G2IM5AL20

Manufacturer data sheet: V1.094

Monitoring relay- current monitoring 1-phase

Status: Available Data sheet created: 01.07.2025

Item Number: 2390405 - **Serie:** Gamma - **EAN:** 9008662002685



- Monitoring relays GAMMA series
- Current monitoring 1-phase AC/DC
- Multifunction
- 3 measuring ranges (20mA-1A-5A)
- Fault memory
- Supply voltage selectable via power module TR2/SNT2
- 2 changeover contacts
- width 22,5mm
- industrial design

Description

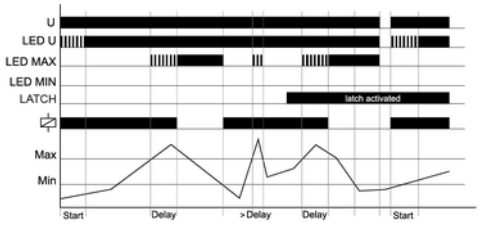
a.c./d.c. current monitoring in 1-phase mains with adjustable thresholds, timing for start-up suppression and tripping delay separately adjustable.

General information

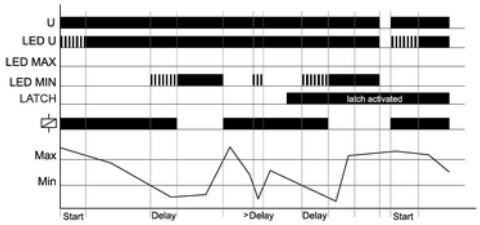
Short description	Current monitoring 1-phase, 5A, multifunction, 2 changeover contacts
Item Number	2390405
EAN	9008662002685
Main category	Monitoring Relays
Series	Gamma
Type	G2IM5AL20
Design	Industrial design
Supply	12-400V AC
Dimensions	22.5 x 90 x 108 mm

Functions and measurands

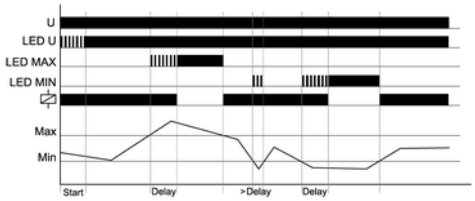
Amount of functions 4



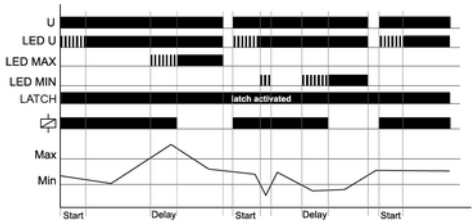
Overcurrent monitoring (OVER, OVER+LATCH)
When the measured current exceeds the value adjusted at the MAXregulator, the set interval of the tripping delay (DELAY) begins (red LED MAX flashes). After the interval has expired (red LED MAX illuminated), the output relays switch into off-position (yellow 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 MIN-regulator (red LED MAX not illuminated). If the fault latch is activated (OVER+LATCH) and 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 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).



Undercurrent monitoring (UNDER, UNDER+LATCH)
When the measured current 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 current exceeds the value adjusted at the MAX-regulator. If the fault latch is activated (UNDER+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 offposition even if the measured current 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 ferrules • 1 x 4mm² without ferrules • 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
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
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

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. 6/min at 1000 VA resistive load
Switching frequency 2	max. 60/min at 100 VA resistive load
Rated surge voltage	4 kV
Overvoltage category	III (IEC 60664-1)

Measuring circuit

Measurand	Current - one phase
Measuring range	20 mA a.c./d.c.
Terminals/connections	K-I1(+)
Overload capacity	250 mA
Input resistance	2.7 □
Messbereich 2	1 A a.c./d.c.
Klemmen 2	K-I2(+)
Überlastbarkeit 2	3 A
Eingangswiderstand 2	47 m□
Messbereich 3	5 A a.c./d.c.
Klemmen 3	K-I3(+)
Überlastbarkeit 3	10 A
Eingangswiderstand 3	10 m□
Frequency - sinusoidal	16.6 ... 400 Hz
Switching threshold minimum	5% ... 95% In
Switching threshold maximum	10% ... 100% In
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 %
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	9008662002685
Country of Origin	AT
Product Weight (g)	142

Available declarations / conformities

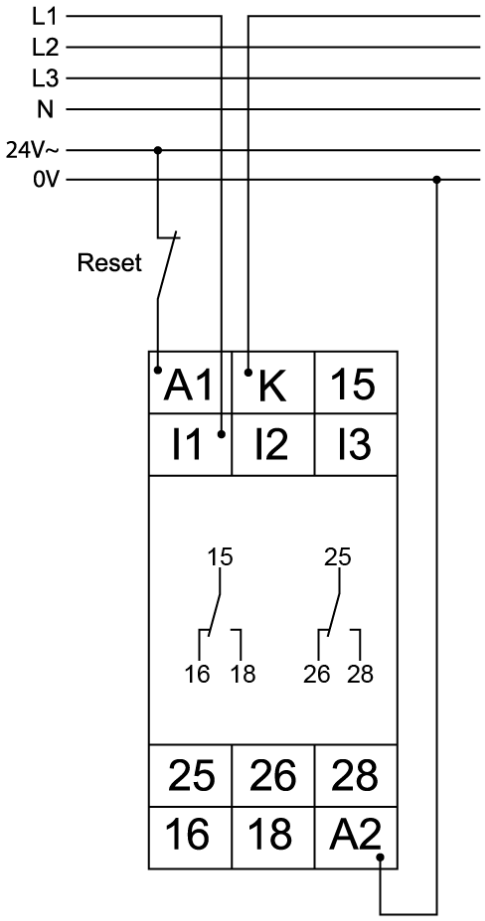
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CE	Open document
UL	Open document
c(UL)	Open document
REACH	Open document
WEEE	Open document
TSCA	Open document
RoHs	Open document
CMRT	Open document

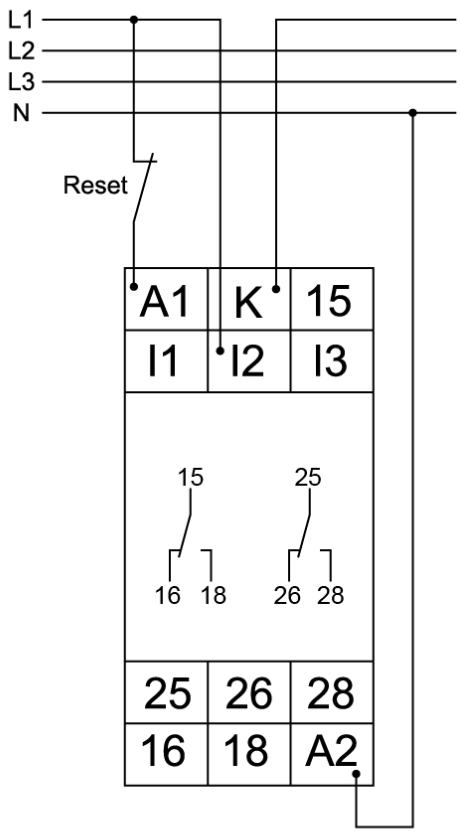
CAD Files

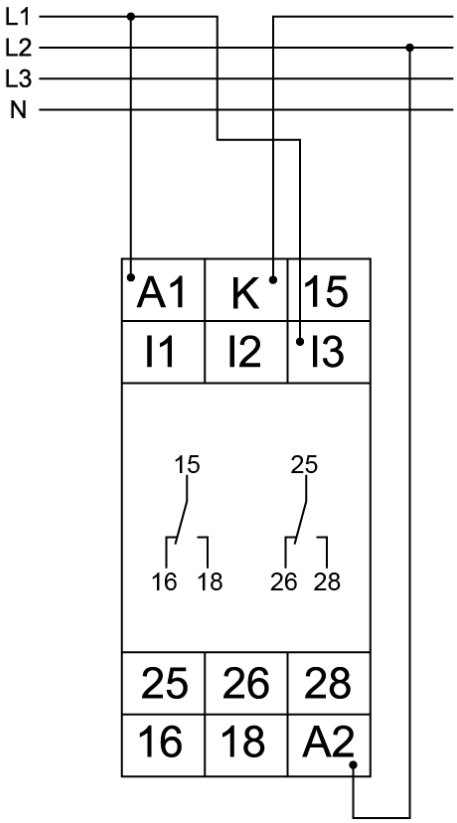
STEP_G2_TRAFO_en.STEP	Download file

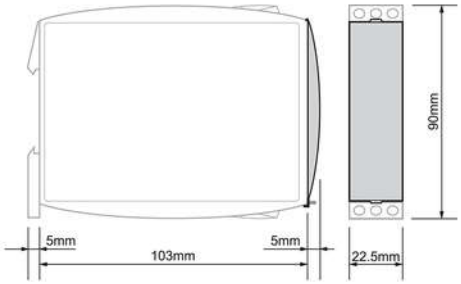
Media & drawings

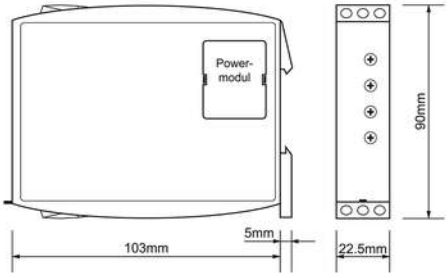





L1
L2
L3
N
Reset
A1
K
15
I1
I2
I3
15
25
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18
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28
25
26
28
16
18
A2


L1
L2
L3
N
A1
K
15
I1
I2
I3
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25
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26
28
16
18
A2









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

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