x 0.8 mm D = Double plug-in terminal 6.3 mm x 0.8 mm



Actuator, Front dimension Ø 60 mm

Switching action	Lens colour	Lens material	Housing colour	Housing material	Part No.	Wiring diagram
Maintained	Red	Plastic	Grey	Plastic	704.077.2D	364

Wiring diagrams





Lens plastic raised

Lens material	Lens colour	Lens optics	Lens shape	Lens illumination	Dimensions	Part No.
Plastic	Red	transparent	flush	illuminative	Ø 23,7 mm	704.611.2
	Yellow	transparent	flush	illuminative	Ø 23,7 mm	704.611.4
	Green	transparent	flush	illuminative	Ø 23,7 mm	704.611.5
	Blue	transparent	flush	illuminative	Ø 23,7 mm	704.611.6
	Colourless	transparent	flush	illuminative	Ø 23,7 mm	704.611.7

Additional information

• To obtain IP67, use marking plate Part Nr. 704.610.X



Lens plastic square

Lens material	Lens colour	Lens optics	Lens shape	Lens illumination	Dimensions	Part No.
Plastic	Black	opaque	flush	non illuminative	24,4 mm x 24,4 mm	704.702.0
	White	opaque	flush	non illuminative	24,4 mm x 24,4 mm	704.702.9
	Red	transparent	flush	illuminative	24,4 mm x 24,4 mm	704.702.2
	Yellow	transparent	flush	illuminative	24,4 mm x 24,4 mm	704.702.4
	Green	transparent	flush	illuminative	24,4 mm x 24,4 mm	704.702.5
	Blue	transparent	flush	illuminative	24,4 mm x 24,4 mm	704.702.6
	Colourless	transparent	flush	illuminative	24,4 mm x 24,4 mm	704.702.7



Lens metal round spot round

Lens material	Lens colour	Lens optics	Lens shape	Lens illumination	Dimensions	Part No.
Aluminium	Black	opaque	flush	illuminative	Ø 23,7 mm	704.601.01
	Red	opaque	flush	illuminative	Ø 23,7 mm	704.601.21
	Gold	opaque	flush	illuminative	Ø 23,7 mm	704.601.41
	Olive green	opaque	flush	illuminative	Ø 23,7 mm	704.601.51
	Blue	opaque	flush	illuminative	Ø 23,7 mm	704.601.61
	Nature	opaque	flush	illuminative	Ø 23,7 mm	704.601.81
Stainless steel	Nature	opaque	flush	illuminative	Ø 23,7 mm	704.601.91
	Nature	opaque	flush	illuminative	Ø 23,7 mm	704.601.101

Additional information

The colour of anodised aluminium parts can vary due to technical production reasons

To obtain IP65, it is necessary to use marking plate Part No.. 704.609.X



Lens metal round

Lens material	Lens colour	Lens optics	Lens shape	Lens illumination	Dimensions	Part No.
Aluminium	Black	opaque	flush	non illuminative	Ø 23,7 mm	704.601.0
	Red	opaque	flush	non illuminative	Ø 23,7 mm	704.601.2
	Gold	opaque	flush	non illuminative	Ø 23,7 mm	704.601.4
	Olive green	opaque	flush	non illuminative	Ø 23,7 mm	704.601.5
	Blue	opaque	flush	non illuminative	Ø 23,7 mm	704.601.6
	Nature	opaque	flush	non illuminative	Ø 23,7 mm	704.601.8
Stainless steel	Nature	opaque	flush	non illuminative	Ø 23,7 mm	704.601.9
	Nature	opaque	flush	non illuminative	Ø 23,7 mm	704.601.10

Additional information

- The colour of anodised aluminium parts can vary due to technical production reasons
- To obtain IP65, it is necessary to use marking plate Part No.. 704.609.X



Lens plastic round

Lens material	Lens colour	Lens optics	Lens shape	Lens illumination	Symbol	Dimensions	Part No.
Plastic	Black	opaque	flush	non illuminative		Ø 23.7 mm	704.602.0
	Red	transparent	flush	illuminative		Ø 23,7 mm	704.602.2
	Yellow	transparent	flush	illuminative		Ø 23,7 mm	704.602.4
	Green	transparent	flush	illuminative		Ø 23,7 mm	704.602.5
	Blue	transparent	flush	illuminative		Ø 23,7 mm	704.602.6
	Colourless	transparent	flush	illuminative		Ø 23,7 mm	704.602.7
	Silver	transparent	flush	illuminative	Ring	Ø 23,7 mm	704.602.7A01

Additional information

- To obtain IP67, use marking plate Part No. 704.609.9
- To obtain IP67 use marking plate Part No. 704.609.9A01 (ring illumination)



L P

Lens cap round for full face indicator

Lens cap material	Lens cap colour	Lens cap optical effect	Diameter	Part No.
Plastic	Red	transparent	29 mm	704.603.2
	Yellow	transparent	29 mm	704.603.4
	Green	transparent	29 mm	704.603.5
	Blue	transparent	29 mm	704.603.6
	Colourless	transparent	29 mm	704.603.7

Additional information

• To obtain IP67, use marking plate Part Nr. 704.608.X

Lens holder

Marking plate material	Marking plate colour	Marking plate illumination	Part No.
Plastic	Colourless	illuminative	704.709.7
	White	illuminative	704.709.9

Additional information

• For square lens



Marking cap for lens cap round

Marking cap material	Marking cap colour	Marking cap optics	Dimensions	Marking cap surface	Part No.
Plastic	Colourless	transparent	Ø 29 mm	ribbed	704.608.7
	White	translucent	Ø 29 mm		704.608.9



Marking cap round raised profile

Marking cap material	Marking cap colour	Marking cap optics	Dimensions	Marking cap surface	Part No.
Plastic	Colourless	transparent	Ø 29 mm	ribbed	704.610.7
	White	translucent	Ø 29 mm		704.610.9



Marking cap round flat

Marking plate material	Marking plate colour	Marking plate optics	Marking plate illumination	Part No.
Plastic	Black	opaque	non illuminative	704.609.0
	Colourless	transparent	illuminative	704.609.7
	White	translucent	illuminative	704.609.9
	White	translucent	ring illumination	704.609.9A01



Diffusor cap

Product attributes	Diffusor cap colour	Diffusor cap optics	Diffusor cap illumination	Part No.
	Colourless	transparent	illuminative	704.708.7
Can be marked	White	translucent	illuminative	704.708.9



Front bezel round, raised design

Front bezel material	Front bezel colour	Front bezel surface	Dimensions	Part No.
Plastic	Black		Ø 29 mm	704.600.0
	Grey		Ø 29 mm	704.600.6
	Grey		Ø 29 mm x 16 mm	704.600.7
Aluminium	Nature	anodised	Ø 29 mm	704.600.1
	Black	anodised	Ø 29 mm	704.600.1A
Stainless steel	Nature		Ø 29 mm	704.600.9

Additional information

• The colour of anodised aluminium parts can vary due to technical production reasons



Front bezel square, raised design

Front bezel material	Front bezel colour	Front bezel surface	Dimensions	Part No.
Plastic	Black		30 mm x 30 mm	704.701.0
	Chrome coloured	chrome plated	30 mm x 30 mm	704.701.4
	Grey		30 mm x 30 mm	704.701.6



Front bezel set flush design

Front bezel material	Front bezel colour	Front bezel surface	Dimensions	Part No.
Aluminium	Black	anodised	Ø 35 mm	704.955.0
	Nature	anodised	Ø 35 mm	704.955.1
Stainless steel 304	Nature		Ø 35 mm	704.955.9
Stainless steel 316	Nature		Ø 35 mm	704.955.10

Additional information

• The colour of anodised aluminium parts can vary due to technical production reasons



Front bezel set protective membrane

Product attributes	Front bezel material	Front bezel colour	Front bezel surface	Dimensions	Part No.
With transparent silicone membrane	Aluminium	Nature	anodised	Ø 35 mm	704.955.3
	Aluminium	Black	anodised	Ø 35 mm	704.955.4
With transparent silicone membrane, resistant to sea water	Stainless steel	Nature		Ø 35 mm	704.955.9E

Additional information

• The colour of anodised aluminium parts can vary due to technical production reasons

Part No. 704.950.5

704.960.5



Material plastic



Dimensions [mm] for Part No. 704.950.5

Dimensions [mm] for Part No. 704.960.5

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27.6



04

Single-LED, BA9s

Illumination colour	Operating voltage	Operation current	Lumi. Intensity	Dom. Wavelength	Part No.	Wiring diagran
Red	6 V DC +10%	17 mA ±15 %	400 mcd	630 nm	10-2506.1082	70
	12 V AC/DC +10%	16 mA ±15 %	390 mcd	630 nm	10-2509.1142	70
	24 V AC/DC +10%	15 mA ±15 %	350 mcd	630 nm	10-2512.1142	70
	28 V AC/DC +10%	13 mA ±15 %	300 mcd	630 nm	10-2513.1142	70
	48 V AC/DC +10%	8 mA ±15 %	200 mcd	630 nm	10-2519.1052	70
	130 V DC +10%	3 mA ±15 %	120 mcd	630 nm	10-2524.3042	70
	130 V AC +10%	5 mA ±15 %	180 mcd	630 nm	10-2H24.2052	70
	230 V AC +10%	3 mA ±15 %	120 mcd	630 nm	10-2H25.2042	70
Yellow	6 V DC +10%	17 mA ±15 %	340 mcd	587 nm	10-2506.1084	70
	12 V AC/DC +10%	16 mA ±15 %	340 mcd	587 nm	10-2509.1144	70
	24 V AC/DC +10%	15 mA ±15 %	300 mcd	587 nm	10-2512.1144	70
	28 V AC/DC +10%	13 mA ±15 %	270 mcd	587 nm	10-2513.1144	70
	48 V AC/DC +10%	8 mA ±15 %	180 mcd	587 nm	10-2519.1054	70
	130 V DC +10%	3 mA ±15 %	110 mcd	587 nm	10-2524.3044	70
	130 V AC +10%	5 mA ±15 %	160 mcd	587 nm	10-2H24.2054	70
	230 V AC +10%	3 mA ±15 %	110 mcd	587 nm	10-2H25.2044	70
Green	6 V DC +10%	7 mA ±15 %	1050 mcd	525 nm	10-2506.1085	70
	12 V AC/DC +10%	7 mA ±15 %	1050 mcd	525 nm	10-2509.1145	70
	24 V AC/DC +10%	7 mA ±15 %	1050 mcd	525 nm	10-2512.1145	70
	28 V AC/DC +10%	7 mA ±15 %	1050 mcd	525 nm	10-2513.1145	70
	48 V AC/DC +10%	4 mA ±15 %	600 mcd	525 nm	10-2519.1055	70
	130 V DC +10%	2 mA ±15 %	300 mcd	525 nm	10-2524.3045	70
	130 V AC +10%	3 mA ±15 %	450 mcd	525 nm	10-2H24.2055	70
	230 V AC +10%	2 mA ±15 %	300 mcd	525 nm	10-2H25.2045	70
Blue	6 V DC +10%	17 mA ±15 %	780 mcd	470 nm	10-2506.1086	70
	12 V AC/DC +10%	16 mA ±15 %	720 mcd	470 nm	10-2509.1146	70
	24 V AC/DC +10%	15 mA ±15 %	680 mcd	470 nm	10-2512.1146	70
	28 V AC/DC +10%	13 mA ±15 %	590 mcd	470 nm	10-2513.1146	70
	48 V AC/DC +10%	8 mA ±15 %	400 mcd	470 nm	10-2519.1056	70
	130 V DC +10%	3 mA ±15 %	200 mcd	470 nm	10-2524.3046	70
	130 V AC +10%	5 mA ±15 %	230 mcd	470 nm	10-2H24.2056	70
	230 V AC +10%	3 mA ±15 %	200 mcd	470 nm	10-2H25.2046	70
White	6 V DC +10%	5 mA ±15 %	750 mcd	x: 0.31 / y: 0.32 nm	10-2506.1089	70
	12 V AC/DC +10%	8 mA ±15 %	1200 mcd	x: 0.31 / y: 0.32 nm	10-2509.1149	70
	24 V AC/DC +10%	7 mA ±15 %	1050 mcd	x: 0.31 / y: 0.32 nm	10-2512.1149	70
	28 V AC/DC +10%	5 mA ±15 %	750 mcd	x: 0.31 / y: 0.32 nm	10-2513.1149	70
	48 V AC/DC +10%	5 mA ±15 %	750 mcd	x: 0.31 / y: 0.32 nm	10-2519.1059	70
	130 V DC +10%	1,5 mA ±15 %	225 mcd	x: 0.31 / y: 0.32 nm	10-2524.3049	70
	130 V AC +10%	2 mA ±15 %	300 mcd	x: 0.31 / y: 0.32 nm	10-2H24.2059	70
	230 V AC +10%	1,5 mA ±15 %	225 mcd	x: 0.31 / y: 0.32 nm	10-2H25.2049	70

Additional information

- The specified 6 V DC, 24 V DC Bi-colour; 130 V AC, 130 V DC and 230 V AC versions are built with a
 protection diode
- The specified 12, 24, 28, 48 VAC/DC versions are built with a bridge rectifier
- The specified 130 VAC types are developed to run on a supply voltage of 130 VAC only
- An operation at a higher supply voltage using commercial lampholders with integrated resistors, is not approved
- If the 24VDC Bi-colour lamp is driven with normal polarity (plus on middle contact of the lamp) the first
 mentioned colour will light up, with inverted polarity the second colour will light up
- The luminous intensity stated is for when used with DC
- Electrical and optical data are measured at 25 °C
- Luminosity and wave length variations caused by LED manufacturing processes may cause slight differences regarding the illumination. The customer has to decide what resistor shall be used to the LED



Dimensions [mm]

Wiring diagrams





Single-LED super bright

Illumination colour	Operating voltage	Operation current	Lumi. Intensity	Dom. Wavelength	Part No.	Wiring diagram
Red	28 V AC/DC +10%	14 mA ±15 %	7700 mcd	630 nm	10-2413.1132R	70
Green	28 V AC/DC +10%	13 mA ±15 %	12400 mcd	525 nm	10-2413.1125R	70
Yellow	28 V AC/DC +10%	14 mA ±15 %	4200 mcd	589 nm	10-2413.1134R	70

Additional information

- The specified 12, 24, 28, 48 VAC/DC versions are built with a bridge rectifier
- Electrical and optical data are measured at 25 °C
- Luminosity and wave length variations caused by LED manufacturing processes may cause slight differences regarding the illumination. The customer has to decide what resistor shall be used to the LED



Dimensions [mm]

A = (standard) B = (super bright)





Single-LED with integrated Zener diode, BA9s

Illumination colour	Operating voltage	Operation current	Lumi. Intensity	Dom. Wavelength	Part No.	Wiring diagram
Red	24 - 30 V AC/DC +10%	13 - 19 mA ±15 %	300 - 440 mcd	630 nm	10-2H13.3162Q	367
Green	24 - 30 V AC/DC +10%	12 - 18 mA ±15 %	1800 - 2700 mcd	525 nm	10-2H13.3165Q	367
Yellow	24 - 30 V AC/DC +10%	13 - 19 mA ±15 %	270 - 380 mcd	589 nm	10-2H13.3164Q	367
Blue	24 - 30 V AC/DC +10%	12 - 18 mA ±15 %	560 - 800 mcd	589 nm	10-2H13.3166Q	367
White	24 - 30 V AC/DC +10%	7 - 11 mA ±15 %	600 - 900 mcd	589 nm	10-2H13.3169Q	367

Additional information

- Luminosity and wave length variations caused by LED manufacturing processes may cause slight diffe-rences regarding the illumination. The customer has to decide what resistor shall be used to the LED
- Electrical and optical data are measured at 25 °C
- The specified 12, 24, 28, 48 VAC/DC versions are built with a bridge rectifier



Dimensions [mm]

A = (standard)B = (super bright)





Bi-colour LED, BA9s

Illumination colour	Operating voltage	Operation current	Lumi. Intensity	Dom. Wavelength	Product attributes	Part No.	Wiring diagram
Red / Green	24 V AC/DC +10%	15 mA ±15 %	1200/900 mcd	625 / 525 nm	X2: + = Red / X1: + = Green	10-2H12.314A	171
Red / Yellow	24 V AC/DC +10%	15 mA ±15 %	1200/550 mcd	625 / 589 nm	X2: + = Red / X1: + = Yellow	10-2H12.314B	171
Green / Yellow	24 V AC/DC +10%	15 mA ±15 %	900/550 mcd	525 / 589 nm	X2: + = Yellow / X1: + = Green	10-2H12.314C	171

Additional information

- The max. overall length of the lamp may not exeed 25mm
- Electrical and optical data are measured at 25 °C
- The specified 6 V DC, 24 V DC Bi-colour; 130 V AC, 130 V DC and 230 V AC versions are built with a protection diode
- Luminosity and wave length variations caused by LED manufacturing processes may cause slight differences regarding the illumination. The customer has to decide what resistor shall be used to the LED



Dimensions [mm]

A = (standard) B = (super bright)





Multi-LED, BA9s, EN 50155, Fail Safe

Illumination colour	Operating voltage	Operation current	Lumi. Intensity	Dom. Wavelength	Part No.	Wiring diagram
Red	72 V AC/DC	2,2 mA -30%/+25%	4 x 128 mcd	625 nm	10-4H21.1032P	368
	110 V AC/DC	2 mA -30%/+25%	4 x 128 mcd	625 nm	10-4H22.1032P	368
Yellow	72 V AC/DC	2,2 mA -30%/+25%	4 x 112 mcd	589 nm	10-4H21.1034P	368
	110 V AC/DC	2 mA -30%/+25%	4 x 128 mcd	589 nm	10-4H22.1034P	368
Green	72 V AC/DC	2,2 mA -30%/+25%	4 x 478 mcd	525 nm	10-4H21.1035P	368
	110 V AC/DC	2 mA -30%/+25%	4 x 510 mcd	525 nm	10-4H22.1035P	368
Blue	72 V AC/DC	2,2 mA -30%/+25%	4 x 90 mcd	465 nm	10-4H21.1036P	368
	110 V AC/DC	2 mA -30%/+25%	4 x 86 mcd	465 nm	10-4H22.1036P	368
White	72 V AC/DC	2,2 mA -30%/+25%	4 x 382 mcd		10-4H21.1039P	368
	110 V AC/DC	2 mA -30%/+25%	4 x 446 mcd		10-4H22.1039P	368

Additional information

- A suitable LED remover Part No. 700.006.0
- The luminous intensity stated is for when used with DC
- Electrical and optical data are measured at 25 °C
- The specified 72 and 110 VAC/VDC versions are built with a bridge rectifier
- The specified 72 and 110 VAC/VDC versions are built with a protection diode
- In case one LED fails, the other pair of still functioning LED:s is working. The light output then is half in order to indicate the malfunction and shows this way the need for replacement
- Luminosity and wave length variations caused by LED manufacturing processes may cause slight differences regarding the illumination. The customer has to decide what resistor shall be used to the LED



Dimensions [mm]



LED BA9s, EN 50155

Illumination colour	Operating voltage	Operation current	Lumi. Intensity	Part No.	Wiring diagram
White	24 V AC/DC	-30%/+25%	700 mcd	10-2412.1089P	369
Additional information					
A suitable LED remover	Part No. 700.006.0				
The luminous intensity s	stated is for when used with DC				
Electrical and optical da	ta are measured at 25 °C				
The specified 24 VAC/VI	DC versions are built with a protec	tion diode			
Specified 24 VAC/VDC	versions are built with a bridge rect	ifier			
• The new, white BA9s LE 50155 and IEEE 1476	D operates within a range of 16VD	C to 34VDC. It conforms to the n	orms EN		
	ngth variations caused by LED mar mination. The customer has to de				
-	5 max.				
Ø10 max.					

Dimensions [mm]

Wiring diagrams





Operating voltage	Operation current		Wiring diagram
24 V AC/DC	50 mA ±10 %	10-1412.1279	432
36 V AC/DC	56 mA ±10 %	10-1416.1289	432
60 V AC/DC	33 mA ±10 %	10-1420.1219	432
110 V AC/DC	22 mA ±10 %	10-1422.1179	432
130 V AC/DC	20 mA ±10 %	10-1424.1179	432

Additional information

The max. overall length of the lamp may not exceed 28 mm

Wiring diagrams



Wiring diagram

04



Lamp block for selector switch and illuminated pushbutton, 2 positions

Product attributes	Terminal kind of	Part No.	Wiring diagram
	Screw terminal	704.950.0	4
	Plug-in terminal	704.950.1	4
Terminals nickel plated and blank Cu/Sn	Double plug-in terminal	704.950.1/D	4
	Push-in Terminal	704.950.3	4
Terminals nickel plated Cu/Sn	Double plug-in terminal	704.950.2/D	4
For ring cable shoe	Screw terminal	704.950.0B	4



Dimensions [mm]

- A = Screw terminal
- B = Push-in terminal (PIT)
- C = Plug-in terminal 6.3 mm x 0.8 mmD = Double plug-in terminal 6.3 mm x 0.8 mm





Lamp block for selector switch 3 positions

			Wiring
Product attributes	Terminal kind of	Part No.	diagram
	Screw terminal	704.951.0	4
	Plug-in terminal	704.951.1	4
Terminals nickel plated and blank Cu/Sn	Double plug-in terminal	704.951.1/D	4
	Push-in Terminal	704.951.3	4



Dimensions [mm] A = Screw terminal

B = Push-in terminal (PIT)

C = Plug-in terminal 6.3 mm x 0.8 mmD = Double plug-in terminal 6.3 mm x 0.8 mm

Wiring diagrams





Dual lamp block

		D	Wiring	Com- ponent
Operating voltage	Terminal kind of	Part No.	diagram	Layout
24 V AC/DC	Push-in Terminal	704.952.129.3	375	104
110 V AC/DC	Push-in Terminal	704.952.159.3	375	104



Dimensions [mm] B = Push-in terminal (PIT)

Wiring diagrams



Component layouts





Snap-action switching element with push-in terminal

Switching voltage	Switching current	Contacts	Contact material	Part No.	Wiring diagram	
250 V	6 A	1 NO	Gold-plated silver	704.907.1	376	
	6 A	1 NC	Gold-plated silver	704.907.2	377	
	6 A	2 NO	Gold-plated silver	704.907.3	378	0
	6 A	2 NC	Gold-plated silver	704.907.4	379	- 5
	6 A	1 NC / 1 NO	Gold-plated silver	704.907.5	380	
	6 A	1 NO	Silver	704.908.1	376	
	6 A	1 NC	Silver	704.908.2	377	
	6 A	2 NO	Silver	704.908.3	378	
	6 A	2 NC	Silver	704.908.4	379	
	6 A	1 NC / 1 NO	Silver	704.908.5	380	

Contacts: NC = Normally closed, NO = Normally open

Additional information

• For the third switching element the terminal marking insert is to be ordered separately



Dimensions [mm]

- A = Screw terminal
- B = Push-in terminal (PIT)
- C = Plug-in terminal (6.3 mm x 0.8 mm)D = Double plug-in terminal (6.3 mm x 0.8 mm)

Wiring diagrams





Slow-make switching element with push-in terminal

Switching voltage	Switching current	Contacts	Contact material	Part No.	Wiring diagram
250 V	6 A	1 NO	Gold-plated silver	704.917.1	376
	6 A	1 NC	Gold-plated silver	704.917.2	377
	6 A	2 NO	Gold-plated silver	704.917.3	378
	6 A	2 NC	Gold-plated silver	704.917.4	379
	6 A	1 NC / 1 NO	Gold-plated silver	704.917.5	380
	6 A	1 NO	Silver	704.918.1	376
	6 A	1 NC	Silver	704.918.2	377
	6 A	2 NO	Silver	704.918.3	378
	6 A	2 NC	Silver	704.918.4	379
	6 A	1 NC / 1 NO	Silver	704.918.5	380

Contacts: NC = Normally closed, NO = Normally open

Additional information

• For the third switching element the terminal marking insert is to be ordered separately



Dimensions [mm]

A = Screw terminal B = Push-in terminal (PIT)

C = Plug-in terminal (-11)C = N = Plug-in terminal 6.3 mm x 0.8 mm

D = Double plug-in terminal 6.3 mm x 0.8 mm





Snap-action switching element with plug-in terminal

Switching voltage	Switching current	Contacts	Contact material	Part No.	Wiring diagram
500 V	6 A	1 NO	Silver	704.905.1	376
	6 A	1 NC	Silver	704.905.2	377
	6 A	2 NO	Silver	704.905.3	378
	6 A	2 NC	Silver	704.905.4	379
	6 A	1 NC / 1 NO	Silver	704.905.5	380

Contacts: NC = Normally closed, NO = Normally open

Additional information

• For the third switching element the terminal marking insert is to be ordered separately



Dimensions [mm]

A = Screw terminal B = Push-in terminal (PIT)

C = Plug-in terminal 6.3 mm x 0.8 mm

D = Double plug-in terminal 6.3 mm x 0.8 mm

13	11	13 23	11 21	13 21
	7			
14	12	14 24	12 22	14 22
Wiring diagram 376	Wiring diagram 377	Wiring diagram 378	Wiring diagram 379	Wiring diagram 380



Slow-make switching element with plug-in terminal

Switching voltage	Switching current	Contacts	Contact material	Part No.	Wiring diagram
500 V	6 A	1 NO	Silver	704.915.1	376
	6 A	1 NC	Silver	704.915.2	377
	6 A	2 NO	Silver	704.915.3	378
	6 A	2 NC	Silver	704.915.4	379
	6 A	1 NC / 1 NO	Silver	704.915.5	380

Contacts: NC = Normally closed, NO = Normally open

Additional information

• For the third switching element the terminal marking insert is to be ordered separately



Dimensions [mm]

A = Screw terminal

B = Push-in terminal (PIT)C = Plug-in terminal 6.3 mm x 0.8 mmD = Double plug-in terminal 6.3 mm x 0.8 mm

13	11	13 23	11 21	13 21
	4			
14	12	14 24	12 22	14 22
Wiring diagram 376	Wiring diagram 377	Wiring diagram 378	Wiring diagram 379	Wiring diagram 380



Snap-action switching element with double plug-in terminal

Switching voltage	Switching current	Contacts	Contact material	Part No.	Wiring diagram
500 V	6 A	1 NO	Gold-plated silver	704.901.1/D	376
	6 A	1 NC	Gold-plated silver	704.901.2/D	377
	6 A	2 NO	Gold-plated silver	704.901.3/D	378
	6 A	2 NC	Gold-plated silver	704.901.4/D	379
	6 A	1 NC / 1 NO	Gold-plated silver	704.901.5/D	380
	6 A	1 NO	Silver	704.905.1/D	376
	6 A	1 NC	Silver	704.905.2/D	377
500 V	6 A	2 NC	Silver	704.905.4/D	379
	6 A	1 NC / 1 NO	Silver	704.905.5/D	380

Contacts: NC = Normally closed, NO = Normally open

Additional information

• For the third switching element the terminal marking insert is to be ordered separately



Dimensions [mm]

A = Screw terminal

B = Push-in terminal (PIT)C = Plug-in terminal 6.3 mm x 0.8 mmD = Double plug-in terminal 6.3 mm x 0.8 mm

13	11	13 23	11 21	13 21
	4		44	
14	12	14 24	12 22	14 22
Wiring diagram 376	Wiring diagram 377	Wiring diagram 378	Wiring diagram 379	Wiring diagram 380



Slow-make switching element with double plug-in terminal

Switching voltage	Switching current	Contacts	Contact material	Part No.	Wiring diagram
500 V	6 A	1 NO	Silver	704.915.1/D	376
	6 A	1 NC	Silver	704.915.2/D	377
	6 A	2 NO	Silver	704.915.3/D	378
	6 A	2 NC	Silver	704.915.4/D	379
	6 A	1 NC / 1 NO	Silver	704.915.5/D	380

Contacts: NC = Normally closed, NO = Normally open

Additional information

• For the third switching element the terminal marking insert is to be ordered separately



Dimensions [mm]

A = Screw terminal

B = Push-in terminal (PIT)

 $C = Plug-in terminal 6.3 \text{ mm} \times 0.8 \text{ mm}$

D = Double plug-in terminal 6.3 mm x 0.8 mm

13	11	13 23	11 21	13 21
	4		44	
l 14	12	 14 24	 12 22	 14 22
Wiring diagram 376	Wiring diagram 377	Wiring diagram 378	Wiring diagram 379	Wiring diagram 380



Snap-action switching element with screw terminal

Switching voltage	Switching current	Contacts	Contact material	Part No.	Wiring diagram
500 V	10 A	1 NO	Silver	704.900.1	376
	10 A	1 NC	Silver	704.900.2	377
	10 A	2 NO	Silver	704.900.3	378
	10 A	2 NC	Silver	704.900.4	379
	10 A	1 NC / 1 NO	Silver	704.900.5	380
	10 A	1 NO	Gold-plated silver	704.901.1	376
	10 A	1 NC	Gold-plated silver	704.901.2	377
	10 A	2 NO	Gold-plated silver	704.901.3	378
	10 A	2 NC	Gold-plated silver	704.901.4	379
	10 A	1 NC / 1 NO	Gold-plated silver	704.901.5	380
	10 A	1 NO	Palladium	704.902.1	376
	10 A	1 NC	Palladium	704.902.2	377
	10 A	2 NO	Palladium	704.902.3	378
	10 A	2 NC	Palladium	704.902.4	379
	10 A	1 NC / 1 NO	Palladium	704.902.5	380

Contacts: NC = Normally closed, NO = Normally open

Additional information

• For the third switching element the terminal marking insert is to be ordered separately



Dimensions [mm] A = Screw terminal

B = Push-in terminal (PIT)C = Plug-in terminal 6.3 mm x 0.8 mm

D = Double plug-in terminal 6.3 mm x 0.8 mm

13	11	13 23	11 21	13 21
	4		44	
14	12	14 24	12 22	14 22
Wiring diagram 376	Wiring diagram 377	Wiring diagram 378	Wiring diagram 379	Wiring diagram 380



Slow-make switching element with screw terminal

Switching voltage	Switching current	Contacts	Contact material	Part No.	Wiring diagram
500 V	10 A	1 NO	Silver	704.910.1	376
	10 A	1 NC	Silver	704.910.2	377
	10 A	2 NO	Silver	704.910.3	378
	10 A	2 NC	Silver	704.910.4	379
	10 A	1 NC / 1 NO	Silver	704.910.5	380
	10 A	1 NO	Gold-plated silver	704.911.1	376
	10 A	1 NC	Gold-plated silver	704.911.2	377
	10 A	2 NO	Gold-plated silver	704.911.3	378
	10 A	2 NC	Gold-plated silver	704.911.4	379
	10 A	1 NC / 1 NO	Gold-plated silver	704.911.5	380
	10 A	1 NO	Palladium	704.912.1	376
	10 A	2 NO	Palladium	704.912.3	378
	10 A	2 NC	Palladium	704.912.4	379
	10 A	1 NC / 1 NO	Palladium	704.912.5	380

Contacts: NC = Normally closed, NO = Normally open

Additional information

• For the third switching element the terminal marking insert is to be ordered separately



Dimensions [mm]

A = Screw terminal

 $\begin{array}{l} A = \text{ screw terminal} \\ B = \text{Push-in terminal (PIT)} \\ C = \text{Plug-in terminal 6.3 mm x 0.8 mm} \\ D = \text{Double plug-in terminal 6.3 mm x 0.8 mm} \end{array}$

13 \ 14	11 	$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	11 21 	13 21 14 22
Wiring diagram 376	Wiring diagram 377	Wiring diagram 378	Wiring diagram 379	Wiring diagram 380



Snap-action switching element for ring cable shoe with screw terminal

Switching voltage	Switching current	Contacts	Contact material	Part No.	Wiring diagram
500 V	10 A	1 NO	Silver	704.900.1B	376
	10 A	1 NC	Silver	704.900.2B	377
	10 A	2 NO	Silver	704.900.3B	378
	10 A	2 NC	Silver	704.900.4B	379
	10 A	1 NC / 1 NO	Silver	704.900.5B	380

Contacts: NC = Normally closed, NO = Normally open



Dimensions [mm]

A = Screw terminal

13	11	13 23	11 21	13 21
	4		44	
14	12	14 24	12 22	14 22
Wiring diagram 376	Wiring diagram 377	Wiring diagram 378	Wiring diagram 379	Wiring diagram 380



Slow-make switching element for ring cable shoe with screw terminal

Switching voltage	Switching current	Contacts	Contact material	Part No.	Wiring diagram
500 V	10 A	1 NO	Silver	704.910.1B	376
	10 A	1 NC	Silver	704.910.2B	377
	10 A	2 NO	Silver	704.910.3B	378
	10 A	2 NC	Silver	704.910.4B	379
	10 A	2 NO	Gold-plated silver	704.911.3B	378
	10 A	2 NC	Gold-plated silver	704.911.4B	379
	10 A	1 NC / 1 NO	Gold-plated silver	704.911.5B	380

Contacts: NC = Normally closed, NO = Normally open



Dimensions [mm]

A = Screw terminal

B = Push-in terminal (PIT)

C = Plug-in terminal (.17)D = Double plug-in terminal 6.3 mm x 0.8 mmD = Double plug-in terminal 6.3 mm x 0.8 mm

13	11 			
14	12	14 24	12 22	14 22
Wiring diagram 376	Wiring diagram 377	Wiring diagram 378	Wiring diagram 379	Wiring diagram 380



Slow-make switching element for emergency stop switch with push-in terminal

Switching voltage	Switching current	Contacts	Contact material	Part No.	Wiring diagram
250 V	6 A	1 NO	Gold-plated silver	704.917.1	376
	6 A	1 NC	Gold-plated silver	704.917.2	377
	6 A	2 NO	Gold-plated silver	704.917.3	378
	6 A	2 NC	Gold-plated silver	704.917.4	379
	6 A	1 NC / 1 NO	Gold-plated silver	704.917.5	380
	6 A	1 NO	Silver	704.918.1	376
	6 A	1 NC	Silver	704.918.2	377
	6 A	2 NO	Silver	704.918.3	378
	6 A	2 NC	Silver	704.918.4	379
	6 A	1 NC / 1 NO	Silver	704.918.5	380

Contacts: NC = Normally closed, NO = Normally open

Additional information

• For the third switching element the terminal marking insert is to be ordered separately



Dimensions [mm]

A = Screw terminal

B = Push-in terminal (PIT)

C = Plug-in terminal 6.3 mm x 0.8 mm

D = Double plug-in terminal 6.3 mm x 0.8 mm





Slow-make switching element for emergency stop switch with plug-in terminal

Switching voltage	Switching current	Contacts	Contact material	Part No.	Wiring diagram
	6 A	1 NO	Silver	704.915.1	376
	6 A	1 NC	Silver	704.915.2	377
	6 A	2 NO	Silver	704.915.3	378
	6 A	2 NC	Silver	704.915.4	379
	6 A	1 NC / 1 NO	Silver	704.915.5	380

Contacts: NC = Normally closed, NO = Normally open

Additional information

• For the third switching element the terminal marking insert is to be ordered separately



Dimensions [mm]

A = Screw terminal

B = Push-in terminal (PIT)

C = Plug-in terminal 6.3 mm x 0.8 mm D = Double plug-in terminal 6.3 mm x 0.8 mm

13	11	13 23	11 21	13 21
	4			
14	12	14 24	12 22	14 22
Wiring diagram 376	Wiring diagram 377	Wiring diagram 378	Wiring diagram 379	Wiring diagram 380



Slow-make switching element for emergency stop switch with double plug-in terminal

Switching voltage	Switching current	Contacts	Contact material	Part No.	Wiring diagram
500 V	6 A	1 NO	Silver	704.915.1/D	376
	6 A	1 NC	Silver	704.915.2/D	377
	6 A	2 NO	Silver	704.915.3/D	378
	6 A	2 NC	Silver	704.915.4/D	379
	6 A	1 NC / 1 NO	Silver	704.915.5/D	380

Contacts: NC = Normally closed, NO = Normally open

Additional information

• For the third switching element the terminal marking insert is to be ordered separately



Dimensions [mm]

A = Screw terminal B = Push-in terminal (PIT)

C = Plug-in terminal (PT)C = Plug-in terminal 6.3 mm x 0.8 mm

D = Double plug-in terminal 6.3 mm x 0.8 mm

13	11	13 23	11 21	13 21
	Ļ			
14	12	14 24	12 22	14 22
Wiring diagram 376	Wiring diagram 377	Wiring diagram 378	Wiring diagram 379	Wiring diagram 380



Slow-make switching element for emergency stop switch with screw terminal

Switching voltage	Switching current	Contacts	Contact material	Part No.	Wiring diagram
500 V	10 A	1 NO	Silver	704.910.1	376
	10 A	1 NC	Silver	704.910.2	377
	10 A	2 NO	Silver	704.910.3	378
	10 A	2 NC	Silver	704.910.4	379
	10 A	1 NC / 1 NO	Silver	704.910.5	380
	10 A	1 NO	Gold-plated silver	704.911.1	376
	10 A	1 NC	Gold-plated silver	704.911.2	377
	10 A	2 NO	Gold-plated silver	704.911.3	378
	10 A	2 NC	Gold-plated silver	704.911.4	379
	10 A	1 NC / 1 NO	Gold-plated silver	704.911.5	380
	10 A	1 NO	Palladium	704.912.1	376
	10 A	2 NO	Palladium	704.912.3	378
	10 A	2 NC	Palladium	704.912.4	379
	10 A	1 NC / 1 NO	Palladium	704.912.5	380

Contacts: NC = Normally closed, NO = Normally open

Additional information

• For the third switching element the terminal marking insert is to be ordered separately



Dimensions [mm]

A = Screw terminal

 $\begin{array}{l} \mathsf{A} = \mathsf{Sofew} \ \mathsf{entime} \\ \mathsf{B} = \mathsf{Push-in terminal} \ (\mathsf{PIT}) \\ \mathsf{C} = \mathsf{Plug-in terminal} \ \mathsf{6.3 \ mm x} \ \mathsf{0.8 \ mm} \\ \mathsf{D} = \mathsf{Double \ plug-in terminal} \ \mathsf{6.3 \ mm x} \ \mathsf{0.8 \ mm} \\ \end{array}$

13	11	13 23	11 21	13 21
	4			
14	12	14 24	12 22	14 22
Wiring diagram 376	Wiring diagram 377	Wiring diagram 378	Wiring diagram 379	Wiring diagram 380


Slow-make switching element failsafe

Contacts	Contact material	Terminal	Product attributes	Part No.	Wiring diagram	
1 NC / 1 FS	Silver	Screw terminal		704.910.4FS	381	
	Gold-plated silver	Screw terminal		704.911.4FS	381	
	Silver	Screw terminal	For ring cable shoe	704.910.4BFS	381	(
	Gold-plated silver	Screw terminal	For ring cable shoe	704.911.4BFS	381	
	Silver	Plug-in terminal		704.915.4FS	381	
	Gold-plated silver	Double plug-in terminal		704.911.4/DFS	381	
	Silver	Double plug-in terminal		704.915.4/DFS	381	
	Gold-plated silver	Push-in Terminal		704.917.4FS	381	
	Silver	Push-in Terminal		704.918.4FS	381	

Contacts: NC = Normally closed, NO = Normally open



Dimensions [mm]

A = Screw terminal

B = Push-in terminal (PIT) C = Plug-in terminal 6.3 mm x 0.8 mm D = Double plug-in terminal 6.3 mm x 0.8 mm

Wiring diagrams





Kraus Naimer rotary switching element 30°

Switching positions	Rotary positions	Multi-step switch	Stages	Terminal	Part No.	Wiring diagram
A = Rest, I = End	9	1-pole	5	Screw terminal	704.8A236	382
A = Rest, K = End	10	1-pole	5	Screw terminal	704.8A237	383
A = Rest, L = End	11	1-pole	6	Screw terminal	704.8A238	384
A = Rest, M = End	12	1-pole	6	Screw terminal	704.8A239	385
A = Rest (without stop)	12	1-pole	6	Screw terminal	704.8A639	385

Wiring diagrams

9, $\begin{bmatrix} 13 \\ 0 \\ 0 \end{bmatrix}$, $\begin{bmatrix} 17 \\ 0 \\ 0 \end{bmatrix}$, $\begin{bmatrix} 5 \\ 0 \\ 0 \end{bmatrix}$, $\begin{bmatrix} 15 \\ 0 \\ 0 \end{bmatrix}$	$\begin{array}{c} 9 & \begin{array}{c} 13 \\ 5 & & & 17 \\ 5 & & & & 019 \\ 1 & & & & 2 \\ & & & & 2 \\ 1 & & & & & 2 \\ & & & & & 2 \\ 1 & & & & & & 2 \\ & & & & & & & 2 \\ & & & &$	$\begin{array}{c} 9 & {}^{13} & {}^{17} \\ 5 & & \circ 21 \\ 1 & & & 0 $	$\begin{array}{c} 9 & \begin{array}{c} 13 \\ 5 & & 021 \\ 1 & & 021 \\ 1 & & 021 \\ 2 & & 021$
Wiring diagram 382	Wiring diagram 383	Wiring diagram 384	Wiring diagram 385



Kraus Naimer rotary switching element 45°

s	witching positions	Rotary positions	Multi-step switch	Stages	Terminal	Part No.	Wiring diagram
A	a = Rest, G = End	7	1-pole	4	Screw terminal	704.8A234	386
		7	2-pole	7	Screw terminal	704.8A254	387
A	a = Rest, H = End	8	1-pole	4	Screw terminal	704.8A235	388
		8	2-pole	8	Screw terminal	704.8A255	389

Additional information

 Switching positions and functions of the rotary switching element are being produced according to customer specifications. Please contact your local EAO Sales Office

9	9	25	9	9	25
5 ° ° 13	5 0 013	21 ₀ 015	5 0 13	5 ° 13	21。 15
1 ° 2 ° 3	1 ° 2 ° 3	17 ° 2 ° 19	1 ° 2 ° 3	$\begin{array}{ccc} 1 & & & & \\ & & & & \\ 15 & & & & 7 \\ & & & 11 \end{array}$	17 ° 18 ° 19
° 7	° 7	° 23	15° ° 7		31 ° 23
11	11	27	11		27
Wiring diagram 386	Wiring diagram 387		Wiring diagram 388	Wiring diagram 389	



Kraus Naimer rotary switching element 60°

Switching positions	Rotary positions	Multi-step switch	Stages	Terminal	Part No.	Wiring diagram
A = Rest, C = End	3	1-pole	2	Screw terminal	704.8A230	390
	3	1-pole, galvanically isolated	2	Screw terminal	704.8A730	391
	3	2-pole	3	Screw terminal	704.8A250	392
	3	3-pole	5	Screw terminal	704.8A270	393
A = Rest, D = End	4	1-pole	2	Screw terminal	704.8A231	394
	4	1-pole, galvanically isolated	2	Screw terminal	704.8A731	395
	4	2-pole	4	Screw terminal	704.8A251	396
	4	3-pole	6	Screw terminal	704.8A271	397
A = Rest, E = End	5	1-pole	3	Screw terminal	704.8A232	398
	5	2-pole	5	Screw terminal	704.8A252	399
	5	3-pole	8	Screw terminal	704.8A272	400
A = Rest, F = End	6	1-pole	3	Screw terminal	704.8A233	401
	6	2-pole	6	Screw terminal	704.8A253	402

Additional information

• Switching positions and functions of the rotary switching element are being produced according to customer specifications. Please contact your local EAO Sales Office



Wiring diagrams







Santon rotary switching element 30°

Switching positions	Rotary positions	Multi-step switch	Stages	Terminal	Part No.	Wiring diagram
A = Rest, I = End	9	1-pole	5	Screw terminal	704.F100001	443
A = Rest, K = End	10	1-pole	5	Screw terminal	704.F100002	444
A = Rest, L = End	11	1-pole	6	Screw terminal	704.F100003	445
A = Rest, M = End	12	1-pole	6	Screw terminal	704.F100004	442
A = Rest, M = End	12	1-pole	6	Screw terminal	704.F100015	442
A = Rest, I = End	9	1-pole	5	Plug-in terminal	704.F1A00001	443
A = Rest, K = End	10	1-pole	5	Plug-in terminal	704.F1A00002	444
A = Rest, L = End	11	1-pole	6	Plug-in terminal	704.F1A00003	445
A = Rest, M = End	12	1-pole	6	Plug-in terminal	704.F1A00004	442
A = Rest, M = End	12	1-pole	6	Plug-in terminal	704.F1A00015	442

Additional information

 Switching positions and functions of the rotary switching element are being produced according to customer specifications. Please contact your local EAO Sales Office

Wiring diagrams



04



Santon rotary switching element 45°

Switching positions	Rotary positions	Multi-step switch	Stages	Terminal	Part No.	Wiring diagram
A = Rest, G = End	7	1-pole	4	Screw terminal	704.F100019	459
A = Rest, G = End	7	2-pole	7	Screw terminal	704.F100020	460
A = Rest, H = End	8	1-pole	4	Screw terminal	704.F100021	461
A = Rest, H = End	8	2-pole	8	Screw terminal	704.F100022	462
A = Rest, G = End	7	1-pole	4	Plug-in terminal	704.F1A00019	459
A = Rest, G = End	7	2-pole	7	Plug-in terminal	704.F1A00020	460
A = Rest, H = End	8	1-pole	4	Plug-in terminal	704.F1A00021	461
A = Rest, H = End	8	2-pole	8	Plug-in terminal	704.F1A00022	462

Additional information

Switching positions and functions of the rotary switching element are being produced according to cus-tomer specifications. Please contact your local EAO Sales Office

9 5 0 13	9 25 5 13 21 16
1 ° ° 4 ° 8 12	$1 \circ 2 \circ 4 \qquad 17 \circ 15 \circ 20$ $\circ 8 \circ 24$ $12 \circ 28 \circ 24$
Wiring diagram 459	Wiring diagram 460
9 5 0 13	9 25 5 13 21 29
1 ° 2 ° 4 16° ° 8 12	$1 \stackrel{1}{\longrightarrow} 2 \stackrel{\circ}{\longrightarrow} 4 \qquad 17 \stackrel{\circ}{\longrightarrow} 18 \stackrel{\circ}{\longrightarrow} 20$ $16 \stackrel{\circ}{\longrightarrow} 8 \qquad 32 \stackrel{\circ}{\longrightarrow} 24$ $12 \qquad 28$
Wiring diagram 461	Wiring diagram 462



Santon rotary switching element 60°

Switching positions	Rotary positions	Multi-step switch	Stages	Terminal	Part No.	Wiring diagram
A = Rest, D = End	4	4-pole	2	Screw terminal	704.F100005	451
A = Rest, C = End	3	1-pole	2	Screw terminal	704.F100006	446
A = Rest, C = End	3	2-pole	3	Screw terminal	704.F100007	448
A = Rest, C = End	3	3-pole	5	Screw terminal	704.F100008	449
A = Rest, D = End	4	1-pole	2	Screw terminal	704.F100009	450
A = Rest, D = End	4	2-pole	4	Screw terminal	704.F100010	452
A = Rest, D = End	4	3-pole	6	Screw terminal	704.F100011	453
A = Rest, E = End	5	1-pole	3	Screw terminal	704.F100012	454
A = Rest, E = End	5	2-pole	5	Screw terminal	704.F100013	455
A = Rest, E = End	5	3-pole	8	Screw terminal	704.F100014	456
A = Rest, F = End	6	1-pole	3	Screw terminal	704.F100016	457
A = Rest, F = End	6	2-pole	6	Screw terminal	704.F100017	458
A = Rest, C = End	3	3-pole	2	Screw terminal	704.F100018	447
A = Rest, D = End	4	4-pole	2	Plug-in terminal	704.F1A00005	451
A = Rest, C = End	3	1-pole	2	Plug-in terminal	704.F1A00006	446
A = Rest, C = End	3	2-pole	3	Plug-in terminal	704.F1A00007	448
A = Rest, C = End	3	3-pole	5	Plug-in terminal	704.F1A00008	449
A = Rest, D = End	4	1-pole	2	Plug-in terminal	704.F1A00009	450
A = Rest, D = End	4	2-pole	4	Plug-in terminal	704.F1A00010	452
A = Rest, D = End	4	3-pole	6	Plug-in terminal	704.F1A00011	453
A = Rest, E = End	5	1-pole	3	Plug-in terminal	704.F1A00012	454
A = Rest, E = End	5	2-pole	5	Plug-in terminal	704.F1A00013	455
A = Rest, E = End	5	3-pole	8	Plug-in terminal	704.F1A00014	456
A = Rest, F = End	6	1-pole	3	Plug-in terminal	704.F1A00016	457
A = Rest, F = End	6	2-pole	6	Plug-in terminal	704.F1A00017	458
A = Rest, C = End	3	3-pole	2	Plug-in terminal	704.F1A00018	447

Additional information

 Switching positions and functions of the rotary switching element are being produced according to customer specifications. Please contact your local EAO Sales Office





Flasher element

Product attributes	Terminal	Part No.	Wiring diagram	
Lamp voltage/-current 130 V, 20 mA	Screw terminal	704.943.0	374	
Lamp voltage/- current 60 V, 33 mA	Screw terminal	704.943.1	374	
Lamp voltage/-current 130 V, 3 mA	Push-in Terminal	704.943.2P	374	
	Screw terminal	704.943.2	374	
Lamp voltage/-current 24 V, 10 85 mA	Screw terminal	704.943.5	374	- 1



Dimensions [mm] A = Screw terminal Push-in terminal (PIT)



04

Lamp transformer

Part No.	Wiring diagram
704.970.3	371
704.970.4	371
704.970.5	371
704.970.6	371

Additional information

• Lamp voltage/-current 24 VAC, 50 mA, 50/60 Hz



Dimensions [mm]



Front side



Legend frame

Product attributes	Dimensions	Material	Colour	Surface	Mounting type	Part No.
For raised design	30 mm x 0.75 mm x 50 mm	aluminium	Black	anodised	adhesive	704.968.2
For flush design	35 mm x 0.75 mm x 57.5 mm	aluminium	Black	anodised	adhesive	704.968.3

Additional information

The colour of anodised aluminium parts can vary due to technical production reasons





Dimensions [mm] for Part No. 704.968.3

Dimensions [mm] for Part No. 704.968.2



Legend plate

Dimensions	Material	Colour	Surface	Mounting type	Part No.
14.5 mm x 23.5 mm	aluminium	Nature	anodised	adhesive	704.968.0
	aluminium	Black	anodised	adhesive	704.968.1

Additional information

- For legend frame Part No.704.968.2 and 704.968.3
- The colour of anodised aluminium parts can vary due to technical production reasons



Legend plate flush design

Dimensions	Material	Colour	Surface	Mounting type	Part No.
18 mm x 35 mm	aluminium	Nature	anodised	adhesive	704.968.4
	aluminium	Black	anodised	adhesive	704.968.5

Additional information

- For devices square with flush design
- The colour of anodised aluminium parts can vary due to technical production reasons

04



Emergency stop legend

Dimensions	Material	Colour	Mounting cut-out	Marking	Part No.
Ø 60 mm	plastic	Yellow	Ø 22.3 mm	NOT AUS	704.963.5
	plastic	Yellow	Ø 22.3 mm	EMERGENCY STOP	704.963.6
	plastic	Yellow	Ø 22.3 mm	ARRET D'URGENCE	704.963.7
	plastic	Yellow	Ø 22.3 mm	NOT HALT	704.963.8
	plastic	Yellow	Ø 22.3 mm	EN ISO 13850 symbol	704.963.9
Ø 90 mm	plastic	Yellow	Ø 22.3 mm	NOT AUS	704.963.0
	plastic	Yellow	Ø 22.3 mm	EMERGENCY STOP	704.963.1
	plastic	Yellow	Ø 22.3 mm	ARRET D'URGENCE	704.963.2
	plastic	Yellow	Ø 22.3 mm	NOT HALT	704.963.3
	plastic	Yellow	Ø 22.3 mm	EN ISO 13850 symbol	704.963.4

Additional information

• Front panel thickness 3 mm max.



Legend plate rotary switch

Product attributes	Dimensions	Material	Colour	Surface	Mounting type	Part No.
For raised design Ø 29 mm	48 mm x 48 mm	aluminium	Black	anodised	adhesive	704.968.10
For flush design Ø 35 mm	48 mm x 48 mm	aluminium	Black	anodised	adhesive	704.968.11
For raised design Ø 29 mm	48 mm x 60 mm	aluminium	Black	anodised	adhesive	704.968.12

Additional information

• The colour of anodised aluminium parts can vary due to technical production reasons



Blind plug

Dimensions	Material	Colour	Mounting cut-out	Part No.
Ø 28 mm	plastic	Black	Ø 22.3 mm	704.960.4
Ø 22.5 mm	plastic	Black	Ø 22.3 mm	704.964.7
Ø 36 mm	plastic	Black	Ø 30.5 mm	704.964.8
35 mm x 35 mm	plastic	Black	30 mm x 30 mm	704.964.9

Additional information

Please note that bigger minimum distances are necessary

2 ... 6



Dimensions [mm] for Part No. 704.964.9





Protective cap

Product attributes	Material	Colour	Optics	Part No.
Only together with lenses Part No. 704.602.X, 704.601.X and front rings Part No. 704.600.X	silicone	Colourless	transparent	704.953.0

Additional information

• For Indicator and Illuminated pushbutton for IP68 protection



Protective ring

Product attributes	Material	Colour	Surface	Part No.
With transparent silicone membrane (resistant to sea water), temperature resistance -40 °C +85 °C	brass		chrome	704.600.2
	aluminium	Nature	anodised	704.600.3
With transparent Pebax membrane, temperature resistance -40 °C +85 °C	aluminium	Nature	anodised	704.600.5/A

Additional information

- For Illuminated pushbutton for front protection IP 67
- The colour of anodised aluminium parts can vary due to technical production reasons



Protective cover raised design

Product attributes	Material	Optics	Part No.
For pushbutton	plastic	transparent	704.925.0
With spring fitted, for pushbutton	plastic	transparent	704.925.3
For selector switch	plastic	transparent	704.925.2

Additional information

• Hinged, with means for sealing



Dimensions [mm]



Protective cover square flush design

Product attributes	Dimensions	Material	Optics	Mounting cut-out	Part No.
For pushbutton	38.5 mm x 45 mm	plastic	transparent	30 mm x 30 mm	704.925.8
For selector switch	38.5 mm x 45 mm	plastic	transparent	30 mm x 30 mm	704.925.9

Additional information

- Hinged, with means for sealing
- Front panel thickness reduces by 2 mm
- Please note that bigger minimum distances are necessary



Dimensions [mm]



Protective cover round flush design

Product attributes	Dimensions	Material	Colour	Surface	Part No.
With means for sealing, for pushbutton with mounting cut-outs \varnothing 30.5 mm	37 mm x 44.5 mm	plastic	Colourless		704.925.7
Without cover locking hole, with spring fitted, with window, for pushbuttonwith mounting cut-outs \emptyset 30.5 mm	38 mm x 50 mm	aluminium	Nature	anodised	704.928.18
Without cover locking hole, for pushbutton and selector switch short lever with mounting cut-outs Ø 30.5 mm	38 mm x 50 mm	aluminium	Nature	anodised	704.928.28
With means for sealing, for pushbutton and selector switch short lever with mounting cut-outs \varnothing 30.5 mm	38 mm x 50 mm	aluminium	Nature	anodised	704.928.38

Additional information

- Hinged
- Front panel thickness reduces by 2 mm
- Please note that bigger minimum distances are necessary
- The colour of anodised aluminium parts can vary due to technical production reasons



Dimensions [mm] for Part No. 704.925.7

Dimensions [mm] for Part No. 704.928.18 Dimensions [mm] for Part No. 704.928.28, 704.928.38



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E stop protective shroud

Dimensions	Material	Colour	Marking	IK Protection	Part No.
Ø 65 mm	plastic	Yellow		IK 07	704.927.6
	plastic	Yellow	NOT-AUS	IK 07	704.927.6A
	plastic	Yellow	EMERGENCY-STOP	IK 07	704.927.6B
	plastic	Yellow	EMERGENCY-STOP / NOT-AUS	IK 07	704.927.6C

Additional information

- Front panel thickness 1 ... 2.5 mm other actuators
- Front panel thickness 1 ... 2.5 mm with emergency stop switch
- With anti-twist device
- When using a protective shroud the e-stop or stop-switch has to be turned by 180° to be mounted. See dimensional drawing
- Do not use solvents when cleaning



Dimensions [mm]



Protective shroud

Product attributes	Dimensions	Material	Colour	Part No.
Use only for Part No. 704.064.2 und 704.066.2	Ø 50 mm	plastic	Yellow	704.927.8
	Ø 83 mm	plastic	Yellow	704.927.9

Additional information

- The protection shroud Part is not suitable for a proper use of emergency-stop. It can obstruct a spontaneous operation of the emergency-stop switch
- Use only for Part No. 704.064.2 und 704.066.2





Dimensions [mm]

Dimensions [mm]



Marking foil square

Product attributes	Material	Colour	Optics	Part No.
For lens square, front illumination	plastic	Colourless	transparent	704.707.7
For lens square, full-face illumination	plastic	Colourless	transparent	704.706.7

Additional information

Can be hot stamped





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04

Rear side

Diode block

		Wiring
Terminal	Part No.	diagram
Push-in Terminal	704.942.5P	370
Screw terminal	704.942.5	370



Dimensions [mm] A = Screw terminal Push-in terminal (PIT)

Wiring diagrams



Wiring diagram 370



Terminal cover

Product attributes	Material	Part No.
For covering of screw terminal	plastic	704.964.5



Dimensions [mm]



04

4



Terminal marking

Product attributes	Marking	Part No.	
2 NO for 1st or 2nd switching element	13/23 33/43	704.965.1	
	24/14 44/34	704.965.2	1
2 NO for 3rd switching element	53/63 73/83	704.965.3	
	64/54 84/74	704.965.4	
2 NC for 1st or 2nd switching element	11/21 31/41	704.965.5	
	22/12 42/32	704.965.6	04
2 NC for 3rd switching element	51/61 71/81	704.965.7	
	62/52 82/72	704.965.8	
1 NC + 1 NO for 1st or 2nd switching element	13/21 33/41	704.965.9	09
	22/14 42/34	704.966.0	
1 NC + 1 NO for 3rd switching element	53/61 73/81	704.966.1	
	62/54 82/74	704.966.2	1 14



Side terminal plate empty

Product attributes	Dimensions	Part No.
5 spaces	62.5 mm x 15 mm x 60 mm	02-912.1
10 spaces	125 mm x 15 mm x 60 mm	02-912.2
15 spaces	187.6 mm x 15 mm x 60 mm	02-912.3
20 spaces	250 mm x 15 mm x 60 mm	02-912.4



Contact bridge

Material	Part No.
metal	704.990.1
Additional information	

- For switching element with screw terminals
- Do not insert by Emergency-stopp switches and by stop switches
- Available in unit of 10 pieces



Resistor block

Product attributes	Material	Operating voltage	Terminal	Part No.	Wiring diagram
Lamp voltage/-current 130 V, 20 mA	plastic	130 - 230 V AC	Screw terminal	704.941.0	372
Lamp voltage/- current 60 V, 33 mA	plastic	33 - 60 V AC	Push-in Terminal	704.941.5P	372
	plastic	33 - 60 V AC	Screw terminal	704.941.5	372



Dimensions [mm] A = Screw terminal Push-in terminal (PIT)

Wiring diagrams





Side resistor diode block

Product attributes	Material	Operating voltage	Terminal	Part No.	Wiring diagram
Lamp voltage/-current 130 V, 20 mA	plastic	130 - 230 V AC	Screw terminal	704.941.9	373



Dimensions [mm] A = Screw terminal Push-in terminal (PIT)

Wiring diagrams



Mounting



Enclosure

Product attributes	Dimensions	Material	Colour	IP Protection	Part No.
Bottom grey similar RAL 7035; cover lead-sealable,	94 mm x 81 mm x 94 mm	plastic	Grey	IP66	704.945.0
yellow similar RAL 1004	65 mm x 81 mm x 65 mm	plastic	Grey	IP66	704.945.7
	94 mm x 81 mm x 65 mm	plastic	Grey	IP66	704.945.8
With mounting cut-out 1 x Ø 22.5 mm, with anti-twist device	94 mm x 81 mm x 94 mm	plastic	Grey	IP66	704.945.1
with mounting cut-out 2 x Ø 22.3 mm, with anti-twist device	130 mm x 81 mm x 94 mm	plastic	Grey	IP66	704.945.2
with mounting cut-out 3 x Ø 22.3 mm, with anti-twist device	180 mm x 81 mm x 94 mm	plastic	Grey	IP66	704.945.3
with mounting cut-out 4 x Ø 22.3 mm, with anti-twist device	180 mm x 110 mm x 182 mm	plastic	Grey	IP66	704.945.4
with mounting cut-out 6 x Ø 22.3 mm, with anti-twist device	180 mm x 110 mm x 182 mm	plastic	Grey	IP66	704.945.5





Dimensions [mm]

Dimensions [mm]

Lens plug

Product attributes	Material	Part No.
For mounting and dismantling of the round lens,	plastic	700.006.0
flush design		



Lens remover

Product attributes	Material	Part No.
For dismantling of the square lens, flush design	metal	98-968



Cable gland

Product attributes	Material	Colour	IP Protection	Thread	Part No.
With traction relief	plastic	Grey	IP68	M16 x 1.5 mm	61-9481.6
	plastic	Grey	IP68	M20 x 1.5 mm	704.945.6



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Mounting plate

Product attributes	Material	Colour	Part No.
For separate mounting of lamp transformer, resistor block or capacitor block	plastic	Grey	704.940.8

Dimensions [mm]

29



Mounting tool indicator

Product attributes	Material	Part No.
For Indicators full-face illumination, compact	metal	700.005.0

Mounting tool key insert switch and conductor switch

Product attributes	Material	Part No.
For key insert switch	metal	704.990.0



Reducing ring

Product attributes	Material	Colour	Surface	Part No.
	aluminium	Black	anodised	704.960.0
	aluminium	Nature	anodised	704.960.8
With slot for anti-twist device	aluminium	Nature	anodised	704.960.8A

Additional information

- Devices Ø 22.3 mm in mounting cut-out Ø 30.5 mm
- The colour of anodised aluminium parts can vary due to technical production reasons



Dimensions [mm]



Product attributes	Material	Colour	Optics	Part No.
To snap-on, for seperate mounting of lamp trans-	plastic	Black		704.940.9
former, resistor block or capacitor block	plastic	Colourless	transparent	704.941.1
Dimensions [mm]	Dimensions [mm]			



Dimensions	Material	Surface	Part No.
44 mm x 3 mm x 29 mm	steel_plate	galvanized	704.960.9

Additional information

• For thin front panels and plastic case

Slow-make switching element with VDE and UKCA

When using the switching element, the application guidelines must be observed.

Switching system

The double-break, slow-make switching element is equipped with one or two independent contact systems, acting as normally open or normally closed contact. The normally closed contact has forced opening.

Slow-make contacts with forced action are ideal for high switch ratings.

Up to three switching elements can be snapped to each actuator.

For the emergency-stop switch use the slow-make switching element (max. 2).

Special requirements for positive-opening auxiliary current switches

Positive opening travel	Emergency stop 12.5 mm
Minimum force	Emergency stop 50 N (actuating force at
	which is safely switched)
Max. travel	Emergency stop 12.5 mm

Material

Housing

The indicator lights/switches may be installed in enclosures with protection class 2 according to DIN EN 61140. The enclosure must at least have enclosure class 2 according to UL50E.

Material of contact Hard silver, gold-silver, silver-palladium (for aggressive atmospheres)

Switch housing

Plastic

Mechanical characteristics

Terminals

Screw terminal	
- max. wire cross section	2.5 mm ²
- stripping length wire	10mm
- max. number of wire	2
- max. strand cross section	1.5 mm ²
- stripping strands	use stranded wires or
	with wire end ferrules
	of 10mm length
- max. number of strands	2

Only one polarity is allowed on each side when wiring.

Plug-in terminal 1 x 6.3 mm x 0.8 mm or 2 x 2.8 mm x 0.8 mm For devises with plug-in connections, insulating sleeves are required and the mounting cut-out of 65 mm must be observed.

Double plug-in terminal 2 x 6.3 mm x 0.8 mm For units with plug-in connections, insulating sleeves are required and the mounting cut-out of 65 mm must be observed.

Tightening torque

Screws at the plastic mounting flange max. 0.4 ... 0.5 Nm Screws at the metal mounting flange max. 0.25 ... 0.3 Nm Screws at switching element max. 0.8 Nm

Actuating force

1 Normally closed 2 N 1 Normally open 3 N

Actuating travel

Approx. 5.8 mm ±0.2 mm

Mechanical lifetime

(with 1 switching element) Pushbutton maintained action Pushbutton momentary action Selector switch maintained action 1.25 million cycles of operation Selector switch momentary action Emergency-stop switch Keylock switch maintained action Keylock switch momentary action

1.5 million cycles of operation 3 million cycles of operation 2.5 million cycles of operation 50 000 cycles of operation 25000 cycles of operation 50 000 cycles of operation

Electrical characteristics

Standards

The switches comply with the "Standards for low-voltage switching devices" DIN EN 60947-5-1

Rated Insulation Voltage U_i

500 V, as per DIN EN 60947-5-1

Rated impulse withstand voltage U

4 kV, according to EN/IEC 60947-5-1

Electrical life 50 000 cycles of operation

Thermal current I_{th}

wires only

Max. current at continuous operation and limit temperatures which do not exceed the specified max. values. 10 A

Switching voltage and switching current			current	IP00		
as per E	N IEC 609	47-5-1				
voltage	DC1	3	AC15	Shock resistance		
24 V	4.0	A	8.0A	(single impacts, semi-sinusoidal)		
60 V	1.5	A	8.0A	300 m/s ² pulse width 11 ms, as per EN IEC 60068-2-27		
110V	1.0	A				
120V			8.0A	Vibration resistance		
230 V	0.4	A	7.0A	(sinusoidal)		
400 V	0.2	A	5.0A	100 m/s² at 10 Hz 500 Hz, amplitude 0.75 mm, as per		
500V	0.15	5A	4.0A	EN IEC 60068-2-6		
Recomme	ended minim	um operatio	nal data	Pollution degree		
Gold-silv	ver contac	ts:		3		
Voltage	24VDC	110VDC				
Current	5mA	2 mA		Climatic resistance		
				Relative humidity		
Hard silv	/er contact	ts:		10 95 % non-condensing		
Voltage	24VDC	110VDC				
Current	50 m A	10 mA				
				Approvals		
Protection	n class					
Indicator	rs and swit	tches, fit fo	or mounting into devices with protec-	Approbations		
tion clas	is II			CB (IEC 60947-5-1)		
				DNV		
				EAC		
Ambien	t conditio	ns		NFF		
				cULus		
Storage te	emperature			VDE		
-40°C	.+85°C					
				Conformities		
Operating	temperatur	е		CE		
-40°C	.+55°C			CCC		
(other temperatures on request)		est)	UKCA			

Protection degree

Snap-action switching element with VDE and UKCA

When using the switching element, the application guidelines must be observed.

Switching system

The double-break, snap-action switching element is equipped with one or two independent contact systems, acting as normally open or normally closed contact. The snap-action switching element is fitted with self-cleaning contacts.

Up to three switching elements can be snapped to each actuator.

Snap-action switching elements are not permissible for emergencystop pushbuttons!

Material

Housing

The indicator lights/switches may be installed in enclosures with protection class 2 according to DIN EN 61140.

The enclosure must at least have enclosure class 2 according to UL50E.

Material of contact

Hard silver, gold-silver, silver-palladium (for aggressive atmospheres)

Switch housing

Plastic

Mechanical characteristics

Terminals

04

Torrinidae	
Screw terminal	
- max. wire cross section	2.5 mm ²
- stripping length wire	10mm
- max. number of wire	2
- max. strand cross section	1.5 mm ²
 stripping strands 	the state of a state of a state of the state
- suipping suands	use stranded wires only
	with wire end ferrules
	,
- max. number of strands	with wire end ferrules

Only one polarity is allowed on each side when wiring.

Plug-in terminal 1 x 6.3 mm x 0.8 mm or 2 x 2.8 mm x 0.8 mm For devises with plug-in connections, insulating sleeves are required and the mounting cut-out of 65 mm must be observed.

Double plug-in terminal 2 x 6.3 mm x 0.8 mm For units with plug-in connections, insulating sleeves are required and the mounting cut-out of 65 mm must be observed.

Tightening torque

Screws at the plastic mounting flange max. 0.4-0.5 Nm Screws at the metal mounting flange max. 0.25-0.3 Nm Screws at switching element max. 0.8 Nm

Actuating force

1 Normally closed 1.9 N 1 Normally open 2 N

Actuating travel Approx. $5.8 \text{ mm} \pm 0.2 \text{ mm}$

Mechanical lifetime

(with 1 switching element) Pushbutton maintained action Pushbutton momentary action Selector switch maintained action 1.25 million cycles of operation Selector switch momentary action Keylock switch maintained action Keylock switch momentary action

1.5 million cycles of operation Storage temperature 3 million cycles of operation 2.5 million cycles of operation 25000 cycles of operation

Electrical characteristics

Standards

The switches comply with the "Standards for low-voltage switching devices" DIN EN 60947-5-1

Rated Insulation Voltage U 500 V, as per DIN EN 60947-5-1

Rated impulse withstand voltage U

4 kV, according to EN/IEC 60947-5-1

Electrical life

50 000 cycles of operation

Thermal current I_{th}

Max. current at continuous operation and limit temperatures which do not exceed the specified max. values. 10 A

Switching voltage and switching current

as per EN IEC 60947-5-1

voltage	DC13	AC15
24 V	2.5A	4.5A
60 V	0.8A	4.5A
110V	0.6A	
120 V		4.5A
230 V	0.2A	4.5A
400 V	0.15A	4.0A
500 V	0.07 A	2.5A

Recommended minimum operational data

Gold-silver contacts:							
Voltage	5VDC	24VDC	110VDC				
Current	15mA	5mA	2mA				

Hard silver contacts: Voltage 24VDC 110VDC Current 50 mA 10 m A

Protection class

Indicators and switches, fit for mounting into devices with protection class II.

Ambient conditions

-40°C...+85°C

Operating temperature

-40°C...+55°C 50 000 cycles of operation (other temperatures on request)

Protection degree

IP00

Shock resistance

(single impacts, semi-sinusoidal) 300 m/s² pulse width 11 ms, as per DIN EN 60068-2-27

Vibration resistance

(sinusoidal) 100 m3/s² at 10 Hz...500 Hz, amplitude 0.75 mm, as per DIN EN 60068-2-6

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Pollution degree 3

Climatic resistance Relative humidity

10 ... 95 % non-condensing

Approvals

Approbations
CB (IEC 60947-5-1)
DNV
EAC
NFF
cULus
VDE
Conformities
CE
000
UKCA

Slow-make switching element PIT with VDE and UKCA

When using the switching element, the application guidelines must be observed.

Switching system

The double-break, slow-make switching element is equipped with one or two independent contact systems, acting as normally open or normally closed contact. The normally closed contact has forced opening.

Slow-make contacts with forced action are ideal for high switch ratings.

Up to three switching elements can be snapped to each actuator.

For the emergency-stop pushbutton use the slow-make switching element (max. 2).

Special requirements for positive-opening auxiliary current switches

Positive opening travel	Emergency stop 12.5 mm
Minimum force	Emergency stop 50 N (actuating force at
	which is safely switched)
Max. travel	Emergency stop 12.5 mm

Material

Housing

The indicator lights/switches may be installed in enclosures with protection class 2 according to DIN EN 61140.

The enclosure must at least have enclosure class 2 according to UL50E.

Material of contact

Hard silver and gold-silver

Switch housing

Plastic

Mechanical characteristics

Terminals

PIT push-in terminal	
- max. wire cross section	1.0 mm ²
- stripping length wire	8 mm
- max. number of wire	2
- max. strand cross section	0.75 mm ²
 stripping strands 	use stranded wires only
	with wire end ferrules
	of 8 mm length

2

Only one polarity is allowed on each side when wiring.

Tightening torque

Screws at the plastic mounting flange max. 0.4-0.5 Nm Screws at the metal mounting flange max. 0.25-0.3 Nm

Actuating force

1 Normally closed 2 N 1 Normally open 3 N

- max. number of strands

Actuating travel

approx. 5.8 mm ± 0.2 mm

Mechanical lifetime

(with 1 switching element) Pushbutton maintained action Pushbutton momentary action Selector switch maintained action 1.25 million cycles of operation Selector switch momentary action Emergency-stop switch Keylock switch maintained action Keylock switch momentary action

1.5 million cycles of operation 3 million cycles of operation 2.5 million cycles of operation 50 000 cycles of operation 25000 cycles of operation 50 000 cycles of operation

Electrical characteristics

Standards

04

The switches comply with DIN EN 60947-1/EN IEC 60947-5-1

Rated Insulation Voltage U_i 500 V, as per DIN EN 60947-5-1

Rated impulse withstand voltage \mathbf{U}_{imp} 4 kV, according to EN/IEC 60947-5-1

Electrical life 50000 cycles of operation

Thermal current I_{th}

Max. current at continuous operation and limit temperatures which do not exceed the specified max. values. 6A

Switching voltage and switching current

as per El	N IEC 60947-5-1	
voltage	DC13	AC15
24 V	4,0 A	6,0A
48 V		6,0A
60 V	1,5 A	
110V	1,0 A	
120 V		6,0A
230 V		7,0A

Recommended minimum operational data

Gold-silver contacts: Voltage 24VDC Current 5mA

Hard silver contacts: Voltage 24 VDC Current 50 mA

Protection class

Indicators and switches, fit for mounting into devices with protection class II

Ambient conditions

Storage temperature -40 °C ... +85 °C

Operating temperature -40 °C ... + 55 °C (other temperatures on request)

Protection degree

Shock resistance (single impacts, semi-sinusoidal) 300 m/s² pulse width 11 ms, as per DIN EN 60068-2-27

Pollution degree

3

Climatic resistance

Relative humidity 10 ... 95 % non-condensing

Approvals

Approbations CB (IEC 60947-5-1) DNV EAC NFF cULus VDE

Conformities

CE CCC UKCA

Snap-action switching element PIT with VDE and UKCA

When using the switching element, the application guidelines must be observed.

Switching system

The double-break, snap-action switching element is equipped with one or two independent contact systems, acting as normally open or normally closed contact. The snap-action switching element is fitted with self-cleaning contacts.

Up to three switching elements can be snapped to each actuator.

Snap-action switching elements are not permissible for emergency stop pushbuttons!

Material

Housing

The indicator lights/switches may be installed in enclosures with protection class 2 according to DIN EN 61140.

The enclosure must at least have enclosure class 2 according to UL50E.

Material of contact Hard silver and gold-silver

Switch housing Plastic

Mechanical characteristics

Terminals

PIT push-in terminal	
- max. wire cross section	1.0 mm ²
- stripping length wire	8mm
- max. number of wire	2
- max. strand cross section	0.75 mm ²
 stripping strands 	use stranded wires only
	with wire end ferrules
	of 8 mm length
- max. number of strands	2

Only one polarity is allowed on each side when wiring.

Tightening torgue

Screws at the plastic mounting flange max. 0.4-0.5 Nm Screws at the metal mounting flange max. 0.25-0.3 Nm

Actuating force

- 1 Normally closed 1.9 N
- 1 Normally open 2 N

Actuating travel

Approx. 5.8 mm ±0.2 mm

Mechanical lifetime

(with 1 switching element) Pushbutton maintained action Pushbutton momentary action Selector switch maintained action 1.25 million cycles of operation Selector switch momentary action Keylock switch maintained action Keylock switch momentary action

1.5 million cycles of operation 3 million cycles of operation 2.5 million cycles of operation 25000 cycles of operation 50000 cycles of operation

Electrical characteristics

Standards

The switches comply with DIN EN 60947-1/DIN EN 60947-5-1

Rated Insulation Voltage U_i 500 V, as per DIN EN 60947-5-1

Rated impulse withstand voltage U_{imp} 4 kV, according to EN/IEC 60947-5-1

Electrical life

50 000 cycles of operation

Thermal current I_{th}

Max. current at continuous operation and limit temperatures which do not exceed the specified max. values. 6A

Switching voltage and switching current

as per EN IEC 60947-5-1					
voltage	DC13	AC15			
24 V	2,5A	6,0A			
48 V		6,0A			
60 V	0,8A				
110V	0,6A				
120 V		6,0A			
230 V		6,0A			

Recommended minimum operational data

Gold-silver contacts: Voltage 24 VDC Current 5mA

Hard silver contacts: Voltage 24 VDC Current 50 m A

Protection class

Indicators and switches, fit for mounting into devices with protection class II

04

Ambient conditions

Storage temperature

-40 °C ... + 85 °C

Operating temperature

-40°C...+55°C (other temperatures on request)

Protection degree

IP20

04

Shock resistance (single impacts, semi-sinusoidal) 300 m/s² pulse width 11 ms, as per DIN EN 60068-2-27

Vibration resistance

(sinusoidal) 100 m/s² at 10 Hz ... 500 Hz, as per DIN EN 60068-2-6 and EN 61373 Increased broad band noise, class 1B

Pollution degree

3

Climatic resistance

Relative humidity 10 ... 95 % non-condensing

Lamp block

When using the lamp block, the application guidelines must be observed.

Material

Housing Plastic

Mechanical characteristics

Terminals

Screw terminal $2.5\,\mathrm{mm}^2$ - max. wire cross section 10 mm - stripping length wire - max. number of wire 2 - max. strand cross section 1.5 mm²

use stranded wires only with wire end ferrules of 10mm length - max, number of strands 2

Only one polarity is allowed on each side when wiring.

Approvals

Approbations

CB (IEC 60947-5-1) DNV EAC NFF cULus VDE

Conformities

CF CCC UKCA

Plug-in terminal 1 x 6.3 mm x 0.8 mm or 2 x 2.8 mm x 0.8 mm For devises with plug-in connections, insulating sleeves are required and the mounting cut-out of 65 mm must be observed.

Double plug-in terminal 2 x 6.3 mm x 0.8 mm For units with plug-in connections, insulating sleeves are required and the mounting cut-out of 65 mm must be observed.

Tightening torque

Screws at lamp block max. 0.5 Nm

Electrical characteristics

Standards The switches comply with DIN EN 60947-1/DIN EN 60947-5-1

Illumination

Voltage 250 V max. (many different lamp types available) Power 2.6 W max. (many different lamp types available)

- stripping strands

-		
	0	4
	0	9

Ambient conditions

Storage temperature $-40 \,^{\circ}\text{C} \dots + 85 \,^{\circ}\text{C}$

Operating temperature $-40\,^\circ\text{C}\ldots+55\,^\circ\text{C}$ (other temperatures on request)

Protection degree

Lamp block PIT

When using the lamp block, the application guidelines must be observed.

Material

Housing Plastic

Mechanical characteristics

Terminals

 PIT push-in terminal

 - max. wire cross section

 - stripping length wire

 8 mm

 - max. number of wire

 2

 - max. strand cross section

 0.75 mm²

 - stripping strands

0.75 mm² use stranded wires only with wire end ferrules of 8 mm length 2

Electrical characteristics

- max. number of strands

Standards The switches comply with EN IEC 60947-1/EN IEC 60947-5-1

Illumination

Voltage 250 V max. (many different lamp types available) Power 2.6 W max. (many different lamp types available)

Ambient conditions

Storage temperature $-40 \,^\circ C \dots + 85 \,^\circ C$

Shock resistance

Vibration resistance

Climatic resistance

Relative humidity

10 ... 95 % non-condensing

(sinusoidal)

(single impacts, semi-sinusoidal)

300 m/s² pulse width 11 ms, as per DIN EN 60068-2-27

100 m/s² at 10 Hz ... 500 Hz, as per DIN EN 60068-2-6 and

EN 61373 Increased broad band noise, class 1B

Operating temperature $-40\,^\circ\text{C}\ldots+55\,^\circ\text{C}$ (other temperatures on request)

Protection degree

120

Shock resistance

(single impacts, semi-sinusoidal) $300 \,\text{m/s}^2$ pulse width 11 ms, as per DIN EN 60068-2-27

Vibration resistance

(sinusoidal) 100 m/s^2 at $10 \text{ Hz} \dots 500 \text{ Hz}$, as per DIN EN 60068-2-6 and EN 61373 Increased broad band noise, class 1B

Climatic resistance

Relative humidity 10 ... 95 % non-condensing

Dual lamp block

When using the lamp block, the application guidelines must be observed.

of 8 mm length

2

Material

Housing Plastic

04

Mechanical characteristics

Terminals

PIT push-in terminal

max. wire cross section 1.0 mm²
stripping length wire 8 mm
max. number of wire 2
max. strand cross section 0.75 mm²
stripping strands use stranded wires only with wire end ferrules

- max. number of strands

Electrical characteristics

Lighting Illuminant = 2 SMD-LEDs white

Operating voltages

24 VDC (-30 % / +25 %) 110 VDC (-30 % / +25 %)

Operating current

Typ. 8 mA

Ambient conditions

Storage temperature -40 °C ... +85 °C

Operating temperature

-40 °C ... +60 °C (other temperatures on request)

Degree of protection IP20

Resistance to shock 500 m/s², pulse duration 11 ms, according to EN IEC 60068-2-27 (semi-sinusoidal)

Broadband noise 5.72 m/s² per axis, 5 h (duration), class 1B according to DIN EN 61373

Climatic resistance Relative humidity 10 ... 95 % non-condensing

Approvals

Approbations UL-94 V0 EN 45545

04

Buzzer

Buzzer

System Piezo disc

Material

Buzzer case Plastic

Front cap Flush design Aluminium black anodised Aluminium natural anodised

Raised design Plastic Metal = nickel-plated brass (sea-water proof)

Mechanical characteristics

Terminals Plug-in terminal 2.8 mm x 0.5 mm

Tightening torque For fixing nut max. 0.25 Nm

Acoustic characteristics

Frequency (tone) Approx. 3.2 kHz continuous tone only

Sound pressure 95 db (A) \pm 8 dB at a distance of 0.1 m

Electrical characteristics

Ambient conditions

Storage temperature -40 °C ... +85 °C

Operating temperature $-40 \,^{\circ}\text{C} \dots + 55 \,^{\circ}\text{C}$ (other temperatures on request)

Protection degree As per DIN EN 60529, frontside IP65

Approvals

Conformities CE 2014/35/EU (LVD) 2011/65/EC (RoHS)

Actuator

Material

Front ring Polyamide, Aluminium or Stainless steel

Mounting flange Plastic, metal

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Actuator housing Plastic

Mechanical characteristics

Actuating force Mounting style square flush 6.2 N Other mounting styles 8N

Actuating travel Approx. $5.8 \text{ mm} \pm 0.2 \text{ mm}$

Mechanical lifetime

(with 1 switching element) Pushbutton Selector switch Stop switch Fool proofed E-stop Keylock switch Key insert switches

 \leq 3 million cycles of operation ≤ 2.5 million cycles of operation ≤ 50 000 cycles of operation Protection degree \geq 50000 cycles of operation ≤ 50000 cycles of operation ≤ 250 000 cycles of operation

Keylock switch

The standard lock number is 251, the last digit of the device Part No. = 0 (example: 704.335.0).

Additional lock numbers are available:

252 last digit = 1; 253 last digit = 2; 254 last digit = 3 255 last digit = 4, 256 last digit = 5; 257 last digit = 6 258 last digit = 7; 259 last digit = 8; 260 last digit = 9

Electrical characteristics

Standards

The switches comply with the "Rules for low-voltage switching devices" EN IEC 60947-5-1

Ambient conditions

Storage temperature

-40°C...+85°C

Operating temperature

-40°C...+55°C (other temperatures on request)

As per EN IEC 60529 IP65 front side (IP65 and IP67 Key insert switch)

Kraus Naimer rotary selector switching element

Mechanical characteristics

Terminals

Screw terminals Terminal lead material copper wires only Max. permissible wire gage: Single-core or stranded wire 2 x 1.5 mm² (2 x AWG 14) Flexible wire 2 x 1.5 mm² (2 x AWG 16)

Tightening torque

For fixing nut max. 0.25 Nm

Number of stages

1 to 8 positions max.

Number of contacts

1 to 16 max. normally open contacts (contact positioning according circuit drawing)

Switching angle

Basic position of switching position "A" is 9 o'clock

Maintained action	Switching angle
12 max.	30°
8 max.	45°
6 max.	60°
4 max.	90°

Momentary action with release 24° (provide at the beginning or at the end)

Standard type of Kraus & Naimer

CG4 Hard Silver contacts with 1 µm Gold layer CG4-1 Hard Silver contacts with 35 µm Gold layer

Electrical characteristics	AC-Direct-on-line starting, reversing, plugging and inching				
Minimum Voltage 20 V	3 phase, 3 pole	220V-240V 380V-440V			
Rated Impulse Withstand Voltage ${\rm U_{imp}}$ $4{\rm kV}$	1 phase, 2 pole	110V-120V 220V-240V 380V-440V	0.25 kW		
Short Circuit Protection Max. fuse size (gL-characteristic) 10 A	AC-23A Frequer	nt switching of n	notors or other high inductive loads		
Rated short-time withstand current (1s-current) 90 A	3 phase, 3 pole	220V-240V 380V-440V			
Electrical characteristics for AC	1 phase, 2 pole	110V-120V 220V-240V 380V-440V	0.75 kW		
Standards The devices comply with: DIN EN 60947-3, VDE 0660 part 107	Overvoltage catego	-	common neutral termination		
Rated Operational Voltage U_{e} 440 V	Degree of pollution	-	common neutral termination		
Rated Insulation Voltage U, 440 V					
Rated Thermal Current I_u/I_{th}	Electrical chara	acteristics for <i>I</i>	AC (UL/Canada)		
10A	Rated operational v 300 V	voltage			
Rated Operational Current I _e AC-15 Switching of control devices, contactors, valves etc.	Rated Insulation Vo	ltage Ui			
110V-120V 2.5A 220V-240V 2.5A	Rated Thermal Curr	rent			
380V-440V 1.5A	10 A				
No load operation 10A	Ampere Rating Resisitve or low i	nductive loads,	for switching of power > 1 kW, 10 A		
AC-21A Switching of resistive loads, including moderate overloads For switching of power $> 1 \text{ kW}$ 10A	Ratings Standard motor	load, DOL Ratir	ng (similar AC-3)		
AC-22A Switching of combined resistive or low inductive loads	3 phase, 3 pole	110V-120V 220V-240V			
including moderate overloads 220V-240V 10A	1 phase, 2 pole	220V-240V	0.75 HP		
Rated Utilization Category AC-2 Slip ring motor starting, reversing and plugging, star-delta starting 3 phase, 3 pole	Pilot Duty, Heavy 300 VAC	277V-277V	0.75HP		
220V-240V 2.5kW 380V-440V 4.5kW					
AC-3 Direct-on-line starting, star-delta starting					

3 phase, 3 pole

1 phase, 2 pole

220V-240V 2.50kW

380V-440V 2.20kW

110V-120V 0.30kW 220V-240V 0.55kW 380V-440V 0.75kW

Electrical characteristics for DC

Switching voltage and switching current DC Resistive loads $T \le 1 \text{ ms}$

Number of series contact(s)							Switch
1	2	3	4	5	6	8	capacity
24 V	48V	70 V	95 V	120 V	145V	190 V	10.0A
48 V	95 V	140V	190 V	240 V	290 V	350 V	6.0A
60 V	120 V	180 V	240 V	300 V	360 V	450 V	2.5A
110V	220 V	330 V	440 V	550 V	660 V		0.7 A
220 V	440 V	660 V					0.3 A
440 V	660 V						0.2 A

Number	of serie	s conta	ct(s)				Switch
1	2	3	4	5	6	8	capacity
24 V	48 V	70 V	95 V	120 V	145 V	190 V	6.0A
30 V	60 V	90 V	120 V	150 V	180 V	240V	3.0A
48 V	95 V	140 V	190 V	240 V	290 V	350 V	1.0A
60 V	120 V	180 V	240 V	300 V	360 V	450 V	0.7 A
110V	220 V	330 V	440 V	550 V	660 V		0.3A

Ambient conditions

Operating temperature

Ambient Temperatures of	Stages
open at 100 % I _u / I _{th}	55 °C during 24 h with peaks up to 60 °C
enclosed at 100 % Ites	35°C during 24h with peaks up to 40°C

Inductive loads T = 50 ms

Santon rotary selector switching element

Mechanical characteristics

Terminals Screw terminals

Terminal lead material copper wires only Max. wire gauge: Single or multi-wire 2 x 1.5 mm² (2 x AWG 12) Fine wire 2 x 1.5 mm² (2 x AWG 12) Min. wire gauge: Single or multi-wire 2 x 0.5 mm² (2 x AWG 20) Fine wire 2 x 0.5 mm² (2 x AWG 20)

Tightening torque

For fixing nuts max. 0.5 Nm

Number of stages

1 to 8 stages max.

Number of contacts

1 to 16 closing contacts (contacts positioning according to wiring diagram)

Switching angle

Basic position of switching position "A" is 9 o'clock

Maintained action switching angle 12 max. 30° 8 max. 45° 6 max. 60° 4 max. 90°

Momentary action with release 30°

Standard type of Santon F1V Hard Silver contacts Gold plated

Electrical Characteristics

Minimum Voltage

20V

Rated Impulse Withstand Voltage ${\rm U_{imp}}$ $4{\rm KV}$

Short Circuit Protection

Max. fuse size (gL-characteristics) 25 KA = > 16A 10 KA = > 20ARated short-time withstand current (1s-current) 250 A

Electrical Characteristics for AC

Standards

The devices comply with: IEC 60947, IEC 60204, DIN EN 61058, UL508, C22.2 No.14

Rated Operational Voltage $\rm U_{\rm e}$

480 V

Rated Insulation Voltage U_i 480 V

Rated Operational Current I

AC-15 switching of control devices, contractors, valves, etc. 220V - 230V 8 A 380V - 440V 6 A

AC-20 A no load operation 20 A

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Technical data 04

AC-21A Switching of resistive loads, including moderate overloads Electrical characteristics for DC for switching of power > 1 kW 20 A

3-phase, 3-pole	220V - 230V	5,00 kW
	380V-440V	7,50 kW
1-phase, 2-pole	220V-230V	2,50 kW
	380V-440V	3,70 kW

Related Utilization Category

AC-3 Direct starting of squirrel-cage induction motors, switching off during the starting, star-delta starting 2 phonia 2 polia

3-phasig, 3-polig	220V – 240V	3,00 kW
	380V-440V	5,00 kW
1-phasig, 2-polig	220V - 230V	2,20 kW
	380V-440V	3,00 kW

Degree of pollution

3, valid for lines with grounded common neutral termination

Electrical characteristics for AC (UL/Canada)

Rated operational voltage 300 V

Rated Insulation Voltage U 300 V

Rated Thermal Current 15A

Ampere Rating

Resistive or low inductive loads, for switching of power > 1 kW, 15 A

Ratings

Standard motor load, DOL Rating (similar to AC-3)

3-phase, 3-pole 220V - 240V 3.00 HP

Switching voltage and switching current DC Resistive loads T \leq 1 ms DC 21						
Number	r of serie	es conta	act(s)			
1	2	5	8	Switch	capacity	
24 V	110 V	220 V	440 V	20.0 A		
48 V				20.0 A		
60 V				20.0 A		
110 V				4.0 A		
220 V				0.7 A		
440 V				0.25 A		
	Inductive Loads T = 50 ms DC13					
Number			()			
					Switch capacity	
	48 V	60 V	110 V	220 V		
48 V					16.0 A	
60 V					12.0 A	
110 V 220 V					1.0 A 0.4 A	
220 V 440 V					0.4 A 0.15 A	
440 V					0.15 A	

Ambient conditions

Operating Temperature

Ambient Temperature of Stages -25°C ... +55°C

Shock resistance

(single impact, semi-sinusoidal) 300 m/s² pulse width 11 ms, as per DIN EN 600068-2-27

Fire Protection norms

EN 45545

04 Technical data

Flasher

Material

Housing Plastic, in accordance with UL 94 V0

Mechanical characteristics

Terminals Screw terminal

Electrical characteristics

Flasher frequency 1.5 Hz

Relative duty factor Approx. 50 %

Emergency call switch

Material

Lens Aluminium red

Front bezel Aluminium natural

Mechanical characteristics

Terminals

Screw terminal Max. wire cross-section 2 x 2.5 mm² Max. wire cross-section of stranded cable 2 x 1.5 mm²

Mechanical lifetime As per IEC 337-1/2 50000 cycles of operation with 1 switching element

EAO reserves the right to alter specifications without further notice.

Switching element Sap-action switching element

Ambient conditions

Operating temperature 0° ... +50 °C

Protection degree Rear side IP30

Ambient conditions

Storage temperature -40 °C ... +85 °C

Operating temperature $-40 \degree C \dots + 55 \degree C$

Protection degree IP65 front side

Approvals

Approbations SEV CSA UL ENEC DNV GL (previously Germanischer Lloyd) CB

Conformities CE

04

General notes

1. Engraving

In addition to the most commonly used world languages, in DIN1451-3 close spacing, other typefaces are available as Scandinavian, Slavic, Greek, Russian and Polish. Red, blue and black lenses are filled with white colour. Other colour lenses are filled in black. Standard height of letters is 3 mm. If the height is not specified, we will supply 3 mm engraved letters.

2. Hot stamping

All dimensions in mm

For larger series it is worth considering markings by means of hot stamping. We will pleased to advise you. For letters and figures, typefaces with 2.5 mm, 3 mm and 4 mm are available.

Engraving marking cap for Indicator round, full face illumination

and film size: for Indicator 24.5 x 24.5 mm, for illuminated pushbutton 21.5 x 21.5 mm.

3. Film inserts

Instead of using engraving the square lenses can be fitted with

film inserts, as an alternative. Film thickness is 0.25 mm. Max.

Height of text cap	Height of letters h	Number of lines	Number of capital letters per line (guide value)	Number of lowercase letters per line (guide value)	Picture
Text cap (Ø 23)	3	3	8-9	9-10	B1
	4	3	5-7	6-8	B1
	8	3	-	-	B1
	3	2	8	9	B2
	4	2	5	6	B2
	8	2	2	2	B2
	3	1	9	10	B3
	4	1	7	8	B3
	8	1	3	3-4	B3



The gap between two words results in each case a letter less.

Engraving marking plate for Indicator and illuminated Pushbutton round, front illumination

All dimensions in mm

Height of marking plate	Height of letters h	Number of lines	Number of capital letters per line (guide value)	Number of lowercase letters per line (guide value)	Picture
Marking plate (Ø 20)	3	3	6-8	7+9	B1
	4	3	5-6	6-7	B1
	8	3	_	-	B1
	3	2	6	7	B2
	4	2	5	6	B2
	8	2	1	2	B2
	3	1	8	9	B3
	4	1	6	7	B3
	8	1	3	3	B3





The gap between two words results in each case a letter less.

Engraving diffusor cap for Indicator square, full face illumination

All dimensions in mm

Height of letters h	Number of lines	Number of capital letters per line (guide value)	Number of lowercase letters per line (guide value)
2.5	6	12	13
3.0	5	10	11
4.0	4	7	8
5.0	3	6	7
6.0	3	5	5-6
8.0	2	4	4-5



The gap between two words results in each case a letter less.

Engraving lens holder for Indicator and Illuminate Pushbutton square, front illumination

All dimensions in mm

Height of letters h	Number of lines	Number of capital letters per line (guide value)	Number of lowercase letters per line (guide value)
2.5	5	10	11
3.0	5	9	9-10
4.0	4	6	7
5.0	3	5	6
6.0	1	4	4-5
8.0	2	2-3	3



The gap between two words results in each case a letter less.

Important: Consider lens holder mounting orientation before specifying engraving charachters!

Engraving legend plates

All dimensions in mm

Dimension	Devices mounting style	Height of letters h	Number of lines	Number of capital letters per line (guide value)	Number of lowercase letters per line (guide value)	Picture
30 x 50	round, raised	3	2	10	11	B1
		4	1	7	8	B1
		8	1	3	4	B1
35 x 57.5	round, flush	3	2	10	11	B2
		4	1	7	8	B2
		8	1	3	4	B2
18 x 35	square, flush	3	3	15	16	B3
		4	2	10	12	B3

B1











The gap between two words results in each case a letter less.

Standard texts for marking plates and marking caps for Indicator and Illuminated Pushbutton

Height of letters 6 mm

I Part No. 704.609.912001	II Part No. 704.609.912002	III Part No. 704.609.912003	0 Part No. 704.609.912004
EIN Part No. 704.609.912005	AUS Part No. 704.609.912006	AUF Part No. 704.609.912007	AB Part No. 704.609.912008
START Part No. 704.609.912009	STOP Part No. 704.609.912010	(HAND) Part No. 704.609.912011	AUTO Part No. 704.609.912012
ZU Part No. 704.609.912013	ON Part No. 704.609.912014	OFF Part No. 704.609.912015	ARRET Part No. 704.609.912016
MARCHE Part No. 704.609.912017	RESET Part No. 704.609.912018		

Symbols for marking plates and marking caps for Indicator and Illuminated Pushbutton

All marking plates with the printed article-numbers are available for flat lenses, marking cap only on request.

Part No. 704.609.910001 Direction of linear rectilinear motion (also for $\rightarrow \downarrow \uparrow$)	Part No. 704.609.910002 Linear motion in 2 direc- tions (also for 1)	Part No. 704.609.910004 Limited linear motion (also for $\leftarrow \uparrow \downarrow$)	Part No. 704.609.910007 Direction of continuous rotation (right)
Part No. 704.609.9100071 Direction of continuous rotation (left)	Part No. 704.609.910008 Rotation in 2 directions	Part No. 704.609.910009 Direction of interrupted rotation (right)	Part No. 704.609.910010 Limited rotation (right)
Part No. 704.609.9100101 Limited rotation (left)	Part No. 704.609.910013 Direction of spindle rotation	Part No. 704.609.910026 Rapid traverse	Part No. 704.609.910028 Increase of value (speed, for instance)
Part No. 704.609.910029 Decrease of value (speed, for instance)	Part No. 704.609.910041 Electric motor	Part No. 704.609.910048 Pump (general symbol)	Part No. 704.609.9100631 Lock or tighten
Part No. 704.609.9100632 Lock or tighten	Part No. 704.609.9100641 Unlock, unclamp	Part No. 704.609.9100642 Unlock, unclamp	Part No. 704.609.910065 Brake on
Part No. 704.609.910066 Brake off	Part No. 704.609.910067 Automatic (or semi-automatic) cycle	Part No. 704.609.910068 Hand control	Part No. 704.609.910069 Start, on
Part No. 704.609.910070 Stop, off	Part No. 704.609.910071 Start and stop with same button	Part No. 704.609.910072 In action as long as button is operated	Part No. 704.609.910074 Engaging (mechanical start)
Part No. 704.609.910075 Disengaging (mechanical stop)	Part No. 704.609.910092 Danger (high voltage)!	Part No. 704.609.910093 Caution!	Part No. 704.609.910101 Coolant fluid
Part No. 704.609.910102 Machine lighting	Part No. 704.609.910108 Blast		

Terminal Markings

We supply the switch elements with terminal marking labels inserted, the figures always being visible for the first element (immediately following the actuator). Therefore, when two switch elements are used, these inserts have to be turned for the second element. Then the numbers appear as described under III. If more than two switch elements are used, this should be noted on your order, in order that we may insert and deliver the marking labels accordingly.

I. Consecutive numbering of switch systems

(2 per switch element)

First switch element



Second switch element



When more than 2 switch elements are used, the numbering is sequenced accordingly (5, 6 etc.).

II. Marking of normally closed contact, normally open contact and their combinations

Normally closed (1-2) Normally open (3-4) Normally closed/



III. Example of the correct insertion of the labels for 2 switch elements with normally open contacts

First switch element



Second switch element



Labels for normally closed and normally closed/normally open contacts should be inserted accordingly.

Application guidelines 04

Suppressor circuits

When switching inductive loads such as relays, DC motors, and DC solenoids, it is always important to absorb surges (e.g. with a diode) to protect the contacts. When these inductive loads are switched off, a counter emf can severely damage switch contacts and greatly shorten lifetime.

Fig. 1 shows an inductive load with a free-wheeling diode connected in parallel. This free-wheeling diode provides a path for the inductor current to flow when the current is interrupted by the switch. Without this free-wheeling diode, the voltage across the coil will be limited only by dielectric breakdown voltages of the circuit or parasitic elements of the coil. This voltage can be kilovolts in amplitude even when nominal circuit voltages are low (e.g. 12VDC) see Fig. 2.

The free-wheeling diode should be chosen so that the reverse breakdown voltage is greater than the voltage driving the inductive load. The DC blocking voltage (VR) of the free-wheeling diode can be found in the datasheet of a diode. The forward current should be equal or greater than the maximum current flowing through the load.

To get an efficient protection, the free-wheeling diode must be connected as close as possible to the inductive load!



04

04 Application guidelines

The following guidelines apply when connecting the Series 04

Rating data

buttons. Buttons with 1 slow-make switching element and front panel made of plastic or metal Pushbutton Mushroom-head pushbutton Selector switch Keylock switch Key-insert switch Stop switch Emergency stop switch Rated values Overvoltage category Ш Rated impulse withstand voltage 4 kV Max. rated insulation voltage U_i 500 V Pollution degree 3 Restrictions Metal front panel must be earthed

Buttons with 1 snap-action switching element and front panel made of plastic or metal

- Pushbutton
- Mushroom-head pushbutton
- Selector switch
- Keylock switch
- Key-insert switch
- Stop switch

Rated values

Overvoltage category	111
Rated impulse withstand voltage	4 kV
Max. rated insulation voltage U	500 V
Pollution degree	3

Restrictions

Metal front panel must be earthed

Buttons illuminable with 1 slow-make switching element and front panel made of plastic or metal

- Illuminated pushbutton
- Mushroom-head pushbutton
- Selector switch

Rated values

Overvoltage category	
Rated impulse withstand voltage	4 kV
Max. rated insulation voltage U	400 V
Pollution degree	3

Restrictions

Metal front panel must be earthed

Buttons illuminable with 1 snap-action switching element and front panel made of plastic or metal

- Illuminated pushbutton
- Mushroom-head pushbutton
- Selector switch

Rated values

Overvoltage category	
Rated impulse withstand voltage	4kV
Max. rated insulation voltage U	500 V
Pollution degree	3

Restrictions

Metal front panel must be earthed

Buttons with 1 slow-make switching element and front panel made of plastic or metal

Key-insert switch, conductor switch

Rated values

Overvoltage category	
Rated impulse withstand voltage	4kV
Max. rated insulation voltage U	250 V
Pollution degree	3

Restrictions

The actuator of the conductor button must be earthed

Buttons with 1 snap-action switching element and front panel made of plastic or metal

Key-insert switch, conductor switch

Rated values

Overvoltage category	
Rated impulse withstand voltage	4kV
Max. rated insulation voltage U	320 V
Pollution degree	3

Restrictions

Metal front panel must be earthed

Application guidelines

Buttons illuminable with 2 - 3 snap-action switching element and

front panel made of plastic or metal

- Illuminated pushbutton

Buttons with 2 – 3 slow-make switching element and front panel made of plastic or metal

- Pushbutton
- Mushroom-head pushbutton
- Selector switch
- Keylock switch
- Key-insert switch
- Stop switch

Rated values

Overvoltage category	
Rated impulse withstand voltage	4 kV
Max. rated insulation voltage U	320 V
Pollution degree	3

Restrictions

· Metal front panel must be earthed

Buttons with 2 – 3 snap-action switching element and front panel made of plastic or metal

- Pushbutton
- Mushroom-head pushbutton
- Selector switch
- Keylock switch
- Key-insert switch
- Stop switch

Rated values

Overvoltage category	
Rated impulse withstand voltage	4 kV
Max. rated insulation voltage U	400 V
Pollution degree	3

Restrictions

- Metal front panel must be earthed

Buttons illuminable with 2 – 3 slow-make switching element and front panel made of plastic or metal

- Illuminated pushbutton
- Mushroom-head pushbutton
- Selector switch

Rated values

Overvoltage category	
Rated impulse withstand voltage	4 kV
Max. rated insulation voltage U	320 V
Pollution degree	3

Restrictions

Metal front panel must be earthed

Mushroom-head pushbutton Selector switch		
Rated values Overvoltage category Rated impulse withstand voltage Max. rated insulation voltage U	III 4 kV 400 V	
Pollution degree	3	
Metal front panel must be earthed		
Buttons with 2 slow-make switching element and front panel made of plastic or metal		
 Emergency stop switch 		
Rated values		
Overvoltage category	111	
Rated impulse withstand voltage	4 kV	
Max. rated insulation voltage U _i	320 V	

3

Restrictions

Pollution degree

· Metal front panel must be earthed

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