



Monitoring relays - GAMMA series

Windowfunction

Supply voltage selectable via power modules or
via 24V d.c - power supply

1 change-over contact

Width 22.5mm

Industrial design



Technical data

1. Functions

Voltage monitoring in 3-phase mains. Monitoring the window between Min and Max with adjustable thresholds and adjustable tripping delay.

2. Time ranges

	Adjustment range
Start-up suppression time:	-
Tripping delay:	0.2s 10s

3. Indicators

Green LED ON:	indication of supply voltage
Red LED ON/OFF:	indication of failure of the corresponding threshold
Red LED flashes:	indication of tripping delay of the corresponding threshold
Yellow LED ON/OFF:	indication of relay output

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 a.c.:	12 to 400V a.c.
12 to 400V a.c.:	terminals A1-A2 (galvanically separated) selectable via power modules TR2 according to specification of power module
Tolerance:	according to specification of power module
Rated frequency:	according to specification of power module
Supply voltage d.c.:	24V d.c.
24V d.c.:	terminals A1-A2 (galvanically separated) according to specification of power supply
Tolerance:	according to specification of power supply
Rated consumption:	2VA (1.5W)
Duration of operation:	100%
Reset time:	500ms
Residual ripple for d.c.:	-
Drop-out voltage:	>30% of the supply voltage
Overvoltage category:	III (according to IEC 60664-1)
Rated surge voltage:	4kV

6. Output circuit

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

Mechanical life:	20 x 10 ⁶ operations
Electrical life:	2 x 10 ⁵ operations at 1000VA resistive load
Switching frequency:	max. 60/min at 100VA resistive load max. 6/min at 1000VA resistive load (in accordance with IEC 60947-5-1)
Overvoltage category:	III (in accordance with IEC 60664-1)
Rated surge voltage:	4kV

7. Measuring circuit

Fusing:	max. 20A (in accordance with UL 508)
Measured variable:	a.c. Sinus (48 to 63Hz)
Input:	
3~ 115/66V	terminals L1-L2-L3 (G2PW115V10)
3~ 230/132V	terminals L1-L2-L3 (G2PW230V10)
3~ 400/230V	terminals L1-L2-L3 (G2PW400V10)
Overload capacity:	
3~ 115/66V	3~ 173/100V(G2PW115V10)
3~ 230/132V	3~ 345/199V(G2PW230V10)
3~ 400/230V	3~ 600/346V(G2PW400V10)
Input resistance:	
3~ 115/66V	220kΩ (G2PW115V10)
3~ 230/132V	470kΩ (G2PW230V10)
3~ 400/230V	1MΩ (G2PW400V10)
Switching threshold	
Max:	-20% to +30% of U _N
Min:	-30% to +20% of U _N
Overvoltage category:	III (according to IEC 60664-1)
Rated surge voltage:	4kV

8. Accuracy

Base accuracy:	≤3% (of maximum scale value)
Frequency response:	-10% to +5% (48 to 63Hz)
Adjustment accuracy:	≤5% (of maximum scale value)
Repetition accuracy:	≤2%
Voltage influence:	-
Temperature influence:	≤0.05% / °C

9. Ambient conditions

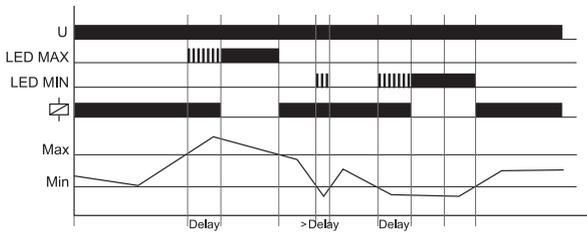
Ambient temperature:	-25 to +55°C (in accordance with IEC 68-1) -25 to +40°C (in accordance with UL 508)
Storage temperature:	-25 to +70°C
Transport temperature:	-25 to +70°C
Relative humidity:	15% to 85% (in accordance with IEC 60721-3-3 class 3K3)
Pollution degree:	3 (in accordance with IEC 60664-1)
Vibration resistance:	10 to 55Hz 0.35mm (in accordance with IEC 68-2-6)
Shock resistance:	15g 11ms (in accordance with IEC 68-2-27)

Functions

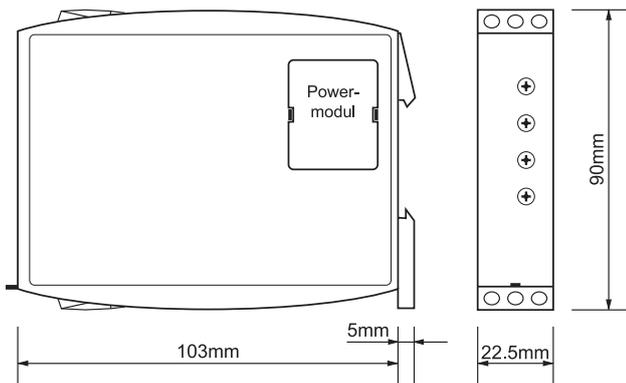
If a failure already exists when the device is activated, the output relay remains in off-position and the LED for the corresponding threshold is illuminated.

Window function (WIN)

The output relay switches into on-position (yellow LED illuminated) when the measured voltage (mean value of phase-to-phase voltages) exceeds the value adjusted at the MIN-regulator. When the measured voltage exceeds the value adjusted at the MAX-regulator, the set interval of the tripping delay (DELAY) begins (red LED MAX flashes). After the interval has expired (red LED MAX illuminated), the output relay switches into off-position (yellow LED not illuminated). The output relay again switches into on-position (yellow LED illuminated) when the measured voltage falls below the value adjusted at the MAX-regulator (red LED MAX not illuminated). When the measured voltage falls below the value adjusted at the MIN-regulator, the set interval of the tripping delay (DELAY) begins again (red LED MIN flashes). After the interval has expired (red LED MIN illuminated), the output relay switches into off-position (yellow LED not illuminated). The LEDs MIN and MAX are flashing alternating, when the minimum value for the measured voltage was chosen to be greater than the maximum value.

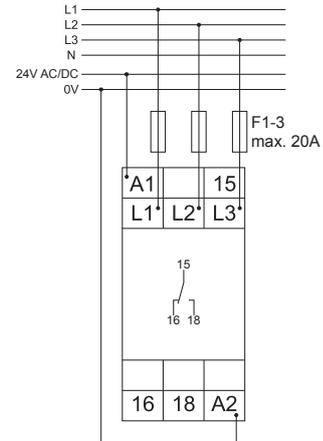


Dimensions

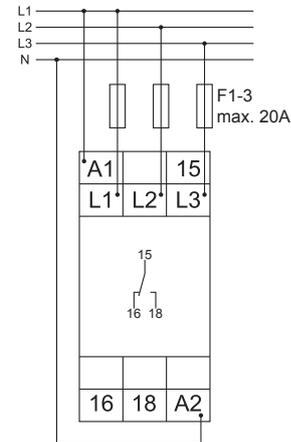


Dimensions

G2PW400V10 with power modul 24V a.c. or power supply 24V d.c.



G2PW400V10 with power modul 230V a.c.



G2PW400V10 with power modul 400V a.c.

