



3-phase current monitoring

G4JO1ADCDF02
VDE & OVE

Monitoring relays - GAMMA series

DC injection monitoring in 3-phase mains in accordance with VDE 0126-1-1 and OVE E 8001-4-712

Quick net error recognition

Integrated fail-safety

2 change-over contacts

Width 45mm

Industrial design



Read and understand these instructions before installing, operating or maintaining the equipment.



Danger!

Never carry out work on live parts! Danger of fatal injury! The product must not be used in case of obvious damage. To be installed by an authorized person.

Technical data

1. Functions

DC current monitoring in 3-phase mains in accordance with VDE 0126-1-1 and OVE E 8001-4-712 with adjustable threshold.

OVER Overcurrent monitoring

2. Time ranges

ON-Delay: fixed, 30s
OFF-Delay: < 200ms

3. Indicators

see display specification!

4. Mechanical design

Self-extinguishing plastic housing, IP rating IP40
Mounted on DIN-Rail TS 35 according to EN 60715
Mounting position: any
Shockproof terminal connection according to VBG 4 (PZ1 required), IP rating IP20
Tightening torque: max. 1Nm
Terminal capacity:
1 x 0.5 to 2.5mm² with/without multicore cable end
1 x 4mm² without multicore cable end
2 x 0.5 to 1.5mm² with/without multicore cable end
2 x 2.5mm² flexible without multicore cable end

5. Input circuit

Supply voltage: 230V a.c.
terminals A1-A2 (galvanically separated)
Tolerance: -20% to +15%
Rated frequency: 50Hz
Rated consumption: 6VA (4W)
Duty cycle: 100%
Reset time: 500ms
Residual ripple of d.c.: -
Drop-out voltage: 30% of nominal supply voltage
Overvoltage category: III (in accordance with IEC 60664-1)
Rated surge voltage: 4kV

6. Output circuit

2 potential free change-over contacts
Rated voltage: 250V a.c.
Switching capacity: 750VA (3A / 250V a.c.)
If the distance between the devices is less than 5mm!
Switching capacity: 1250VA (5A / 250V a.c.)
If the distance between the devices is greater than 5mm!
Fusing: 5A fast acting

Mechanical life: 20 x 10⁶ operations
Electrical life: 2 x 10⁵ operations at 1000VA resistive load
Overvoltage category: III (in accordance with IEC 60664-1)
Rated surge voltage: 4kV

7. Measuring circuit

Measured variable: AC Sinus (45 to 52Hz)
Input: 16A a.c.
Terminals: Ka-I1a-I2a-I3a & Kb-I1b-I2b-I3b
Overload capacity: TBD
Input resistance: 5mΩ
Switching threshold
Max: 0.5 to 1A d.c.
Min: -
Overvoltage category: III (in accordance with IEC 60664-1)
Rated surge voltage: 4kV

8. Accuracy

Base accuracy: ≤50mA d.c.
Temperature influence: ≤1mA d.c. / °C

9. Ambient conditions

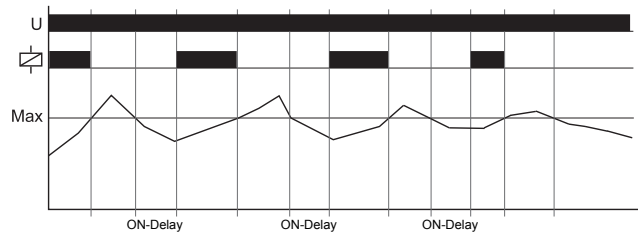
Ambient temperature: -25 to +55°C (in accordance with IEC 60068-1)
-25 to +40°C (in accordance with UL 508)
Storage temperature: -25 to +70°C
Transport temperature: -25 to +70°C
Relative humidity: 15% to 85%
(in accordance with IEC 60721-3-3 class 3K3)
Pollution degree: 3 (in accordance with IEC 60664-1)
Vibration resistance: 10 to 55Hz 0.35mm
(in accordance with IEC 60068-2-6)
Shock resistance: 15g 11ms
(in accordance with IEC 60068-2-27)

Functions

If a failure already exists when the device is activated, the output relay R remains in off-position and the failure is displayed.

Overcurrent monitoring (OVER)

When the measured DC offset of the AC current of one of the phases exceeds the MAX-value the output relays switches into off-position. The output relays switches into on-position again after the measured DC offset of the AC current falls below the MAX-value and interval of the tripping delay (ON-Delay) has expired.



Note that after 3 retrieval the output relays remain in off-position.

This function is implemented twice for fail-safe operation.

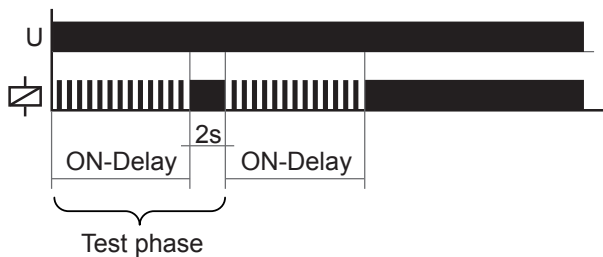
Relay test

The relay test is executed:

- after powering up
- after manually resetting an error
- after each parameter change

During the relay test a question mark is displayed at the bottom left corner of the display.

No relay test is executed when input is deactivated!

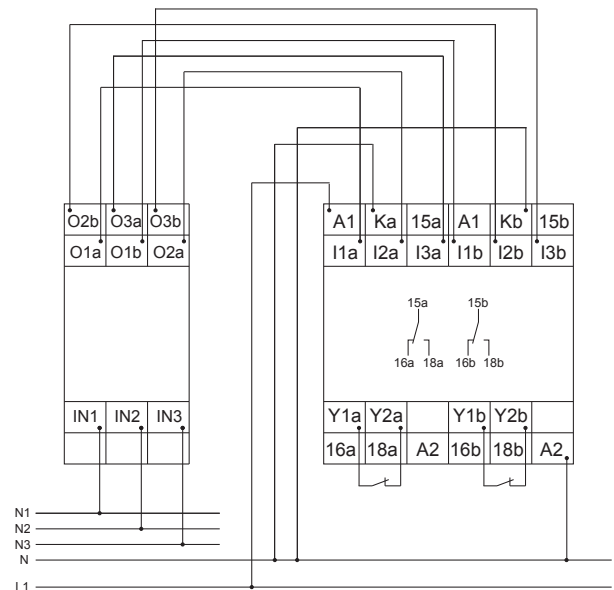


The following list shows causes and display for this error states:

Definition	Display	Remark
incorrect combination of SW versions	ERROR! VERSION	Enter to quit and reset device
communication error	ERROR! INTERCOM	
unacceptable deviation between measured values of channel A and B	ERROR! CHA<>CHB	Enter to quit and reset device
although the relay outputs are „off“ the auxiliary contact of the disconnection device signals „on“ (after expiring of a delay)	ERROR! CONTACT	Enter to quit and reset device
inconsistent data and/or checksums	ERROR! DATA	Enter to quit and reset device

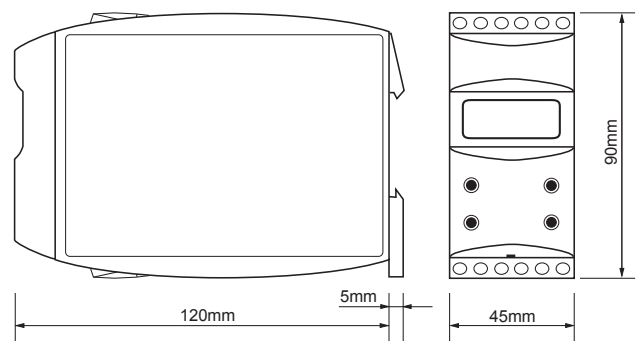
Connections

G4JO1ADCDF02 VDE



Note that the terminals A1-A1 and A2-A2 are internally connected.

Dimensions



Display specification

Menu configuration

