



# Diffuse Ref. Photoelectric Sensors



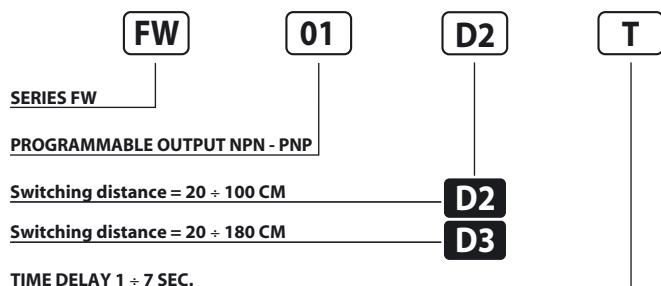
PHOTOELECTRIC SENSORS IN RECTANGULAR HOUSING 12 ÷ 30 V DC WITH TIMER PROGRAMMABLE OUTPUT

- 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



AVAILABLE	D2	D3
NOMINAL SWITCHING DISTANCE (Sn)	20 ÷ 100 cm <sup>(1)</sup>	20 ÷ 180 cm <sup>(2)</sup>
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	Timmer 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 <sup>(3)</sup>	
PROTECTION DEGREE	IP 67	
CONNECTIONS	Screw	
CABLE GUIDE	PG 13.5	
HOUSING MATERIAL	Housing: ABS - Lenses: methacrylate	
WEIGHT (Approximately)	110 g	

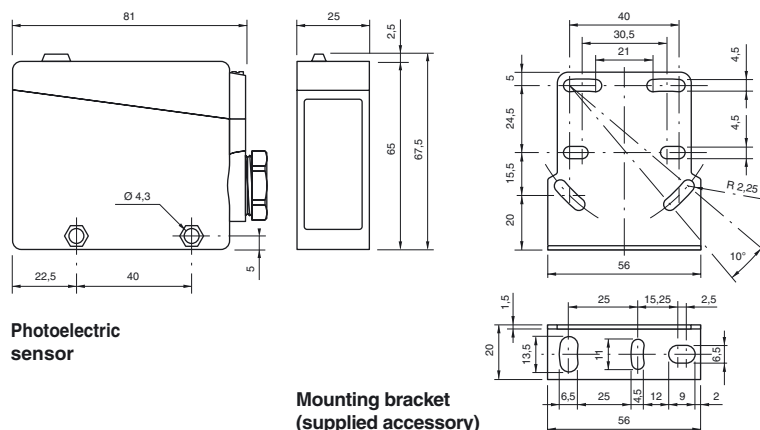
<sup>(1)</sup> Determined with a white mat paper (cm 10 x 10).

<sup>(2)</sup> Determined with a white mat paper (cm 20 x 20).

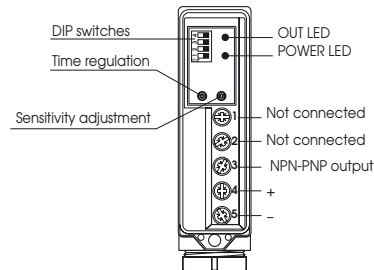
<sup>(3)</sup> Determined with halogen tungsten lamp 3000° K.

Note: for a proper use see norms at pages 12, 13, 14, 15 and 16.

### Dimensions (mm)

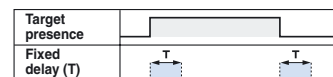


### Wiring diagrams



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

### Timing diagrams



#### ALL MODELS

NO.	FUNCTION	DIP SWITCHES	OUTPUT DIAGRAM
1	Muting	<input type="checkbox"/> ON <input type="checkbox"/> OFF 1 2 3 4	PNP = NO NPN = NO

#### MODELS WITHOUT TIMER

1	Normally ON PNP	<input type="checkbox"/> ON <input type="checkbox"/> OFF 1 2 3 4	PNP = NC NPN = NO
2	Normally ON NPN	<input type="checkbox"/> ON <input type="checkbox"/> OFF 1 2 3 4	PNP = NO NPN = NC

#### MODELS WITH TIMER

1	Delay on operate	<input type="checkbox"/> ON <input type="checkbox"/> OFF 1 2 3 4	PNP = NC NPN = NO
		<input type="checkbox"/> ON <input type="checkbox"/> OFF 1 2 3 4	PNP = NO NPN = NC
3	Delay on release	<input type="checkbox"/> ON <input type="checkbox"/> OFF 1 2 3 4	PNP = NC NPN = NO
		<input type="checkbox"/> ON <input type="checkbox"/> OFF 1 2 3 4	PNP = NO NPN = NC
1	One shot leading edge	<input type="checkbox"/> ON <input type="checkbox"/> OFF 1 2 3 4	PNP = NC NPN = NO
		<input type="checkbox"/> ON <input type="checkbox"/> OFF 1 2 3 4	PNP = NO NPN = NC
3	One shot trailing edge	<input type="checkbox"/> ON <input type="checkbox"/> OFF 1 2 3 4	PNP = NC NPN = NO
		<input type="checkbox"/> ON <input type="checkbox"/> OFF 1 2 3 4	PNP = NO NPN = NC

### Characteristic curves

