



# TECHNICAL MANUAL

## Twilight relay with remote sensor DIN-1 (FR) EKF

## 1 DESCRIPTION

Twilight relays DIN-1 (FR) EKF are designed to automatically control (switch on/off) lighting by the level of illumination. On — when light intensity decreases (dusk), and off — when light intensity increases (dawn). The switching threshold can be adjusted via the front panel dial (from 2 lux to 100 lux).

**Attention! For the twilight relay to operate correctly, connect an external illuminance sensor (included). The illuminance sensor must be installed in location exposed to direct sunlight, but away from any additional light sources.**

Twilight relay DIN-1 is mounted onto a 35 mm DIN rail. They can be used for outdoor and indoor lighting automation.

Twilight relays DIN-1 (FR) comply with IEC 60947-5-1.

## 2 TECHNICAL DATA

The main technical data are listed in Table 1 below.

Table 1

| Characteristics                | Values                                                |                 |                          |
|--------------------------------|-------------------------------------------------------|-----------------|--------------------------|
| Rated voltage, V AC            | 220-240                                               |                 |                          |
| Rated frequency, Hz            | 50/60                                                 |                 |                          |
| Maximum load current, A        | 25                                                    |                 |                          |
| Switching threshold, lux       | 2-100 (adjustable)                                    |                 |                          |
| Delay on, s                    | 2-5                                                   |                 |                          |
| Delay off, s                   | 10-15                                                 |                 |                          |
| Recommended total load by type | Incan-<br>descent<br>lamp                             | Halogen<br>lamp | Fluo-<br>rescent<br>lamp |
| Load, W                        | 3000                                                  | 3000            | 1300                     |
| Degree of protection           | IP65 (external sensor),<br>IP20 (photo relay housing) |                 |                          |
| Hysteresis (ratio)             | 1,2                                                   |                 |                          |
| Operating temperature, °C      | -25 ... +50                                           |                 |                          |
| Sensor                         | External                                              |                 |                          |
| Max sensor cable length, m     | 50                                                    |                 |                          |

### 3 OVERALL DIMENSIONS

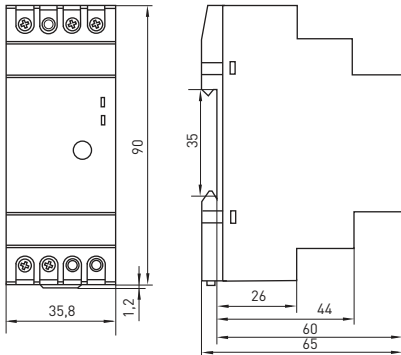


Fig. 1 – Overall dimensions of twilight relay DIN-1 (FR)

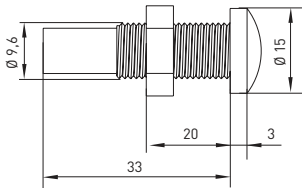


Fig. 2 – Overall dimensions of illuminance sensor

## 4 INSTALLATION AND OPERATION

The twilight relay DIN-1 (FR) must be installed and connected by qualified electrical personnel only.

### 4.1 Connecting twilight relay DIN-1 (FR).

1. Disconnect power.
2. Mount the relay onto the DIN rail.
3. Follow the wiring diagram (Figure 3) to connect the wires.
4. Install the sensor in a location exposed to direct sunlight, but away from any additional light sources. Follow Figure 3 to connect the sensor to the relay.
5. Set the switching threshold.

**WARNING! Make sure the relay is disconnected from power before connecting or adjusting the sensor!**

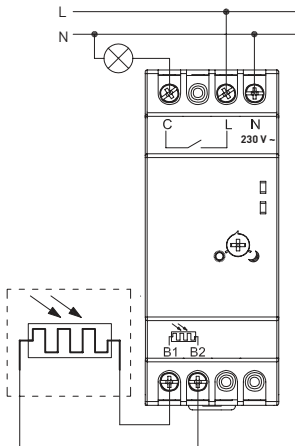


Fig. 3 – Wiring diagram for twilight relay DIN-1 (FR)

## 4.2 Twilight relay DIN-1 (FR) control and indication

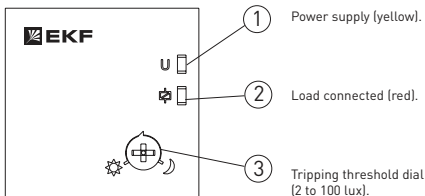


Fig. 4 – Control and indication

## 4.3 Relay operation at light level change

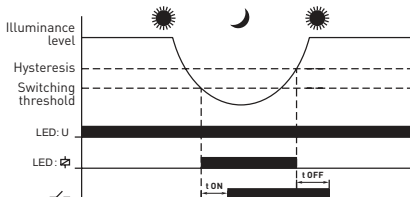


Fig. 5 – Twilight relay DIN-1 (FR) principle of operation at light level change

## **5 DELIVERY SCOPE**

Relays are supplied in an individual package.

Scan the QR-code on the insert or on the inside of the package for all available documentation.

## **6 SAFETY REQUIREMENTS**

The relay must be repaired and serviced by qualified electrical personnel only.

Do not operate relays with visible mechanical damage.

Disconnect power before installing or replacing the relay.

Make sure the relay is disconnected from power before connecting or adjusting the sensor.

## **7 MAINTENANCE**

For maintenance, follow national safety rules for operation of electrical installations.

Under normal operating conditions, visually inspect the twilight relay DIN-1 (FR) and tighten screw terminals every 6 months

## **8 TRANSPORTATION AND STORAGE**

Relays can be transported by any means of enclosed transport that protects the packaged goods from mechanical impact and weather exposure.

The relays shall be stored indoors, in their original packaging at the ambient temperature from -40 to +50 °C and relative humidity of max. 75% at +15 °C.

## **9 DISPOSAL**

Life-expired and failed the twilight relay DIN-1 (FR) shall be disposed of in compliance with the national and local laws and regulations in force. To dispose of the product, send it to an authorized company for recycling in compliance with the national and local laws and regulations in force.

## 10 MANUFACTURER'S WARRANTY

The manufacturer guarantees the relays comply with the declared characteristics and requirements of IEC 60947-5-1, provided that the consumer follows the operation, transportation and storage conditions and requirements.

Warranty period: 7 years from the date of sale specified in the sales receipt.

Shelf life: 7 years from the date of manufacture specified on the product package or housing.

Service life: 10 years.

**Manufacturer:** OOO Electroresheniya, Otravnaya st., 2b/9, 127273, Moscow, Russia, tel. +7 (495) 788-88-15.

**Importer and EKF trademark service representative:** EKF ELECTRICAL SOLUTION – FZCO, Dubai Silicon Oasis, DDP, Building A2, Dubai, United Arab Emirates, tel. +971-4-547-06-18.

**Importer and EKF trademark service representative on the territory of the Republic of Kazakhstan:** TOO «Energoresheniya Kazakhstan», Kazakhstan, Almaty, Bostandyk district, Turgut Ozal st., 247, apt 4.

## **11 CERTIFICATE OF ACCEPTANCE**

The twilight relay DIN-1 (FR) EKF complies with IEC 60947-5-1, and has been approved for operation.

Date of manufacture:

For information, refer to the product package.

Quality control stamp

v3.1

ERIL



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# EKF