

Features

Relays for automatic control of lighting according to the ambient light level

Integral light sensor

For pole or wall mounting

10.32 - 2 NO 16A output contacts

10.41 - 1 NO 16A output contact

- Double pole Live and Neutral switching possible with the 10.32
- Sensitivity adjustment from 1 to 80 lux
- Cadmium free contact material
- Cadmium free light sensor (IC photo diode)
- Electronic circuit - transformer isolated
- Italian Patent "light feedback compensation" innovative principle
Compatible with slow starting gas discharge lamps (up to 10 minutes)
- For the first 3 working cycles the delay time (On and Off) is reduced to zero in order to aid installation
- Available for supply 230 and 120 V AC (50/60 Hz)

10.32

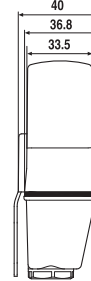
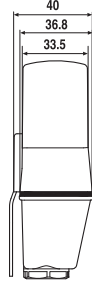
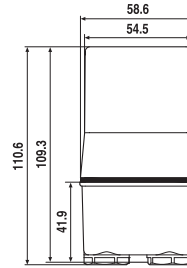
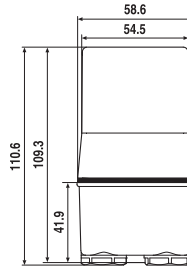


- Double pole switching - 2 NO 16A for Live and Neutral switching

10.41



- Single pole switching - 1 NO 16A for Live switching



| Contact specification | | 10.32 | | 10.41 | |
|--|-----------------|---------------------------|-------|---------------------------|-------|
| Contact configuration | | 2 NO (DPST-NO) | | 1 NO (SPST-NO) | |
| Rated current/Maximum peak current | A | 16/30 (120 A - 5 ms) | | 16/30 (120 A - 5 ms) | |
| Rated voltage/Maximum switching voltage V AC | | 120/— | 230/— | 120/— | 230/— |
| Rated load AC1 | VA | 1,900 | 3,700 | 1,900 | 3,700 |
| Rated load AC15 | VA | 400 | 750 | 400 | 750 |
| Rated current AC5a | A | — | 5 | — | 5 |
| Nominal lamp rating: | | | | | |
| incandescent | W | 1,200 | 2,300 | 1,000 | 2,000 |
| compensated fluorescent | W | 450 | 850 | 400 | 750 |
| uncompensated fluorescent | W | 500 | 1,000 | 500 | 1,000 |
| halogen | W | 1,200 | 2,300 | 1,000 | 2,000 |
| Minimum switching load | mW (V/mA) | 1,000 (10/10) | | 1,000 (10/10) | |
| Standard contact material | | AgSnO ₂ | | AgSnO ₂ | |
| Supply specification | | 10.32 | | 10.41 | |
| Nominal voltage (U _N) | V AC (50/60 Hz) | 120 | 230 | 120 | 230 |
| | V DC | — | | — | |
| Rated power AC/DC | VA (50 Hz)/W | 2/— | | 2/— | |
| Operating range | AC (50 Hz) | (0.8...1.1)U _N | | (0.8...1.1)U _N | |
| | DC | — | | — | |
| Technical data | | 10.32 | | 10.41 | |
| Electrical life at rated load in AC1 | cycles | 100 · 10 ³ | | 100 · 10 ³ | |
| Threshold setting | lx | 1...80 | | 1...80 | |
| Preset threshold | lx | 10 | | 10 | |
| Delay time: switching ON/OFF | s | 15/30 | | 15/30 | |
| Ambient temperature range | °C | -30...+70 | | -30...+70 | |
| Protection category | | IP 54 | | IP 54 | |
| Approvals (according to type) | | | | | |

Features

Relays for automatic control of lighting according to the ambient light level

Integral light sensor

For pole or wall mounting

10.42 - Two independent 16A outputs with individual lux setting

10.51 - Miniature single 12A NO output

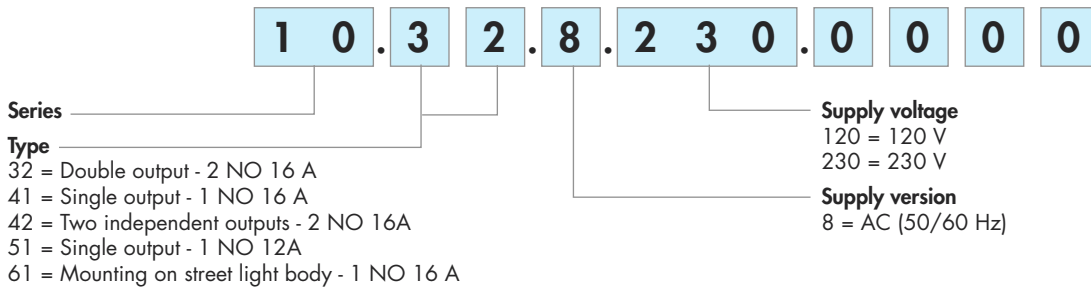
10.61 - Mounting on street light body

- Sensitivity adjustment from 1 to 80 lux
- Fixed sensitivity 10 lux ($\pm 20\%$) - (10.61 type)
- Cadmium free contact material
- Cadmium free light sensor (IC photo diode)
- Electronic circuit - transformer isolated (10.42 type)
- Italian Patent "light feedback compensation" innovative principle (10.51 type)
- For the first 3 working cycles the delay time (On and Off) is reduced to zero in order to aid installation
- Available for supply 230 and 120 V AC (50/60 Hz)
- Prewired with silicone wire, 500 mm length (10.61 type)

| | 10.42 | 10.51 | NEW 10.61 |
|---|--------------------------------------|--|-------------------------------------|
| | | | |
| | • Two independent outputs - 2 NO 16A | • Single pole switching - 1 NO 12A • Miniature size | • Single pole switching - 1 NO 16 A |
| | | | |
| Contact specification | | | |
| Contact configuration | 2 NO (DPST-NO) | 1 NO (SPST-NO) | 1 NO (SPST-NO) |
| Rated current/Maximum peak current A | 16/30 (120 A - 5 ms) | 12/25 (80 A - 5 ms) | 16/30 (120 A - 5 ms) |
| Rated voltage/Maximum switching voltage V AC | 120/- 230/- | 120/- 230/- | 230/- |
| Rated load AC1 VA | 1,900 3,700 | 1,400 2,760 | 3,700 |
| Rated load AC15 VA | 400 750 | 300 600 | 750 |
| Rated current AC5a A | - 5 | - - | 5 |
| Nominal lamp rating: | | | |
| incandescent W | 1,000 2,000 | 600 1,200 | 2,000 |
| compensated fluorescent W | 400 750 | 200 400 | 750 |
| uncompensated fluorescent W | 500 1,000 | 300 600 | 1,000 |
| halogen W | 1,000 2,000 | 600 1,200 | 2,000 |
| Minimum switching load mW (V/mA) | 1,000 (10/10) | 1,000 (10/10) | 1,000 (10/10) |
| Standard contact material | AgSnO ₂ | AgSnO ₂ | AgSnO ₂ |
| Supply specification | | | |
| Nominal voltage (U _N) V AC (50/60 Hz) | 120 230 | 120 230 | 230 |
| V DC | - | - | - |
| Rated power AC/DC VA (50 Hz)/W | 2/- | 1.5/- | 2.5/- |
| Operating range AC (50 Hz) | (0.8...1.1)U _N | (0.8...1.1)U _N | (0.8...1.1)U _N |
| DC | - | - | - |
| Technical data | | | |
| Electrical life at rated load in AC1 cycles | 100 · 10 ³ | 100 · 10 ³ | 100 · 10 ³ |
| Threshold setting lx | 1...80 | 1...80 | 10 |
| Preset threshold lx | 10 | 10 | 10 |
| Delay time: switching ON/OFF s | 15/30 | 15/30 | 15/30 |
| Ambient temperature range °C | -30...+70 | -30...+70 | -30...+70 |
| Protection category | IP 54 | IP 54 | IP 54 |
| Approvals (according to type) | | | |

Ordering information

Example: 10 series light dependent relay, 2 NO (DPST-NO) 16 A contact, screw terminal connections, 230 V AC supply.



Technical data

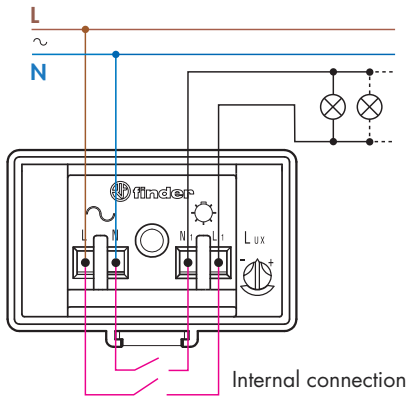
| Insulation | 10.32 / 41 / 42 | | 10.51 | | 10.61 | |
|---|-----------------|-------------|----------------|-------------|----------------|------------------------------|
| Dielectric strength between open contacts V AC | 1,000 | | 1,000 | | 1,000 | |
| Conducted disturbance immunity | | | | | | |
| Surge (1.2/50 µs) on L and N (differential mode) kV | 4 | | 4 | | 6 | |
| Other data | | | | | | |
| Cable grip | Ø mm | (8.9...12) | | (7.5...9) | | — |
| Screw torque | Nm | 0.8 | | 0.8 | | — |
| Max. wire size | | solid cable | stranded cable | solid cable | stranded cable | — |
| | mm ² | 1x6 / 2x4 | 1x6 / 2x2.5 | 1x6 / 2x4 | 1x4 / 2x2.5 | — |
| | AWG | 1x10 / 2x12 | 1x10 / 2x14 | 1x10 / 2x12 | 1x12 / 2x14 | — |
| Output wires | | | | | | |
| Material | | — | | — | | Silicone rubber UV resistant |
| Size | mm ² | — | | — | | 1.5 |
| Length | mm | — | | — | | 500, ends-ferruled |
| Rated insulation voltage | kV | — | | — | | 0.6 / 1 |
| Max temperature | °C | — | | — | | 120 |

Functions

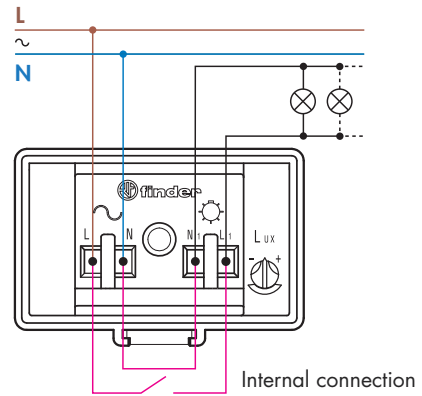
| LED* | 10.32 / 10.41 / 10.42 | | 10.51 | |
|------|-----------------------|------------------------------|----------------|------------------------------|
| | Supply voltage | NO output contact | Supply voltage | NO output contact |
| | OFF | Open | OFF or ON | Open |
| | ON | Open | ON | Closed |
| | ON | Open (Timing in Progress) | ON | Open (Timing in Progress) |
| | ON | Closed | — | — |

* The LED is located under the terminal cover, close to the Lux adjustment knob. It indicates the contact status and assists in the test and setting of the correct light threshold level.

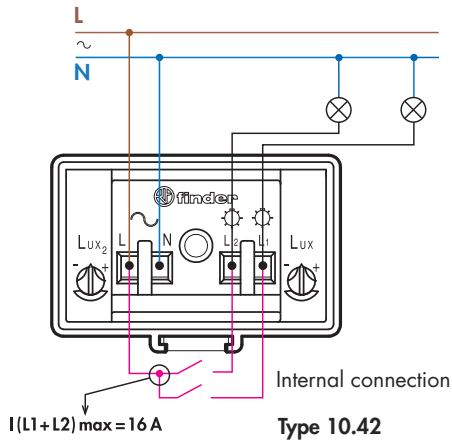
Wiring diagrams



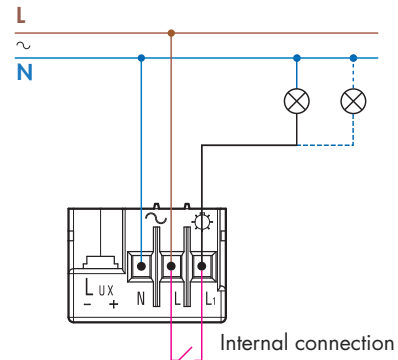
Type 10.32



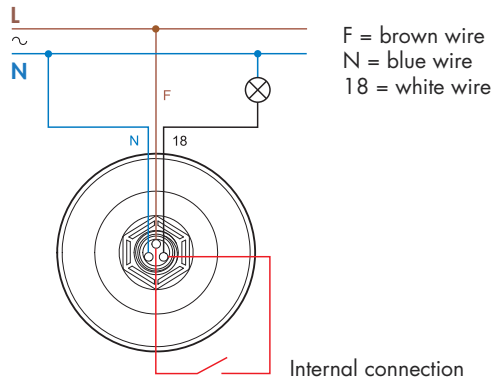
Type 10.41



Type 10.42



Type 10.51



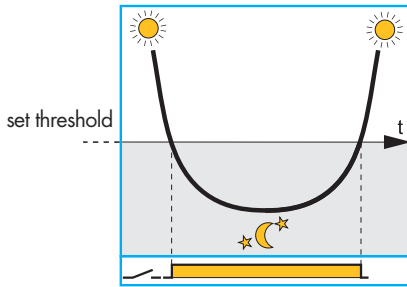
Type 10.61

Advantage of the "light feedback compensation" principle

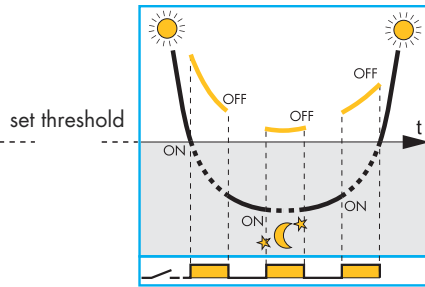
Light dependent relay where the lighting being controlled does not influence the light level seen by the light sensor

Traditional light dependent relay where the lighting being controlled influences the light level seen by the light sensor

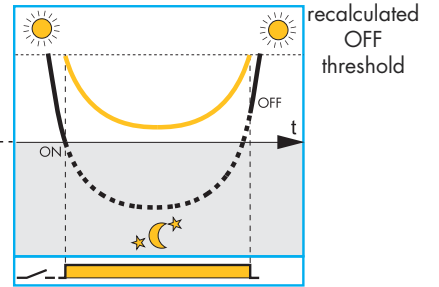
Type 10.32, 10.41 and 10.51 light dependent relay with "light feedback compensation"



Correct functioning - provided the sensor can be shielded from the effects of the controlled lighting switching On and Off



Incorrect functioning where the lamps cycle between On and Off, because their effect is being detected by the light sensor



The innovative principle of "light feedback compensation" avoids the annoying and damaging effects of the lamps repeatedly "hunting" between On and Off, due to poor installation

— — — — — Ambient light level as measured by the light dependent relay's integral light sensor.

— — — — — Ambient light + controlled light level as measured by the light dependent relay's integral light sensor.

Notes

1. It is good practice to try to achieve a correct installation where the light emitted from the lamp(s) does not influence the light level seen by the sensor, although the "light feedback compensation" principle will help when this is not fully achievable. In this case it should be appreciated that the "light feedback compensation" principle may delay slightly the time of Switch Off - beyond the ideal.
2. The compensation principle is not effective where the combined effect of the ambient light and the controlled lighting exceeds 120 lux.
3. The 10.32 and 10.41 types are compatible with gas discharge lamps that attain full output within 10 minutes, since the electronic circuit monitors lamps' light output over a 10 minutes period to achieve a true assessment of its contribution to the overall lighting level.

