

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
- Patent pending for the innovative principle of "light feedback compensation". 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

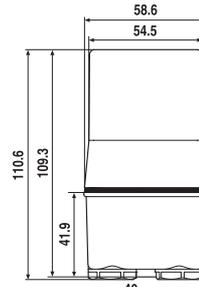
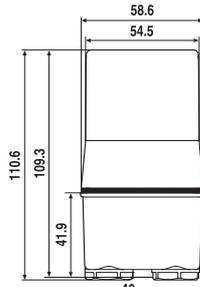


- Double output - 2 NO 16A for Live and Neutral switching

10.41



- Single output - 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						
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						
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

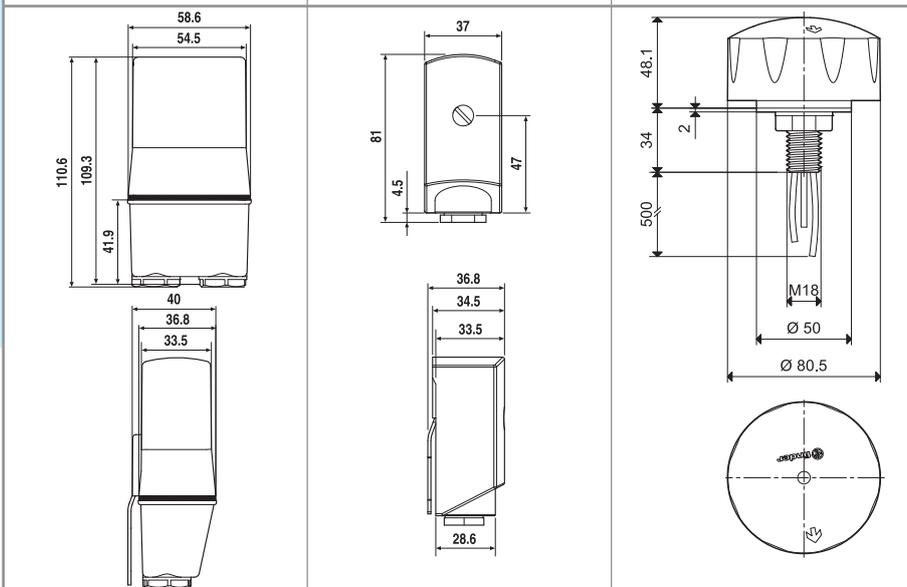
For pole or wall mounting

10.42 - Two independent 16A outputs with individual lux setting

10.51 - Miniature single 12A NO output

10.61 - Mounting on street light body

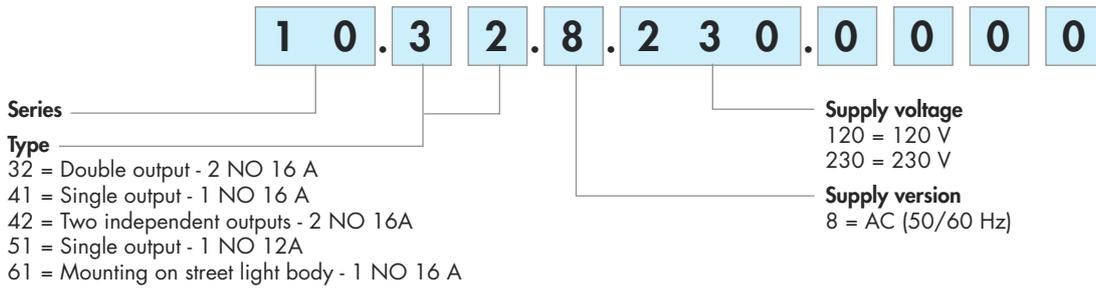
- Sensitivity adjustment from 1 to 80 lux
- Fixed sensitivity 10 lux ($\pm 20\%$) - (10.61 type)
- Cadmium free contact material
- Cadmium free light sensor (IC photo diode)
- Electronic circuit - transformer isolated (10.42 type)
- Patent pending for the innovative principle of "light feedback compensation" (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)



Contact specification		10.42		10.51		10.61		
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		10.42		10.51		10.61		
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		10.42		10.51		10.61		
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)		CE		CE		CE		

Ordering information

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



Technical data

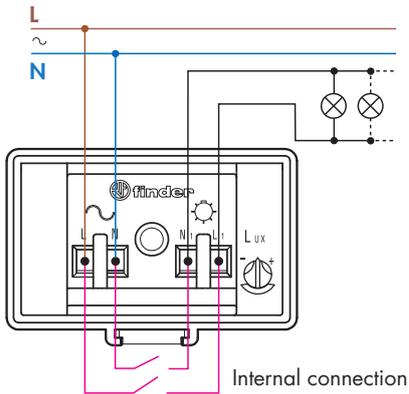
Insulation	10.32 / 41 / 42		10.51		10.61	
Dielectric strength between open contacts V AC	1,000		1,000		1,000	
Conducted disturbance immunity						
Surge (1.2/50 µs) on L and N (differential mode) kV	4		4		6	
Other data						
Cable grip	Ø mm	(8.9...12)		(7.5...9)		—
Screw torque	Nm	0.8		0.8		—
Max. wire 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	—		—		1.5 mm ²	
Length	—		—		500 mm, ends-ferruled	
Rated insulation voltage	—		—		0.6 / 1 kV	
Max temperature	—		—		120 °C	

Functions

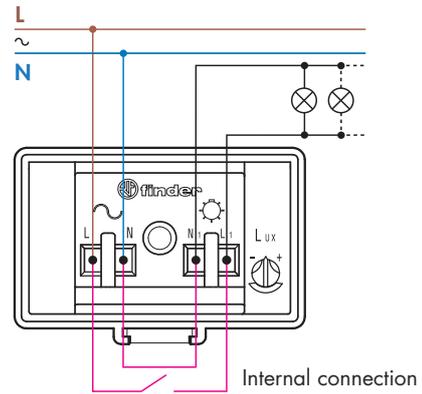
LED*	10.32 / 10.41 / 10.42		10.51	
	Supply voltage	NO output contact	Supply voltage	NO output contact
	OFF	Open	OFF or ON	Open
	ON	Open	ON	Closed
	ON	Open (Timing in Progress)	ON	Open (Timing in Progress)
	ON	Closed	—	—

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.

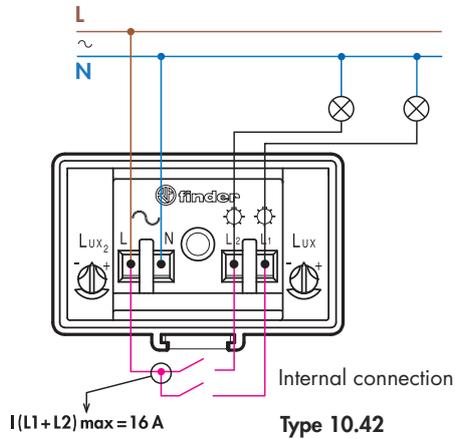
Wiring diagrams



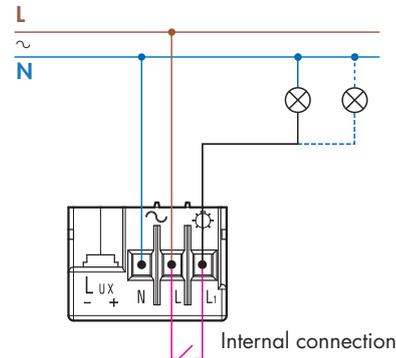
Type 10.32



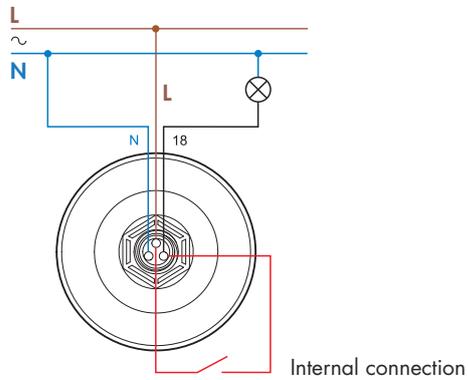
Type 10.41



Type 10.42



Type 10.51



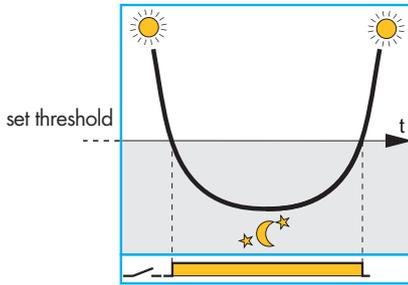
Type 10.61

Advantage of the "light feedback compensation" principle

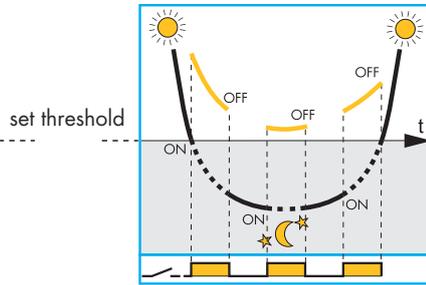
Light dependent relay where the lighting being controlled does not influence the light level seen by the light sensor

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

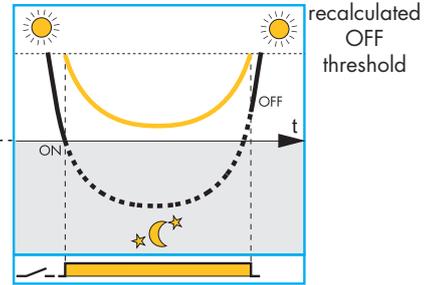
Type 10.32, 10.41 and 10.51 light dependent relay with "light feedback compensation"



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.

