



### 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.

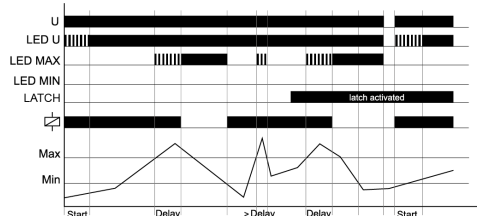
### General information

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

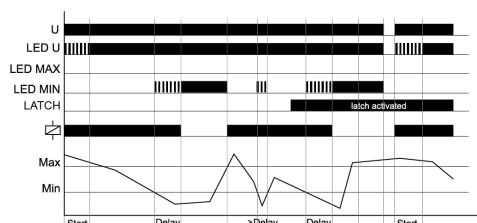
#### Amount of functions

4



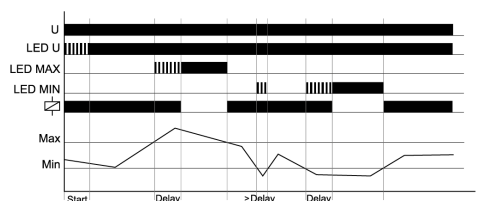
#### Overvoltage monitoring (OVER, OVER+LATCH)

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).



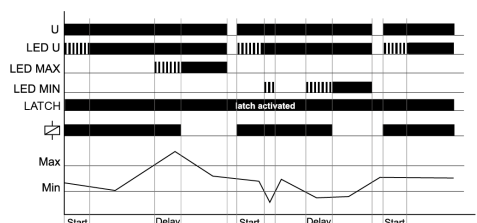
#### Undervoltage monitoring (UNDER, UNDER+LATCH)

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

<b>Number Of Areas</b>	2	
	<b>Setting range</b>	
<b>Time ranges</b>	Start-up delay	0 ... 10s
	Shutter delay	0.1 ... 10s

## Indicators

<b>Supply/time lapse 1</b>	Green LED U ON: Supply voltage applied
<b>Supply/time lapse 2</b>	Green LED flashes: Start-up suppression display
<b>Relay state</b>	Yellow LED ON/OFF: output relay position
<b>Error / monitoring function</b>	Red LED ON/OFF: Display error for corresponding threshold
<b>Error / monitoring function</b>	Red LED flashes: Indication of tripping delay for corresponding threshold

## Mechanical design

<b>Housing material</b>	made of self-extinguishing plastic
<b>Housing - protection degree</b>	IP40
<b>Mounting</b>	top hat rail TH 35 7,5-15 according to IEC 60715:2017 / EN 60715:2017
<b>Terminals/connections</b>	Touch-proof clamping yoke terminals according to DGUV 3 (Screwdriver PZ1 required)
<b>Terminals - protection degree</b>	IP20
<b>Mounting position</b>	any
<b>Stripping length</b>	7 mm
<b>Max. Tightening Torque</b>	1 Nm
<b>Terminal capacity</b>	<ul style="list-style-type: none"> <li>• 1 x 0.5 to 2.5mm<sup>2</sup> with/without ferrule</li> <li>• 1 x 4mm<sup>2</sup> without ferrule</li> <li>• 2 x 0.5 to 1.5mm<sup>2</sup> with/without ferrules</li> <li>• 2 x 2.5mm<sup>2</sup> flexible without ferrules</li> </ul>

## Supply circuit

<b>Terminals/connections</b>	A1-A2 (galvanically separated)
<b>Supply voltage d.c.</b>	24 ... 240 V
<b>Supply voltage tolerance d.c.</b>	-20% ... +25%
<b>Supply voltage a.c.</b>	24 ... 240 V
<b>Supply voltage tolerance a.c.</b>	-15% ... +10%
<b>Rated frequency [Hz]</b>	24 ... 240 V a.c.: 48 ... 400 Hz; 48 ... 240 V a.c.: 16 ... 48 Hz
<b>Rated consumption a.c.</b>	1 W / 4,5 VA
<b>Duty cycle</b>	100%
<b>Recovery time</b>	500 ms
<b>Residual ripple</b>	d.c. 10%
<b>Drop-out voltage</b>	>15% the supply voltage
<b>Overvoltage category</b>	III (IEC 60661-1)
<b>Rated surge voltage</b>	4 kV
<b>Rated impulse withstand voltage</b>	400 V a.c.



### Output circuit

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 <sup>6</sup> Switching cycles
Electrical life	100 x 10 <sup>3</sup> 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 $\Omega$
Messbereich 2	150 mV a.c./d.c
Klemmen 2	E-F2(+) (für Shuntmessung)
Überlastbarkeit 2	1,0 Veff
Eingangswiderstand 2	82 $\Omega$
Messbereich 3	10 V a.c./d.c
Klemmen 3	E-F3(+)
Überlastbarkeit 3	30 Veff
Eingangswiderstand 3	191 k $\Omega$
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

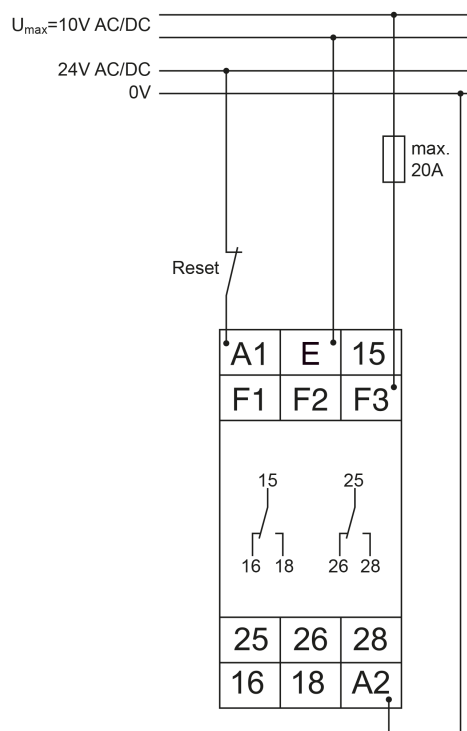
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CE	<a href="#">Open document</a>
UL	<a href="#">Open document</a>
c(UL)	<a href="#">Open document</a>
REACH	<a href="#">Open document</a>
WEEE	<a href="#">Open document</a>
TSCA	<a href="#">Open document</a>
RoHs	<a href="#">Open document</a>
CMRT	<a href="#">Open document</a>

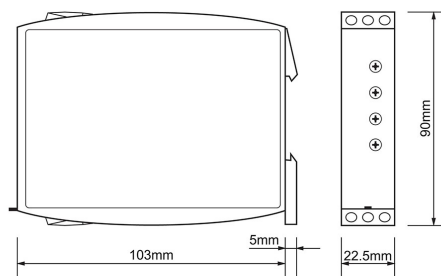
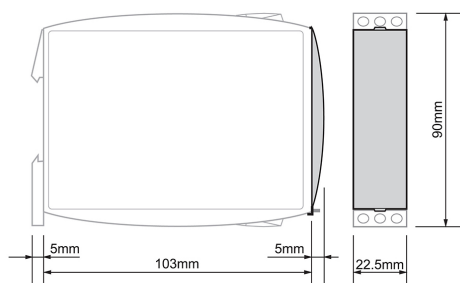
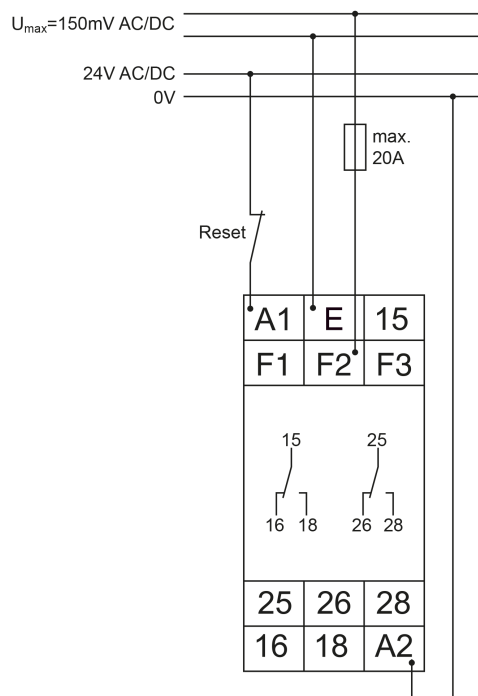
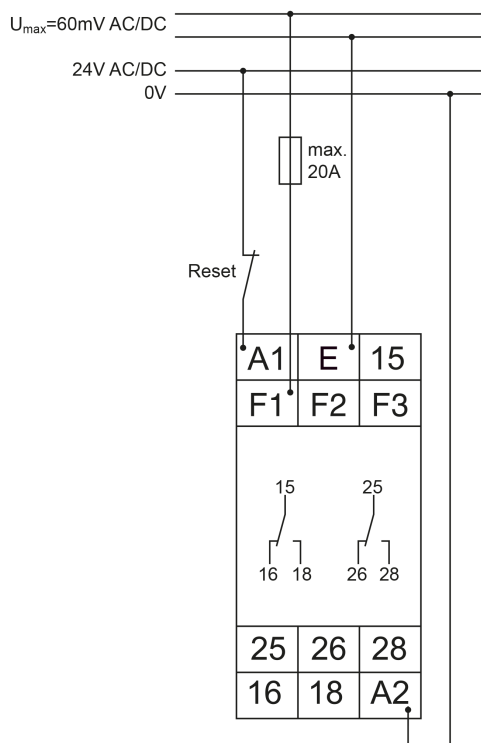
### CAD Files

STEP_G2_en.STEP	<a href="#">Download file</a>
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### Media & drawings







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