



Diffuse Ref. Photoelectric Sensors

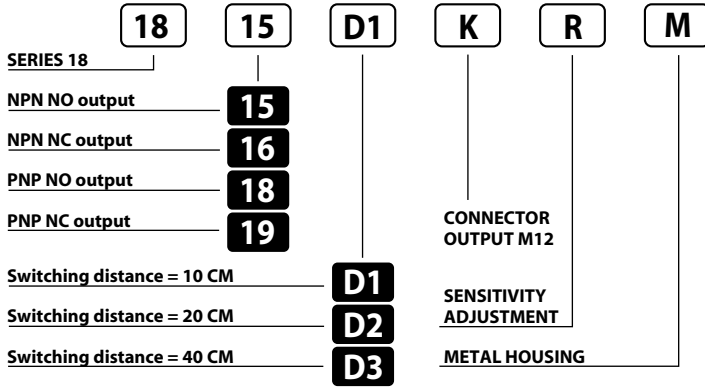
PHOTOELECTRIC SENSORS IN STANDARD HOUSING 12 ÷ 30 V DC NPN O PNP OUTPUT

- **Miniature 18 mm tubular**
- **Operation LED aids installation**
- **Models w/o pots for simple installation**
- **Quick connect or integral cable**
- **9-turn pot models**

18 Series

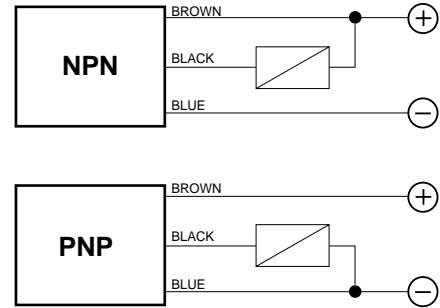


Identification code



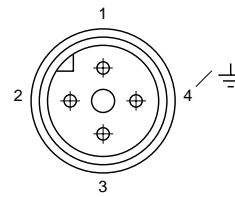
K and R are not available in the same model

Wiring diagrams



Connection with connector M12 (K)

View of quadripole male connector.



CONTACTS CONFIGURATION

Available (NO or NC) Emitter	Contacts numbers			
	1	2	3	4
(NO or NC)	+	-	-	NO/NC
Emitter	+	-	-	

Note: the K plug is compatible with the following connectors: VAUDEHA, BINDER, HIRSCHMANN, LUMBERG, AMPHENOL-TUCHEL.

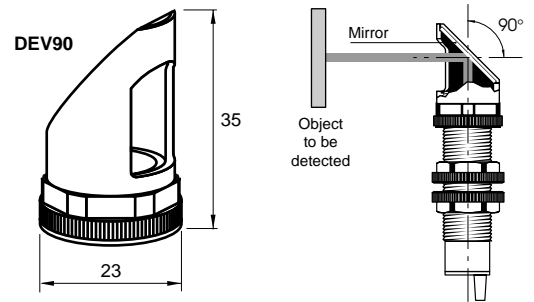
AVAILABLE	D1	D2	D3
SWITCHING DISTANCE	10 cm ⁽¹⁾	20 cm ⁽¹⁾	40 cm ⁽¹⁾
HYSTERESIS	10%		
EMISSION	Infrared (875 nm)		
NOMINAL VOLTAGE	12 ÷ 30VDC (-15 /+10%)		
RESIDUAL RIPPLE	≤ 10%		
MAX. OUTPUT CURRENT	200 mA		
ABSORPTION AT 30 VDC	30 mA		
VOLTAGE DROP (Sensor ON)	≤ 1.5V (I = 200 mA)		
OPERATION LED	Yellow		
SWITCHING FREQUENCY	200 Hz		
RESPONSE TIME	5 mS		
START UP DELAY	100 mS		
SHORT CIRCUIT PROTECTION	Present (self-resetting)		
ELECTRIC PROTECTIONS	Against polarity reversal - inductive loads		
TEMPERATURE LIMITS	-10 ÷ +60 °C		
LIGHT IMMUNITY	5000 Lux ⁽²⁾		
PROTECTION DEGREE	IP 67 (IP 65 for models with sensitivity adjustment)		
CABLE LENGTH	2 m		
CABLE SECTION	3 x 0.25 mm ²		
HOUSING MATERIAL	Housing: nylon loaded with fiberglass - Lenses: methacrylate		
WEIGHT - cable output - (connector output)	- 110 g - (55 g)		

⁽¹⁾ Determined with a white mat paper (cm 10 x 10).

⁽²⁾ Determined with halogen tungsten lamp 3000 °K.

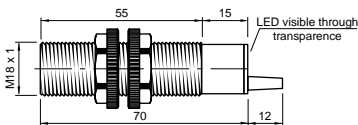
Note: for a proper use see norms at pages 6, 7 and 8.

Accessories

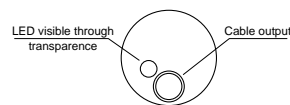


Dimensions (mm)

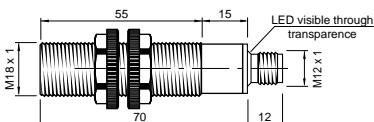
Configuration with cable



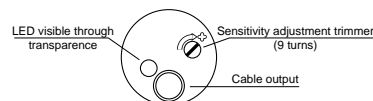
Configuration with cable - Back view



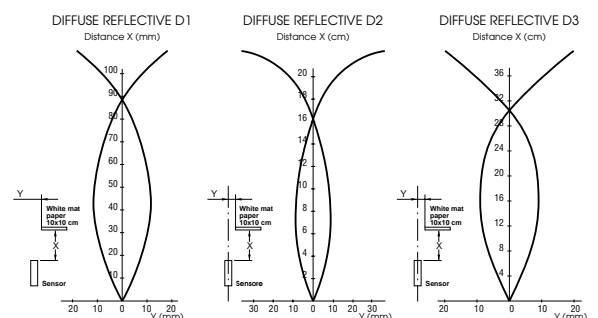
Configuration with connector K



Configuration with sensitivity adjustment



Characteristic curves





Diffuse Ref. Photoelectric Sensors

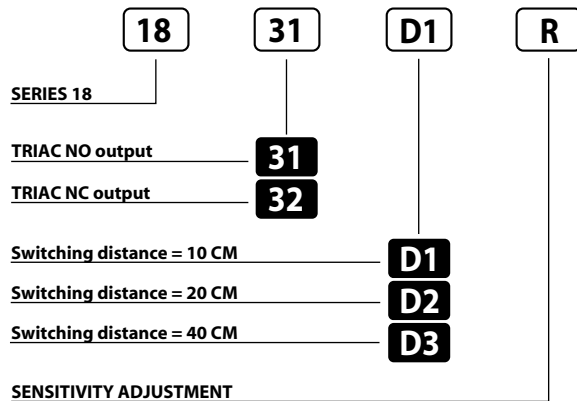
PHOTOELECTRIC SENSORS IN LONG HOUSING 24 ÷ 230 V AC TRIAC AND NC OUTPUT

- Short AC housing, only 80 mm
- Leakage < 1.5 mA @ 220 V DC
- Models w/o pots for simple installation
- Models with 9-turn pot

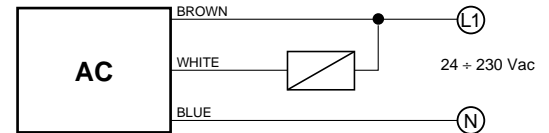
18 Series



Identification code



Wiring diagrams



WARNING: Short circuit in the output is not possible. Wrong supply cables connections can irreparably damage the detector. Therefore sensors whose output status is short-circuited will not be substituted under warranty.

AVAILABLE	D1	D2	D3
SWITCHING DISTANCE	10 cm ⁽¹⁾	20 cm ⁽¹⁾	40 cm ⁽¹⁾
HYSTERESIS	10%		
EMISSION	Infrared (875 nm)		
NOMINAL VOLTAGE	24 ÷ 230VAC (-15 / +10%)		
MAINS FREQUENCY	50 ÷ 60 Hz		
MAX. OUTPUT CURRENT	150 mA		
LEAKAGE CURRENT	≤ 1.5mA (at 220VAC)		
ABSORPTION	1 W		
VOLTAGE DROP (Sensor ON)	< 2.5 V		
OPERATION LED	Yellow		
SWITCHING FREQUENCY	10 Hz		
RESPONSE TIME	100 mS		
START UP DELAY	300 mS		
ELECTRIC PROTECTIONS	Against inductive loads		
TEMPERATURE LIMITS	-10 ÷ +60 °C		
LIGHT IMMUNITY	5000 Lux		
PROTECTION DEGREE	IP 67 (IP 65 for models with sensitivity adjustment)		
CABLE LENGTH	2 m		
CABLE SECTION	3 x 0.35 mm ²		
HOUSING MATERIAL	Housing: nylon loaded with fiberglass - Lenses: methacrylate		
WEIGHT - cable output -	120 g		

⁽¹⁾ Determined with a white mat paper (cm 10 x 10).

⁽²⁾ Determined with halogen tungsten lamp 3000 °K.

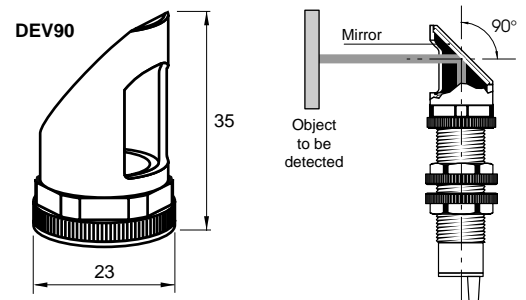
Note: for a proper use see norms at pages 6, 7 and 8.

CONNECTIONS IN PARALLEL

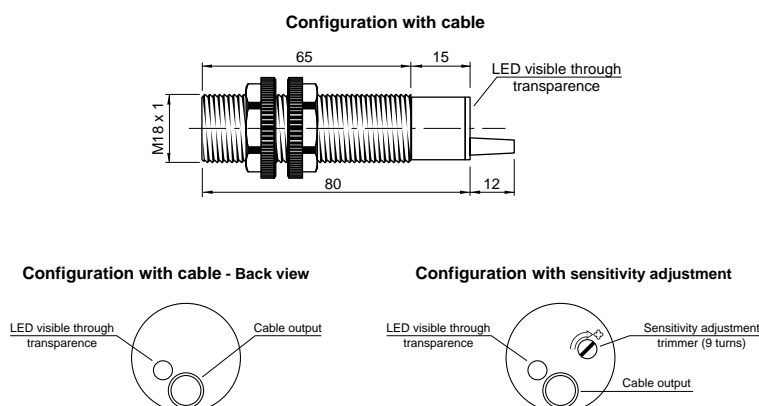
In parallel connections with multiple outputs, the maximum leakage current (< 1,5 mA at 220 VAC) referring to the load and the supply should be taken into account when calculating the max. quantity of connectable sensors.

It is important in this connection that the sensors are connected at the same phase.

Accessories



Dimensions (mm)



Characteristic curves

