

# Basic Range

## BU1-AC-UO- Voltage Relay

### Application

Over and undervoltage supervision of 1 and 3 phase systems.

### Function

Unit BU1-AC-UO is equipped with an independent over (U>) and undervoltage supervision (U<) with separate adjustable pickup values, common trip delay (t) and hysteresis (DIFF). The voltages are compared with the set reference values.

For three-phase overvoltage supervision the highest voltage in each phase is evaluated, for undervoltage supervision the lowest in each phase.

Pickup of supervision circuit U> or U< is indicated by flashing of the corresponding LED.

At U< tripping LED U< extinguishes, at U> tripping LED U> is steady lit.

At voltages < 60% Un no trip delay takes place.

### Technical data

Roled voltage Un	: 110 V, 230 V, 400 V AC
Rated frequency range	: 45-66 Hz
Accuracy	: ± 5 % of set value
power consumption in voltage circuit	: 3.5 VA
Thermal load carrying capacity of the voltage circuit	: constant 1.3 x Un
Dropout to pickup ratio	: dependent on the set hysteresis
Dropout time	: 300 ms
Minimum operating delay	: 300 ms

### Output relay

Maximum breaking capacity ohmic	: 1250 VA AC/120 W DC
Inductive	: 500 VA AC/75 W DC
Rated current	: 5 A
Making current	: 20 A

### System data

Regulations	: VDE 0435 part 303
Temperature range at storage and operation	: -25°C to +70°C

### Mechanical stress

Shock	: class 1 acc. to DIN IEC 255-21-2
Vibration	: Class 1 acc. to DIN IEC 255-21-1

Degree of protection unit front	: IP 40 at closed front cover
Weight	: Approx. 0.5 kg
Mounfing position	: Any

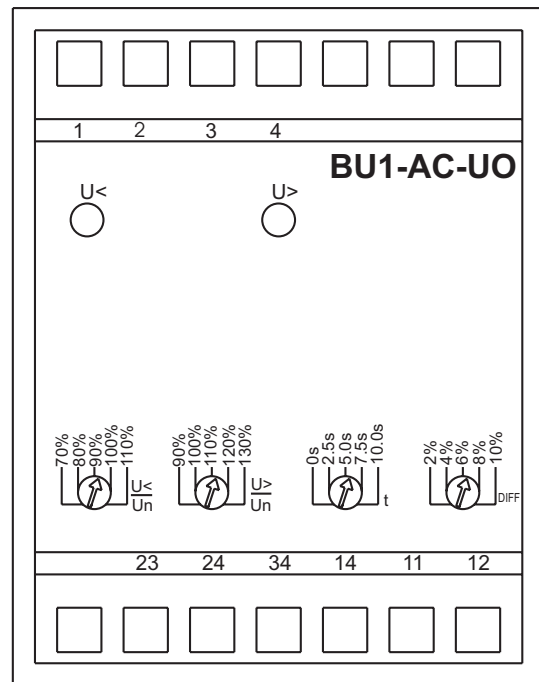


Fig. 1 : Front plate

The unit BU1-AC-UO is designed to be fastened onto a DIN rail acc. to DIN EN 50022 same as all units of the BASIC RANGE.

The front plate of the unit is protected with a sealable openings with a screw drive to adjust the relay.

### LEDs

LED U< is used to indicate trouble free operation with steady light. LEDs U> and U< indicate pickup of the relay by flashing. At undervoltage tripping LED U< extinguishes. LED U> indicates tripping at over voltage (steady light).

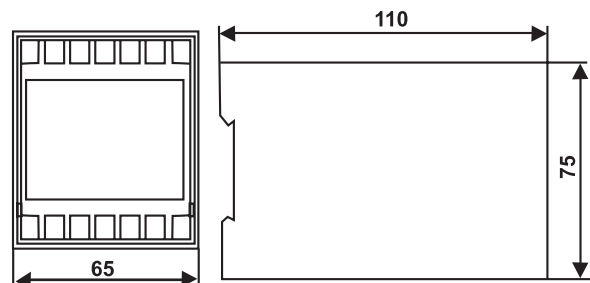
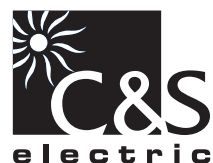


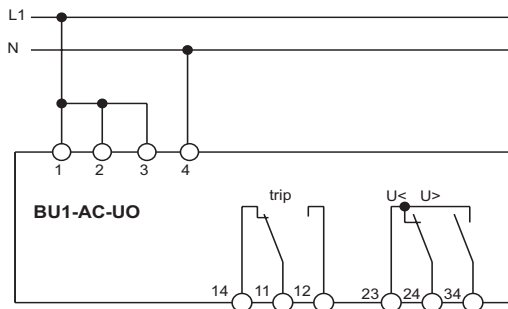
Fig. 2 : Dimensional drawing BU1-AC-UO



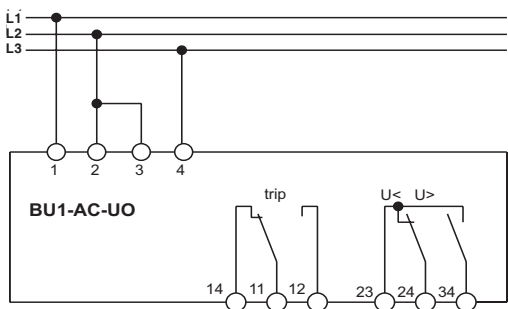
## Auxiliary voltage supply

Unit **BU1-AC-UO** needs no separate auxiliary voltage supply. The supply voltage can be formed directly from the measuring quantity.

### A) Two-wire system



### B) Three-wire system



### C) Four-wire system

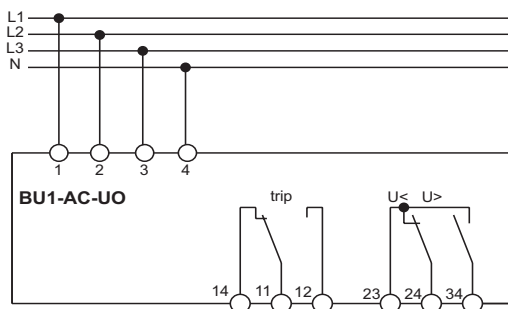
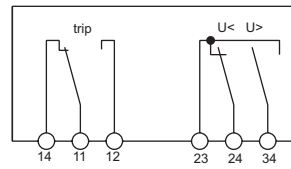
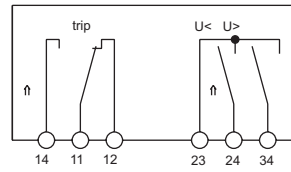


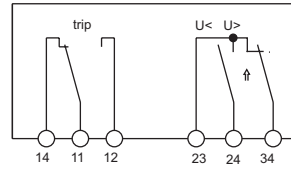
Fig. 3. Connection diagram



Unit dead or under voltage



Trouble free operation



Overvoltage

Fig. 4: Contact positions

## Connecting terminals

The connection up to a maximum of  $2 \times 2.5 \text{ mm}^2$  cross-section conductors is possible. For this procedure the transparent cover of the unit has to be removed.

## Setting ranges

$U<$  : 0.7-1.1  $U_n$

$U>$  : 0.9-1.3  $U_n$

$t$  : 0 - 10 s

DIFF : 2-10%

## Order key

<b>BU1-AC-UO</b>		
Rated voltage 110 V AC		110
Rated voltage 230 V AC		230
Rated voltage 400 V AC		400

The rated voltage of the units the voltage between terminals 1 and 4

System	Relay	Connection diagram
3 Phase 110 V	BU1-AC-UO-110	B
3 Phase 400 V	BU1-AC-UO-400	B
3 Phase 400/230 V with N	BU1-AC-UO-230	C or A (A for single-phase measuring)

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