



SIGNAL LAMPS

Signal lamps with integrated LED

| | |
|---|--------|
| Signal lamp with integrated LED - 5 mm, solder terminals | 3 - 3 |
| Signal lamp with integrated LED - 7 mm, solder terminals | 3 - 5 |
| Signal lamp with integrated LED - 9.1 mm, solder terminals | 3 - 9 |
| Signal lamp with integrated LED - 10 mm, quick-connect terminal | 3 - 11 |
| Signal lamp with integrated LED - 10 mm, quick-connect terminal | 3 - 13 |
| Signal lamp with integrated LED - 11.1 mm, solder terminals | 3 - 16 |
| Signal lamp with integrated LED - 16.2 mm, quick-connect terminal | 3 - 18 |
| Signal lamp with integrated LED - 16.2 mm, screw terminals | 3 - 20 |
| Signal lamp with integrated LED - 18,2 mm, quick-connect terminal | 3 - 23 |
| Signal lamp with integrated LED - 22.3 mm, screw terminals | 3 - 25 |
| Signal lamp with integrated LED - 30.5 mm, quick connector | 3 - 27 |

Signal lamps with integrated lamp

| | |
|---|--------|
| Signal lamp with integrated neon lamp - 7 mm, solder terminals | 3 - 31 |
| Signal lamp with integrated neon lamp - 10 mm, quick-connect terminal | 3 - 33 |
| Signal lamp with integrated neon lamp - 10 mm, quick-connect terminal | 3 - 35 |
| Signal lamp with integrated neon lamp - 10 mm, quick-connect terminal | 3 - 37 |
| Signal lamp with integrated neon lamp - 14 mm, quick-connect terminal | 3 - 40 |

SIGNAL LAMPS

GENERAL INFORMATION

Signal Lamps with integral lamps/LED

The soldered lamps/LED without base cannot be replaced.

Signal Lamps with lamp socket

An integral lamp socket allows replacement of lamps/LED of the appropriate type.

Filament operating life

Operating life specifications refer to AC voltage operation. If operated with DC voltage, these values are reduced by 40%.

Color and lenses

transparent = clear, grooved on inner surface for better light diffusion

opaque = **translucent**
but not clear

Standard mounting dimensions

We recommend use of mounting hole diameters 16, 22 and 30 mm, as these comply with international standard recommendations and DIN standards.

Limit values

The voltage specified as the limit value is the standard insulating voltage for the signal lamps. The permitted ambient temperatures are always specified in conjunction with the maximum power of the lamps used, and the signal lamp should be located outside of the space subject to increased temperature.

Neon lamps

Neon lamps may glow on a short time after having been switched off, for example in combination with long wires.

To avoid this, a parallel resistor with 1,2 M Ω 1/4 W, can be used.



Signal lamps

with integrated LED

Signal lamps with integral LED.
The mm specification in the product name indicates the appropriate mounting hole diameter of the signal lamps.

- All products are RoHS compliant.

SIGNAL LAMPS

SIGNAL LAMPS WITH INTEGRATED LED

Content

| | |
|---|---------------|
| Signal lamps with integrated LED 5 mm | 3 - 5 |
| Signal lamp with integrated LED 5 mm, protruding LED | 3 - 6 |
| Signal lamp with integrated LED 5 mm, round protruding lens | 3 - 6 |
| Signal lamp with integrated LED 5 mm, round flush lens | 3 - 7 |
| Signal lamp with integrated LED 5 mm, triangular flush lens | 3 - 7 |
| Signal lamps with integrated LED 7.0 mm | 3 - 9 |
| Signal lamp with integrated LED 7.0 mm, round protruding lens | 3 - 10 |
| Signal lamps with integrated LED 9.1 mm | 3 - 11 |
| Signal lamp with integrated LED 9.1 mm, round flat lens | 3 - 12 |
| Signal lamp with integrated LED 9.1 mm, round protruding lens | 3 - 12 |
| Signal lamps with integrated LED 10 mm | 3 - 13 |
| Signal lamp with integrated LED 10 mm, protruding LED | 3 - 14 |
| Signal lamp with integrated LED 10 mm, round flat lens | 3 - 15 |
| Signal lamps with integrated LED 11.1 mm | 3 - 16 |
| Signal lamp with integrated LED 11.1 mm, round flat lens | 3 - 17 |
| Signal lamps with integrated LED 16.2 mm, quick-connect terminal | 3 - 18 |
| Signal lamp with integrated LED 16.2 mm, lens round protruding | 3 - 19 |
| Signal lamp with integrated LED 16.2 mm, lens round | 3 - 19 |
| Signal lamps with integrated LED 16.2 mm, screw terminals | 3 - 20 |
| Signal lamp with integrated LED 16.2 mm, lens round protruding | 3 - 21 |
| Signal lamp with integrated LED 16.2 mm, round lens | 3 - 21 |
| Signal lamp with integrated LED 16.2 mm, lens round high | 3 - 22 |
| Signal lamps with integrated LED 18,2 mm | 3 - 23 |
| Signal lamp with integrated LED 18,2 mm, lens round protruding, ring chrome | 3 - 24 |
| Signal lamps with integrated LED 22,3 mm | 3 - 25 |
| Signal lamp with integrated LED 22.3 mm, lens round | 3 - 26 |
| Signal lamp with integrated LED 22.3 mm, lens round flat | 3 - 26 |
| Signal lamps with integrated LED 30.5 mm | 3 - 27 |
| Signal lamp with integrated LED 30.5 mm, lens round | 3 - 28 |
| Signal lamp with integrated LED 30.5 mm, lens round flat | 3 - 29 |
| Signal lamp with integrated LED 30.5 mm, lens round high | 3 - 30 |

3

integr.
LED

SIGNAL LAMPS WITH INTEGRATED LED 5 mm



Technical Data

→ General information

| | |
|--------------------|-----------------|
| Form of lens | see order block |
| Color of lens | see order block |
| Diameter of collar | see order block |

→ Dimensions

| | |
|------------------|-----------------|
| Length of collar | see order block |
| Overall height | see order block |
| Mounting depth | see order block |
| Mounting hole | 5 mm |

→ Mechanical design

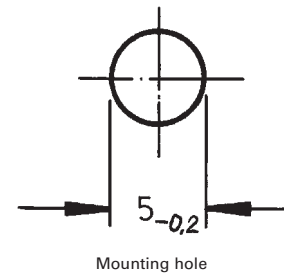
| | |
|-------------|--------------------|
| Mounting | pressing into hole |
| Terminals | solder terminals |
| Lamp socket | no |
| Lamp | see order block |

→ Electrical characteristics

| | |
|--------------------------------------|--------------------------------|
| Operating voltage U_B | see order block |
| Integrated currenty resistor | see order block |
| Forward voltage U_F at 25 °C | at 10 mA forward current 2.2 V |
| Reverse voltage U_R at 25 °C | 3 V |
| Forward current, I_F at 25 °C | see order block |
| Reverse current I_R at 25 °C | 100 μ A |
| Power dissipation P_{tot} at 25 °C | max. 120 mW |

→ Other specifications

| | |
|--------------------------------------|---------------------|
| Degree of protection from front side | IP40 (DIN EN 60529) |
| Weight | 0.35 g |
| ROHS compliant | yes |
| REACH compliant | yes |



Operating voltage U_B : DC voltage from 5 to 28 V

A suitable series resistor is installed in the unit; versions without series resistor must be fitted with an external one.

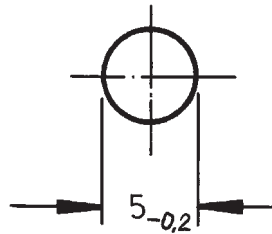
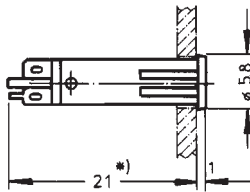
External resistor: $R_V = (U_B - U_F) : I_F$

Recommended ratings of external resistors:

- for 5 - 7 V = 330 Ω 0.25 W
- for 12 - 16 V = 1.1 k Ω 0.25 W
- for 24 - 28 V = 2.4 k Ω 0.5 W

Signal lamp with integrated LED 5 mm, round flush lens

Technical data see page 3 - 5



Mounting hole



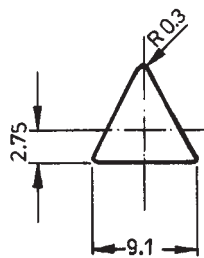
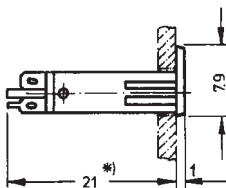
| → Color of lens | Lamp | Integrated currency resistor | Operating voltage U_B | Forward current, I_F at 25 °C | Order no. |
|--------------------|-------------------------|------------------------------|-------------------------|---------------------------------|-------------------|
| transparent red | LED red | yes | 24 - 28 V | 8 - 12 mA | 1.69.508.864/1301 |
| transparent red | LED super bright red | yes | 24 - 28 V | 8 - 12 mA | 1.69.508.865/1300 |
| transparent yellow | LED yellow | yes | 24 - 28 V | 8 - 12 mA | 1.69.508.876/1402 |
| transparent yellow | LED super bright yellow | yes | 24 - 28 V | 8 - 12 mA | 1.69.508.877/1400 |
| transparent green | LED green | yes | 24 - 28 V | 8 - 12 mA | 1.69.508.870/1503 |

Long terminal is anode.

* Without series resistor, mounting depth = 18 mm

Signal lamp with integrated LED 5 mm, triangular flush lens

Technical data see page 3 - 5



| → Color of lens | Lamp | Integrated currency resistor | Operating voltage U_B | Forward current, I_F at 25 °C | Order no. |
|--------------------|-------------------------|------------------------------|-------------------------|---------------------------------|-------------------|
| transparent red | LED red | yes | 24 - 28 V | 8 - 12 mA | 1.69.508.934/1301 |
| transparent red | LED super bright red | yes | 24 - 28 V | 8 - 12 mA | 1.69.508.935/1300 |
| transparent yellow | LED yellow | yes | 24 - 28 V | 8 - 12 mA | 1.69.508.946/1402 |
| transparent yellow | LED super bright yellow | yes | 24 - 28 V | 8 - 12 mA | 1.69.508.947/1400 |
| transparent green | LED green | yes | 24 - 28 V | 8 - 12 mA | 1.69.508.940/1503 |

SIGNAL LAMPS

SIGNAL LAMPS WITH INTEGRATED LED - 5 MM, SOLDER TERMINALS

– Table (continued) –

Signal lamps with integrated LED - 5 mm, triangular flush lens

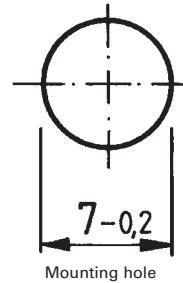
Long terminal is anode.

* Without series resistor, mounting depth = 18 mm

3

integr.
LED

SIGNAL LAMPS WITH INTEGRATED LED 7.0 mm



Technical Data

→ General information

| | |
|--------------------|------------------|
| Form of lens | round protruding |
| Color of lens | see order block |
| Diameter of collar | 8.5 mm |

→ Dimensions

| | |
|----------------|---------|
| Overall height | 5 mm |
| Mounting depth | 27.5 mm |
| Mounting hole | 7.0 mm |

→ Mechanical design

| | |
|-------------|--------------------|
| Mounting | pressing into hole |
| Terminals | solder terminals |
| Lamp socket | no |
| Lamp | see order block |

→ Electrical characteristics

| | |
|--------------------------------------|--------------------------------|
| Operating voltage U_B | 24 - 28 V |
| Forward voltage U_F at 25 °C | at 20 mA forward current 2.4 V |
| Reverse current I_R at 25 °C | 3 V |
| Forward current, I_F | max. 20 mA |
| Reverse current I_R at 25 °C | 100 μ A |
| Power dissipation P_{tot} at 25 °C | max. 120 mW |
| Light intensity | see order block |

→ Other specifications

| | |
|--------------------------------------|---------------------|
| Degree of protection from front side | IP40 (DIN EN 60529) |
| ROHS compliant | yes |
| REACH compliant | yes |

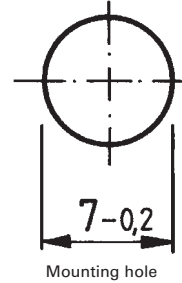
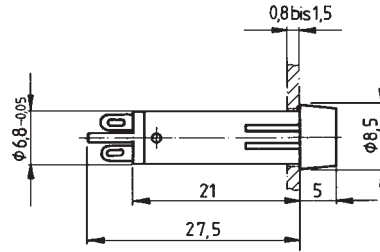
SIGNAL LAMPS

SIGNAL LAMPS WITH INTEGRATED LED - 7 MM, SOLDER TERMINALS



Signal lamp with integrated LED 7.0 mm, round protruding lens

Technical data see page 3 - 9



Mounting hole

| → Color of lens | Lamp | Operating voltage U_B | Forward current, I_F | Light intensity | Order no. |
|-----------------------|------------|-------------------------|------------------------|-----------------|-------------------|
| transparent red | LED red | 24 - 28 V | max. 20 mA | 200 mcd | 1.69.511.102/1300 |
| transparent yellow | LED yellow | 24 - 28 V | max. 20 mA | 200 mcd | 1.69.511.103/1400 |
| transparent green | LED green | 24 - 28 V | max. 20 mA | 1000 mcd | 1.69.511.104/1500 |
| transparent blue | LED blue | 24 - 28 V | max. 20 mA | 300 mcd | 1.69.511.105/1600 |
| transparent colorless | LED white | 24 - 28 V | max. 20 mA | 400 mcd | 1.69.511.101/1000 |

3

integr.
LED

SIGNAL LAMPS WITH INTEGRATED LED 9.1 mm



Technical Data

→ General information

| | |
|--------------------|------------------|
| Form of lens | round protruding |
| Color of lens | see order block |
| Diameter of collar | 11 mm |

→ Dimensions

| | |
|----------------|-----------------|
| Overall height | see order block |
| Mounting depth | 30.5 mm |
| Mounting hole | 9.1 mm |

→ Mechanical design

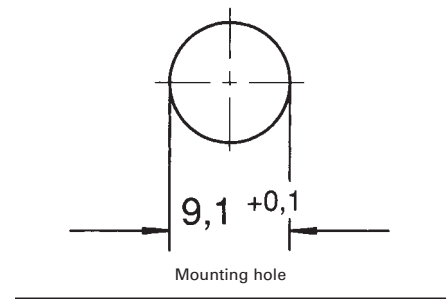
| | |
|-------------|------------------|
| Mounting | ring nut |
| Terminals | solder terminals |
| Lamp socket | T 4.6 |
| Lamp | LED |

→ Electrical characteristics

| | |
|------------------------------|-----------|
| Operating voltage U_B | 24 - 28 V |
| Input current I_{cc} type. | 15 mA |

→ Other specifications

| | |
|--------------------------------------|---------------------|
| Degree of protection from front side | IP40 (DIN EN 60529) |
| Weight | 2 g |
| ROHS compliant | yes |
| REACH compliant | yes |



3

integr.
LED

Accessories Signal lamps with integrated LED - 9.1 mm

| → Description | Photo | Order no. | Additional accessories see page |
|--------------------------|-------|-------------------|---------------------------------|
| Fixing spanner M 9, M 10 | | 5.58.002.025/0105 | 5 - 25 |

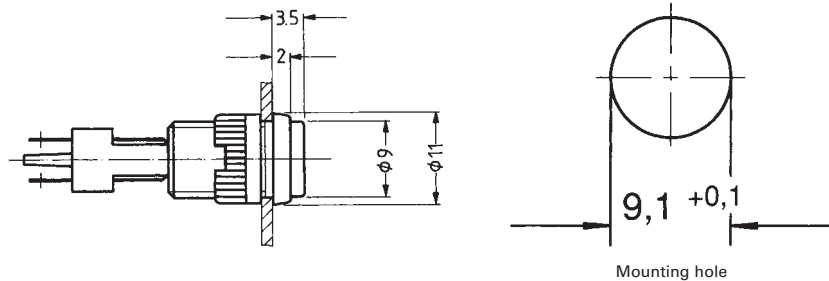
SIGNAL LAMPS

SIGNAL LAMPS WITH INTEGRATED LED - 9.1 MM, SOLDER TERMINALS



Signal lamp with integrated LED 9.1 mm, round flat lens

Technical data see page 3 - 11



| → Color of lens | Lamp | Operating voltage U_B | Order no. |
|--------------------|------|-------------------------|-------------------|
| translucent red | LED | 24 - 28 V | 1.02.157.201/1300 |
| translucent yellow | LED | 24 - 28 V | 1.02.157.201/1400 |
| translucent green | LED | 24 - 28 V | 1.02.157.201/1500 |
| translucent white | LED | 24 - 28 V | 1.02.157.201/1000 |

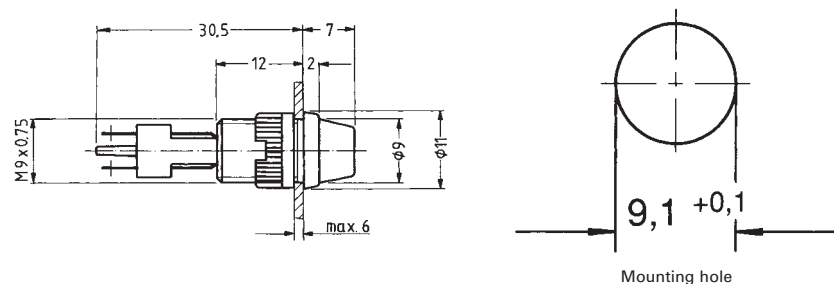
3

With integrated series resistor. Other voltages on request.



Signal lamp with integrated LED 9.1 mm, round protruding lens

Technical data see page 3 - 11



| → Color of lens | Lamp | Operating voltage U_B | Order no. |
|--------------------|------|-------------------------|-------------------|
| translucent red | LED | 24 - 28 V | 1.02.157.211/1300 |
| translucent yellow | LED | 24 - 28 V | 1.02.157.211/1400 |
| translucent green | LED | 24 - 28 V | 1.02.157.211/1500 |
| translucent white | LED | 24 - 28 V | 1.02.157.211/1000 |

With integrated series resistor. Other voltages on request.

integr.
LED

SIGNAL LAMPS WITH INTEGRATED LED 10 mm



Technical Data

→ General information

| | |
|--------------------|-----------------|
| Form of lens | see order block |
| Color of lens | see order block |
| Diameter of collar | 12.5 mm |

→ Dimensions

| | |
|----------------|-----------------|
| Overall height | see order block |
| Mounting depth | 30.5 mm |
| Mounting hole | 10 mm |

→ Mechanical design

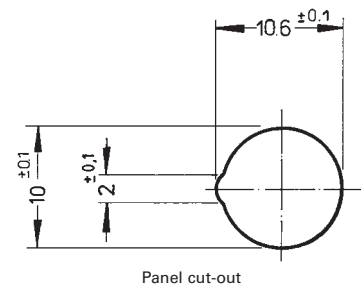
| | |
|-------------|------------------------------|
| Mounting | pressing into hole |
| Terminals | quick connector 2.8 x 0.8 mm |
| Lamp socket | no |
| Lamp | see order block |

→ Electrical characteristics

| | |
|--------------------------------------|--------------------------------|
| Operating voltage U_B | see order block |
| Integrated currenty resistor | see order block |
| Forward voltage U_F at 25 °C | at 20 mA forward current 2.4 V |
| Reverse voltage U_R at 25 °C | 3 V |
| Forward current, I_F | see order block |
| Reverse current I_R at 25 °C | 100 μ A |
| Power dissipation P_{tot} at 25 °C | max. 120 mW |
| Light intensity | see order block |
| Protecting diode | see order block |

→ Other specifications

| | |
|--------------------------------------|---------------------|
| Degree of protection from front side | IP40 (DIN EN 60529) |
| Weight | 2.44 g |
| ROHS compliant | yes |
| REACH compliant | yes |



3

integr.
LED

Operating voltage U_B : DC voltage from 6 to 28 V

A suitable series resistor is installed in the unit; versions without series resistor must be fitted with an external one. A version with an additional protective diode is available to protect the LED against any voltage peaks.

External resistor: $R_V = (U_B - U_F) : I_F$

Recommended ratings of external resistors:

- for 6 - 7 V = 330 Ω 0.25 W
- for 12 - 16 V = 680 k Ω 0.5 W
- for 24 - 28 V = 1500 k Ω 1 W

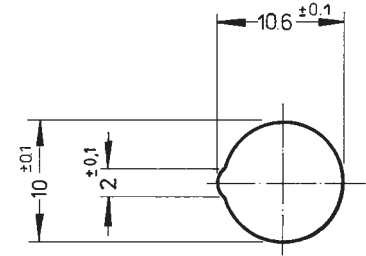
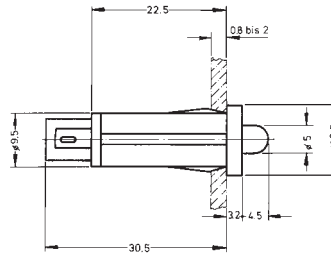
SIGNAL LAMPS

SIGNAL LAMPS WITH INTEGRATED LED - 10 MM, QUICK-CONNECT TERMINAL



Signal lamp with integrated LED 10 mm, protruding LED

Technical data see page 3 - 13



Panel cut-out

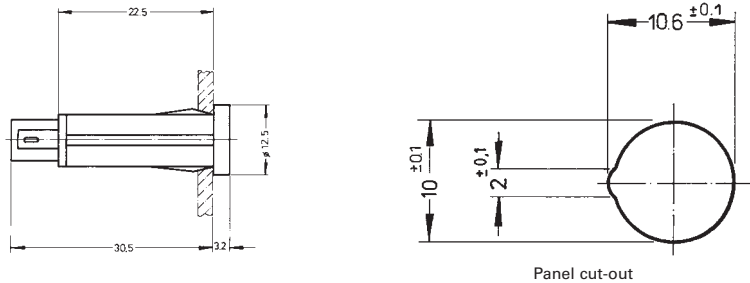
| → Color of lens | Operating voltage U_B | Integrated currency resistor | Protecting diode | Forward current, I_F | Light intensity | Order no. |
|-----------------|--|------------------------------------|---------------------|---------------------------|--------------------|-------------------|
| red | 24 - 28 V | yes | yes | 15 - 20 mA | 200 mcd | 1.69.525.054/0000 |
| red | 24 - 28 V | yes | no | 15 - 20 mA | 200 mcd | 1.69.525.004/0000 |
| red | according to series resistor 6 - 28 V | no | yes | max. 20 mA | 1000 mcd | 1.69.525.051/0000 |
| red | according to series resistor 6 - 28 V | no | no | max. 20 mA | 200 mcd | 1.69.525.001/0000 |
| yellow | 24 - 28 V | yes | yes | 13 - 18.5 mA | 200 mcd | 1.69.525.064/0000 |
| yellow | 24 - 28 V | yes | no | 13 - 18.5 mA | 200 mcd | 1.69.525.014/0000 |
| yellow | according to series resistor 6 - 28 V | no | yes | max. 20 mA | 200 mcd | 1.69.525.061/0000 |
| yellow | according to series resistor 6 - 28 V | no | no | max. 20 mA | 200 mcd | 1.69.525.011/0000 |
| green | 24 - 28 V | yes | yes | 13 - 18.5 mA | 1000 mcd | 1.69.525.059/0000 |
| green | 24 - 28 V | yes | no | 13 - 18.5 mA | 1000 mcd | 1.69.525.009/0000 |
| green | according to series resistor 6 - 28 V | no | yes | max. 20 mA | 1000 mcd | 1.69.525.056/0000 |
| green | according to series resistor 6 - 28 V | no | no | max. 20 mA | 1000 mcd | 1.69.525.006/0000 |

3

integr.
LED

Signal lamp with integrated LED 10 mm, round flat lens

Technical data see page 3 - 13

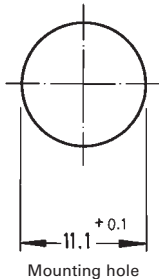


| → Color of lens | Operating voltage U_B | Integrated current resistor | Protecting diode | Forward current, I_F | Light intensity | Order no. |
|-----------------|-------------------------|-----------------------------|------------------|------------------------|-----------------|-------------------|
| red | 24 - 28 V | yes | yes | 15 - 20 mA | 200 mcd | 1.69.525.255/1300 |
| red | 24 - 28 V | yes | no | 15 - 20 mA | 200 mcd | 1.69.525.205/1300 |
| yellow | 24 - 28 V | yes | yes | 13 - 18.5 mA | 200 mcd | 1.69.525.265/1400 |
| yellow | 24 - 28 V | yes | no | 13 - 18.5 mA | 200 mcd | 1.69.525.215/1400 |
| green | 24 - 28 V | yes | yes | 13 - 18.5 mA | 1000 mcd | 1.69.525.260/1500 |
| green | 24 - 28 V | yes | no | 13 - 18.5 mA | 1000 mcd | 1.69.525.210/1500 |
| blue | 24 - 28 V | yes | yes | - | 300 mcd | 1.69.525.266/1600 |
| blue | 24 - 28 V | yes | no | - | 300 mcd | 1.69.525.216/1600 |
| white | 24 - 28 V | yes | yes | - | 400 mcd | 1.69.525.271/1000 |
| white | 24 - 28 V | yes | no | - | 400 mcd | 1.69.525.221/1000 |

Other voltages on request.

SIGNAL LAMPS

SIGNAL LAMPS WITH INTEGRATED LED - 11.1 MM, SOLDER TERMINALS



SIGNAL LAMPS WITH INTEGRATED LED 11.1 mm

Technical Data

→ General information

| | |
|--------------------|------------------|
| Form of lens | round protruding |
| Color of lens | see order block |
| Diameter of collar | 13 mm |

→ Dimensions

| | |
|----------------|-----------------|
| Overall height | see order block |
| Mounting depth | 30.5 mm |
| Mounting hole | 11.1 mm |

→ Mechanical design

| | |
|-------------|------------------|
| Mounting | ring nut |
| Terminals | solder terminals |
| Lamp socket | - |
| Lamp | LED |

→ Electrical characteristics

| | |
|------------------------------|-----------|
| Operating voltage U_B | 24 - 28 V |
| Input current I_{cc} type. | 14 mA |

→ Other specifications

| | |
|--------------------------------------|---------------------|
| Degree of protection from front side | IP40 (DIN EN 60529) |
| Weight | 3 g |
| ROHS compliant | yes |
| REACH compliant | yes |

3

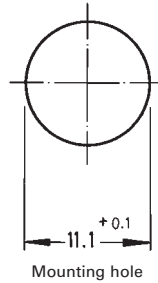
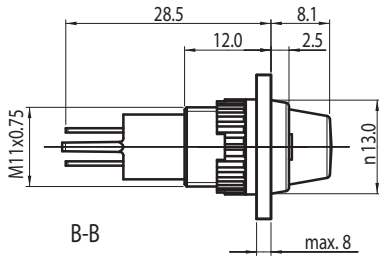
integr.
LED

Accessories Signal lamps with integrated LED - 11.1 mm

| → Description | Photo | Order no. | Additional accessories see page |
|---------------------------|--|-------------------|---------------------------------|
| Fixing spanner M 11, M 13 |  | 5.58.002.026/0105 | 5 - 25 |

Signal lamp with integrated LED 11.1 mm, round flat lens

Technical data see page 3 - 16



| → Color of lens | Lamp | Operating voltage U_B | Order no. |
|--------------------|------|-------------------------|-------------------|
| translucent red | LED | 24 - 28 V | 1.66.003.081/1300 |
| translucent yellow | LED | 24 - 28 V | 1.66.003.081/1400 |
| translucent green | LED | 24 - 28 V | 1.66.003.081/1500 |
| translucent blue | LED | 24 - 28 V | 1.66.003.081/1600 |
| translucent white | LED | 24 - 28 V | 1.66.003.081/1000 |

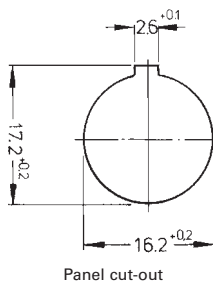
With integrated series resistor. Other voltages on request.

SIGNAL LAMPS

SIGNAL LAMPS WITH INTEGRATED LED - 16.2 MM, QUICK-CONNECT TERMINAL



SIGNAL LAMPS WITH INTEGRATED LED 16.2 mm, quick-connect terminal



Technical Data

→ General information

| | |
|--------------------|------------------|
| Form of lens | round protruding |
| Color of lens | see order block |
| Diameter of collar | 20 mm |

→ Dimensions

| | |
|----------------|-----------------|
| Overall height | see order block |
| Mounting depth | 45.8 mm |
| Mounting hole | 16.2 mm |

→ Mechanical design

| | |
|-------------|---|
| Mounting | ring nut |
| Terminals | quick connector for 6.3 x 0.8 mm or 2x 2.8 x 0.8 mm |
| Lamp socket | - |
| Lamp | LED |

→ Electrical characteristics

| | |
|------------------------------|-----------|
| Operating voltage U_B | 24 - 28 V |
| Input current I_{cc} type. | 20 mA |

→ Other specifications

| | |
|--------------------------------------|---------------------|
| Degree of protection from front side | IP40 (DIN EN 60529) |
| Weight | 12 g |
| ROHS compliant | yes |
| REACH compliant | yes |

3

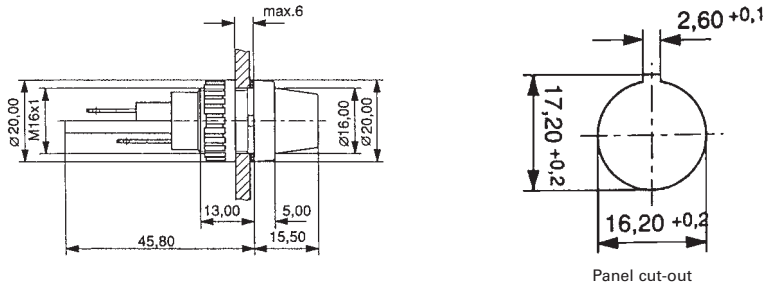
integr.
LED

Accessories Signal lamps with integrated LED - 16.2 mm, quick-connect terminal

| → Description | Photo | Order no. | Additional accessories see page |
|---------------------------|-------|-------------------|---------------------------------|
| Fixing spanner M 15, M 16 | | 5.58.002.019/0105 | 5 - 25 |

Signal lamp with integrated LED 16.2 mm, lens round protruding

Technical data see page 3 - 18

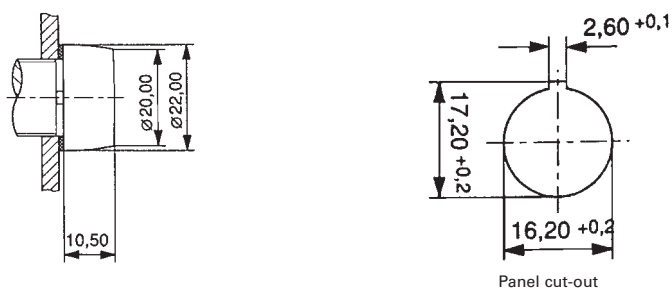


| → Color of lens | Lamp | Operating voltage U_B | Order no. |
|--------------------|------|-------------------------|-------------------|
| translucent red | LED | 24 - 28 V | 1.63.004.011/1300 |
| translucent yellow | LED | 24 - 28 V | 1.63.004.011/1400 |
| translucent green | LED | 24 - 28 V | 1.63.004.011/1500 |
| translucent blue | LED | 24 - 28 V | 1.63.004.011/1600 |
| translucent white | LED | 24 - 28 V | 1.63.004.011/1000 |

With integrated series resistor. Other voltages on request.

Signal lamp with integrated LED 16.2 mm, lens round

Technical data see page 3 - 18



| → Color of lens | Lamp | Operating voltage U_B | Order no. |
|--------------------|------|-------------------------|-------------------|
| translucent red | LED | 24 - 28 V | 1.63.004.020/1300 |
| translucent yellow | LED | 24 - 28 V | 1.63.004.020/1400 |
| translucent green | LED | 24 - 28 V | 1.63.004.020/1500 |
| translucent blue | LED | 24 - 28 V | 1.63.004.020/1600 |
| translucent white | LED | 24 - 28 V | 1.63.004.020/1000 |

With integrated series resistor. Other voltages on request.

SIGNAL LAMPS

SIGNAL LAMPS WITH INTEGRATED LED - 16.2 MM, SCREW TERMINALS



SIGNAL LAMPS WITH INTEGRATED LED 16.2 mm, screw terminals

Technical Data

→ General information

| | |
|--------------------|------------------|
| Form of lens | round protruding |
| Color of lens | see order block |
| Diameter of collar | 20 mm |

→ Dimensions

| | |
|----------------|-----------------|
| Overall height | see order block |
| Mounting depth | see order block |
| Mounting hole | 16.2 mm |

→ Mechanical design

| | |
|-------------|-----------------|
| Mounting | ring nut |
| Terminals | screw terminals |
| Lamp socket | - |
| Lamp | LED |

→ Electrical characteristics

| | |
|------------------------------|-----------|
| Operating voltage U_B | 24 - 28 V |
| Input current I_{cc} type. | 20 mA |

→ Other specifications

| | |
|--------------------------------------|---------------------|
| Degree of protection from front side | IP40 (DIN EN 60529) |
| Weight | 12 g |
| ROHS compliant | yes |
| REACH compliant | yes |

3

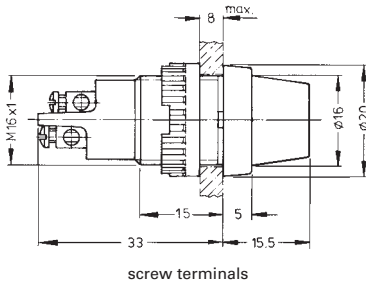
integr.
LED

Accessories Signal lamps with integrated LED - 16.2 mm, screw terminals

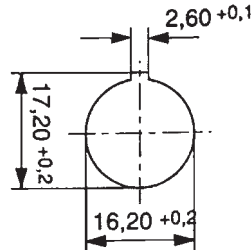
| → Description | Photo | Order no. | Additional accessories see page |
|---------------------------|--|-------------------|---------------------------------|
| Fixing spanner M 15, M 16 |  | 5.58.002.019/0105 | 5 - 25 |

Signal lamp with integrated LED 16.2 mm, lens round protruding

Technical data see page 3 - 20



screw terminals



Panel cut-out

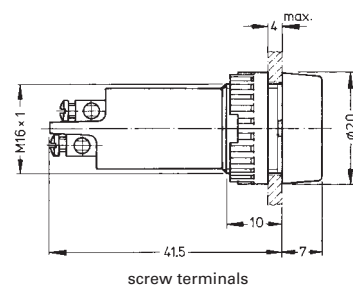


| → Color of lens | Lamp | Operating voltage U_B | Order no. |
|--------------------|------|-------------------------|-------------------|
| translucent red | LED | 24 - 28 V | 1.60.502.162/1300 |
| translucent yellow | LED | 24 - 28 V | 1.60.502.162/1400 |
| translucent green | LED | 24 - 28 V | 1.60.502.162/1500 |
| translucent blue | LED | 24 - 28 V | 1.60.502.162/1600 |
| translucent white | LED | 24 - 28 V | 1.60.502.162/1000 |

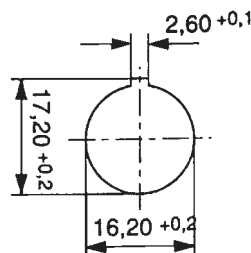
With integrated series resistor. Other voltages on request.

Signal lamp with integrated LED 16.2 mm, round lens

Technical data see page 3 - 20



screw terminals



Panel cut-out



| → Color of lens | Lamp | Operating voltage U_B | Order no. |
|--------------------|------|-------------------------|-------------------|
| translucent red | LED | 24 - 28 V | 1.60.502.152/1300 |
| translucent yellow | LED | 24 - 28 V | 1.60.502.152/1400 |
| translucent green | LED | 24 - 28 V | 1.60.502.152/1500 |
| translucent blue | LED | 24 - 28 V | 1.60.502.152/1600 |
| translucent white | LED | 24 - 28 V | 1.60.502.152/1000 |

With integrated series resistor. Other voltages on request.

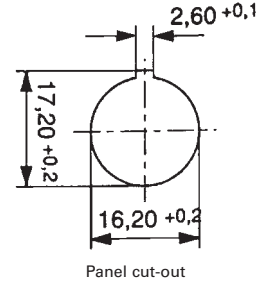
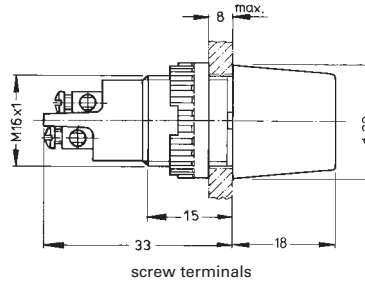
SIGNAL LAMPS

SIGNAL LAMPS WITH INTEGRATED LED - 16.2 MM, SCREW TERMINALS



Signal lamp with integrated LED 16.2 mm, lens round high

Technical data see page 3 - 20



| → Color of lens | Lamp | Operating voltage U_B | Order no. |
|--------------------|------|-------------------------|-------------------|
| translucent red | LED | 24 - 28 V | 1.60.502.151/1300 |
| translucent yellow | LED | 24 - 28 V | 1.60.502.151/1400 |
| translucent green | LED | 24 - 28 V | 1.60.502.151/1500 |
| translucent blue | LED | 24 - 28 V | 1.60.502.151/1600 |
| translucent white | LED | 24 - 28 V | 1.60.502.151/1000 |

With integrated series resistor. Other voltages on request.

3

integr.
LED

SIGNAL LAMPS WITH INTEGRATED LED 18,2 mm

Technical Data

→ General information

| | |
|--------------------|------------------|
| Form of lens | round protruding |
| Color of lens | see order block |
| Diameter of collar | 22 mm |

→ Dimensions

| | |
|----------------|---------|
| Overall height | 14 mm |
| Mounting depth | 47 mm |
| Mounting hole | 18.2 mm |

→ Mechanical design

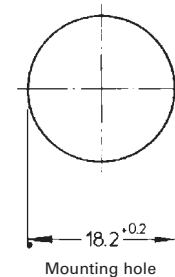
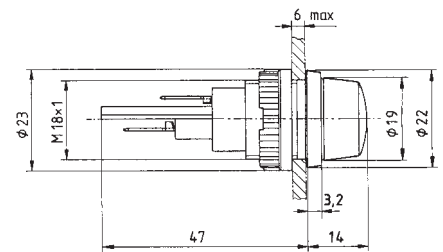
| | |
|-------------|------------------|
| Mounting | ring nut |
| Terminals | solder terminals |
| Lamp socket | - |
| Lamp | LED |

→ Electrical characteristics

| | |
|------------------------------|-----------|
| Operating voltage U_B | 24 - 28 V |
| Input current I_{cc} type. | 20 mA |

→ Other specifications

| | |
|--------------------------------------|---------------------|
| Degree of protection from front side | IP40 (DIN EN 60529) |
| Weight | 15 g |
| ROHS compliant | yes |
| REACH compliant | yes |



3

integr.
LED

Approvals



VDE 0710, T120°

Accessories Signal lamps with integrated LED - 18,2 mm

→ Description

| Description | Photo | Order no. | Additional accessories see page |
|--|-------|-------------------|---------------------------------|
| Protective sleeve for terminals made of Buna N (NBR) | | 5.52.011.027/0100 | - |

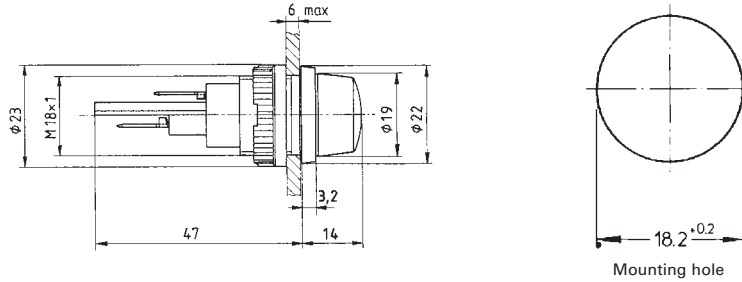
SIGNAL LAMPS

SIGNAL LAMPS WITH INTEGRATED LED - 18,2 MM, QUICK-CONNECT TERMINAL



Signal lamp with integrated LED 18,2 mm, lens round protruding, ring chrome

Technical data see page 3 - 23



| → Color of lens | Lamp | Operating voltage U_B | Order no. |
|--------------------|------|-------------------------|-------------------|
| translucent red | LED | 24 - 28 V | 1.63.018.011/1300 |
| translucent yellow | LED | 24 - 28 V | 1.63.018.011/1400 |
| translucent green | LED | 24 - 28 V | 1.63.018.011/1500 |
| translucent blue | LED | 24 - 28 V | 1.63.018.011/1600 |
| translucent white | LED | 24 - 28 V | 1.63.018.011/1000 |

With integrated series resistor. Other voltages on request.

3

integr.
LED

SIGNAL LAMPS WITH INTEGRATED LED 22,3 mm



Technical Data

→ General information

| | |
|--------------------|-----------------|
| Form of lens | round |
| Color of lens | see order block |
| Diameter of collar | 28 mm |

→ Dimensions

| | |
|----------------|---------|
| Overall height | 14 mm |
| Mounting depth | 46 mm |
| Mounting hole | 22.3 mm |

→ Mechanical design

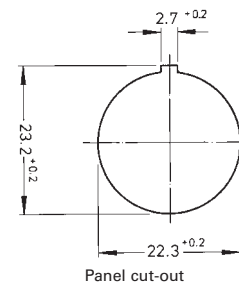
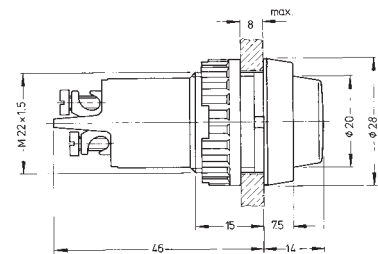
| | |
|-------------|-------------------------------------|
| Mounting | ring nut |
| Terminals | screw terminals brass nickel-plated |
| Lamp socket | - |
| Lamp | LED |

→ Electrical characteristics

| | |
|------------------------------|-----------|
| Operating voltage U_B | 24 - 28 V |
| Input current I_{cc} type. | 16 mA |

→ Other specifications

| | |
|--------------------------------------|---------------------|
| Degree of protection from front side | IP40 (DIN EN 60529) |
| Weight | 24 g |
| ROHS compliant | yes |
| REACH compliant | yes |



3

integr.
LED

Approvals



VDE 85°

Accessories Signal lamps with integrated LED - 22,3 mm

| Description | Photo | Order no. | Additional accessories see page |
|--|-------|-------------------|---------------------------------|
| Sealing ring for IP65 | | 5.30.075.010/0100 | 5 - 30 |
| Protection against contact to VBG 4 | | 5.50.240.063/0209 | 5 - 31 |
| Protective sleeve for terminals made of Buna N (NBR) | | 5.52.011.029/0100 | - |
| Fixing spanner M 20, M 22, for ring nut | | 5.58.002.018/0105 | 5 - 25 |

SIGNAL LAMPS WITH INTEGRATED LED 30.5 mm



Technical Data

→ General information

| | |
|--------------------|-----------------|
| Form of lens | round |
| Color of lens | see order block |
| Diameter of collar | 36 mm |

→ Dimensions

| | |
|----------------|-------------------------|
| Overall height | see order block |
| Mounting depth | 58 mm |
| Mounting hole | 30,5 ^{+0,5} mm |

→ Mechanical design

| | |
|-------------|--------------------------------------|
| Mounting | ring nut |
| Terminals | quick connector for 2 x 2.8 x 0.8 mm |
| Lamp socket | - |
| Lamp | LED |

→ Electrical characteristics

| | |
|------------------------------|-----------------|
| Operating voltage U_B | see order block |
| Input current I_{CC} type. | see order block |

→ Other specifications

| | |
|--------------------------------------|-----------------|
| Degree of protection from front side | see order block |
| Weight | 38 g |
| ROHS compliant | yes |
| REACH compliant | yes |

Accessories Signal lamps with integrated LED - 30.5 mm

| → Description | Photo | Order no. | Additional accessories see page |
|---------------------------|--|-------------------|---------------------------------|
| Fixing spanner M 25, M 30 |  | 5.58.002.020/0105 | 5 - 25 |

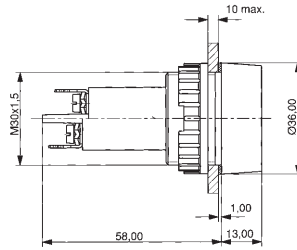
SIGNAL LAMPS

SIGNAL LAMPS WITH INTEGRATED LED - 30.5 MM, QUICK CONNECTOR

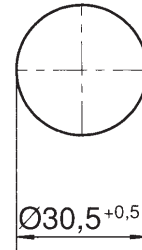


Signal lamp with integrated LED 30.5 mm, lens round

Technical data see page 3 - 27



with lens round



Mounting hole

| → Color of lens | Operating voltage U_B | Input current I_{cc} type. | Order no. |
|--------------------|-------------------------|------------------------------|-------------------|
| translucent red | 24-28 V | 16 mA | 1.63.521.002/1300 |
| translucent red | 110 V | 6 mA | 1.63.521.003/1300 |
| translucent red | 230 V | 5 mA | 1.63.521.024/1300 |
| translucent yellow | 24-28 V | 16 mA | 1.63.521.002/1400 |
| translucent yellow | 110 V | 6 mA | 1.63.521.003/1400 |
| translucent yellow | 230 V | 5 mA | 1.63.521.024/1400 |
| translucent green | 24-28 V | 16 mA | 1.63.521.002/1500 |
| translucent green | 110 V | 6 mA | 1.63.521.003/1500 |
| translucent green | 230 V | 5 mA | 1.63.521.024/1500 |
| translucent white | 24-28 V | 16 mA | 1.63.521.002/1000 |
| translucent white | 110 V | 6 mA | 1.63.521.003/1000 |
| translucent white | 230 V | 5 mA | 1.63.521.024/1000 |

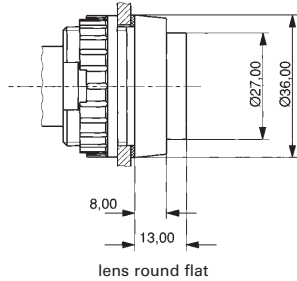
With integrated series resistor.

3

integr.
LED

Signal lamp with integrated LED 30.5 mm, lens round flat

Technical data see page 3 - 27



| → Color of lens | Operating voltage U_B | Input current I_{cc} type. | Order no. |
|--------------------|-------------------------|------------------------------|-------------------|
| translucent red | 24-28 V | 16 mA | 1.63.521.005/1300 |
| translucent red | 110 V | 6 mA | 1.63.521.006/1300 |
| translucent red | 230 V | 5 mA | 1.63.521.007/1300 |
| translucent yellow | 24-28 V | 16 mA | 1.63.521.005/1400 |
| translucent yellow | 110 V | 6 mA | 1.63.521.006/1400 |
| translucent yellow | 230 V | 5 mA | 1.63.521.007/1400 |
| translucent green | 24-28 V | 16 mA | 1.63.521.005/1500 |
| translucent green | 110 V | 6 mA | 1.63.521.006/1500 |
| translucent green | 230 V | 5 mA | 1.63.521.007/1500 |
| translucent white | 24-28 V | 16 mA | 1.63.521.005/1000 |
| translucent white | 110 V | 6 mA | 1.63.521.006/1000 |
| translucent white | 230 V | 5 mA | 1.63.521.007/1000 |

With integrated series resistor.

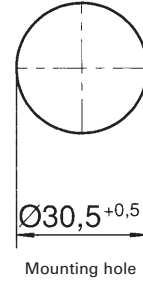
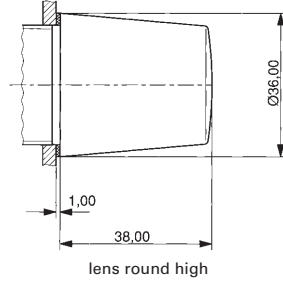
SIGNAL LAMPS

SIGNAL LAMPS WITH INTEGRATED LED - 30.5 MM, QUICK CONNECTOR



Signal lamp with integrated LED 30.5 mm, lens round high

Technical data see page 3 - 27



| → Color of lens | Operating voltage U_B | Input current I_{cc} type. | Order no. |
|--------------------|-------------------------|------------------------------|-------------------|
| translucent red | 24-28 V | 16 mA | 1.63.521.012/1300 |
| translucent red | 110 V | 6 mA | 1.63.521.013/1300 |
| translucent red | 230 V | 5 mA | 1.63.521.014/1300 |
| translucent yellow | 24-28 V | 16 mA | 1.63.521.012/1400 |
| translucent yellow | 110 V | 6 mA | 1.63.521.013/1400 |
| translucent yellow | 230 V | 5 mA | 1.63.521.014/1400 |
| translucent green | 24-28 V | 16 mA | 1.63.521.012/1500 |
| translucent green | 110 V | 6 mA | 1.63.521.013/1500 |
| translucent green | 230 V | 5 mA | 1.63.521.014/1500 |
| translucent white | 24-28 V | 16 mA | 1.63.521.012/1000 |
| translucent white | 110 V | 6 mA | 1.63.521.013/1000 |
| translucent white | 230 V | 5 mA | 1.63.521.014/1000 |

With integrated series resistor.

3

integr.
LED



Signal lamps

with integrated lamp

Signal lamps with integral neon lamp or neon glow lamp.
The mm specification in the product name indicates the appropriate mounting hole diameter of the signal lamps.

- All products are RoHS compliant.

SIGNAL LAMPS

SIGNAL LAMPS WITH INTEGRATED LAMP

Content

| | |
|---|---------------|
| Signal lamps with integrated neon lamp 7 mm | 3 - 33 |
| Signal lamp with integrated filament/neon lamp 7 mm, solder terminals | 3 - 33 |
| Signal lamps with integrated neon lamp 10 mm | 3 - 35 |
| Signal lamp with integrated neon lamp 10 mm, round lens | 3 - 35 |
| Signal lamps with integrated neon lamp 10 mm | 3 - 37 |
| Signal lamp with integrated neon lamp 10 mm, round lens | 3 - 38 |
| Signal lamp with integrated neon lamp 10 mm, square lens | 3 - 38 |
| Signal lamp with integrated neon lamp 10 mm, lens in arrow shape | 3 - 39 |
| Signal lamps with integrated neon lamp 14 mm | 3 - 40 |
| Signal lamp with integrated neon lamp 14 mm, round lens, 230 V | 3 - 40 |

SIGNAL LAMPS WITH INTEGRATED NEON LAMP 7 mm

Technical Data

→ General information

| | |
|--------------------|-----------------|
| Form of lens | round |
| Color of lens | see order block |
| Diameter of collar | 8.5 |

→ Dimensions

| | |
|----------------|-----------------|
| Overall height | 5 mm |
| Mounting depth | see order block |
| Mounting hole | 7 mm |

→ Mechanical design

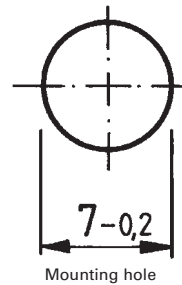
| | |
|-------------|--------------------|
| Mounting | pressing into hole |
| Terminals | see order block |
| Lamp socket | no |
| Lamp | see order block |

→ Electrical characteristics

| | |
|--------------------|-----------------|
| Voltage limit max. | see order block |
|--------------------|-----------------|

→ Other specifications

| | |
|--------------------------------------|---------------------|
| Operating life | see order block |
| Degree of protection from front side | IP40 (DIN EN 60529) |
| Weight | 0.87 g |
| ROHS compliant | yes |
| REACH compliant | yes |



Approvals



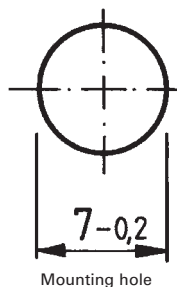
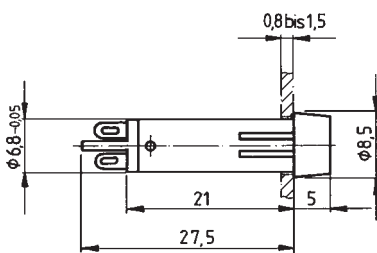
VDE T85° (only version with neon lamp)

3

integr.
Lamp

Signal lamp with integrated filament/neon lamp 7 mm, solder terminals

Technical data see page 3 - 33



SIGNAL LAMPS

SIGNAL LAMPS WITH INTEGRATED NEON LAMP - 7 MM, SOLDER TERMINALS

– Table (continued) –

Signal lamps with integrated filament/neon lamp - 7 mm, solder terminals

| → Color of lens | Lamp | Voltage limit max. | Terminals | Order no. |
|-----------------------|-----------|--------------------|------------------|-------------------|
| transparent red | neon lamp | 230 V | solder terminals | 1.69.511.059/1301 |
| transparent yellow | neon lamp | 230 V | solder terminals | 1.69.511.059/1402 |
| transparent colorless | neon lamp | 230 V | solder terminals | 1.69.511.059/1002 |

Other voltages on request.

3

integr.
Lamp

SIGNAL LAMPS WITH INTEGRATED NEON LAMP 10 mm

Technical Data

→ General information

| | |
|--------------------|-----------------|
| Form of lens | see order block |
| Color of lens | see order block |
| Diameter of collar | see order block |

→ Dimensions

| | |
|------------------|-----------------|
| Length of collar | see order block |
| Width of collar | see order block |
| Overall height | 1.2 mm |
| Mounting depth | 32 mm |
| Mounting hole | 10 mm |

→ Mechanical design

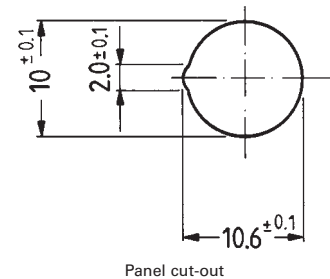
| | |
|-------------|------------------------------|
| Mounting | pressing into hole |
| Terminals | quick connector 2.8 x 0.8 mm |
| Lamp socket | no |
| Lamp | see order block |

→ Electrical characteristics

| | |
|--------------------|-----------------|
| Voltage limit max. | see order block |
|--------------------|-----------------|

→ Other specifications

| | |
|--------------------------------------|---------------------|
| Degree of protection from front side | IP40 (DIN EN 60529) |
| Weight | 2.5 g |
| ROHS compliant | yes |
| REACH compliant | yes |



Approvals



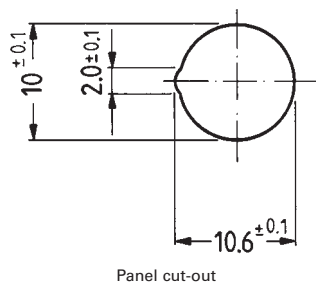
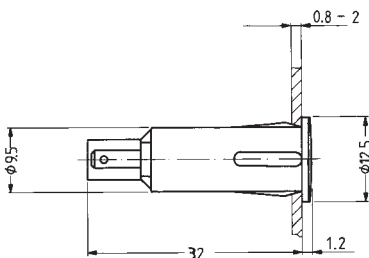
VDE T85° (only version with neon lamp)

3

integr.
Lamp

Signal lamp with integrated neon lamp 10 mm, round lens

Technical data see page 3 - 35



SIGNAL LAMPS

SIGNAL LAMPS WITH INTEGRATED NEON LAMP - 10 MM, QUICK-CONNECT TERMINAL

– Table (continued) –

Signal lamps with integrated neon lamp - 10 mm, round lens

| → Color of lens | Lamp | Voltage limit max. | Order no. |
|-----------------------|-----------|--------------------|-------------------|
| transparent red | neon lamp | 230 V | 1.69.527.104/1301 |
| transparent yellow | neon lamp | 230 V | 1.69.527.104/1402 |
| transparent colorless | neon lamp | 230 V | 1.69.527.104/1002 |

3

integr.
Lamp

SIGNAL LAMPS WITH INTEGRATED NEON LAMP 10 mm



Technical Data

→ General information

| | |
|--------------------|-----------------|
| Form of lens | see order block |
| Color of lens | see order block |
| Diameter of collar | see order block |

→ Dimensions

| | |
|------------------|-----------------|
| Length of collar | see order block |
| Width of collar | see order block |
| Overall height | 3 mm |
| Mounting depth | 30 mm |
| Mounting hole | 10 mm |

→ Mechanical design

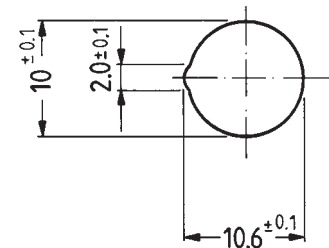
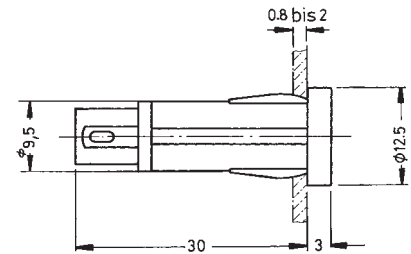
| | |
|-------------|--------------------|
| Mounting | pressing into hole |
| Terminals | see order block |
| Lamp socket | no |
| Lamp | see order block |

→ Electrical characteristics

| | |
|--------------------|-----------------|
| Voltage limit max. | see order block |
|--------------------|-----------------|

→ Other specifications

| | |
|--------------------------------------|---------------------|
| Degree of protection from front side | IP40 (DIN EN 60529) |
| Weight | 2.5 g |
| ROHS compliant | yes |
| REACH compliant | yes |



Panel cut-out

3

integr.
Lamp

Approvals



VDE 0710 (T85°
for filament and
T120° for neon
lamp versions)

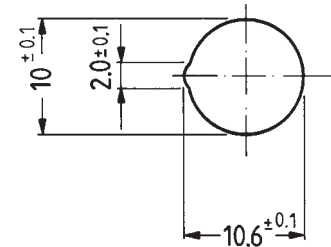
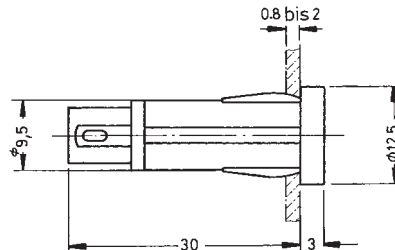
SIGNAL LAMPS

SIGNAL LAMPS WITH INTEGRATED NEON LAMP - 10 MM, QUICK-CONNECT TERMINAL



Signal lamp with integrated neon lamp 10 mm, round lens

Technical data see page 3 - 37



Panel cut-out

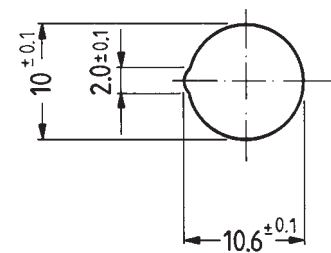
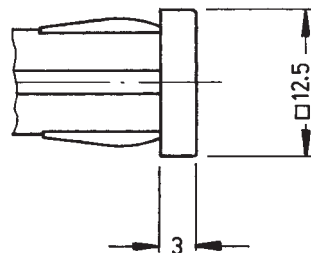
| → Color of lens | Lamp | Voltage limit max. | Terminals | Order no. |
|-----------------------|----------------|--------------------|------------------------------|-------------------|
| transparent red | neon lamp | 230 V | quick connector 2.8 x 0.8 mm | 1.69.507.117/1301 |
| transparent yellow | neon lamp | 230 V | quick connector 2.8 x 0.8 mm | 1.69.507.117/1402 |
| transparent green | neon glow lamp | 230 V | quick connector 2.8 x 0.8 mm | 1.69.507.118/1502 |
| transparent colorless | neon lamp | 230 V | quick connector 2.8 x 0.8 mm | 1.69.507.117/1002 |

Other voltages and versions with connection cable on request.



Signal lamp with integrated neon lamp 10 mm, square lens

Technical data see page 3 - 37



Panel cut-out

| → Color of lens | Lamp | Voltage limit max. | Terminals | Order no. |
|-----------------------|----------------|--------------------|------------------------------|-------------------|
| transparent red | neon lamp | 230 V | quick connector 2.8 x 0.8 mm | 1.69.507.137/1301 |
| transparent yellow | neon lamp | 230 V | quick connector 2.8 x 0.8 mm | 1.69.507.137/1402 |
| transparent green | neon glow lamp | 230 V | quick connector 2.8 x 0.8 mm | 1.69.507.138/1502 |
| transparent colorless | neon lamp | 230 V | quick connector 2.8 x 0.8 mm | 1.69.507.137/1002 |

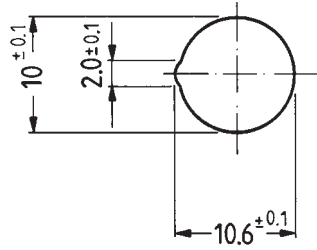
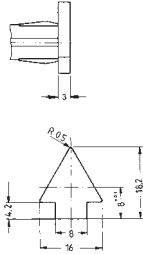
Other voltages and versions with connection cable on request.

3

integr.
Lamp

Signal lamp with integrated neon lamp 10 mm, lens in arrow shape

Technical data see page 3 - 37



Panel cut-out



| → Color of lens | Lamp | Voltage limit max. | Terminals | Order no. |
|-----------------------|----------------|--------------------|------------------------------|-------------------|
| transparent red | neon lamp | 230 V | quick connector 2.8 x 0.8 mm | 1.69.507.157/1301 |
| transparent yellow | neon lamp | 230 V | quick connector 2.8 x 0.8 mm | 1.69.507.157/1402 |
| transparent green | neon glow lamp | 230 V | quick connector 2.8 x 0.8 mm | 1.69.507.158/1502 |
| transparent colorless | neon lamp | 230 V | quick connector 2.8 x 0.8 mm | 1.69.507.157/1002 |

Other voltages and versions with connection cable on request.

SIGNAL LAMPS

SIGNAL LAMPS WITH INTEGRATED NEON LAMP - 14 MM, QUICK-CONNECT TERMINAL



SIGNAL LAMPS WITH INTEGRATED NEON LAMP 14 mm

Technical Data

→ General information

| | |
|---------------|-----------------|
| Form of lens | see order block |
| Color of lens | see order block |

→ Dimensions

| | |
|----------------------|-----------------|
| Dimensions of collar | see order block |
| Overall height | 4 mm |
| Mounting depth | see order block |
| Mounting hole | 14 mm |

→ Mechanical design

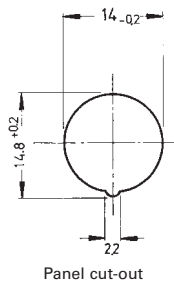
| | |
|-------------|--------------------|
| Mounting | pressing into hole |
| Terminals | see order block |
| Lamp socket | no |
| Lamp | see order block |

→ Electrical characteristics

| | |
|--------------------|-----------------|
| Voltage limit max. | see order block |
|--------------------|-----------------|

→ Other specifications

| | |
|--------------------------------------|---------------------|
| Degree of protection from front side | IP40 (DIN EN 60529) |
| Weight | 5 g |
| ROHS compliant | yes |
| REACH compliant | yes |



Approvals



VDE T85° (only version with neon lamp)

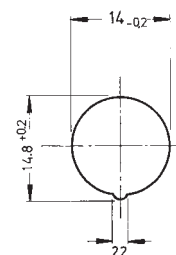
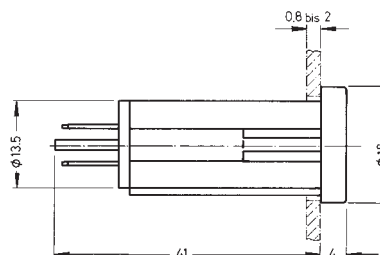
3

integr.
Lamp



Signal lamp with integrated neon lamp 14 mm, round lens, 230 V

Technical data see page 3 - 40



SIGNAL LAMPS

SIGNAL LAMPS WITH INTEGRATED NEON LAMP - 14 MM, QUICK-CONNECT TERMINAL

– Table (continued) –
Signal lamps with integrated neon lamp - 14 mm, round lens, 230 V

| → Color of lens | Lamp | Voltage limit max. | Terminals | Order no. |
|-----------------------|----------------|--------------------|------------------------------|-------------------|
| transparent red | neon lamp | 230 V | quick connector 2.8 x 0.8 mm | 1.02.614.502/1301 |
| transparent yellow | neon lamp | 230 V | quick connector 2.8 x 0.8 mm | 1.02.614.502/1402 |
| transparent green | neon glow lamp | 230 V | quick connector 2.8 x 0.8 mm | 1.02.614.503/1502 |
| transparent colorless | neon lamp | 230 V | quick connector 2.8 x 0.8 mm | 1.02.614.502/1002 |

3

integr.
Lamp

