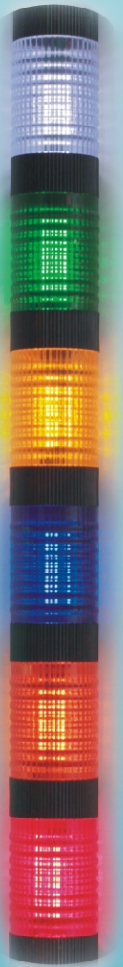
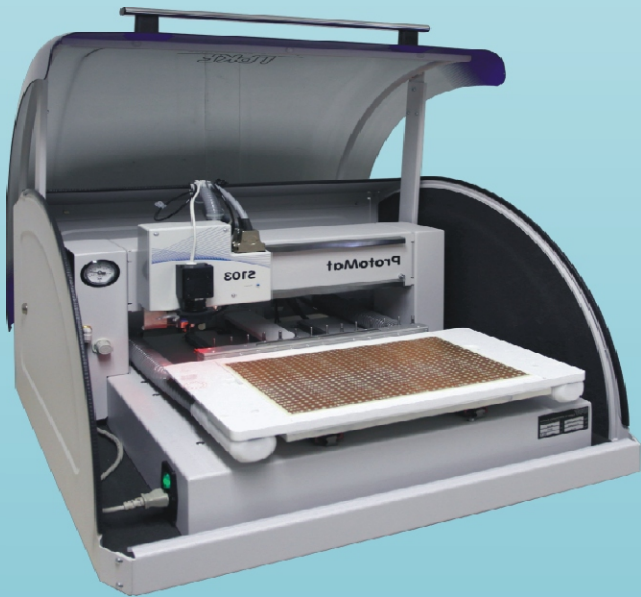


# ELECO®

# CATALOGUE



Custom Production PCB




# TRADITION SINCE 1990


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## Power element


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### Basic parameters of indicators

Indicators form the most extensive production programme. They are designed for visual or acoustic signalling of a certain condition of a device. They are used in all new equipment and technologies, or as replacement for original lamp indicators in reconstruction of electrical equipment, especially switchboards, and signal and control panels. Due to availability of a wide range of sizes and colours, they are used also in transportation, control consoles, public health sector, and in other areas where certain conditions are to be indicated.

Indicators are made as all-plastic, fitted with the top part in a required colour. Inside they contain electronic components – a printed circuit and LED diodes; these diodes are the source of light, and thanks to their high quality guarantee high light intensity and long service life at low consumption.

Indicators are manufactured from these non-combustible materials:

**Construction material:** CYCOLAC S 157 ABS  
**Manufacturer:** GENERAL ELECTRIC PLASTICS  
**VICAT:** B / 50 84 C (ISO 306)  
**FLAMMABLE CLASS:** RATING / mm = V 0/1.6

**Transparent material:** LEXAN 141 R – clear, 143 R – coloured  
**Manufacturer:** GENERAL ELECTRIC PLASTICS  
**VICAT:** 142 C (ISO 306)  
**FLAMMABLE CLASS:** RATING / mm = V 2/1.5

# Basic specification of indicators

<b>Running voltage:</b>	6 to 230 V AC, DC, (AC/DC); acc. to the type
<b>Nominal current:</b>	20 mA
<b>Front panel cover/terminal:</b>	IP65/ IP20 (IP00)
<b>Light intensity:</b>	acc. to LED used
<b>Operating temperature:</b>	-25 to +60°C (-13 to 140°F)
<b>Colour design:</b>	<b>R</b> -red <b>G</b> -green <b>B</b> -blue <b>Y</b> -yellow <b>W</b> -white <b>O</b> -orange
<b>Function:</b>	<b>F</b> -flash
<b>LED service life:</b>	up to 100,000 service hours
<b>Panel thickness:</b>	max. 10 mm
<b>Connecting conductors:</b>	up to 1.5 mm <sup>2</sup>
<b>Induction voltage suppression:</b>	as required, see the Table
<b>Related standards:</b>	ČSN EN 61010-1, ČSN EN 60598-1, ČSN EN 60598-2-1

- \*We produce various versions of indicators, also as a piece production. For example indicators for a higher voltage range, multicoloured indicators, on/off indicators switched by polarity reversal.
- \*If an indicator designed for 230 V AC voltage is to be connected to a standby power unit or frequency changer, this is necessary to be consulted with the manufacturer.
- \*Indicators of the IHS-95, HIS-95, EIS-96 and VIS-98 series may be produced also with extreme light intensity (suitable especially to daylight areas).
- \*For 110 V DC and 220 V DC voltage, some indicators are equipped with an outer resistance multiplier.
- \*Series "99" and "VER" indicators are not equipped with an outer resistance multiplier.
- \*Induction voltage suppression means setting the indicator so that it is not able to react to induction voltage on conductors to which it is connected. This induction voltage can be of various intensity and is formed in long parallel runs of several cables. In our products with 16, 22 and 30 mm bore holes, at running voltage 230 V AC, this induction voltage suppression is set as standard to 30 V.
- \*IS, IHS, HIS, EIS, CSL, SOS and VIS indicators with 24 V voltage are produced as AC/DC versions.
- \*Instruments do not contain any overcurrent protection elements. These elements must be included in the equipment, which the given instrument is part of.

## Order specification example: HIS-95 GF/RF 230AC P30

Indicator type		Colour		Function		Voltage			Induction voltage suppression		Test																																																												
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<table border="1" style="font-size: small;"> <tr><td>95</td><td>4 LED</td></tr> <tr><td>99</td><td>1 LED higher light intensity</td></tr> </table>		95	4 LED	99	1 LED higher light intensity	<table border="1" style="font-size: small;"> <tr><td>R</td><td>RED</td></tr> <tr><td>G</td><td>GREEN</td></tr> <tr><td>B</td><td>BLUE</td></tr> <tr><td>W</td><td>WHITE</td></tr> <tr><td>Y</td><td>YELLOW</td></tr> <tr><td>O</td><td>ORANGE</td></tr> </table>		R	RED	G	GREEN	B	BLUE	W	WHITE	Y	YELLOW	O	ORANGE	<table border="1" style="font-size: small;"> <tr><td>R</td><td>RED</td></tr> <tr><td>G</td><td>GREEN</td></tr> <tr><td>B</td><td>BLUE</td></tr> <tr><td>W</td><td>WHITE</td></tr> <tr><td>Y</td><td>YELLOW</td></tr> <tr><td>O</td><td>ORANGE</td></tr> </table>		R	RED	G	GREEN	B	BLUE	W	WHITE	Y	YELLOW	O	ORANGE	<table border="1" style="font-size: small;"> <tr><td>6 V</td></tr> <tr><td>12 V</td></tr> <tr><td>24 V</td></tr> <tr><td>60 V</td></tr> <tr><td>110 V</td></tr> <tr><td>125 V</td></tr> <tr><td>220 V</td></tr> <tr><td>230 V</td></tr> <tr><td>OTHER</td></tr> </table>			6 V	12 V	24 V	60 V	110 V	125 V	220 V	230 V	OTHER	<table border="1" style="font-size: small;"> <tr><td>AC</td><td>ALTERNATING</td></tr> <tr><td>DC</td><td>DIRECT</td></tr> <tr><td>AC/DC</td><td>UNIPOLAR</td></tr> </table>		AC	ALTERNATING	DC	DIRECT	AC/DC	UNIPOLAR	<table border="1" style="font-size: small;"> <tr><td>P30</td><td>TO 30 V</td></tr> <tr><td>P60</td><td>TO 60 V</td></tr> <tr><td>P80</td><td>TO 80 V</td></tr> <tr><td>P100</td><td>TO 100 V</td></tr> <tr><td>P120</td><td>TO 120 V</td></tr> </table>		P30	TO 30 V	P60	TO 60 V	P80	TO 80 V	P100	TO 100 V	P120	TO 120 V	<table border="1" style="font-size: small;"> <tr><td>T</td><td>with LED test</td></tr> <tr><td></td><td>without LED test</td></tr> </table>		T	with LED test		without LED test
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	without LED test																																																																						
				F   Flashing																																																																			

### HIS-95 GF/RF 230AC P30

HIS-95 on/off indicator, green flash / red flash 230 V AC, with induction voltage suppression to 30 V.

For an easy order go to [WWW.ELECO.CZ](http://WWW.ELECO.CZ)



Průmyslová 720  
682 01 Vyškov CZ

Tel.: +420 517 344 344  
Fax: +420 517 333 566

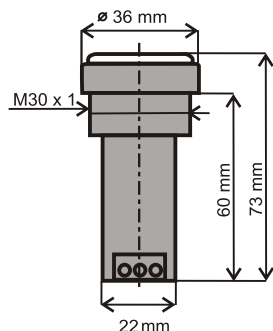
<http://www.eleco.cz>  
e-mail: [order@eleco.cz](mailto:order@eleco.cz)

ISO 9001

## I. Indicator, 30mm mounting hole

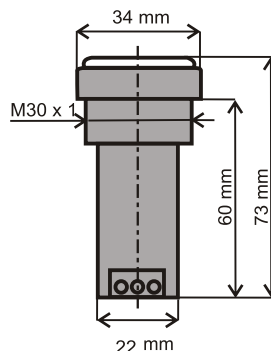
**VIS-98** 6 pcs LED

**VIS-99** 1 pc LED



**VIS-98-Q** 4 pcs LED

**VIS-99-Q** 1 pc LED



### Technical specifications:

Running voltage:	6 to 230 V AC, DC
Supply voltage tolerance:	± 20%
Nominal current:	max. 20 mA
Protection from front panel/terminal:	IP65/IP20
Panel thickness:	max. 10 mm
Connecting conductor diameter:	1.5 mm <sup>2</sup>
Holes spacing:	min. 37 mm
Dimensions:	round opening ø36 mm, length 73 mm length behind the panel 60 mm
LED colour:	<b>R, G, B, Y, W, O</b>
Operating temperature:	-25 to +55°C (-13 to 131°F)

### Function:

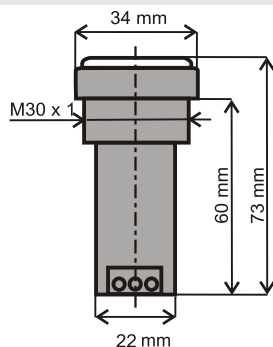
The indicators are produced in the glow, flash and on/off versions.

### Order specification:

**VIS-98 G 230AC** green glow ind. 230 V AC

## I. Indicator, 30mm mounting hole

**US-09**  
direction indicator



### Technical specifications:

Running voltage:	12 to 230 V AC, DC
Nominal current:	max. 20 mA
Protection:	IP65/IP20
LED service life:	up to 100,000 operating hours
Length behind the panel:	60 mm

Mounting hole:	30 mm
Holes spacing:	min. 35 mm
Panel thickness:	max. 10 mm
Connecting conductor:	max. 1.5 mm <sup>2</sup>
Induction voltage suppression:	as required
LED colours:	<b>R, G, B, Y, W, O</b>

### Order specification:

<b>US-09 G/G 230AC</b>	glow 230 V AC
<b>US-09 G/R 60AC</b>	glow 60 V AC
<b>US-09 G/Y 24DC</b>	glow 24 V DC

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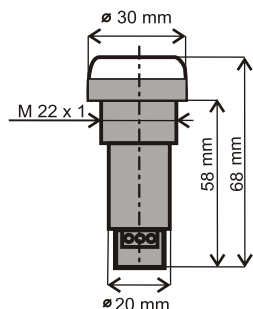
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e-mail: [order@eleco.cz](mailto:order@eleco.cz)

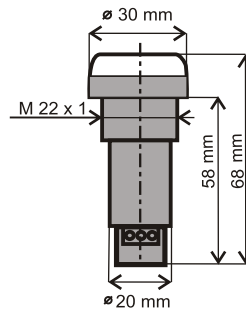
ISO 9001

## I. Indicator, 22mm mounting hole

### HIS-95 4 pcs LED



### HIS-99 1pc LED



#### Technical specifications:

Running voltage:	6 to 230 V AC, DC
Supply voltage tolerance:	± 20%
Nominal current:	max. 20 mA
Protection from front panel/terminal:	IP65/IP20
Panel thickness:	max. 10 mm
Connecting conductor diameter:	1.5 mm <sup>2</sup>
Holes spacing:	min. 31 mm
Dimensions:	round opening ø30 mm, length 68 mm length behind the panel 58 mm
LED colour:	<b>R, G, B, Y, W, O</b>
Operating temperature:	-25 to +55°C (-13 to 131°F)

#### Function:

The indicators are produced in the glow, flash and on/off versions.

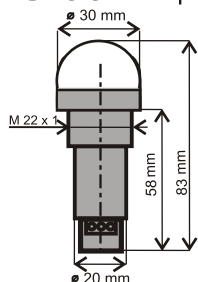
#### Order specification example:

**HIS-95-Y-230AC** yellow glow ind. 230 V AC

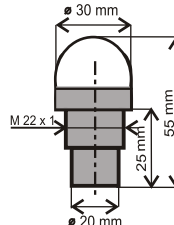
**Accessories:** Socket wrench M22, see page 35.

## I. Indicator, 22mm mounting hole

### HIS-99-K 1pc LED



### HIS-12-K 7pcs LED



#### Technical specifications:

Running voltage:	6 to 230 V AC, DC
Supply voltage tolerance:	± 20%
Nominal current:	max. 20 mA
Protection from front panel/terminal:	IP65/IP20
Panel thickness:	max. 10 mm
Connecting conductor diameter:	1.5 mm <sup>2</sup>
Holes spacing:	min. 31 mm
Dimensions:	round opening ø30 mm, length 83 mm (HIS-99-K), length 50 mm (HIS-12-K) length behind the panel 58 mm (HIS-99-K), length behind the panel 25 mm (HIS-12-K)
LED colour:	<b>R, G, B, Y, W, O</b>
Operating temperature:	-25 to +55°C (-13 to 131°F)

#### Function:

The indicators are produced in the glow, flash and on/off versions.

#### Order specification example:

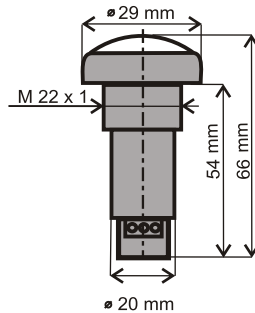
**HIS-99-K-Y-230AC** yellow glow ind. 230 V AC

**Accessories:** Socket wrench M22, see page 35.

# I. Indicator, 22mm mounting hole

## HIS-06

1 pc LED standard light intensity



### Technical specifications:

Running voltage:	6 to 230 V AC, DC
Supply voltage tolerance:	± 20%
Nominal current:	max. 20 mA
Protection from front panel/terminal:	IP65/IP20
Panel thickness:	max. 10 mm
Connecting conductor diameter:	1.5 mm <sup>2</sup>
Holes spacing:	min. 31 mm
Dimensions:	round opening ø29 mm, length 66 mm length behind the panel 54 mm
LED colour:	<b>R, G, B, Y, W, O</b>
Operating temperature:	-25 to +55°C (-13 to 131°F)

The modern HIS-06 indicator is characteristic by uniform lighting, small height above the panel and elegant colour design.

### Function:

The indicators are produced in the glow, flash and on/off versions.

**Order specification example:** HIS-06 **Y 230AC** yellow glow ind. 230 V AC

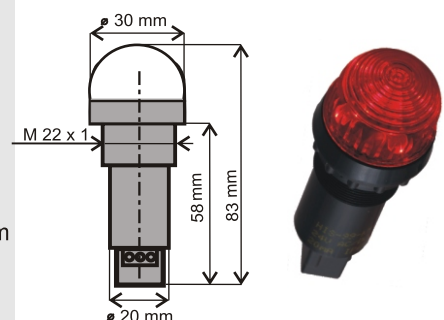
**Accessories:** Socket wrench M22, see page 35.

# I. Rotating beacon, 22mm mounting hole

## HIS-99-KM 4 pcs LED

### Technical specifications:

Supply voltage:	12 V AC/DC; 24 V AC/DC acc. to the type
Running voltage tolerance:	± 25%
Current consumption at 12 V DC:	30 mA max.
Protection from front panel/terminal:	IP65/20
Connecting conductor diameter:	1.5 mm <sup>2</sup>
Dimensions:	ø30 mm, height above the panel 21 mm, length 79 mm, tube ø behind the panel 22 mm, length behind the panel 58 mm
Fixing:	hole ø22 mm, panel thickness max. 22 mm
Holes spacing:	min. 31 mm
Operating temperature:	-20 to +55°C (-4 to 131°F)
Storage temperature:	-30 to +65°C (-22 to 149°F)
Weight:	15 g
LED colour:	<b>R, G, B, Y, W, O</b>



### Function:

Rotating light in a 20 mm high cupola, visible from all around, with a mounting hole only 22 mm.

**Version 1:** single-direction rotation.

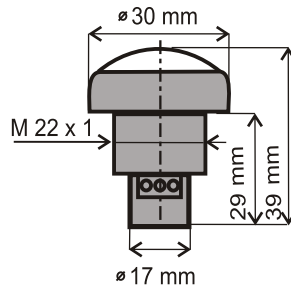
**Version 2:** automatic changing of the rotation direction and speed for higher efficiency.

**Order specification example:** HIS-99-KM **R 24DC V2** rot. red beacon 23 V DC, with aut. chng. of the rot. direction.

**Accessories:** Socket wrench M22, see page 35.

## I. Indicator, 22mm mounting hole

**HIS-06-N** 1 pc LED



### Technical specifications:

Running voltage:	6 to 60 V AC, DC
Supply voltage tolerance:	± 20%
Nominal current:	max. 20 mA
Protection from front panel/terminal:	IP65/IP20
Panel thickness:	max. 10 mm
Connecting conductor diameter:	1.5 mm <sup>2</sup>
Holes spacing:	min. 31 mm
Dimensions:	round opening $\varnothing$ 30 mm, length 39 mm length behind the panel 29 mm
LED colour:	<b>R, G, B, Y, W, O</b>
Operating temperature:	-25 to +55°C (-13 to 131°F)

The modern HIS-06-N indicator is characterised by uniform lighting, small height above the panel and elegant colour design.

### Function:

The indicators are produced in the glow, flash and on/off versions.

### Order specification example:

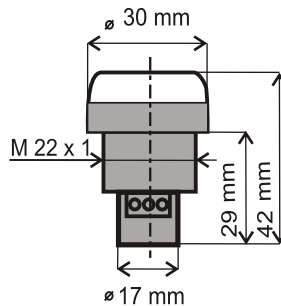
**HIS-06-N G 60AC**

green glow ind. 60 V AC

Accessories: Socket wrench M22, see page 35.

## I. Indicator, 22mm mounting hole

**HIS-95-N** 7 pcs LED



### Technical specifications:

Running voltage:	12 to 230 V AC, DC
Supply voltage tolerance:	± 20%
Nominal current:	max. 20 mA
Protection from front panel/terminal:	IP65/IP20
Panel thickness:	max. 10 mm
Connecting conductor diameter:	1.5 mm <sup>2</sup>
Holes spacing:	min. 31 mm
Dimensions:	round opening $\varnothing$ 30 mm, length 42 mm length behind the panel 29 mm
LED colour:	<b>R, G, B, Y, W, O</b>
Operating temperature:	-25 to +55°C (-13 to 131°F)

### Function:

The indicators are produced in the glow.

### Order specification example:

**HIS-95-N R 24AC/DC**


red glow ind. 24 V AC

Accessories: Socket wrench M22, see page 35.

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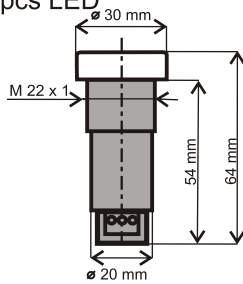
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e-mail: [order@eleco.cz](mailto:order@eleco.cz)

ISO 9001 

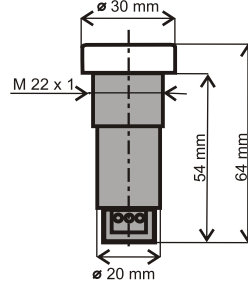


# I. Indicator, 22mm mounting hole

## EIS-96 6pcs LED



## EIS-99 1pc LED



### Technical specifications:

Running voltage:	6 to 230 V AC, DC
Supply voltage tolerance:	± 20%
Nominal current:	max. 20 mA
Protection from front panel/terminal:	IP65/IP20
Panel thickness:	max. 10 mm
Connecting conductor diameter:	1.5 mm <sup>2</sup>
Holes spacing:	min. 31 mm
Dimensions:	round opening ø30 mm, length 64 mm length behind the panel 54 mm
LED colour:	<b>R, G, B, Y, W, O</b>
Operating temperature:	-25 to +55°C (-13 to 131°F)

### Function:

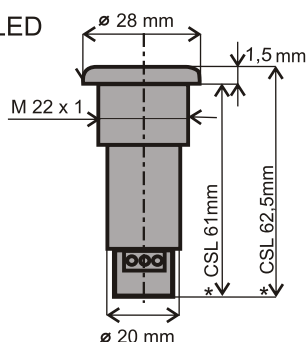
The indicators are produced in the glow, flash and on/off versions.

### Order specification example:

EIS-99 **B** 230AC blue glow 230 V AC

# I. Indicator, 22mm mounting hole

## CSL-99 1pc LED CSL-12



### Technical specifications:

Running voltage:	6 to 230 V AC, DC
Supply voltage tolerance:	± 20%
Nominal current:	max. 20 mA
Protection from front panel/terminal:	IP65/IP20
Panel thickness:	max. 10 mm
Connecting conductor diameter:	1.5 mm <sup>2</sup>
Holes spacing:	min. 29 mm
Dimensions:	round opening ø28 mm, length 62,5 mm length behind the panel 61 mm
LED colour:	<b>R, G, B, Y, W, O</b>
Operating temperature:	-25 to +55°C (-13 to 131°F)

### Warning:

The tube of on/off indicators is 3 mm longer.

### Order specification:

CSL-99 **Y** 230AC yellow glow 230 V AC

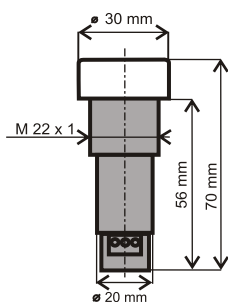
**Accessories:** Socket wrench M22, see page 35.

### Advantage:

An arrow symbol, or any other symbol, may be inserted into the CSL-99 indicator opening (must be specified).

## I. Indicator, 22mm mounting hole

**SOS-99** 1pc LED



### Technical specifications:

Running voltage:	6 to 230 V AC, DC
Supply voltage tolerance:	± 20%
Nominal current:	max. 20 mA
Protection from front panel/terminal:	IP65/IP20
Panel thickness:	max. 10 mm
Connecting conductor diameter:	1.5 mm <sup>2</sup>
Holes spacing:	min. 31 mm
Dimensions:	round opening ø30 mm, length 70 mm length behind the panel 56 mm
LED colour:	<b>R, G, B, Y, W, O</b>
Operating temperature:	-25 to +55°C (-13 to 131°F)

### Function:

The indicators are produced in the glow, flash and on/off versions.

The SOS indicator head is a version identical with the OTP, OTN push-button head and the ODP, OTP, ODN control, and therefore it is possible to install them together.

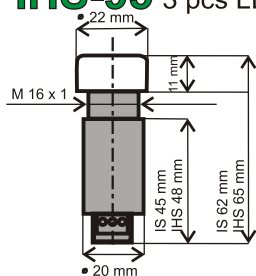
### Order specification example:

**SOS-99 B 230AC** blue glow 230 V AC

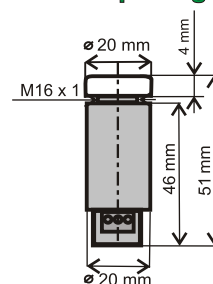
## I. Indicator, 16mm mounting hole

**IS-99** 1 pc LED higher light intensity

**IHS-95** 3 pcs LED standard light intensity



**IS-99.1** 1 pc LED higher light intensity  
lower opening on the panel



### Technical specifications:

Running voltage:	6 to 230 V AC, DC
Supply voltage tolerance:	± 20%
Nominal current:	max. 20 mA
Protection from front panel/terminal:	IP65/IP20
Panel thickness:	min. 1 mm, max. 8 mm (IS, IHS), max. 6 mm (IS-99.1)
Connecting conductor diameter:	1.5 mm <sup>2</sup>
Holes spacing:	min. 31 mm
LED colour:	<b>R, G, B, Y, W, O</b>
Operating temperature:	-25 to +55°C (-13 to 131°F)

### Notice:

The IHS-95 type (with 3 diodes) is produced in the glow or flash versions. The tube of on/off indicators is 3 mm longer.

### Order specification example:

**IS-99 Y 230AC** yellow glow ind. 230 V AC

**IS-99.1 B 230AC** blue glow ind. 230 V AC

**Accessories:** Socket wrench M12/16, see page 35.

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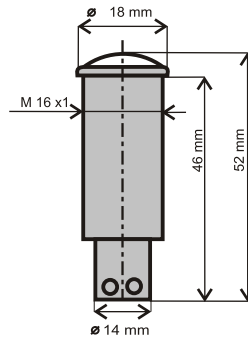
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## I. Indicator, 16mm mounting hole

**SHS-06** 1 pc LED standard light intensity



### Technical specifications:

Running voltage:	6 to 230 V AC, DC
Supply voltage tolerance:	± 20%
Nominal current:	max. 20 mA
Protection from front panel/terminal:	IP65/IP20
Panel thickness:	max. 9 mm
Connecting conductor diameter:	1.5 mm <sup>2</sup>
Holes spacing:	min. 22 mm
Dimensions:	round opening $\varnothing$ 18 mm, length 52 mm length behind the panel 46 mm
LED colour:	<b>R, G, B, Y, W, O</b>
Operating temperature:	-25 to +55°C (-13 to 131°F)

**Notice:** We are making two-state signal lamps up 60 V AC or DC.

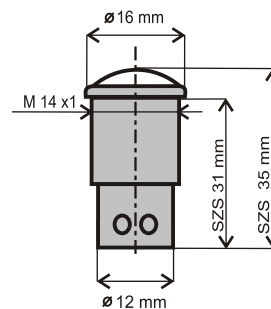
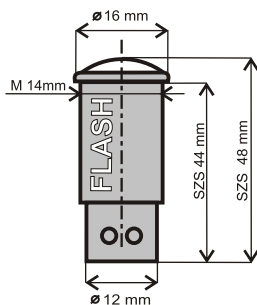
### Order specification example:

**SHS-06 G 230AC** green glow ind. 230 V AC

**Accessories:** Socket wrench M12/16, see page 35.

## I. Indicator, 14mm mounting hole

**SZS-06** 1 pc LED standard light intensity



### Technical specifications:

Running voltage:	6 to 230 V AC, DC
Supply voltage tolerance:	± 20%
Nominal current:	max. 20 mA
Protection from front panel/terminal:	IP65/IP00
Panel thickness:	max. 5 mm
Connecting conductor diameter:	1.5 mm <sup>2</sup>
Holes spacing:	min. 18 mm
Dimensions:	round opening $\varnothing$ 16 mm, length 35 mm length behind the panel 31/44 mm
LED colour:	<b>R, G, B, Y, W, O</b>
Operating temperature:	-25 to +55°C (-13 to 131°F)

**Notice:** We are making two-state signal lamps up 60 V AC or DC. Flashing SZS-06 over 60 V is 44 mm behind the panel.

### Order specification example:

**SZS-06 G 230AC** green glow ind. 230 V AC

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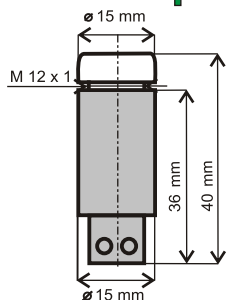
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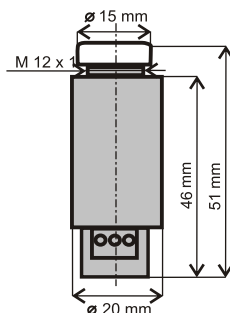
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# I. Indicator, 12mm mounting hole

## KIS-01 up 110V 1pc LED



## KIS-01 over 110V 1pc LED



### Technical specifications:

Running voltage:	6 to 110V AC, DC	110 to 230V AC, DC
Supply voltage tolerance:	± 20%	± 20%
Nominal current:	max. 20 mA	max. 20 mA
Protection from front panel/terminal:	IP65/IP20	IP65/IP20
Panel thickness:	max. 5 mm	max. 5 mm
Connecting conductor diameter:	1.5 mm <sup>2</sup>	1.5 mm <sup>2</sup>
Holes spacing:	min. 17 mm	min. 21 mm
Dimensions:	round opening ø15 mm, length 40 mm length behind the panel 36 mm	round opening ø15 mm, length 51 mm length behind the panel 46 mm
LED colour:	<b>R, G, B, Y, W, O</b>	<b>R, G, B, Y, W, O</b>
Operating temperature:	-25 to +55°C (-13 to 131°F)	-25 to +55°C (-13 to 131°F)

### Function:

The indicators are produced in the glow, flash and on/off versions.

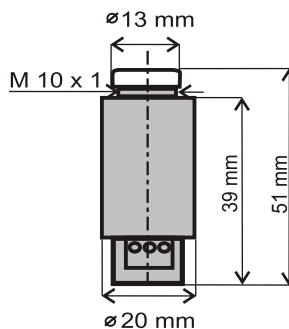
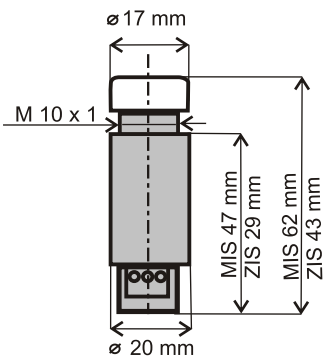
### Order specification example:

**KIS-01 G 230AC** green glow ind. 230 V AC

**Accessories:** Socket wrench M12/16, see page 35.

# I. Indicator, 10mm mounting hole

## MIS-99 1pc LED ZIS-99 1pc LED MIS-95 1pc LED ZIS-95 1pc LED MIS-99.1 1pc LED



### Technical specifications:

	MIS-95/99	ZIS-99	ZIS-95
Running voltage:	6 to 230 V AC, DC	6 to 230 V AC, DC	6 to 60 V AC, DC
Supply voltage tolerance:	± 20%	± 20%	± 20%
Nominal current:	max. 20 mA	max. 20 mA	max. 20 mA
Protection from front panel/terminal:	IP65/IP20	IP65/IP20	IP65/IP20
Panel thickness:	max. 8 mm, MIS-99.1 - 6mm	max. 8 mm	max. 8 mm
Connecting conductor diameter:	1.5 mm <sup>2</sup>	1.5 mm <sup>2</sup>	1.5 mm <sup>2</sup>
Holes spacing:	min. 25 mm	min. 25 mm	min. 25 mm
LED colour:	<b>R, G, B, Y, W, O</b>	<b>R, G, B, Y, W, O</b>	<b>R, G, B, Y, W, O</b>
Operating temperature:	-25 to +55°C (-13 to 131°F)	-25 to +55°C (-13 to 131°F)	-25 to +55°C (-13 to 131°F)

### Function:

The indicators are produced in the glow, flash and on/off versions.

### Order specification example:

**MIS-99 RF 230AC** red flash ind. 230 V AC

**ZIS-99 RF/Y 48DC** on/off red flash/yellow glow ind. 48 V DC

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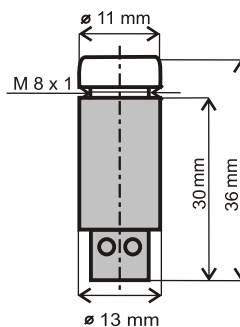
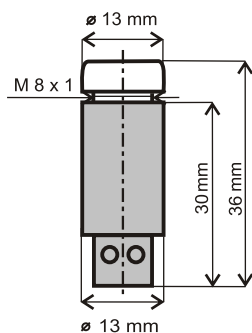
ISO 9001

# I. Indicator, 8mm mounting hole

**SMS-95** 1pc LED only 60V

**SMS-99** 1pc LED

**SMS-99.1** 1pc LED



## Technical specifications:

Running voltage:	6 to 230 V AC, DC
Supply voltage tolerance:	± 20%
Nominal current:	max. 20 mA
Protection from front panel/terminal:	IP65/IP20
Panel thickness:	max. 3 mm
Connecting conductor diameter:	1.5 mm <sup>2</sup>
Holes spacing:	min. 15 mm
Dimensions:	round opening ø13 mm, SMS 99.1 ø11mm, length 36 mm length behind the panel 30 mm
LED colour:	<b>R, G, B, Y, W, O</b>
Operating temperature:	-25 to +55°C (-13 to 131°F)

## Function:

The indicators are produced in the glow, flash and on/off versions.

## Order specification example:

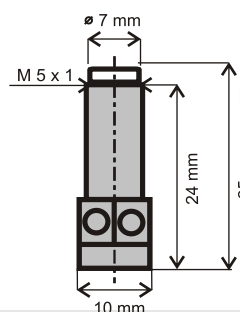
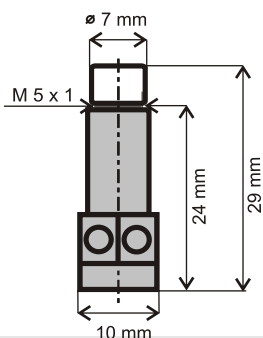
**SMS-99 Y 230AC** yellow glow ind. 230 V AC

**SMS-99.1 YF 230AC** yellow flash ind. 230 V AC

# I. Indicator, 5mm mounting hole

**VMS-99** 1ks LED

**VMS-99.1** 1ks LED



## Technical specifications:

Running voltage:	6 to 230 V AC, DC
Supply voltage tolerance:	± 20%
Nominal current:	max. 20 mA
Protection from front panel/terminal:	IP65/IP20
Panel thickness:	max. 3 mm
Connecting conductor diameter:	1.5 mm <sup>2</sup>
Holes spacing:	min. 10 mm
Dimensions:	round opening ø7 mm, length 29 mm, VMS 99.1 length 25 mm length behind the panel 24 mm
LED colour:	<b>R, G, B, Y, W, O</b>
Operating temperature:	-25 to +55°C (-13 to 131°F)

**Function:** The indicators are produced in the glow.

## Order specification example:

**VMS-99 R 230AC** red glow ind. 230 V AC

**VMS-99.1 Y 24DC** yellow glow ind. 24 V DC

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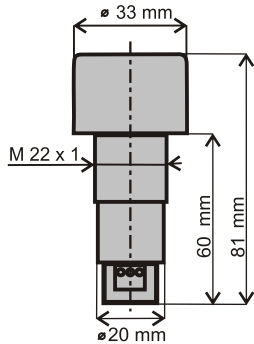
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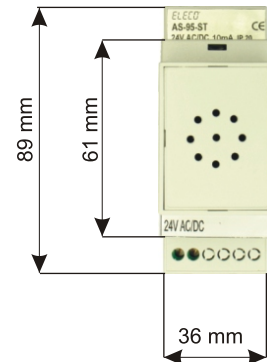
## II.

# Acoustic indicators

### AS-95



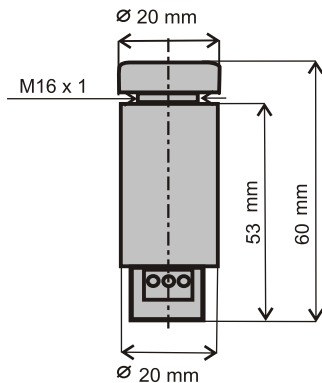
### AS-DIN-04 (double-module)



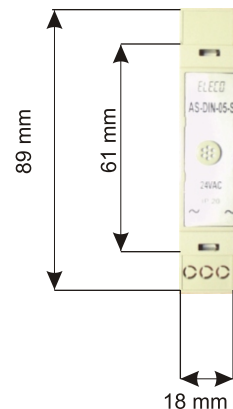
#### Technical specifications:

<b>Running voltage:</b>	12 to 230 V AC, DC
<b>Nominal current:</b>	max. 10 mA
<b>Protection:</b>	AS-95 IP30 or IP65/IP20 AS-05 IP30/IP20 AS-DIN-04 IP20 AS-DIN-05 IP20
<b>Mounting holes:</b>	AS-95 22 mm, AS-05 16 mm
<b>Holes spacing:</b>	AS-95 min. 34 mm AS-05 min. 22 mm
<b>Panel thickness:</b>	AS-95 max. 12 mm AS-05 max. 6 mm
<b>Connecting conductor:</b>	max. 1.5 mm <sup>2</sup>
<b>Acoustic pressure:</b>	AS-95 90 dB/ 30 cm at IP30 40 dB/ 30 cm at IP65 AS-05 85 dB/ 10 cm at IP30 AS-DIN-04 90 dB/ 30 cm at IP30 AS-DIN-05 85 dB/ 10 cm at IP30
<b>Frequency:</b>	2.7 kHz ± 0.5 kHz

### AS-05



### AS-DIN-05 (single-module)



#### Order specification example:

AS-05 P 230AC

AS-95 S 230AC

Type	Voltage					
A S - 0 5 P	2	3	0	A	C	IP30
A S - 9 5 S	2	3	0	A	C	IP65

S	STATIONARY TONE
P	INTERMITTENT TONE
D	DOUBLE TONE

12 V
24 V
60 V
110 V
125 V
220 V
230 V
OTHER

AC	ALTERNATING
DC	DIRECT

IP30	cover
IP65	cover

**Accessories:** Socket wrench M22, see page 35.

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### III. Level indicator, 22mm mounting hole

#### SUS-95, SUS-95-L



#### Technical specifications:

<b>Running voltage:</b>	12 to 230 V AC, DC
<b>Nominal current:</b>	max. 20 mA
<b>Protection:</b>	IP65/IP20
<b>LED service life:</b>	up to 100,000 service hours
<b>Mounting hole:</b>	22 mm
<b>Holes spacing:</b>	min. 40 mm
<b>Panel thickness:</b>	max. 12 mm
<b>Connecting conductor:</b>	max. 1.5 mm <sup>2</sup>

#### Notice:

The "L" version with LED strip is produced only in red/green colour combination.  
For voltage 110 V DC and higher, indicators are equipped with an outer resistance multiplier.

Upper cover of the indicator may be supplied in various colour designs, standard colour is black.  
Induction voltage suppression made to order.

#### Order specification example:

SUS-95 G/R 230AC P30 standard light intensity  
SUS-95 G/RF 230AC P30 higher light intensity, flash

Type	Colour	Voltage	Induction voltage suppression																										
S U S - 9 5	G / R	2 3 0 A C	P 30																										
<table border="1"> <tr><td>ROUND</td><td></td></tr> <tr><td>SQUARE</td><td>Q</td></tr> </table>	ROUND		SQUARE	Q	<table border="1"> <tr><td>R</td><td>RED</td></tr> <tr><td>G</td><td>GREEN</td></tr> <tr><td>B</td><td>BLUE</td></tr> <tr><td>W</td><td>WHITE</td></tr> <tr><td>Y</td><td>YELLOW</td></tr> <tr><td>O</td><td>ORANGE</td></tr> </table>	R	RED	G	GREEN	B	BLUE	W	WHITE	Y	YELLOW	O	ORANGE	<table border="1"> <tr><td>F</td><td>Flashing</td></tr> </table>	F	Flashing	<table border="1"> <tr><td>12 V</td></tr> <tr><td>24 V</td></tr> <tr><td>60 V</td></tr> <tr><td>110 V</td></tr> <tr><td>125 V</td></tr> <tr><td>220 V</td></tr> <tr><td>230 V</td></tr> <tr><td>OTHER</td></tr> </table>	12 V	24 V	60 V	110 V	125 V	220 V	230 V	OTHER
ROUND																													
SQUARE	Q																												
R	RED																												
G	GREEN																												
B	BLUE																												
W	WHITE																												
Y	YELLOW																												
O	ORANGE																												
F	Flashing																												
12 V																													
24 V																													
60 V																													
110 V																													
125 V																													
220 V																													
230 V																													
OTHER																													
<table border="1"> <tr><td>LED <math>\varnothing</math> 5 mm</td><td></td></tr> <tr><td>WITH LED STRIP</td><td>L</td></tr> </table>	LED $\varnothing$ 5 mm		WITH LED STRIP	L			<table border="1"> <tr><td>P30</td><td>TO 30 V</td></tr> <tr><td>P60</td><td>TO 60 V</td></tr> <tr><td>P80</td><td>TO 80 V</td></tr> <tr><td>P100</td><td>TO 100 V</td></tr> <tr><td>P120</td><td>TO 120 V</td></tr> </table>	P30	TO 30 V	P60	TO 60 V	P80	TO 80 V	P100	TO 100 V	P120	TO 120 V												
LED $\varnothing$ 5 mm																													
WITH LED STRIP	L																												
P30	TO 30 V																												
P60	TO 60 V																												
P80	TO 80 V																												
P100	TO 100 V																												
P120	TO 120 V																												
			<table border="1"> <tr><td>AC</td><td>ALTERNATING</td></tr> <tr><td>DC</td><td>DIRECT</td></tr> </table>	AC	ALTERNATING	DC	DIRECT																						
AC	ALTERNATING																												
DC	DIRECT																												

**Accessories:** Socket wrench M22, see page 35.



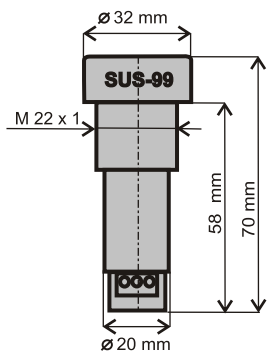
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# Indicator signal lights mounting hole 22 mm

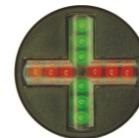
## SUS-09, SUS-99-L, SUS-99



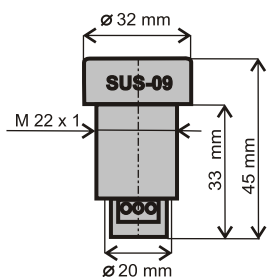
SUS-09



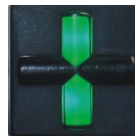
SUS-99



SUS-99-L



SUS-09-Q



SUS-99-Q



SUS-99-QL



### Technical data:

<b>Working voltage:</b>	12.230V AC, DC
<b>Rated current:</b>	max. 20mA
<b>IP code:</b>	after build-in IP65 from front side terminal block IP20
<b>Lighting:</b>	according to LED
<b>Working temperature:</b>	-25.. +65°C
<b>LED diode service life:</b>	up to 100 000 service hours
<b>Mounting hole:</b>	22 mm
<b>Hole pitch:</b>	min. 40 mm
<b>Panel thickness:</b>	max. 12 mm <sup>2</sup>
<b>Wiring method:</b>	max. 1,5 mm <sup>2</sup>
<b>Volt. suppression:</b>	according to order

**Example of order specification:** SUS-99 G/R 230AC P30 execution with a standard luminance  
SUS-09 G/R 230AC P30

Type	Colour	Voltage	Volt. Suppression																																										
S U S - 9 9	G / R	2 3 0 A C	P 3 0																																										
<table border="1"> <tr><td>ROUND</td><td>R</td></tr> <tr><td>SQUARE</td><td>Q</td></tr> </table>	ROUND	R	SQUARE	Q																																									
ROUND	R																																												
SQUARE	Q																																												
<table border="1"> <tr><td>LED ø 3 mm</td><td>L</td></tr> <tr><td>WITH BAR LED</td><td></td></tr> </table>	LED ø 3 mm	L	WITH BAR LED																																										
LED ø 3 mm	L																																												
WITH BAR LED																																													
<table border="1"> <tr><td>R</td><td>RED</td></tr> <tr><td>G</td><td>GREEN</td></tr> <tr><td>B</td><td>BLUE</td></tr> <tr><td>W</td><td>WHITE</td></tr> <tr><td>Y</td><td>YELLOW</td></tr> <tr><td>O</td><td>ORANGE</td></tr> </table>	R	RED	G	GREEN	B	BLUE	W	WHITE	Y	YELLOW	O	ORANGE	<table border="1"> <tr><td>R</td><td>RED</td></tr> <tr><td>G</td><td>GREEN</td></tr> <tr><td>B</td><td>BLUE</td></tr> <tr><td>W</td><td>WHITE</td></tr> <tr><td>Y</td><td>YELLOW</td></tr> <tr><td>O</td><td>ORANGE</td></tr> </table>	R	RED	G	GREEN	B	BLUE	W	WHITE	Y	YELLOW	O	ORANGE	<table border="1"> <tr><td>12 V</td></tr> <tr><td>24 V</td></tr> <tr><td>60 V</td></tr> <tr><td>110 V</td></tr> <tr><td>125 V</td></tr> <tr><td>220 V</td></tr> <tr><td>230 V</td></tr> <tr><td>OTHER</td></tr> </table>	12 V	24 V	60 V	110 V	125 V	220 V	230 V	OTHER	<table border="1"> <tr><td>P30</td><td>TO 30 V</td></tr> <tr><td>P60</td><td>TO 60 V</td></tr> <tr><td>P80</td><td>TO 80 V</td></tr> <tr><td>P100</td><td>TO 100 V</td></tr> <tr><td>P120</td><td>TO 120 V</td></tr> </table>	P30	TO 30 V	P60	TO 60 V	P80	TO 80 V	P100	TO 100 V	P120	TO 120 V
R	RED																																												
G	GREEN																																												
B	BLUE																																												
W	WHITE																																												
Y	YELLOW																																												
O	ORANGE																																												
R	RED																																												
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P120	TO 120 V																																												
			<table border="1"> <tr><td>AC</td><td>ALTERNATING</td></tr> <tr><td>DC</td><td>DIRECT</td></tr> </table>	AC	ALTERNATING	DC	DIRECT																																						
AC	ALTERNATING																																												
DC	DIRECT																																												

**Accessories:** Box spanner M22, see page 35.



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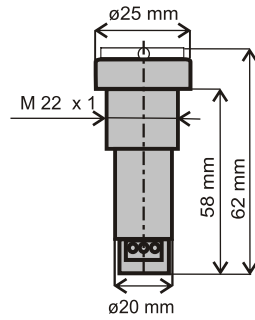
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### III. Level indicator, 16mm and 22mm mounting holes

#### SUS-01, SUS-01 Q

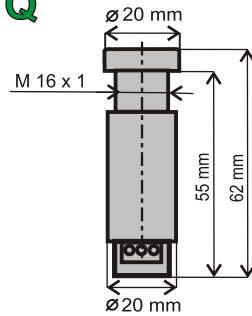


SUS-01

SUS-01 Q



#### SUS-02, SUS-02 Q



SUS-02

SUS-02 Q



#### Technical specifications:

Running voltage:	12 to 230 V AC, DC
Nominal current:	max. 20 mA
Protection:	IP65/IP20
LED service life:	IP20 terminals from the side up to 100,000 service hours
Mounting hole:	SUS-01 22 mm, SUS-02 16 mm
Holes spacing:	SUS-01 min. 30 mm, SUS-02 min. 25 mm
Panel thickness:	max. 12 mm
Connecting conductor:	max. 1.5 mm <sup>2</sup>

#### Order specification example:

SUS-01 **G/R** 230AC  
SUS-02 **Q GF/R** 24DC

Type										Colour			Voltage				
S	U	S	-	0	1			G		R			2	3	0	A	C
S	U	S	-	0	2	-	Q	G	F	R			2	4	D	C	

ROUND DESIGN	
SQUARE DESIGN	Q

F	Flashing
---	----------

AC	ALTERNATING
DC	DIRECT

12 V
24 V
60 V
110 V
125 V
220 V
230 V
OTHER

<b>R</b>	RED
<b>G</b>	GREEN
<b>B</b>	BLUE
<b>W</b>	WHITE
<b>Y</b>	YELLOW
<b>O</b>	ORANGE

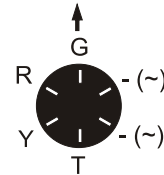
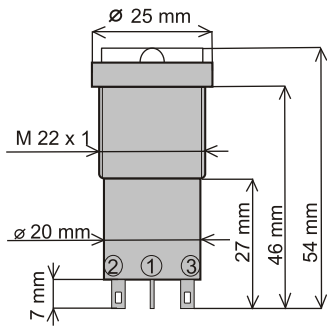
  

<b>R</b>	RED
<b>G</b>	GREEN
<b>B</b>	BLUE
<b>W</b>	WHITE
<b>Y</b>	YELLOW
<b>O</b>	ORANGE

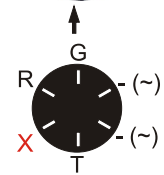
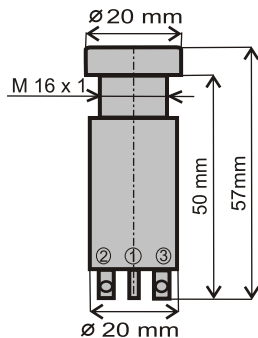
Accessories: Socket wrench M22, see page 35.

### III. Level indicator with built-in test

#### SUS-01 T



#### SUS-02 T



#### Technical specifications:

<b>Running voltage:</b>	12 to 230 V AC, DC
<b>Nominal current:</b>	max. 20 mA
<b>Protection:</b>	IP65/ IP00 terminals from the side
<b>LED service life:</b>	up to 100,000 service hours
<b>Mounting hole:</b>	SUS-01 T 22 mm, SUS-02 T 16 mm
<b>Holes spacing:</b>	min. 30 mm
<b>Panel thickness:</b>	max. 12 mm
<b>Connection method:</b>	Faston 2.8 x 0.8 x 7.0 mm
<b>X = vacant position</b>	

#### Advantage:

For SUS-01.T and SUS-02.T, third colour may be connected in the middle of the indicator.

#### Order specification example:

SUS-01.T.Q G/R 220DC  
SUS-02.T G/R/Y 110DC

Type										Colour				Voltage																											
S	U	S	-	0	1	.	T	.	Q	G	/	R	/			2	2	0	D	C																					
S	U	S	-	0	2	.	T			G	/	R	/	Y		1	1	0	D	C																					
T WITH LED BUILT-IN TEST										ROUND DESIGN SQUARE DESIGN Q				AC ALTERNATING DC DIRECT																											
R RED		G GREEN		B BLUE		W WHITE		Y YELLOW		O ORANGE		X <input checked="" type="checkbox"/> WITHOUT LED		R RED		G GREEN		B BLUE		W WHITE		Y YELLOW		O ORANGE		12 V		24 V		48 V		60 V		110 V		125 V		220 V		230 V	
FASTON 1										FASTON 2										FASTON 4																					

**Accessories:** Socket wrench M22, see page 35.



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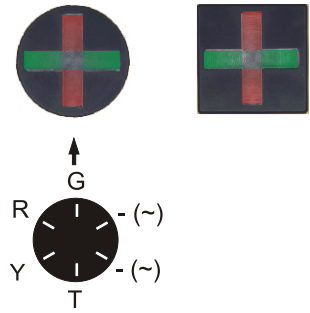
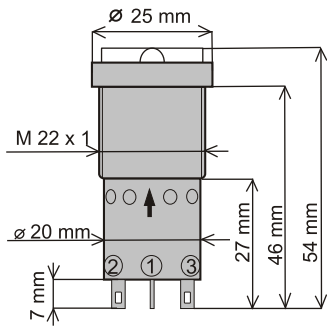
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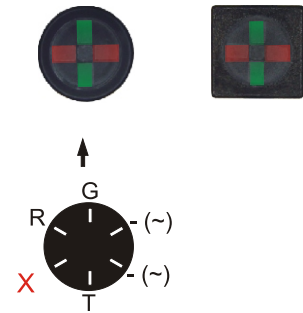
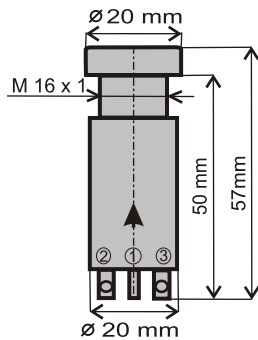
ISO 9001

### III. Level indicator with built-in test

#### SUS-01 T



#### SUS-02 T



#### Technical specifications:

Running voltage:	12 to 230 V AC, DC
Nominal current:	max. 20 mA
Protection:	IP65/ IP00 terminals from the side
LED service life:	up to 100,000 service hours
Mounting hole:	SUS-01 T 22 mm, SUS-02 T 16 mm
Holes spacing:	min. 30 mm
Panel thickness:	max. 12 mm
Connection method:	Faston 2.8 x 0.8 x 7.0 mm

X = vacant position

#### Advantage:

For SUS-01.T and SUS-02.T, third colour may be connected in the middle of the indicator.

**Order specification example:** SUS-01.T.Q G/R 220DC  
SUS-02.T G/R/Y 110DC

Type	Colour	Voltage
S U S - 0 1 . T . Q	G / R	2 2 0 D C
S U S - 0 2 . T	G / R / Y	1 1 0 D C

T WITH LED BUILT-IN TEST

ROUND DESIGN  
SQUARE DESIGN Q

R	RED	R	RED	X	WITHOUT LED	12 V
G	GREEN	G	GREEN	R	RED	24 V
B	BLUE	B	BLUE	G	GREEN	48 V
W	WHITE	W	WHITE	B	BLUE	60 V
Y	YELLOW	Y	YELLOW	W	WHITE	110 V
O	ORANGE	O	ORANGE	Y	YELLOW	125 V
				O	ORANGE	220 V
						230 V

FASTON 1      FASTON 2      FASTON 4

AC ALTERNATING  
DC DIRECT



**Accessories:** Socket wrench M22, see page 35.



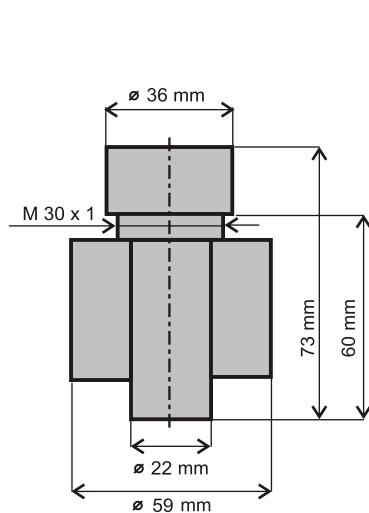
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# IV. Button control, 30mm mounting hole

**OTPN-98**  
**OTNN-98**

**TSJ-98.5**  
**TSJ-98.10**



### Technical specifications OTPN-98

**Running voltage:** 12 to 230 V AC, DC  
**Nominal current:** max. 20 mA  
**Protection:** IP65/IP20  
**Induction voltage suppression:** made to order  
**Mounting hole:** 30 mm  
**Holes spacing:** max. 59 mm depending on the number of switching units  
**Panel thickness:** max. 10 mm  
**Connecting conductor:** max. 1.5 mm<sup>2</sup>

### Technical specifications - switching unit

**Running voltage:** max. 230 V AC, DC  
**Nominal current:** 5 A (optional 10 A) AC  
 0.2 A DC max.  
**Protection:** IP20  
**Connecting conductor:** max. 1.5 mm<sup>2</sup>  
**Switching unit:** max. 4 pcs

### Notice:

The push-buttons are produced with a lighted or non-lighted top. Double colour lighting is also possible (e.g. one colour for each position). For non-lighted buttons the colour of the top must be specified. OTPN are produced also in the on-off version. For voltage 110 V DC and higher, buttons are equipped with an resistance multiplier.

### Order specification example:

**OTNN-98-BK**

Non-lighted button      Colour  
**O T N N - 98 - Bk**

<b>R</b>	RED
<b>G</b>	GREEN
<b>B</b>	BLUE
<b>W</b>	WHITE
<b>Y</b>	YELLOW
<b>O</b>	ORANGE
<b>Bk</b>	BLACK

Colour of the top

**OTPN-G/RF-230AC-P30**

Lighted button      Colour      Voltage      Induction voltage suppression  
**O T P N - G / R F - 2 3 0 AC - P 30**

<b>R</b>	RED
<b>G</b>	GREEN
<b>B</b>	BLUE
<b>W</b>	WHITE
<b>Y</b>	YELLOW
<b>O</b>	ORANGE

Clip 1

<b>R</b>	RED
<b>G</b>	GREEN
<b>B</b>	BLUE
<b>W</b>	WHITE
<b>Y</b>	YELLOW
<b>O</b>	ORANGE

Clip 2

12 V
24 V
60 V
110 V
125 V
220 V
230 V
OTHER

Voltage

TO 30 V	P30
TO 60 V	P60
TO 80 V	P80
TO 100 V	P100
TO 120 V	P120

Induction voltage suppression

AC	ALTERNATING
DC	DIRECT

**TSJ-98-5**

Switching unit  
**TSJ-98 . 5 - 1pc**

5	5 A AC
10	10 A AC

Number of units  
 max. 4 pcs

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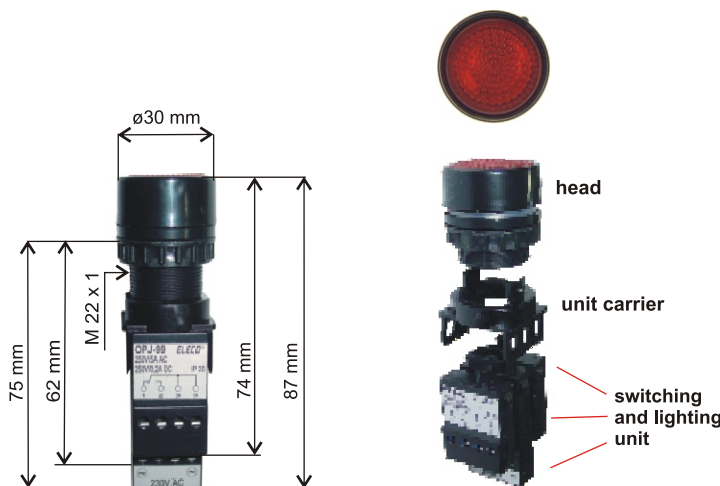
ISO 9001 **CE**

# IV. Button control, 22mm mounting hole

**OTP-99**  
**OTN-99**

**OPJ-99.5**  
**OPJ-99.10**

**OSJ-99**



**Method of unit connection:**  
- Carrier end positions are intended for switching units (OPJ-99.x).  
- Middle position is intended for a lighting unit (OSJ-99)

### Technical specifications - push/button

**Protection:** IP65/IP20  
**Colour:** to be selected from the table  
**Mounting hole:** 22 mm  
**Holes spacing:** 34 mm  
**Panel thickness:** max. 10 mm  
**Connecting conductor:** max. 1.5 mm<sup>2</sup>  
**Connecting units:** max. 1 lighting u., 2 switching u.

### Technical specifications - switching unit

**Running voltage:** max. 230 V AC, DC  
**Nominal current:** 5 A (10 A) AC, 0.2 A DC  
**Protection:** IP20  
**Connecting conductor:** max. 1.5 mm<sup>2</sup>

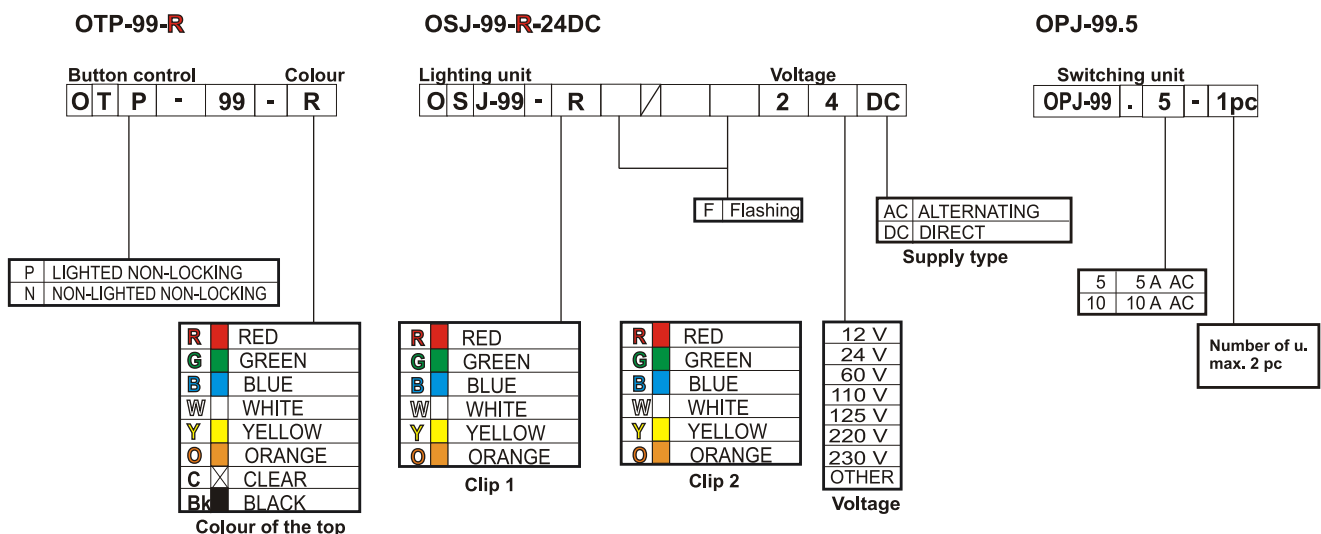
### Technical specifications - lighting unit

**Running voltage:** 12 to 230 V AC, DC  
**Nominal current:** max. 20 mA  
**Protection:** IP20  
**Connecting conductor:** max. 1.5 mm<sup>2</sup>

### Notice:

The push-button may be equipped with one or two switching units. For OTP, parameters of OSJ lighting unit must be specified. The lighting unit is supplied in the glow, flash or on/off version.

### Order specification example:



Order example – non-lighted version: OTN-99 G, OPJ-99.5 1pc

**Accessories:** Socket wrench M22, see page 35.



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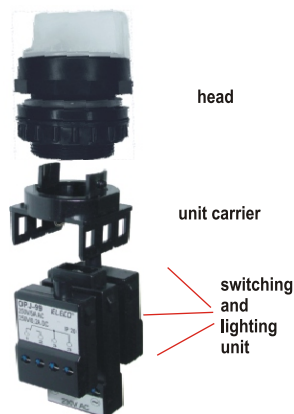
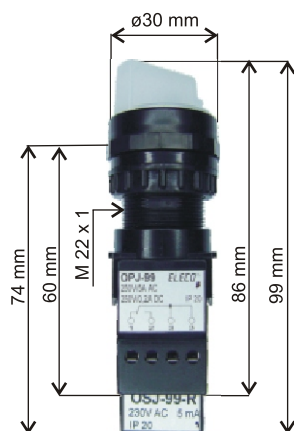
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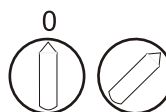
# IV. Turning button control, 22mm mounting hole

**OODPxx-99**  
**OODNxx-99**  
**OOTPxx-99**  
**OOTNxx-99**

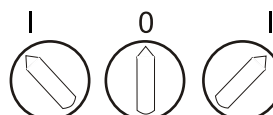
**OPJ-99.5**  
**OPJ-99.10**



OODPxx-99 turning button control, two-position, lighted locking or non-locking  
 OODNxx-99 turning button control, two-position, non-lighted locking or non-locking



OOTPxx-99 turning button control, three-position, lighted locking or non-locking  
 OOTNxx-99 turning button control, three-position, non-lighted locking or non-locking



**Method of unit connection:**  
 - Carrier end positions are intended for switching units (OPJ-99.x) max. 2 pcs  
 - Middle position is intended for a lighting unit (OSJ) max. 1 pc



**OSJ-99**



## Technical specifications - push/button

**Protection:** IP65/IP20  
**Mounting hole:** 22 mm  
**Holes spacing:** 34 mm  
**Panel thickness:** max. 10 mm  
**Connecting conductor:** max. 1.5 mm<sup>2</sup>  
**Connecting units:** max. 1 lighting u., 2 switching u.

## Technical specifications - switching unit

**Running voltage:** max. 230 V AC, DC  
**Nominal current:** 5 A, optionally 10 A AC max. 0.2 A DC  
**Protection:** IP20  
**Connecting conductor:** max. 1.5 mm<sup>2</sup>

## Technical specifications - lighting unit

**Running voltage:** 12 to 230 V AC, DC  
**Nominal current:** max. 20 mA  
**Protection:** IP20  
**Connecting conductor:** max. 1.5 mm<sup>2</sup>

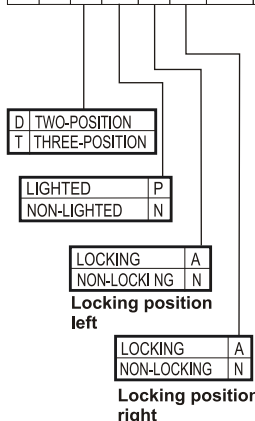
## Notice:

The lighting unit (OSJ) of the lighted button control may be of the glow, flash or on-off versions. The top of the button is produced only in milky colour.

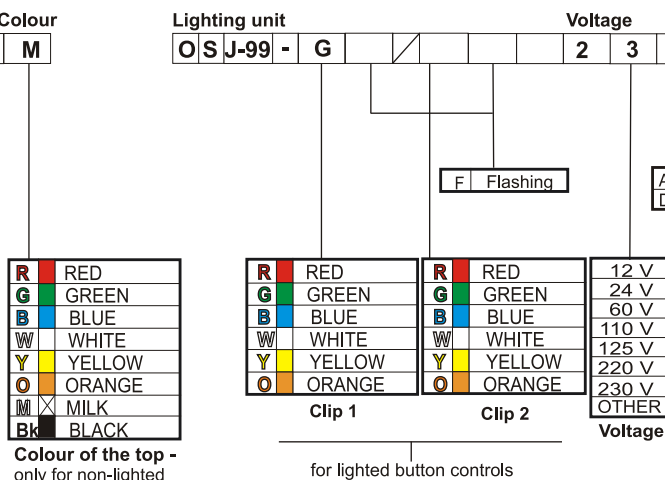
## Order specification example:

**OODPNN-99 M**

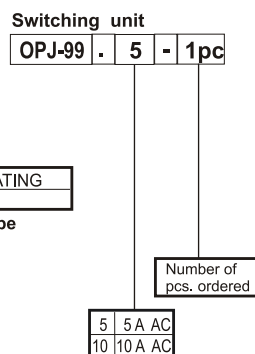
Button control Colour  
**O O D P N N - 99 M**



**OSJ-99 G 230AC**



**OPJ-99.5**



Order example - non-lighted version: **ODNNN-99 Bk, OPJ-99.5 1pc**

**Accessories:** Socket wrench M22, see page 35.



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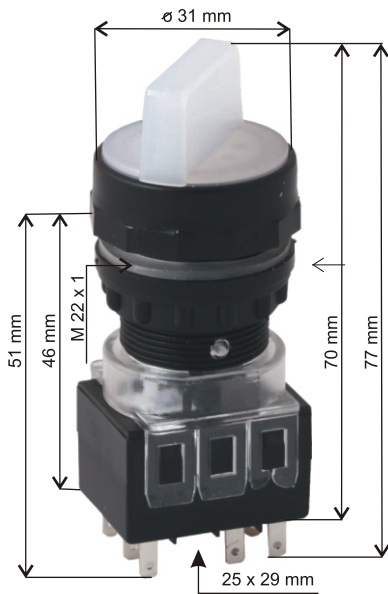
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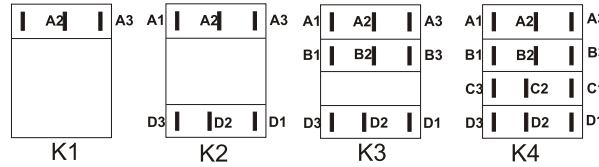
# IV. Turning button control, 22mm mounting hole

**OODPxx-03**  
**OODNxx-03**  
**OOTPxx-03**  
**OOTNxx-03**

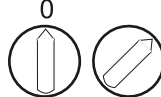
**OJ-99**



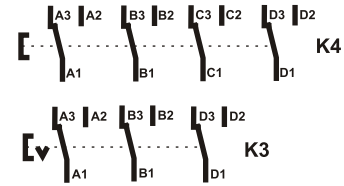
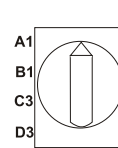
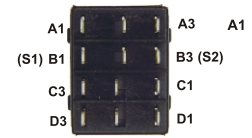
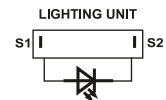
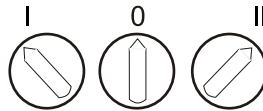
SWITCHING UNITS



OODPxx-03 turning button control, two-position, lighted locking or non-locking  
 OODNxx-03 turning button control, two-position, non-lighted locking or non-locking



OOTPxx-03 turning button control, three-position, lighted locking or non-locking  
 OOTNxx-03 turning button control, three-position, non-lighted locking or non-locking



SWITCHING CONTACTS IN ZERO POSITION

## Technical specifications - push-button+switching unit

Running voltage:	max. 230 V
Nominal current:	5 A (10 A) AC; 0.2 A DC
Protection:	IP65/IP00
Mounting hole:	22 mm
Holes spacing:	34 mm
Panel thickness:	max. 10 mm
Connection method:	Faston 2.8 mm

## Technical specifications - lighting unit

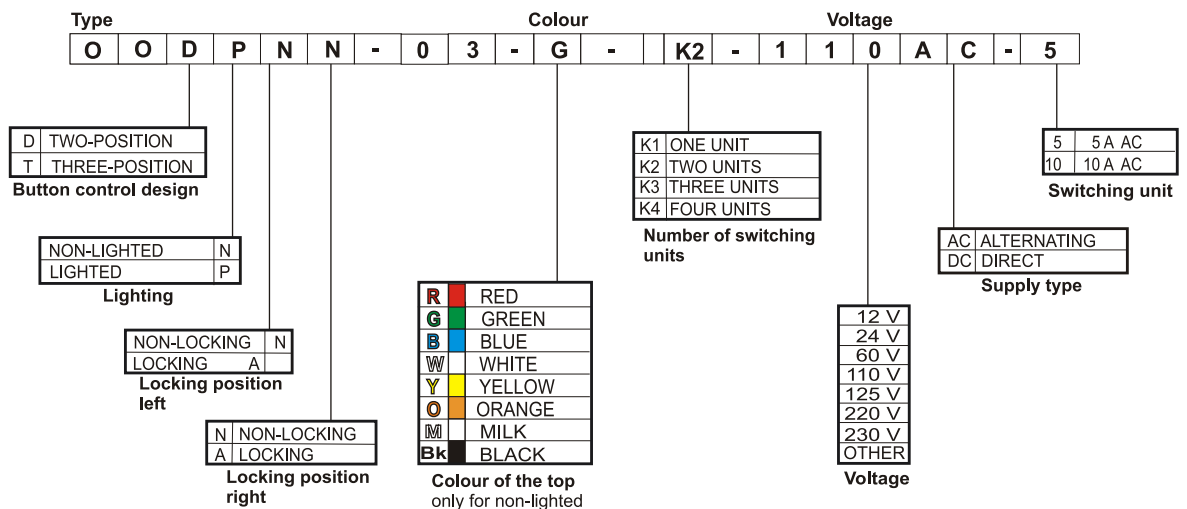
Running voltage:	12 to 230 V AC, DC
Nominal current:	max. 20 mA
Protection:	IP20
Connecting conductor:	max. 1.5 mm <sup>2</sup>

### Notice:

For the non-lighted button control, only the colour of the top may be selected in the order, and only K1-K4 may be used. For the lighted button control, the LED colour is to be selected acc. to the table, and maximally K1-K3 may be used. The top of the button is produced only in milky colour.

### Order specification example:

**OODPNN-03-G-K2-110AC-5**



Order example – non-lighted version: **OODNNN-03 G K2 110AC 5**

**Accessories:** Socket wrench M22, see page 35.



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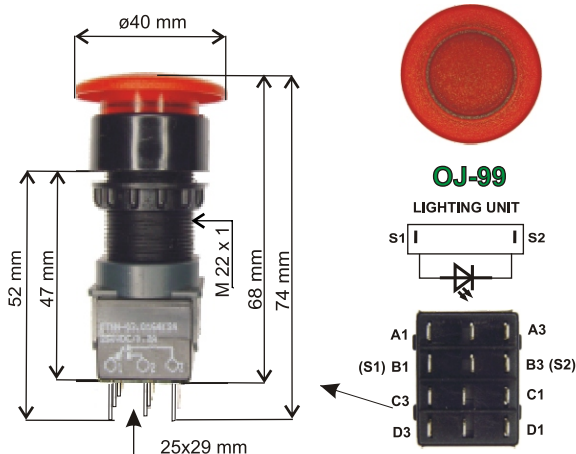
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# IV. Stop button control non-locking, 22mm mounting hole

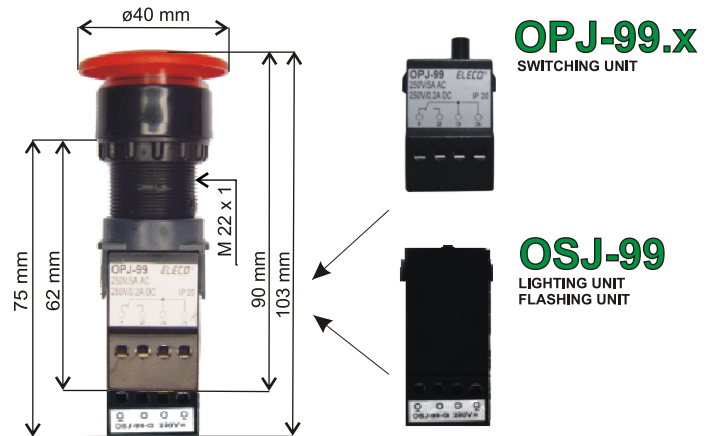
## 1. OFPN-02, OFNN-02

connection - Faston



## 2. OSPN-02, OSNN-02

connection - screw clip



Method of unit connection:

- Carrier end positions are intended for switching units (OPJ-99.x), max. 2pcs.
- Middle position is intended for a lighting unit (OSJ-99), max. 1pc.

### Technical specifications - push-button+switching unit

<b>Running voltage:</b>	max. 230 V AC
<b>Nominal current:</b>	5 A (10 A) AC; 0.2 A DC
<b>Protection:</b>	IP65/IP20 nebo IP00
<b>Mounting hole:</b>	22 mm
<b>Holes spacing:</b>	45 mm
<b>Panel thickness:</b>	max. 10 mm
<b>Connection method:</b>	Faston 2.8 mm or screw clip conductor max. 1.5 mm <sup>2</sup>

### Technical specifications - lighting unit

<b>Running voltage:</b>	12 to 230 V AC, DC
<b>Nominal current:</b>	max. 20 mA
<b>Protection:</b>	IP20
<b>Connecting conductor:</b>	Faston 2.8 mm or screw clip conductor max. 1.5 mm <sup>2</sup>

### Notice (Faston):

The top only in red colour (R). Lighting unit (OJ) is supplied only in the glow version with red LED. At OFPN (backlighting ) max. 3 switching units (K1-K3) may be used.

### 1. Order specification example - Faston:

OFPN-02-R-K2-230AC-5

Type	Colour	Voltage	Switching unit
O F P N - 0 2	R K2	2 3 0 A C - 5	5 5 AAC 10 10 AAC
N NON-LIGHTED P LIGHTED	K1 ONE UNIT K2 TWO UNITS K3 THREE UNITS K4 FOUR UNITS	12 V 24 V 60 V 110 V 125 V 220 V 230 V OTHER	AC ALTERNATING DC DIRECT

Number of switching units

Order example – lighted version: OFPN-02, OPJ-99.5 1pc, OJ-99 R 230

### Notice (screw clip):

The top only in red colour (R). Lighting unit (OSJ) is supplied in the glow or flash versions with red LED.

### 2. Order specification example - screw clip:

Button	Lighting unit	Voltage	Switching unit
O S P N - 0 2	O S J-99 R	2 3 0 AC	OPJ-99 . 5 - 1pc
N NON-LIGHTED P LIGHTED		12 V 24 V 60 V 110 V 125 V 220 V 230 V OTHER	AC ALTERNATING DC DIRECT
		Supply type	number of units max. 2 pcs
			5 5 AAC 10 10 AAC

Order example – non-lighted version: OSNN-02, OPJ-99.5 1pc

**Accessories:** Socket wrench M22, see page 35. A descriptive label OS-12 in yellow may be supplied, see page 35.



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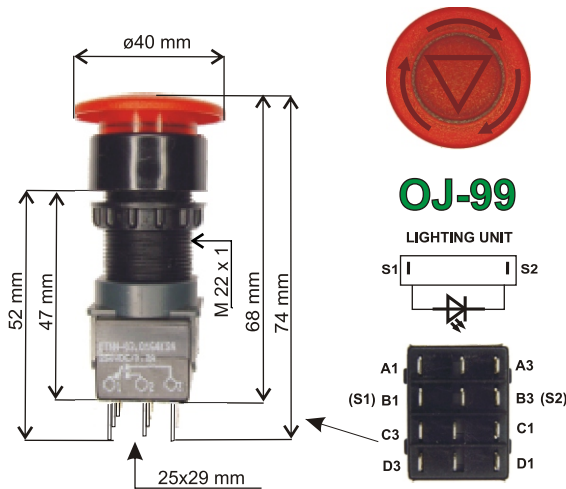
ISO 9001 CE



# IV. Stop button control locking, 22mm mounting hole

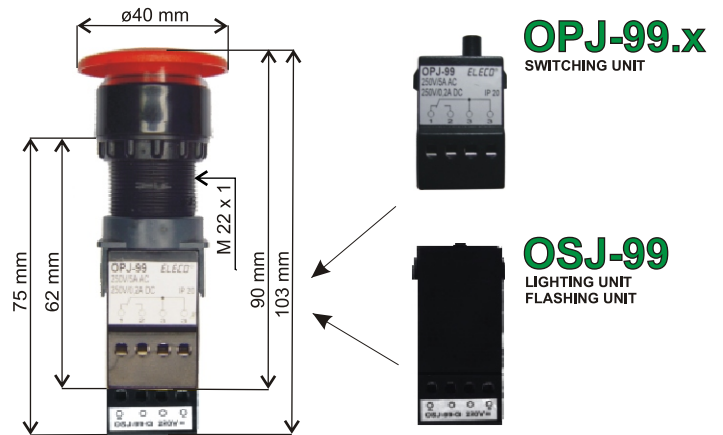
## 1. OFPA-04, OFNA-04

connection - Faston



## 2. OSPA-04, OSNA-04

connection - screw clip



**Method of unit connection:**

- Carrier end positions are intended for switching units (OPJ-99.x), max. 2 pcs.
- Middle position is intended for a lighting unit (OSJ-99), max. 1 pc.

### Technical specifications - push-button+switching unit

<b>Running voltage:</b>	max. 230 V AC
<b>Nominal current:</b>	5 A (10 A) AC; 0.2 A DC
<b>Protection:</b>	IP65/IP20 nebo IP00
<b>Mounting hole:</b>	22 mm
<b>Holes spacing:</b>	40 mm
<b>Panel thickness:</b>	max. 10 mm
<b>Connection method:</b>	Faston 2.8 mm or screw clip conductor max. 1.5 mm <sup>2</sup>

### Technical specifications - lighting unit

<b>Running voltage:</b>	12 to 230 V AC, DC
<b>Nominal current:</b>	max. 20 mA
<b>Protection:</b>	IP20
<b>Connecting conductor:</b>	Faston 2.8 mm or screw clip conductor max. 1.5 mm <sup>2</sup>

### Notice (Faston):

The top only in red colour (R). Lighting unit (OJ) is supplied only in the glow version with red LED. At OFPA (backlighting) max. 3 switching units (K1-K3) may be used.

### 1. Order specification example - Faston:

**OFPA-04-R-K2-230AC-5**

Type	Colour	Voltage	Switching unit
O F P A - 0 4 -	R -	K2 - 2 3 0 A C -	5
N NON-LIGHTED P LIGHTED	K1 ONE UNIT K2 TWO UNITS K3 THREE UNITS K4 FOUR UNITS Number of switching units	12 V 24 V 60 V 110 V 125 V 220 V 230 V OTHER Voltage	5 5 AAC 10 10 AAC Switching unit
		AC ALTERNATING DC DIRECT Supply type	

Order example – lighted version: OFPA-04, OPJ-99 5 1pc, OJ-99 R 230AC

### Notice (screw clip):

The top only in red colour (R). Lighting unit (OSJ) is supplied in the glow or flash versions with red LED.

### 2. Order specification example - screw clip:

Button	Lighting unit	Voltage	Switching unit
O S P A - 0 4	O S J-99 R	2 3 0 AC	OPJ-99 5 - 1pc
N NON-LIGHTED P LIGHTED		12 V 24 V 60 V 110 V 125 V 220 V 230 V OTHER Voltage	number of units max. 2 pcs 5 5 AAC 10 10 AAC
		AC ALTERNATING DC DIRECT Supply type	

Order example – non-lighted version: OSNA-04, OPJ-99 5 1pc

**Accessories:** Socket wrench M22, see page 46. A descriptive label OS-12 in yellow may be supplied, see page 35.



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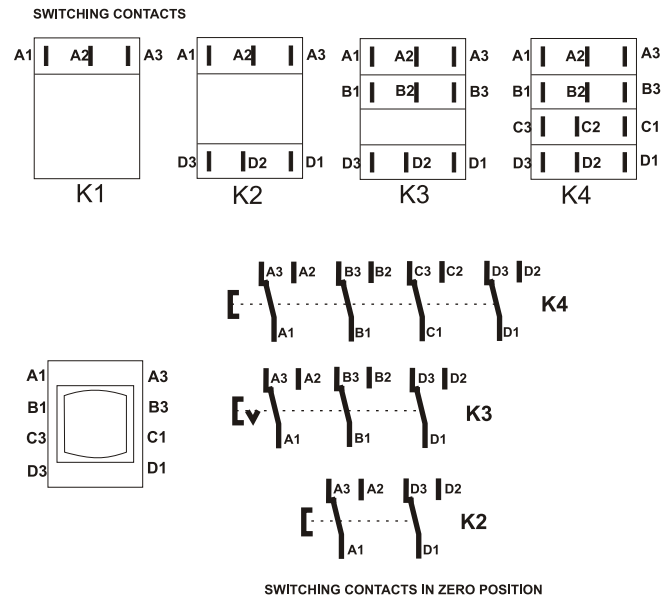
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Fax: +420 517 333 566

http://www.eleco.cz  
e-mail: eleco@eleco.cz

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# IV. Button control, 16mm mounting hole

**OTPN-05**  
**OTPA-05**  
**OTNN-05**  
**OTNA-05**



### Technical specifications - push-button + switching unit

**Running voltage:** max. 230 V AC  
**Nominal current:** 5 A (10 A) AC; 0.2 A DC  
**Protection:** IP65/IP00  
**Mounting hole:** 16 mm  
**Holes spacing:** 30 mm  
**Panel thickness:** max. 6 mm  
**Connection method:** Faston 2.8 mm

### Technical specifications - lighting unit

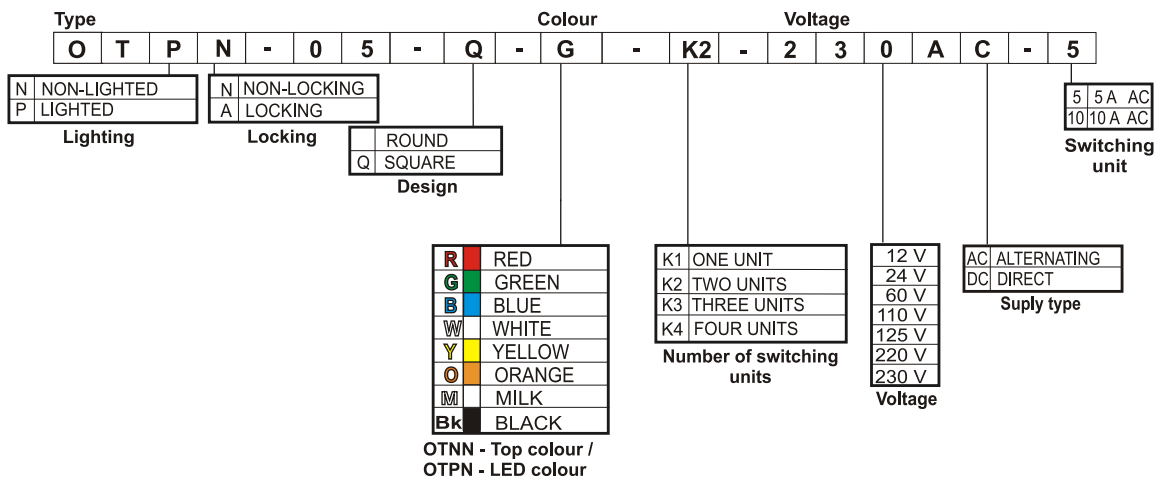
**Running voltage:** 12 to 230 V AC, DC  
**Nominal current:** max. 20 mA  
**Protection:** IP20  
**Connecting conductor:** max. 1.5 mm<sup>2</sup>

### Notice:

For the non-lighted button control, only the colour of the top may be selected in the order, and only K1-K4 may be used. For the lighted button control, the LED colour is to be selected acc. to the table, and maximally K1-K3 may be used.

### Order specification example:

**OTPN-05-Q-G-K2-230AC-5**



Order example – non-lighted version: **OTNN-05-Q-G-K2-230AC-5**  
 Order example – lighted version: **OTPN-05-Y-K2-230AC-5**

**Accessories:** Socket wrench M16, see page 35.



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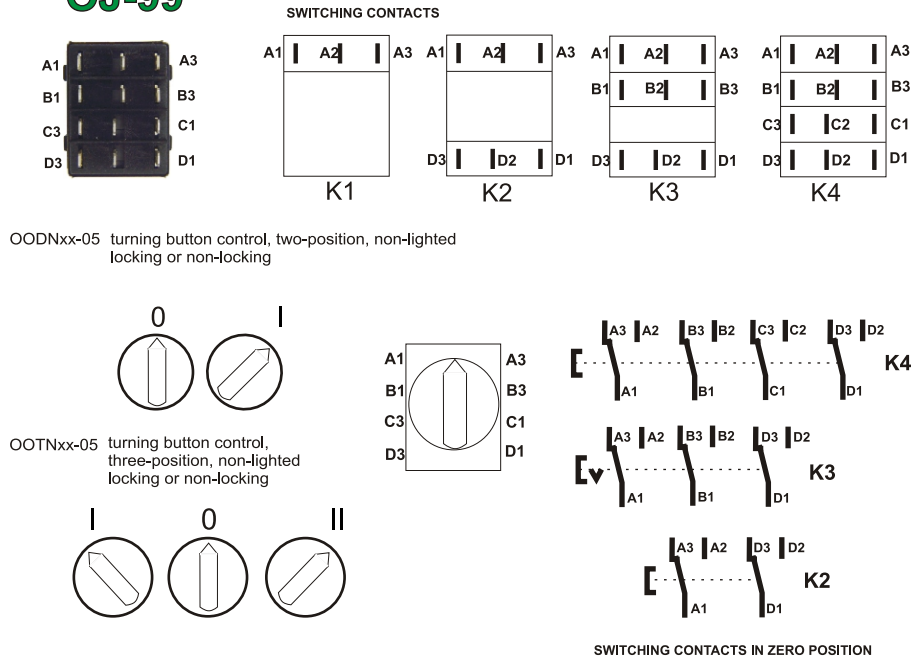
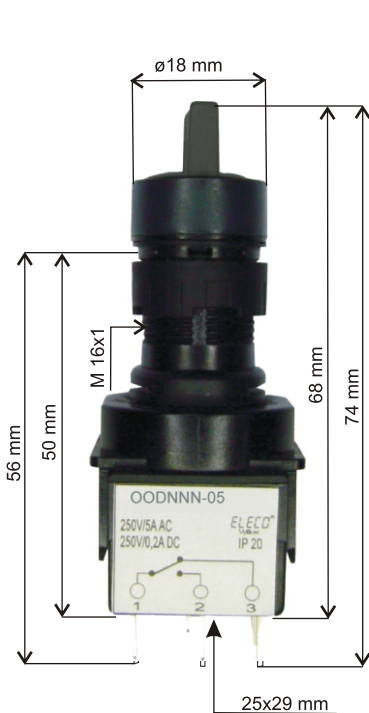
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# IV. Turning button control, 16mm mounting hole

**OODNxx-05** (turning button control, two-position, non-locking)

**OOTNxx-05** (turning button control, three-position, non-locking)

## OJ-99



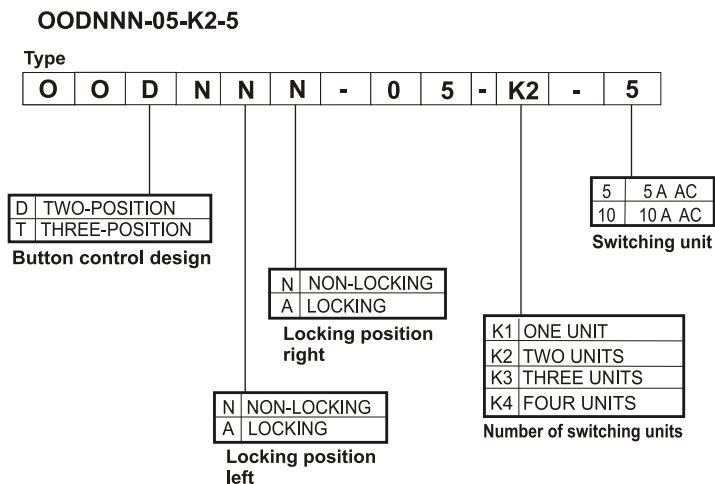
### Technical specifications - push-button + switching unit

<b>Running voltage:</b>	max. 230 V AC/ 220 V DC
<b>Nominal current:</b>	5 A (10 A) AC; 0.2 A DC
<b>Protection:</b>	IP65/IP00
<b>Mounting hole:</b>	16 mm
<b>Holes spacing:</b>	30 mm
<b>Panel thickness:</b>	max. 6 mm
<b>Connection method:</b>	Faston 2.8 mm

### Notice:

For the non-lighted button control, only the colour of the top may be selected in the order, and only K1-K4 may be used. For the lighted button control, the LED colour is to be selected acc. to the table, and maximally K1-K3 may be used. The top of the button is produced only in Bk (black).

### Order specification example:



**Accessories:** Socket wrench M16, see page 35.



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## V. Digital panel indicators QMD, 30mm mounting hole

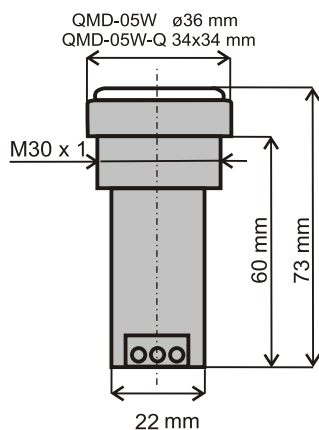
### QMD-05



### QMD-08



### QMD-05-DIN



### QMD-12-DIN



**QMD-05(08)V**  
**QMD-05A**  
**QMD-05F**  
**QMD-05(08)S**  
**QMD-05(08)P**  
**QMD-05(08)D**  
**QMD-05(08)T**  
**QMD-05Pt100**  
**QMD-05BCD**  
**QMD-05(08)M**  
**QMD-05(08)B**

- voltmeter
- ampere-meter
- frequency meter
- revolution meter
- pulse counter
- service hours/days counter
- thermometer
- thermometer for Pt100 external sensor
- BCD indicator shows value 0-15 on BCD input
- indicator of 4-20 mA current loop state
- measurement of shunt voltage drop (0 to 60 mV)

# V. Digital panel indicators QMD, 30mm mounting hole

## Common technical specifications:

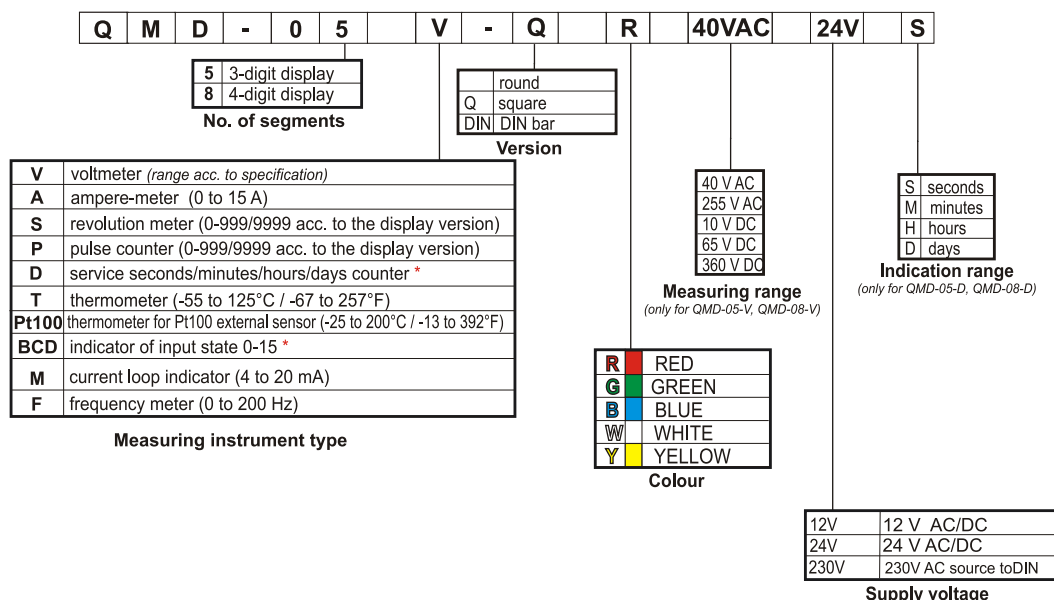
<b>Supply voltage:</b>	12 V to 24 V AC/DC 230 V AC with contact transformer (incl. in delivery)
<b>Supply voltage tolerance:</b>	± 20%
<b>Current consumption:</b>	max. 60 mA DC, max. 200 mA AC
<b>Input:</b>	max. 1.75 W DC, max. 5.8 W AC
<b>Feed terminals:</b>	+(~); -(~)
<b>Display colour:</b>	<b>R</b> (standard), <b>G</b> , <b>B</b> , <b>Y</b> , <b>W</b>

<b>Protection from front panel/terminal:</b>	IP65/IP20; DIN bar IP 20
<b>Connecting conductors diameter:</b>	max. 1.5 mm <sup>2</sup>
<b>Dimensions:</b>	DIN bar length 90 mm, width 35 mm, round opening ø36 mm square opening 34x34 mm, length 73 mm; length behind the panel 60 mm hole ø30 mm, panel thickness max. 10 mm
<b>Fixing:</b>	
<b>Holes spacing:</b>	min. 37 mm
<b>Operating temperature:</b>	-20 to +55°C (-4 to 131°F)
<b>Storage temperature:</b>	-30 to +65°C (-22 to 149°F)
<b>Weight:</b>	30 g

## Function:

Panel measuring module with a three- or four-digit, well readable LED display. Character height 10 mm. Easy installation into the panel, hole diameter 30 mm. Indicator may be ordered also in a version for direct installation to the DIN bar, (indication display range may be changed to order).

## Order specification example: QMD-05 V-Q R 40VAC 24V S



## V. Digital panel indicators QMTD-16, 30mm mounting hole



### Common technical specifications:

<b>Supply voltage:</b>	12 V to 24 V AC/DC 230 V AC with contact transformer (incl. in delivery)
<b>Supply voltage tolerance:</b>	± 20%
<b>Current consumption:</b>	max. 50 mA DC, max. 90 mA AC
<b>Feed terminals:</b>	+(~); -(~)
<b>Protection from front panel/terminal:</b>	IP40/IP20; DIN bar IP 20
<b>Connecting conductors diameter:</b>	max. 1.5 mm <sup>2</sup>
<b>Dimensions:</b>	DIN bar length 90 mm, width 35 mm square opening 45x35 mm, length 58 mm; length behind the panel 47 mm hole ø30 mm, panel thickness max. 10 mm
<b>Fixing:</b>	min. 37 mm
<b>Holes spacing:</b>	
<b>Operating temperature:</b>	-20 to +55°C (-4 to 131°F)
<b>Storage temperature:</b>	-30 to +65°C (-22 to 149°F)
<b>Weight:</b>	45g

### Function:

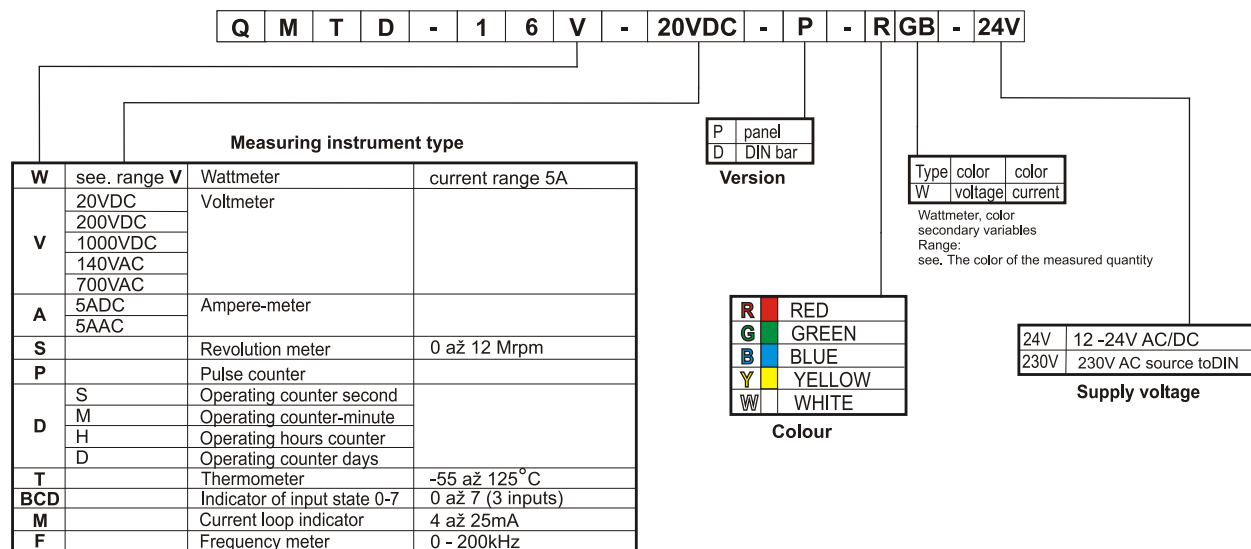
Panel measuring module with well readable TFT LCD display.

Easy installation into the panel, hole diameter 30 mm.

Indicator may be ordered also in a version for direct installation to the DIN bar, (indication display range may be changed to order).

### Order specification example:

**QMTD-16V-20VDC-P-RGB-24V**



## V. Bar graph indicator, 30mm mounting hole

### QMA-08



#### Common technical specifications:

<b>Supply voltage:</b>	12 V, 24 V AC/DC/230 V AC with contact transformer (incl. in delivery)
<b>Supply voltage tolerance:</b>	± 20%
<b>Current consumption:</b>	max. 60 mA DC, max. 200 mA AC
<b>Input:</b>	max. 1.75 W DC, max. 5.8 W AC
<b>Display colour:</b>	<b>R, G, B, Y, W</b>
<b>Protection from front panel:</b>	IP65/IP20; DIN bar IP 20
<b>Dimensions:</b>	DIN bar length 90mm, width 35mm, round opening ø36mm, square opening 34x34 mm, length 73 mm; length behind the panel 60 mm hole ø30 mm, panel thickness max. 10 mm
<b>Fixing:</b>	
<b>Operating temperature:</b>	-20 to +55°C (-4 to 131°F)
<b>Weight:</b>	30 g



#### Function:

Digital measuring module with an analogue indicator of the measured value. Easy installation into the panel, hole diameter 30 mm. LED colour design made to order.

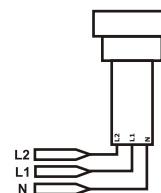
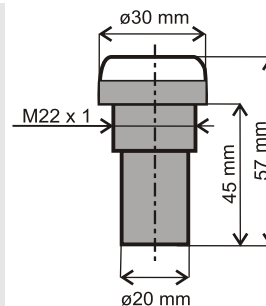
**Order specification example:** QMA-08 T 24V DC thermometer, 24 V DC feeding

## V. Indicator of phases rotation, 22mm mounting hole

### ISF-HIS-99

#### Technical specifications:

<b>Supply and input voltage:</b>	400 V AC
<b>Supply voltage tolerance:</b>	+20%.-10%
<b>Current consumption:</b>	max. 3 mA
<b>Feed conductors:</b>	L1, L2; N (conductors 50 cm long)
<b>Protection from front panel/terminal:</b>	IP65/IP20
<b>Connecting conductors diameter:</b>	1.5 mm <sup>2</sup>
<b>Dimensions:</b>	round opening 30 mm; length 57 mm; length behind the panel 45 mm hole ø22 mm, panel thickness max. 10 mm
<b>Fixing:</b>	
<b>Holes spacing:</b>	min. 37 mm
<b>Operating temperature:</b>	-20 to +55°C (-4 to 131°F)
<b>Storage temperature:</b>	-30 to +65°C (-22 to 149°F)
<b>Weight:</b>	30 g



#### Connection method:

Input terminals: L1; L2; N

#### Note:

No overcurrent protection elements are used in the instrument. Overcurrent protection elements must be included in the equipment, which the given instrument is part of.

#### Function:

Indicator indicating the phases rotation. Leading phase is marked with e.g. R colour. Lagging phase is indicated with e.g. G. Colour combinations may be selected from these colours: **R, G, B, Y, W**

**Order specification example:** ISF-HIS-99 R/G 400AC Indicator of phases rotation, 400 V AC feeding

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## BL-06

### Technical specifications:

Supply voltage:	12V, 24 V AC/DC, 230 V AC
LED section protection:	IP65
Sound sections protection:	IP30
Connecting conductors diameter:	1.5 mm <sup>2</sup>
Beacon diameter:	54 mm
Height of base + section + cap (minimal configuration):	105 mm
Fixing:	screwing, extension bar, wall-mounted angle
Operating temperature:	-20 to +55°C (-4 to 131°F)
Storage temperature:	-30 to +65°C (-22 to 149°F)
Weight:	LED section 75 g, sound section 40 g, source 230 V 135 g



## LED section

Supply voltage:	12V, 24V AC/DC
Supply voltage tolerance:	-10%; +20%
Number of separately controlled LED sections in the beacon:	max. 7
Leakage current suppression:	3 mA
LED section current consumption:	max. 60 mA
LED section input:	max. 1.7 W
Versions of LED sections produced:	glowing, flashing, rotating, LED stroboscope
Feed terminals:	common wire: <b>R, G, B, Y, W, O</b> – acc. to the colour
Flashing LED section:	frequency 1.5 Hz

## Acoustic section

Supply voltage:	12V, 24 V AC/DC
Supply voltage tolerance:	± 20%
Leakage current suppression:	3 mA
Protection:	IP30
Intermittent signalling frequency:	2.5 kHz ± 0.5 Hz; 3.5 kHz ± 0.5 Hz
Acoustic indication:	piezo transducer 92 dB, buzzers 96 to 100 dB
Piezo transducer input:	0.5 VA max
Buzzer input:	2.4 VA max

## Beacon fixing

<b>Installation method:</b>	- stern 15, 30 or 45 cm - fixing with wall-mounted angle - directly, holes in the lowest position of the beacon
-----------------------------	---

### Function:

Omnidirectional visual signalling with permanent, intermittent, rotating or multifunctional LED glow and stroboscopes. Acoustic signalling stationary, intermittent, two types of buzzers. The sections are produced in red, green, yellow, orange, white and blue. They are equipped with high-light intensity LEDs and do not require any maintenance (up to 100,000 service hours). The sections are made from thermal- and impact-resistant lexan. The beacon is compatible with the control through an open collector NPN and PNP (24 V).

Connection terminal or conductors in any lengths. Leakage current from semiconductor switching devices (up to 3 mA) does not trigger the signalisation. Easy installation, supplied completely assembled.





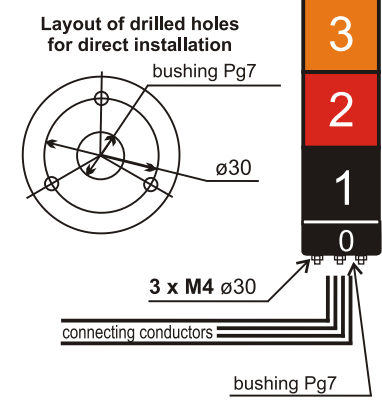
Beacon top	Upper acoustics	size/function	stationary tone				intermittent tone		
		small	EAS1				EAP1		
		large	EAS2				EAP2		
	Cupola	function/colour	R red	G green	Y yellow	B blue	W white	O orange	
		glowing	RC	GC	YC	BC	WC	OC	
		flashing	RCF	GCF	YCF	BCF	WCF	OCF	
		rotating	RCR	GCR	YCR	BCR	WCR	OCR	
		LED-stroboscope	RCL	GCL	YCL	BCL	WCL	OCL	
xenon stroboscope		RCX	GCX	YCX	BCX	WCX	OCX		
tel. signal.	RC-TEL	GC-TEL	YC-TEL	BC-TEL	WC-TEL	OC-TEL			
Light section	Section	function/colour	R red	G green	Y yellow	B blue	W white	O orange	
		glowing	R	G	Y	B	W	O	
		flashing	RF	GF	YF	BF	WF	OF	
		rotating	RR	GR	YR	BR	WR	OR	
		LED-stroboscope	RSL	GSL	YSL	BSL	WSL	OSL	
		xenon stroboscope	RSX	GSX	YSX	BSX	WSX	OSX	
Sound section	Lower acoustics	size/function	stationary tone			intermittent tone			
		1x small	AS1			AP1			
		1x large	AS2			AP2			
		4x large	AS3			AP3			
		buzzer	AA						
Fixing		stem 15	H15cm						
		stem 30	H30cm						
		stem 45	H45cm						
		wall-mounted	HW						
		directly	HD						
		other	HX						
Power supply	Voltage	230 V AC	230						
		24 V AC/DC	24						
		12 V AC/DC	12						

**Total height:**

7 Module	465 mm
6 Module	405 mm
5 Module	345 mm
4 Module	285 mm
3 Module	225 mm
2 Module	165 mm
1 Module	105 mm
0 Base	30 mm



The cupola increases height by 20 mm.

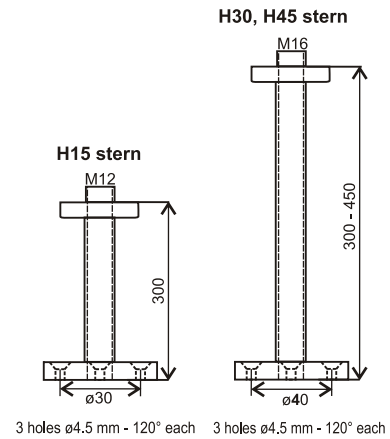
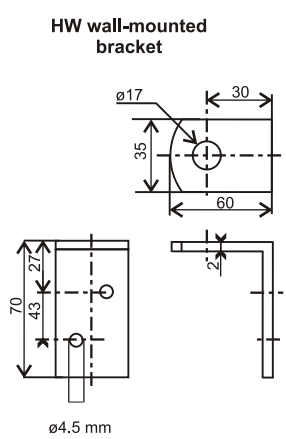
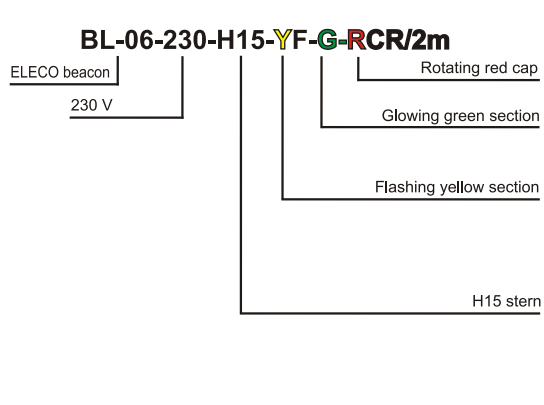


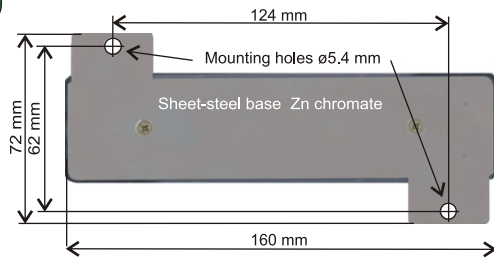
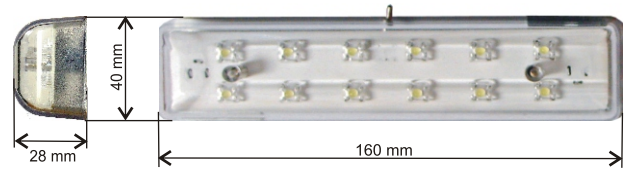
**Note:**  
**H15, 30 and 45 stems and HW brackets** are supplied in black comaxite coating. The stem length and coating may be adjusted to order, e.g. blue chromate – zinc.

**Beacons are supplied completely assembled as required, with 1m standard cable length. If required, the cable may be supplied in any length.**

**Order examples:**  
**BL-06-230-H15-YF-G-RCR/L** beacon 230 V, H15 stem, yellow flashing, green glowing, red rotating cupola, cable length in metres  
**BL-06-24-HD-GCL/L** beacon 24 V, direct mounting, stroboscope cap green, cable length in metres  
**BL-06-12-HW-R-OF-G/L** beacon 12 V, wall-mounted, red glowing, orange flashing, green glowing, cable length in metres

**Order specification example:**



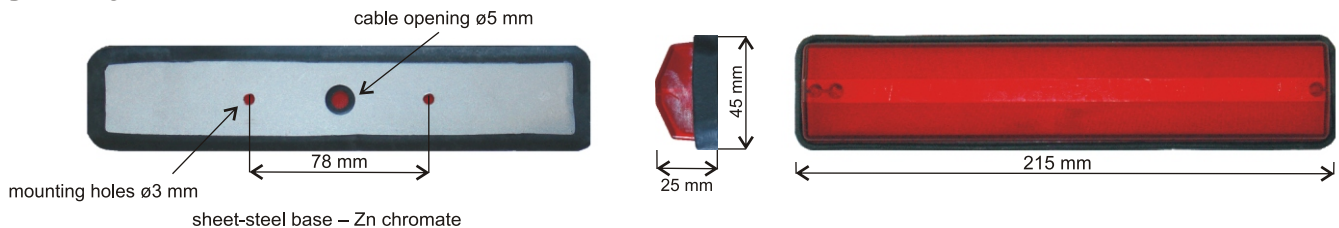
**LSSU-09**
**EXTRA ECONOMY LED LIGHTING DEVICE**  
**A new way to electric power saving**  
**Lighting to the switchgear**
**Technical specifications:**

<b>Supply voltage:</b>	24 V DC , 230 AC	12 V DC
<b>Supply voltage tolerance:</b>	-20%; +10%	-20%; +10%
<b>Current consumption:</b>	0.03 A	0.06 A
<b>Input:</b>	0.7 W	0.7 W
<b>Protection:</b>	IP40	
<b>Dimensions:</b>	160x40 mm without fixtures, 160x72 mm with fixtures	
<b>Fixing:</b>	two holes ø5.4 mm	
<b>Holes spacing:</b>	min. 124/62 mm acc. to a drawing	
<b>Operating temperature:</b>	-20 to +55°C (-4 to 131°F)	
<b>Storage temperature:</b>	-30 to +75°C (-22 to 167°F)	
<b>Weight:</b>	120 g	
<b>Environment specification:</b>	basic	
<b>Colour design of the case:</b>	C – clear	
<b>Mounting system:</b>	self-adhesive or screws	
<b>With supplied source for voltage:</b>	230 V AC 50 Hz	
<b>Drawn current:</b>	0.4 A	
<b>Input:</b>	9.6 VA	

**Usage:**

- Households, industry, transport vehicles, agriculture, health services, caravans, other places with independent feeding.
- In all places where local or location lighting is needed.
- Devices may be grouped using interconnectors to increase light intensity.
- The device is designed for safe voltage 12 or 24 V DC.
- Every device is fitted with its own switch.
- Power source 230 V/24 V AC enables connecting up to 10 devices (*must be ordered separately and also number of connectors*)

## VI. Warning, cautionary, orientation, effect lighting device

**SVD-07****Technical specifications:**

<b>Colour design of the case:</b>	<b>R, G, Y, C</b> (clear), <b>MW</b> (milky white)
<b>LED colour:</b>	<b>R, G, B, Y, O, W</b>
<b>Running voltage:</b>	12, 24, 48, 60 V AC, DC
<b>Nominal current by voltage:</b>	max. 80 mA
<b>Protection:</b>	IP65 after installing
<b>Case:</b>	polycarbonate with flame retardant

**Notice:**

SVD-07 is supplied only in the glow version.

**Order specification example:**

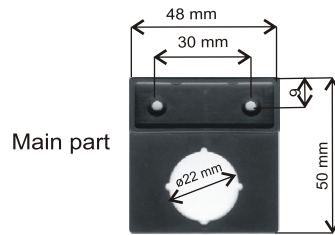
SVD-07 **R** 24DC

Type	LED colour	Voltage
S V D - 0 7	R	2 4 D C
	R	12 V
	G	24 V
	B	48 V
	Y	60 V
	O	
	W	
		AC ALTERNATING
		DC DIRECT

## VIII.

## Identification plates

### OS-12 Identification plate



Descriptive part – example



#### Technical specifications:

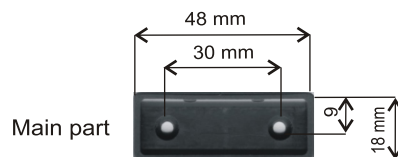
Identification plates are designed for identifying indication and control elements. They are made from black ABS plastic and consist of two parts:

- Main part is fixed directly with an identification element, screws or adhesive.
- Descriptive part is pushed in the main part.

Mounting hole 22 mm.

The plate may be placed below indicators and controls with 22 mm mounting holes.

### OS-11 Identification plate



Descriptive part – example



#### Technical specifications:

Main part is fixed with screws or adhesive. Descriptive part is pushed in the main part.

## VIII.

## Identification plates

### Reductions

R22/25  
R22/30  
R22/40



#### Technical specifications:

R22/25 - inner diameter 22 mm, outer diameter 25 mm  
R22/30 - inner diameter 22 mm, outer diameter 30 mm  
R22/40 - inner diameter 22 mm, outer diameter 40 mm

Reductions are supplied in pairs.

They may be used in places where a 22 mm mounting hole has to be made instead of a 25, 30 or 40 mm hole.

## VIII.

## Identification plates

### Special socket wrenches

#### M22

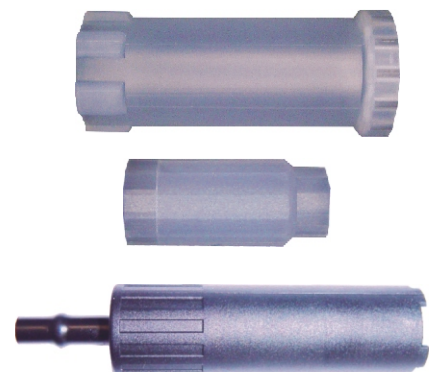
Special wrench for assembling/disassembling  
ø22 mm indicator nut.  
Order no. 17253

#### M12/16

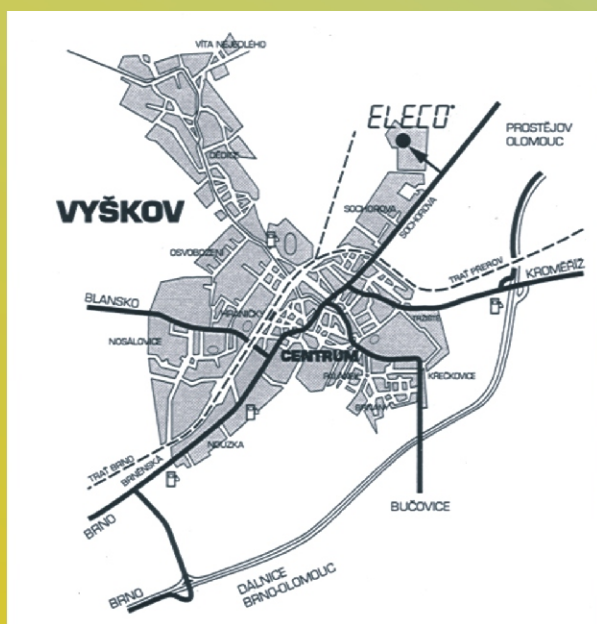
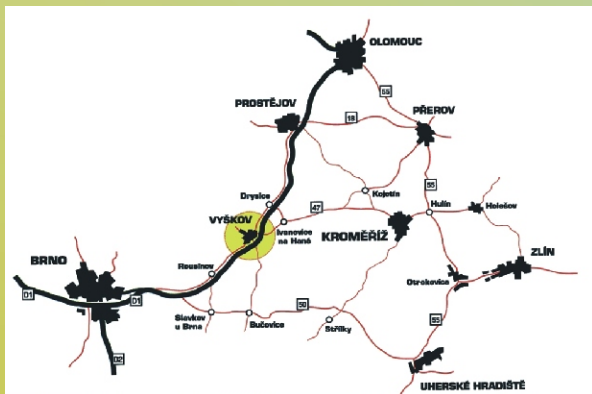
Special wrench for assembling/disassembling  
indicator opening ø16 mm (version 99.1) and 12 mm.  
Order no. 17638

#### M16

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