

Diffuse Ref. Photoelectric Sensors



PHOTOELECTRIC SENSORS IN RECTANGULAR HOUSING 12 ÷ 30 V DC WITH TIMER PROGRAMMABLE OUTPUT

- Rectangle compact size
- Multi-function timer
- ON/OFF delay
- One shot-four functions
- NPN or PNP programmable output
- Conduit wiring terminal block

FW Series



Identification code

FW **01** **D2** **T** **K**

SERIES FW

PROGRAMMABLE OUTPUT NPN - PNP

Switching distance = 25 ÷ 100 CM

D2

Switching distance = 30 ÷ 180 CM

D3

TIME DELAY 1 ÷ 7 SEC.

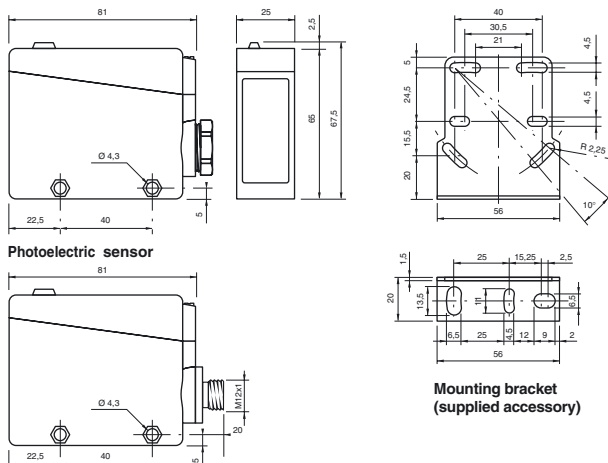
CONNECTOR OUTPUT M12

AVAILABLE	D2	D3
NOMINAL SWITCHING DISTANCE (Sn)	25 ÷ 100 cm ⁽¹⁾	30 ÷ 180 cm ⁽²⁾
TOLERANCE	+10/-10 %Sn	
HYSTERESIS	10%	
EMISSION	Infrared (875 nm)	
NOMINAL VOLTAGE	12 ÷ 30VDC (-15 /+10%)	
RESIDUAL RIPPLE	≤ 10%	
OUTPUT	NPN or PNP (programmable)	
MAX OUTPUT CURRENT	200 mA	
ABSORPTION	≤ 40 mA	
VOLTAGE DECREASE	≤ 2.5 VDC	
YELLOW LED	Light on indicator	
GREEN LED	Supply indicator	
SENSITIVITY ADJUSTEMENT	Timer 1 turn	
TIME REGULATION	0.1 ÷ 7 s ± 2 s (only models with timer)	
SWITCHING FREQUENCY	200 Hz	
RESPONSE TIME	5 mS	
START UP DELAY	≤ 300 mS	
PROTECTION AGAINTS SHORT-CIRCUIT	Present (self-resetting)	
TEMPERATURE LIMITS	-10° ÷ +60°C	
LIGHT IMMUNITY	>10.000 Lux ⁽³⁾	
PROTECTION DEGREE	IP 67	
CONNECTIONS	Screw or M12 conn.	
CABLE GUIDE	PG 13.5	
HOUSING MATERIAL	Housing: ABS - Lenses: methacrylate	
WEIGHT (Approximately)	110 g	

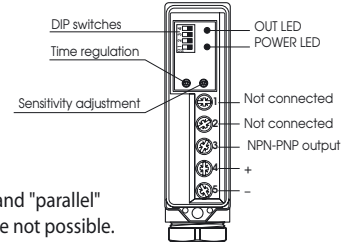
- ⁽¹⁾ Determined with a white mat paper (cm 10 x 10).
⁽²⁾ Determined with a white mat paper (cm 20 x 20).
⁽³⁾ Determined with halogen tungsten lamp 3000° K.

Note: for a proper use see norms at pages 14, 15, 16, 17 and 18.

Dimensions (mm)

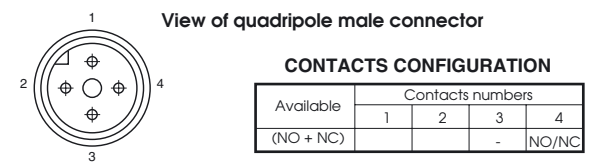


Wiring diagrams



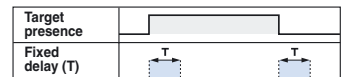
Note: "series" and "parallel" connections are not possible.

Connection with connector M12 (K)



Note: Photoelectric sensor not suitable for use with 90° connectors.

Timing diagrams



ALL MODELS

NO.	FUNCTION	DIP SWITCHES	OUTPUT DIAGRAM								
1	Muting	<table border="1"> <tr> <td>1</td> <td>2</td> <td>3</td> <td>4</td> </tr> <tr> <td>ON</td> <td>OFF</td> <td>OFF</td> <td>OFF</td> </tr> </table>	1	2	3	4	ON	OFF	OFF	OFF	PNP = NO NPN = NO
1	2	3	4								
ON	OFF	OFF	OFF								

MODELS WITHOUT TIMER

1	Normally ON PNP	<table border="1"> <tr> <td>1</td> <td>2</td> <td>3</td> <td>4</td> </tr> <tr> <td>ON</td> <td>OFF</td> <td>OFF</td> <td>OFF</td> </tr> </table>	1	2	3	4	ON	OFF	OFF	OFF	PNP = NC NPN = NO
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2	Normally ON NPN	<table border="1"> <tr> <td>1</td> <td>2</td> <td>3</td> <td>4</td> </tr> <tr> <td>ON</td> <td>OFF</td> <td>OFF</td> <td>OFF</td> </tr> </table>	1	2	3	4	ON	OFF	OFF	OFF	PNP = NO NPN = NC
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MODELS WITH TIMER

1	Delay on operate	<table border="1"> <tr> <td>1</td> <td>2</td> <td>3</td> <td>4</td> </tr> <tr> <td>ON</td> <td>OFF</td> <td>OFF</td> <td>OFF</td> </tr> </table>	1	2	3	4	ON	OFF	OFF	OFF	PNP = NC NPN = NO
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3	Delay on release	<table border="1"> <tr> <td>1</td> <td>2</td> <td>3</td> <td>4</td> </tr> <tr> <td>ON</td> <td>OFF</td> <td>OFF</td> <td>OFF</td> </tr> </table>	1	2	3	4	ON	OFF	OFF	OFF	PNP = NC NPN = NO
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Characteristic curves

