

(ENG)

# PHOTODEVICE FT00/1 - FT 00/6 - FT98 - FT98S external photodevice

## MODELS AND MAINS CHARACTERISTIQUES

Model	Selectable range	Power supply	Syncro function
FT00/1	no	12/24 Vac/dc	no
FT00/6	10 m/14 m	12/24 Vcc/ca	no
FT98	10 m/20 m	12/24 Vac/dc	no
FT98S	10 m/20 m	12/24 Vac/dc	yes

## GENERAL DESCRIPTION

External miniaturized photodevice with modulate light and two relays UNI 8612 rule.

## DESCRIPTION

The outdoor photocells are compact and reliable over the years; they consist of a receiver and a modulated infrared light transmitter.

Their main features are:

- synchro circuit for installing two pairs of transmitters and receivers without the signals interfering with one another;
- maximum range selectable by jumper;
- 12 V or 24 V power voltage selectable by jumper.

For the features of each model, refer to the above table.

## POSSIBLE USES

The photocells are used in alarm systems and for protecting doors, gates and automated entrances in general.

## INSTALLATION AND ALIGNMENT

1. To install the unit remove the photocell covers as shown in figure 1.

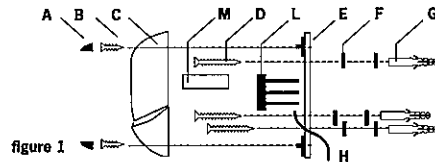


figure 1

- A: screw cap
- B: cover screw
- C: cover
- D: retention screws
- E: photocell body
- F: spacer
- G: anchor
- H: power cable
- L: Fresnel lens
- M: "channelling" tube

2. Make all connections as shown in figure 2; pay attention to the voltage polarities in case of direct current or use of two pairs of photocells in synchronised mode.

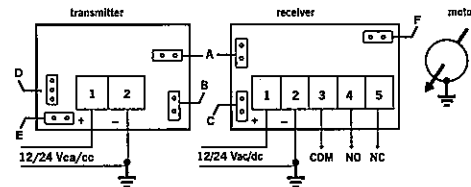


figure 2

	FT98		FT98S		FT00/1		FT00/6	
	TX	RX	TX	RX	TX	RX	TX	RX
<b>Selectable POWER SUPPLY</b>								
12 V	A	A	A	A	B	C	E	A
24 V								
<b>Selectable RANGE</b>								
maximum	B	-	B	-	-	-	-	F
low								
<b>Selectable SYNCHRO</b>								
normal	-	-	D	-	-	-	-	-
synchronised								

The cables must be as short as possible. Avoid passing near others sources of disturbance (such as motors for example).

### IMPORTANT

To improve immunity to photocell disturbances, in case of use in synchronised mode, both the photocell and the motor of the automatism will have to be earthed. Earth connections must be made using short cables with a cross section not less than 1.5 square mm.

### 3. SYNCHRONISED OPERATION (only for FT98S)

a. Synchronised operation is useful in case two pairs of photocells are fitted, to prevent the transmitters and receivers of different pairs interfering with one another. The photocells can only be synchronised if these are supplied with alternate current. In the case of direct current, the synchronisation function is cancelled, even when the jumper is set in 'synchronised' position. In this case, the receivers - like the transmitters - will have to be installed one opposite the other to prevent them interfering with one another.

b. To obtain synchronised operation, the devices must be powered as indicated in figure 3, with 12/24V alternate current, paying attention to the connections and moving the jumper on the transmitter to 'synchronised' position (see figure 2 point D).

4. Connect the output relay contacts on the receiver according to requirements. Figure 4 shows the state of the relay contacts.

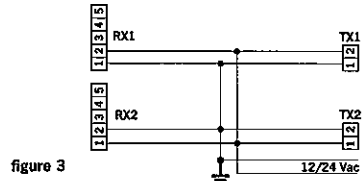


figure 3

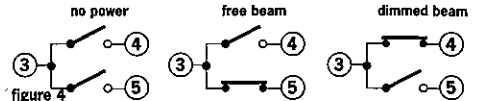


figure 4

5. On the basis of the exploded diagram in figure 1, fasten the body of photocell "E" to the wall using the retention screws "D", the rubber washers for centring "F" and the anchors "G".

For correct installation, the transmitter and the receiver must be placed one in front of the other and aligned on the same axis (see figure 5).

To achieve correct alignment, adjust the retention screws.

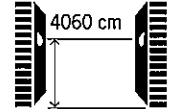


figure 5

6. (Only for FT98-FT98S-FT00/6) Select the desired port by means of the transmitter jumper as shown in figure 2 in the following way:

- for distances below or equal to 5 metres, use low range;
- for distances over 5 metres use long range.

8. Select photocell voltage by means of the voltage selection jumper (see figure 2). The 12/24 V choice must be made according to the voltage available on the control unit.

9. (Excluded FT00/6) In the event of the transmitter/receiver distance being below 4-5 metres, correct system operation could be impeded by the presence of any reflecting metal parts. In this case, low range will have to be set and/or channelling tube "M" (see figure 1), with 5 mm diameter, will have to be fitted on the photocell of the receiver.

The use of this pipe reduces range by about 30%.

8. Power the photocells with the desired voltage.

10. Fit cover "C" using the retention screws "B" (see figure 1). Make sure the system is working properly by breaking the infrared beam several times by placing an obstacle between the transmitter and the receiver.

Next check relay switch (see figure 6).

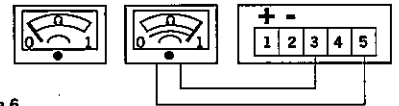


figure 6

11. For further adjustment of system alignment, remove the cover and adjust the retention screws "D" (as envisaged at point 5).

12. (Only for FT00/6) On the receiver is installed a led whose intensity is proportioned to the intensity of the signal received. Useful for the installation.

## TECHNICAL DETAILS

	FT 00/1	FT 00/6	FT 98	FT 98/S
<b>Power supply</b>				
12 Vdc	+/- 15%	11V±16.5V	+/- 15%	+/- 15%
12 Vac	+/- 15%	9.5V±15.2V	+/- 15%	+/- 15%
24 Vdc	+/- 20%	16V±24.6V	+/- 20%	+/- 20%
24 Vac	+/- 20%	24V±35V	+/- 20%	+/- 20%
<b>Range (1) max</b>				
8 m				
10 m				
14 m				
20 m				
<b>Max current at output</b>				
1 A a 24 V				
2 A a 24 V				
<b>Operating temperature</b>				
-10...+55 °C				
<b>Power input</b>				
max 25 mA (transmitter)				
max 40 mA (transmitter)				
max 40 mA (receiver)				
<b>Response time</b>				
30 msec				
<b>Infrared pulse frequency</b>				
400 Hz				
550 Hz				
<b>Infrared wave length</b>				
950 nm				

IMPORTANT: in case of rain, snow, fog or dust, the range of the photocell could drop.

## WARRANTY TERMS

The manufacturer's warranty is valid legally from the date stamped on the product and covers only the free repair or replacement of the pieces acknowledged by the manufacturer to be faulty due to lack of essential quality of materials or bad workmanship. The warranty does not cover damage or faults due to external agents, bad maintenance, overloads, normal wear, bad assembly or any other causes that cannot be put down to the manufacturer. Products that have been tampered with shall be neither guaranteed nor repaired. The details shown are merely approximate. No liability can be accepted for range drops or malfunctions due to environmental interference. The manufacturer shall only be liable for injury to persons caused by accidents of any nature caused by faulty products to the extent laid down irrevocably by Italian law.

