G2UM10VL20 24-240V AC/DC

Monitoring relay - voltage monitoring 1-phase

Status: Available Data sheet created: 01.07.2025

Item Number: 2390307 - **Serie:** Gamma - **EAN:** 9008662006089



- Monitoring relays GAMMA series
- Multifunction
- Voltage monitoring 1-phase AC/DC
- Fault memory
- 3 measuring ranges (60mV, 150mV for shunt measurement, 10V)
- Supply voltage 24-240V AC/DC
- 2 changeover contacts
- width 22,5mm
- industrial design

Description

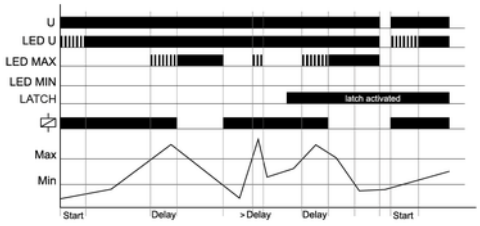
a.c./d.c. voltage monitoring in 1-phase mains with adjustable thresholds, timing for start-up suppression and tripping delay separately adjustable.

General information

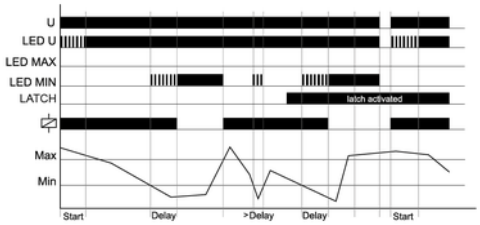
Short description	Voltage monitoring 1-phase, 10V, multifunction, 2 changeover contacts, 24-240V AC/DC
Item Number	2390307
EAN	9008662006089
Main category	Monitoring Relays
Series	Gamma
Type	G2UM10VL20 24-240V AC/DC
Design	Industrial design
Supply	24-240V AC/DC
Dimensions	22.5 x 90 x 108 mm

Functions and measurands

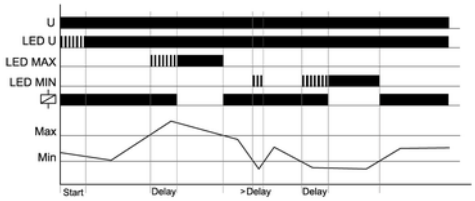
Amount of functions 4



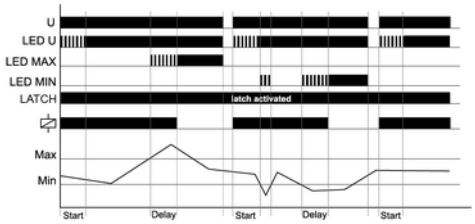
Overvoltage monitoring (OVER, OVER+LATCH)
When the measured voltage exceeds the value adjusted at the MAX-regulator, the set interval of the tripping delay (DELAY) begins (red LED MAX flashes). After the interval has expired (red LED MAX illuminated), the output relays switch into off-position (yellow LED not illuminated). The output relays again switch into on-position (yellow LED illuminated), when the measured voltage falls below the value adjusted at the MIN-regulator (red LED MAX not illuminated). If the fault latch is activated (OVER+LATCH) and the measured voltage remains above the MAX-value longer than the set interval of the tripping delay, the output relays remain in the off-position even if the measured voltage falls below the value adjusted at the MIN-regulator. After resetting the failure (interrupting and re-applying the supply voltage), the output relays switch into on-position and a new measuring cycle begins with the set interval of the start-up suppression (START).



Undervoltage monitoring (UNDER, UNDER+LATCH)
When the measured voltage falls below the value adjusted at the MIN-regulator, the set interval of the tripping delay (DELAY) begins (red LED MIN flashes). After the interval has expired (red LED MIN illuminated), the output relays switch into off-position (yellow LED not illuminated). The output relays again switch into on-position (yellow LED illuminated), when the measured voltage exceeds the value adjusted at the MAX-regulator. If the fault latch is activated (UNDER+LATCH) and the measured voltage remains below the MIN-value longer than the set interval of the tripping delay, the output relays remain in the offposition even if the measured voltage exceeds the value adjusted at the MAX-regulator. After resetting the failure (interrupting and re-applying the supply voltage), the output relays switch into on-position and a new measuring cycle begins with the set interval of the start-up suppression (START).



Window function (WIN)
The output relays switch into on-position (yellow LED illuminated) when the measured current exceeds the value adjusted at the MIN-regulator. When the measured current exceeds the value adjusted at the MAXregulator, the set interval of the tripping delay (DELAY) begins (red LED MAX flashes). After the interval has expired (red LED MAX illuminated), the output relays switch into off-position (yellow LED not illuminated). The output relays again switch into on-position (yellow LED illuminated) when the measured current falls below the value adjusted at the MAXregulator (red LED MAX not illuminated). When the measured current 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 relays switch into off-position (yellow LED not illuminated).



Window function + latch (WIN+Latch)
If the fault latch is activated (WIN+LATCH) and the measured current remains below the MIN-value longer than the set interval of the tripping delay, the output relays remain in the off-position even if the measured current exceeds the value adjusted at the MIN-regulator. If the measured current remains above the MAX-value longer than the set interval of the tripping delay, the output relays remain in the off-position even if the measured current falls below the value adjusted at the MAX-regulator. After resetting the failure (interrupting and re-applying the supply voltage), the output relays switch into on-position and a new measuring cycle begins with the set interval of the start-up suppression (START).

Time ranges

Number Of Areas	2	
Time ranges	**Setting range**	
	Start-up delay	0 ... 10s
	Shutter delay	0.1 ... 10s

Indicators

Supply/time lapse 1	Green LED U ON: Supply voltage applied
Supply/time lapse 2	Green LED flashes: Start-up suppression display
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 ... 240 V
Supply voltage tolerance d.c.	-20% ... +25%
Supply voltage a.c.	24 ... 240 V
Supply voltage tolerance a.c.	-15% ... +10%
Rated frequency [Hz]	24 ... 240 V a.c.: 48 ... 400 Hz; 48 ... 240 V a.c.: 16 ... 48 Hz
Rated consumption a.c.	1 W / 4,5 VA
Duty cycle	100%
Recovery time	500 ms
Residual ripple	d.c. 10%
Drop-out voltage	>15% the supply voltage
Overvoltage category	III (IEC 60661-1)
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	15-16-18
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 bei 100 VA ohmscher Last
Switching frequency 2	max. 6/min bei 1000 VA ohmscher Last (IEC 60947-5-1)
Rated surge voltage	4 kV
Overvoltage category	III (IEC 60664-1)

Measuring circuit

Measurand	Voltage - one phase
Fusing	max. 20 A (UL 508)
Measuring range	60 mV a.c./d.c.
Terminals/connections	E-F1(+) (für Shuntmessung)
Overload capacity	0,5 Veff
Input resistance	47 □
Messbereich 2	150 mV a.c./d.c
Klemmen 2	E-F2(+) (für Shuntmessung)
Überlastbarkeit 2	1,0 Veff
Eingangswiderstand 2	82 □
Messbereich 3	10 V a.c./d.c
Klemmen 3	E-F3(+)
Überlastbarkeit 3	30 Veff
Eingangswiderstand 3	191 k□
Frequency - sinusoidal	16.6 ... 400 Hz
Switching threshold minimum	5% ... 95% Un
Switching threshold maximum	10% ... 100% Un
Rated impulse withstand voltage	440 V a.c.
Rated surge voltage	4 kV
Overvoltage category	III (IEC 60664-1)

Accuracy

Base accuracy	±5 % (from full scale)
Adjustment accuracy	≤5 % (from full scale)
Repetition accuracy	≤2 %
Voltage influence	≤0.5 %/ V
Temperature influence	≤0.1 % / °C
Frequency response	-10% ... +5% (16.6 ... 400 Hz)

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	9008662006089
Country of Origin	AT
Product Weight (g)	159

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

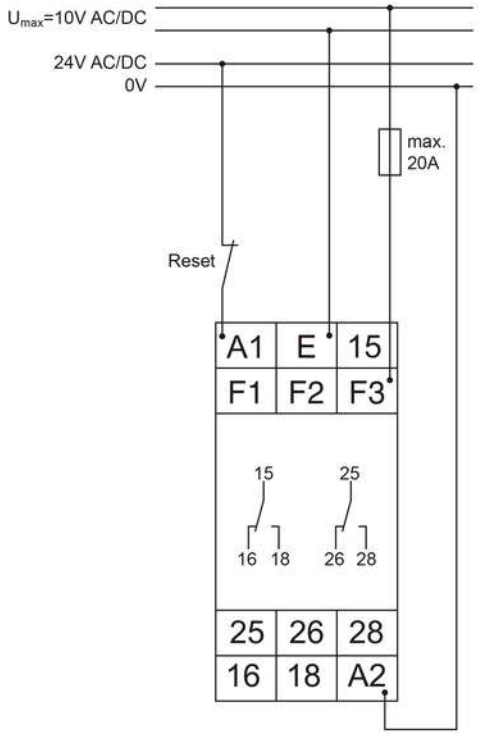
CAD Files

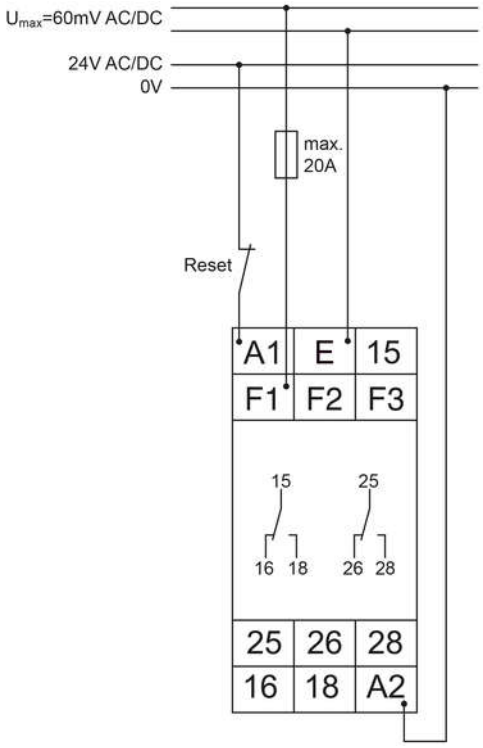
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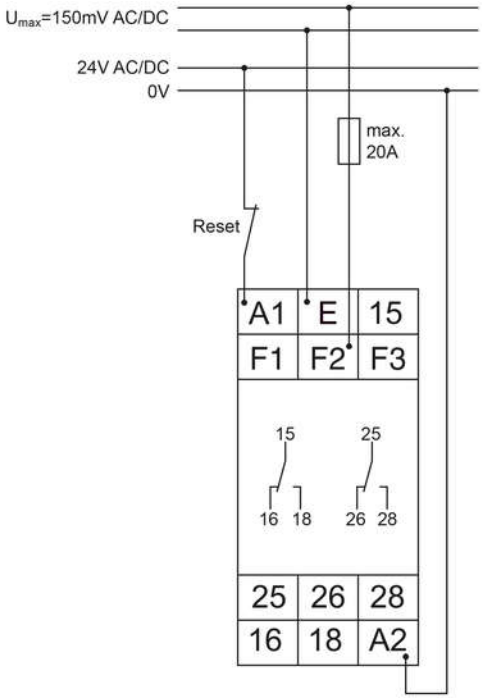
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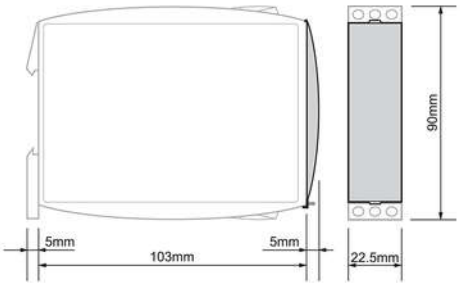
Media & drawings

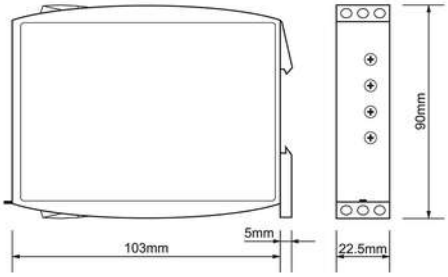





Umax=60mV AC/DC
24V AC/DC
0V
max.
20A
Reset
A1
E
15
F1
F2
F3
15
25
16
18
26
28
25
26
28
16
18
A2


Umax=150mV AC/DC
24V AC/DC
0V
max.
20A
Reset
A1
E
15
F1
F2
F3
15
25
16
18
26
28
25
26
28
16
18
A2


90mm
5mm
103mm
5mm
22.5mm


90mm
5mm
103mm
22.5mm

G2UM10VL20 24-240V AC/DC





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Changes and errors excepted