

---

## DC under voltage relay

## FUS2

Version02 31.10.2007

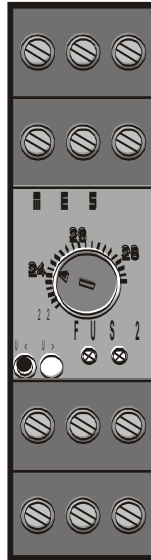


fig.1

### FEATURES

- under voltage sensing
- delayed signal of the output relay
- LED-indication for operation and alarm
- pot. free co contact
- compact design

### 1.0 SCOPE OF APPLICATION

The **FUS2** is especially designed for monitoring of starting batteries undervoltage. The output relay does not respond on temporary voltage drops. AC voltage, superimposed on the battery DC voltage, e.g. residual ripple of a charging device, will be filtered out. Only the DC voltage is monitored.

## 2.0 METHOD OF OPERATION AND FUNCTION

The FUS2 has to be connected as shown in the connecting diagram (fig. 2).

After connection of the battery voltage the output relay of the FUS2 is energized. Thereby the measuring voltage must exceed the preset voltage of the switching point. The green LED for operation indication lights up and the contact between 11 and 12 is closed.

In case the DC voltage falls below the preset limit value, the red LED lights up. When the preset response delay time has elapsed, the output relay is deenergized, the contact between 11 and 10 is closed. If the voltage exceeds the preset value and hysteresis the output relay will be energized immediately and the red LED goes off.

**3.0 CONNECTING DIAGRAM**

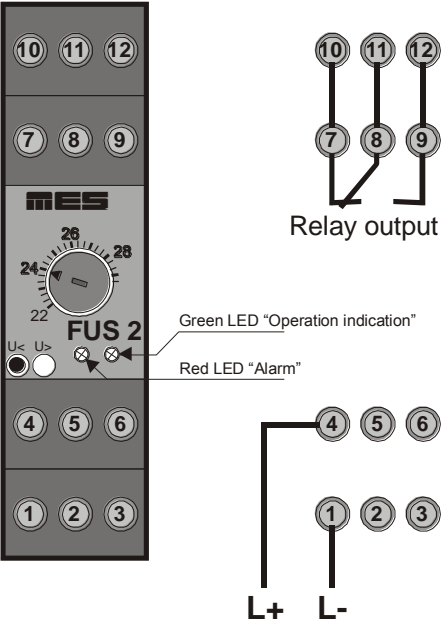


fig. 2

**4.0 DIMENSIONS**

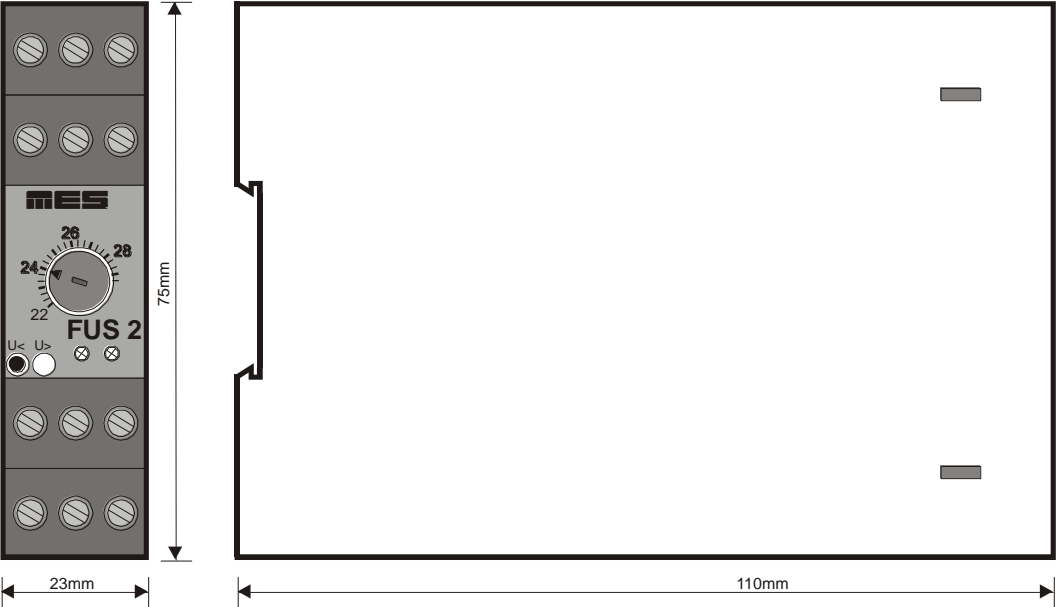


fig. 3

## 5.0 TECHNICAL DATA

Measuring voltage	22 – 29 VDC,	U<-limit, factory preset on 24,0 V
Power consumption	Ca. 35 mA	
Hysteresis	factory preset 0,5 VDC	
Response delay	factory preset 30 sec.	
Relay output	230 V AC/DC; 2 A	
Voltage drop	<2 s down to 5 V,	no deenergizing of output relay
Test voltage	2,5 kV	
Ambient temperature	0 ... +50 °C	
Casing	Makrolon 8020 grey / VDE 0100 / VBG4	
Dimensions	W23 x H75 x D110 mm	
Mounting	standard clip rail according to DIN EN 50022	
Degree of protection	IP 20	
Weight	120 g	
Mounting position	any	
Regulations	VDE 0160 / EN50178 VDE 0435 part 303 VDE 0110 IEC 255-6	

*Subject to technical modifications!*

This device is the replacement type of our previous type HUG 0b/02, MUB1 -2and FUS1-DC.



**MES Energy GmbH**  
Kisdorfer Weg 36-38  
D - 24568 Kaltenkirchen  
Tel. : + 49 4191 809 - 800  
Fax : + 49 4191 809 - 851  
E-mail : [info@mes-energy.com](mailto:info@mes-energy.com)  
Internet : <http://www.mes-energy.com>