G2PM400VSY10

Manufacturer data sheet: V1.095

Monitoring relay - voltage monitoring 3-phase

Status: Available Data sheet created: 01.07.2025
Item Number: 2390500 - **Serie:** Gamma - **EAN:** 9008662002760



- Monitoring relays - GAMMA series
- Multifunction
- Monitoring of phase sequence and phase failure
- Asymmetry monitoring switchable
- Connection of neutral conductor optional
- Detection of neutral conductor break
- Supply voltage selectable via power module / switching power supply unit
- 1 changeover contact
- construction width 22.5mm
- industrial design

Description

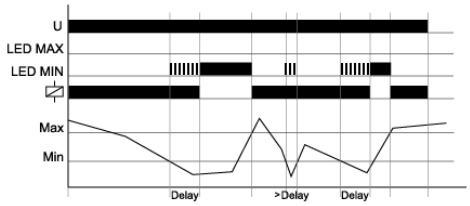
Voltage monitoring in 3-phase mains with adjustable thresholds, adjustable tripping delay, monitoring of phase sequence and phase failure, monitoring of asymmetry with adjustable threshold.

General information

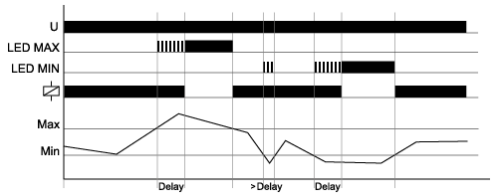
Short description	Voltage monitoring 3-phase, 400V, multifunction, 1 changeover contact
Item Number	2390500
EAN	9008662002760
Main category	Monitoring Relays
Series	Gamma
Type	G2PM400VSY10
Design	Industrial design
Supply	12-400V AC
Dimensions	22.5 x 90 x 108 mm

Functions and measurands

Amount of functions 6



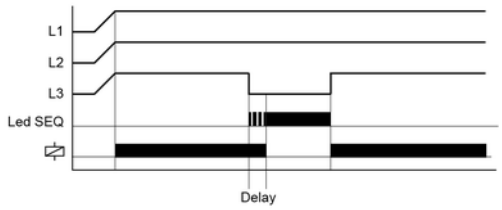
Undervoltage monitoring (UNDER, UNDER+SEQ)
The output relay R switches into on-position, if the measured voltage of all three phase voltages is beyond the Min-value. As soon as the measured voltage falls below the Min-value, the output relay R switches into off-position after the interval of the tripping delay (Delay) has expired.



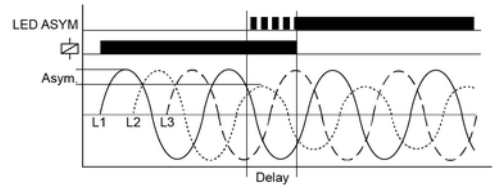
Windowfunktion (WIN, WIN+SEQ)
The output relay switches into on-position (yellow LED illuminated) when the measured voltage (mean value of phase-to-phase voltages) exceeds the value adjusted at the MIN-regulator. When the measured voltage exceeds the value adjusted at the MAX-regulator, the set interval 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 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).



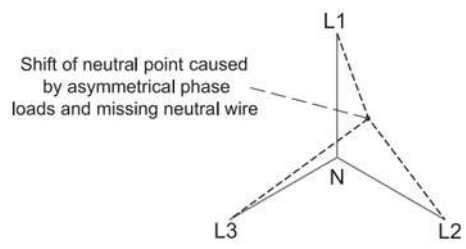
Phase sequence monitoring (SEQ)
Phase sequence monitoring is selectable for all functions. If a change in phase sequence is detected (red LED SEQ illuminated), the output relays switch into off-position immediately (yellow LED not illuminated).



Phase failure monitoring (SEQ)
If one of the phase voltages fails, the set interval of the tripping delay (DELAY) begins (red LED SEQ flashes). After the interval has expired (red LED SEQ illuminated), the output relays switch into off-position (yellow LED not illuminated). Reverse voltages of a consumer (e.g. a motor which continues to run on two phases only) do not effect the disconnection but can be monitored by using a proper value for the asymmetry.



Asymmetry monitoring (ASYM)
If the asymmetry of the phase-to-phase voltages exceeds the value set at the ASYM-regulator, the set interval of the tripping delay (DELAY) begins (red LED ASYM flashes). After the interval has expired (red LED ASYM illuminated), the output relays switch into off-position (yellow LED not illuminated).



Neutral wire break (-)
The device monitors every phase (L1, L2 and L3) against the neutral wire N. A shift of neutral point occurs by an asymmetrical phase load if the neutral wire breaks in the power line. If one of the phase voltages exceeds the value adjusted at the trip point, the set interval of tripping delay (Delay) begins (red LED Min or Max flashes). After the interval has expired (red LED Min or Max illuminated), the output relay switches into off-position (yellow LED not illuminated).

Time ranges

Number Of Areas	1	
Time ranges	**Setting range**	
	Start-up delay	-
	Shutter delay	0,1 ... 10s

Indicators

Relay state	Yellow LED ON/OFF: output relay position
Error / monitoring function	Red LED ON/OFF: Display error for corresponding threshold
Error / monitoring function	Red LED flashes: Indication of tripping delay for corresponding threshold

Mechanical design

Housing material	made of self-extinguishing plastic
Housing - protection degree	IP40
Mounting	top hat rail TH 35 7,5-15 according to IEC 60715:2017 / EN 60715:2017
Terminals/connections	Touch-proof clamping yoke terminals according to DGUV 3 (Screwdriver PZ1 required)
Terminals - protection degree	IP20
Mounting position	any
Stripping length	7 mm
Max. Tightening Torque	1 Nm
Terminal capacity	• 1 x 0.5 to 2.5mm² with/without ferrule • 1 x 4mm² without ferrule • 2 x 0.5 to 1.5mm² with/without ferrules • 2 x 2.5mm² flexible without ferrules

Supply circuit

Terminals/connections	A1-A2 (galvanically separated)
Supply voltage d.c.	24 V
Supply voltage tolerance d.c.	According to power supply unit specification
Rated consumption d.c.	1,5 W / 2 VA
Supply voltage a.c.	12 ... 400 V
Supply voltage tolerance a.c.	According to power supply unit specification
Rated consumption a.c.	1,5 W / 2 VA
Rated frequency power module	According to power supply unit specification
Duty cycle	100 %
Recovery time	500 ms
Drop-out voltage	>30% the supply voltage
Overvoltage category	III (IEC 60664-1)
Rated surge voltage	4 kV
Rated impulse withstand voltage	400 V a.c.

Output curcuit

Type	Relay
Contact 1	1 change over contact
Terminals 1	15-16-28
Contacts 2	1 change over contact
Terminals/connections 2	25-26-28
Rated voltage	250 V a.c.
conditional short-circuit current	1 kA
Fuse Protection	5 A quick
Mechanical life	15 x 10^6 Switching cycles
Electrical life	100 x 10^3 Switching cycles (1000 VA)
Utilization categorie	AC 15
Switching frequency	max. 60/min at 100 VA resistive load
Switching frequency 2	max. 6/min at 1000 VA resistive load (IEC 60947-5-1)
Rated surge voltage	4 kV
Overvoltage category	III (IEC 60664-1)

Measuring circuit

Measurand	Current - three phase
Fusing	max. 20 A (UL 508)
Measuring range	3(N)~ 400/230 V
Terminals/connections	(N)-L1-L2-L3
Overload capacity	3(N)~600/346 V
Input resistance	1 M
Frequency - sinusoidal	48 ... 63 Hz
Switching threshold minimum	-30% ... +20% Un
Switching threshold maximum	-20% ... +30% Un
Hysteresis	5% ... 25%
Rated impulse withstand voltage	600 V a.c.
Rated surge voltage	4 kV
Overvoltage category	III (IEC 60664-1)

Accuracy

Base accuracy	≤3 % (from full scale)
Adjustment accuracy	≤5 % (from full scale)
Repetition accuracy	≤2 %
Temperature influence	≤0.05 % / °C

Ambient conditions and general specifications

Ambient temperature IEC	-25 ... +55°C (IEC 60068-1)
Ambient temperature UL	-25 ... +40°C (UL 508)
Storage temperature	-25 ... +70 °C
Transport temperature	-25 ... +70 °C
Relative humidity	15% ... 85% (IEC 60721-3-3 class 3K3)
Vibration resistance	10 ... 55 Hz 0.35 mm (IEC 60068-2-6)
Shock resistance	15 g 11 ms (IEC 60068-2-27)
Pollution degree	3 (IEC 60664-1)
Installation altitude	Up to 2000 m above sea level

Logistics

Minimum Quantity	1
Tariff Number	85364900
EAN	9008662002760
Country of Origin	AT
Product Weight (g)	129

Available declarations / conformities

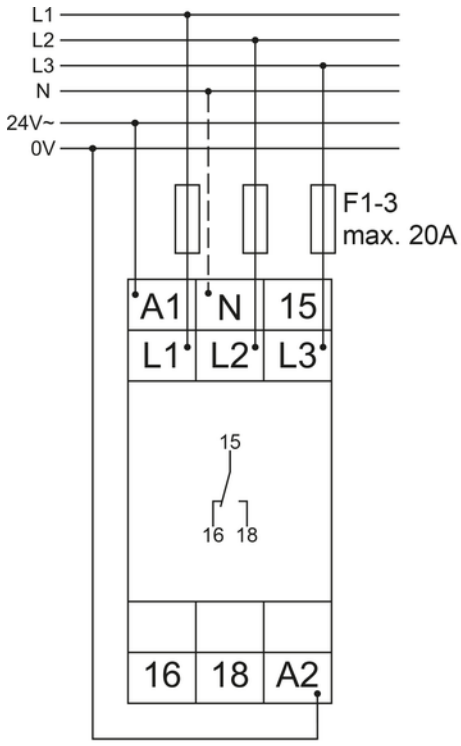
EAC	✓
CE	Open document
UL	Open document
c(UL)	Open document
REACH	Open document
WEEE	Open document
TSCA	Open document
RoHs	Open document
CMRT	Open document

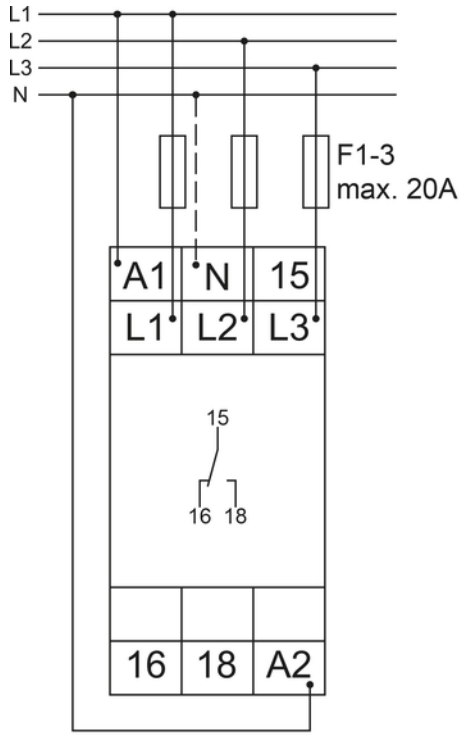
CAD Files

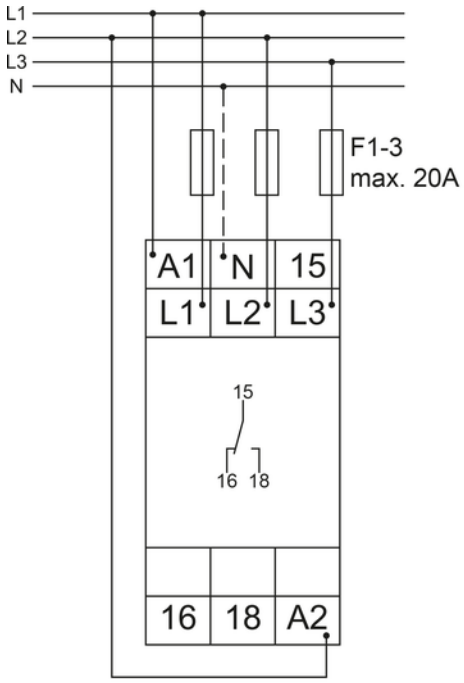
STEP_G2_TRAFO_en.STEP	Download file

Media & drawings






L1
L2
L3
N
F1-3
max. 20A
A1
N
15
L1
L2
L3
15
16 18
16
18
A2


L1
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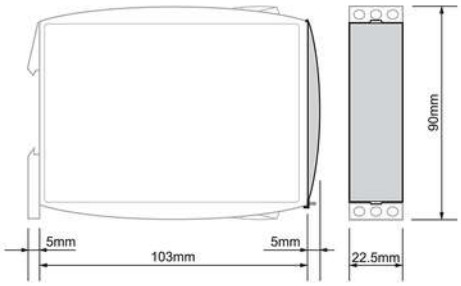
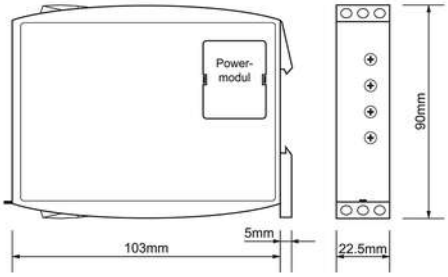

90mm
5mm
103mm
5mm
22.5mm


Power-
modul
90mm
5mm
103mm
22.5mm





Tele Haase Steuergeräte Ges.m.b.H
Vorarlberger Allee 38
1230 Vienna
Austria

CALL US +43 / 1 / 614 74 - 0
ONLINE SUPPORT support@tele-haase.at

Changes and errors excepted