



Monitoring relays - GAMMA series

Windowfunction

Supply voltage selectable via power modules or  
via 24V DC - 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:	0.2s10s

### 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 50022  
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 2.5mm<sup>2</sup> with/without multicore cable end  
1 x 4mm<sup>2</sup> without multicore cable end  
2 x 0.5 to 1.5mm<sup>2</sup> with/without multicore cable end  
2 x 2.5mm<sup>2</sup> flexible without multicore cable end

### 5. Input circuit

Supply voltage AC:	12 to 400V AC	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 DC:	24V DC	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 DC:	-	
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 AC
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 <sup>6</sup> operations
Electrical life:	2 x 10 <sup>5</sup> 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:	AC 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 UN
Min:	-30% to +20% of UN
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

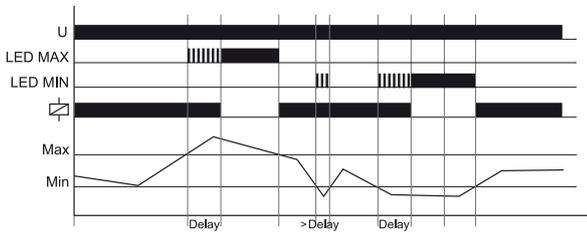
Ambient temperature:	-25 to +55°C (in accordance with IEC 68-1) -25 to +40°C (in accordance with UL 508)
Storage temperature:	-25 to +70°C
Transport temperature:	-25 to +70°C
Relative humidity:	15% to 85% (in accordance with IEC 60721-3-3 class 3K3)
Pollution degree:	3 (in accordance with IEC 60664-1)
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

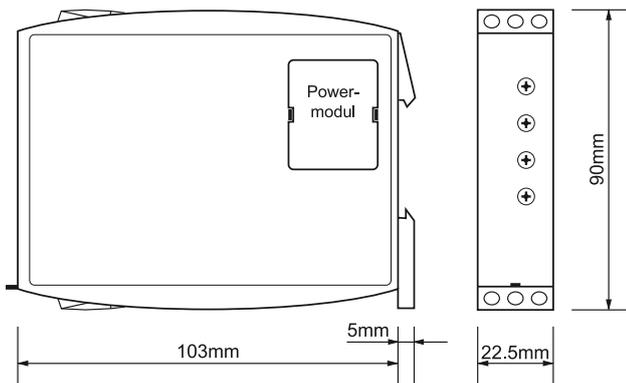
If a failure already exists when the device is activated, the output relay remains in off-position and the LED for the corresponding threshold is illuminated.

### 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.

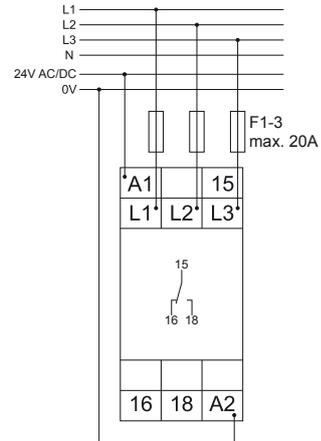


## Dimensions

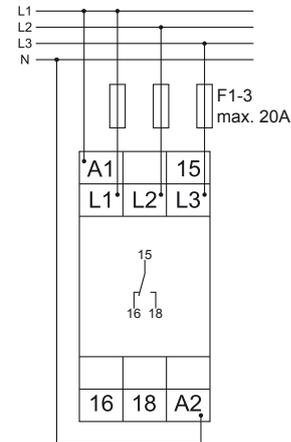


## Dimensions

G2PW400V10 with power modul 24V AC or power supply 24V DC



G2PW400V10 with power modul 230V AC



G2PW400V10 with power module 400V AC

