





Our company target is to offer a practically oriented assortment which is technically always up to date. Due to our special advice and service for our customers, we intend to tie them to our company in the perfect way of partnership.

According to our slogan: „any commencement refers to our customer“.

We develop and produce the latest technical requirements at very competitive prices. The reliability of our products can be achieved by a consequent and technically mature control of quality.

Our practice oriented range of products is so well coordinated that besides of our wide range of choice of standardized products which can be supplied immediately also special product related solutions can be offered within a short period. Our technical team is prepared any time to react quickly to special wishes of our customers.

Cooperation's with well known European producers make sure to keep up a constant and high level of quality to be able to submit international offers.

## History of the company

### **1969 Company founding of Mr. Erwin Gruber**

Development and production of customized products like failure modules and signal conditioner for switch gears. Later on development and production of auxiliary equipment for computerized controls for input and output of signals and the necessary power suppliers for them.

### **1992 Change from the small company to the limited company.**

At the same time the company employing 12 people moved to Vienna to „Gastgebasse“.

### **1999 New address of the company**

Due to the enlarged stock necessary the company had again to move to bigger premises in the Eduard Kittenberger Gasse in Vienna, 23rd district.

### **2000 Presentation of the own product line of time measure and monitoring relays.**

### **2002 Takeover of the company.**

The proprietor Mr. Erwin Gruber and Mr. Harald Graf negotiated a contract for the takeover of the company within the year 2005.

### **2003 New products developed by Mr. Graf**

Development and introduction into the market of the unique GR-LED signal indicator lights.

### **2005 Takeover of the company by Mr. DI Harald Graf**

The Ing. E. Gruber Ges.m.b.H. was changed into the Gruber Electric Ges.m.b.H. Due to the cooperation with Technofit Austria the variety of the product line and the know-how are widely enlarged.

### **2007 GRUBER goes international**

The first time company Gruber Electric Ges.m.b.H. represented the product range at the HANNOVER INDUSTRIAL FAIR.

### **2008 GRUBER takes over the representation of the company SWARCO FUTURIT**

Swarco Futurit is the world's leading producer of signal head (traffic lights) and GRUBER Electric are working in cooperation. That means, that GRUBER supplies traffic signal heads which are made according to the requirements of the customers.

### **2015 GRUBER starts at the new location in Kottingbrunn**

After 18 months of construction the entire company, office and warehouse, moved from Vienna to Kottingbrunn. The building is characterized by the latest techniques and environmental protection measures. It was been used the latest generation of LED bulbs around the whole area, as well as a CO<sub>2</sub> neutral heating system and modern construction techniques. These arrangements will ensure a sustainable protection of our environment.



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## Multi function time relay GRM-91-U

- **Module housing 17,5mm**
- **10 Functions**
- **0,1sec. up to 10 days**
- **Wide input range**
- **1 SPDT contact**
- **switching current 16A**
- **LED status indication**
- **ON / OFF test function**

### Technical specification

#### Supply

Voltage: 12 – 110V DC  
12 – 240V AC  
Frequency: 47 .. 63Hz  
Power: 8,5VA / 1,2W  
Indication: LED green

#### Control input S

Voltage: like supply  
Current: 1mA @ 230V AC  
0,1mA @ 24V AC/DC  
Shortest Impulse: 25ms

#### Output

Indication: LED red  
Relay contact: 16A @ 250V AC1  
Material: AgSnO<sub>2</sub>  
Min. switching c.: 10mA  
Inrush current: max. 30A  
Life time: mech. > 3\*10<sup>7</sup>  
electr. AC1 > 0,7\*10<sup>5</sup>

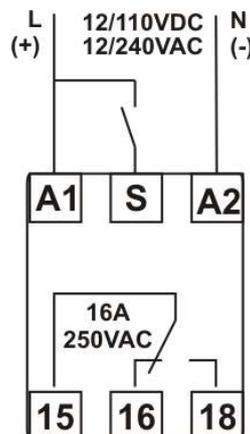
#### Function / Time

Function: Rotary switch 1  
10 Positions  
Time Range: Rotary switch 2  
10 Positions  
Time adjustment: Potentiometer 3  
240°  
Timer: 0,1s up to 10 Days  
Accuracy: < 5%  
Repeat ability: 0,2 % of Set point  
Power off time: 150ms

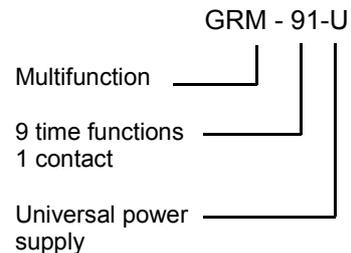
#### Ambience

Storage temp.: -30°C to +70°C  
Working temp.: -10°C to +55°C  
Humidity: <95%RH not cond.  
Isolation: 3kV  
Protection degree: IP 20  
Weight: 50 g  
Dimensions: 98 x 17.5 x 68 mm  
EMC: EN55022 CLASS B  
Standards: CE conform  
EN-61812-1, EN50081-1,  
EN61010-1, EN50082-2

### Connections



### Order code

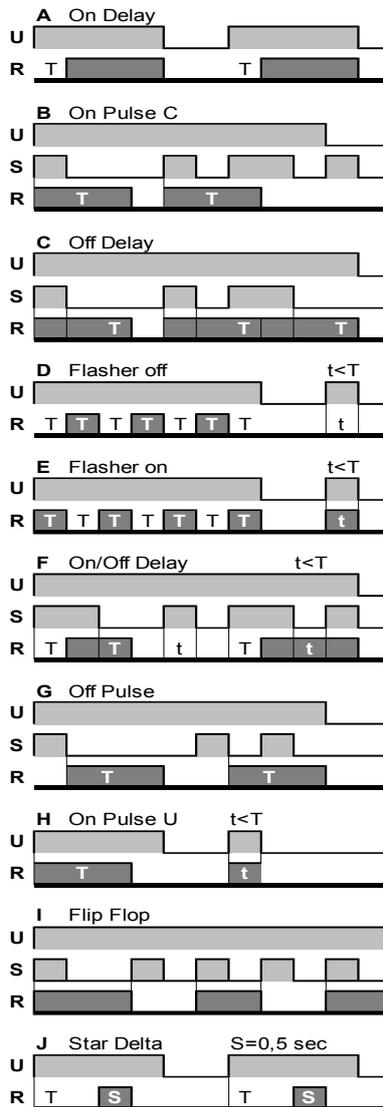




# GRUBER TIME RELAYS

## Functions

- A** On delay by power on
- B** On pulse by control contact
- C** Off delay by control contact
- D** Flasher off start
- E** Flasher on start
- F** On and off delay by control contact
- G** Off pulse by control contact
- H** On pulse by power on
- I** Flip-Flop function (push-push)
- J** Star – delta starter relay puls contact



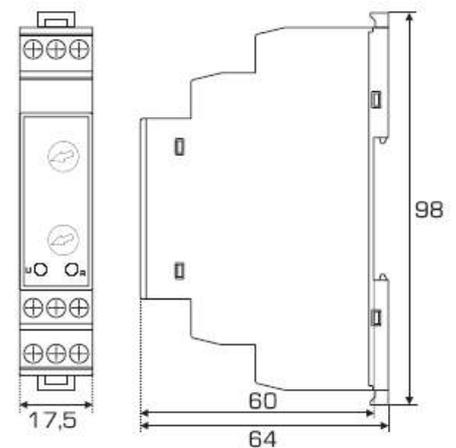
## Multi function time relay

### GRM-91-U

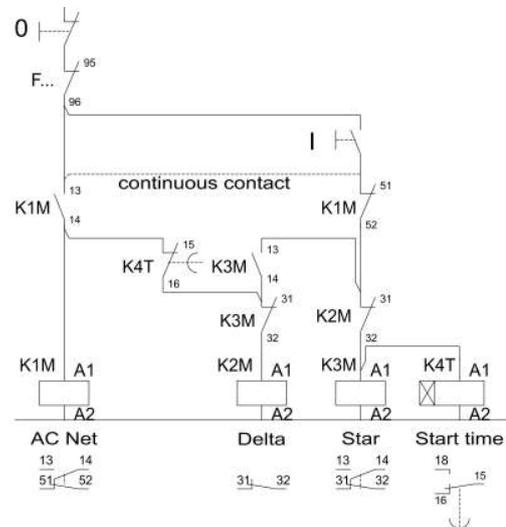
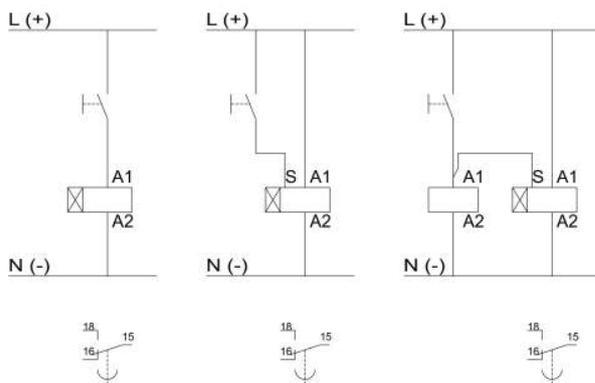
#### Time range

T:	1s	0,1 to 1	Second
	x10	1 to 10	Seconds
	1m	0,1 to 1	Minute
	x10	1 to 10	Minutes
	1h	0,1 to 1	Hour
	x10	1 to 10	Hours
	1d	0,1 to 1	Day
	x10	1 to 10	Days
	off		Relay ON
	on		Relay OFF

#### Dimension [mm]



## Applications





## Auto reset relay

### GRAR-11

- Module housing 17,5mm
- 10ms power-failure detection
- 3s power on pulse
- 230V power supply
- 1 SPDT relay contact 8A
- 2 LED status indication

### Technical data

#### Supply

Voltage: 230V AC  
 Tolerance: +15/-15%  
 Frequency: 47 .. 63Hz  
 Power: 8,5VA / 1,5W  
 Indication: LED green

#### Function / Time

Function: On-Pulse  
 Time: Pulse 3s  
 Shortest refresh: 10ms

#### Output

Indication: LED red  
 Relay Contact: 1 change over  
 Material: AgNi  
 Voltage: 250Vac  
 Current @ 25°C: > 20mA  
 < 8A AC1  
 Inrush current: 10A < 3 sec.  
 Power: < 2000VA AC1  
 > 0,5W DC  
 Life time: mech. < 10<sup>7</sup>  
 electr. @ I<sub>n</sub> < 10<sup>5</sup>

#### Description

This time relay monitors the AC supply voltage. A 3sec. start up pulse is generated in case of coming up of the supply voltage. This pulse is generated every time after the supply voltage loss longer than 10ms. This might enable a save restart and automatic failure reset of your application.

#### Ambience

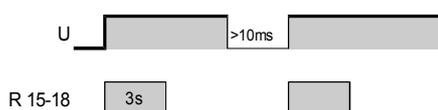
Storage temp.: -30°C bis +70°C  
 Working temp.: -10°C bis +50°C  
 Humidity: <95%RH non con.  
 Isolation: 4kV  
 Protection degree: IP 40  
 Weight: 35g  
 Dimensions: 98 x 17.5 x 68mm  
 Standards: CE conform

#### Order code

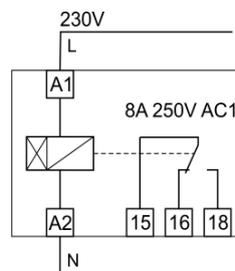
Auto reset relay  
 1 time function  
 1 contact



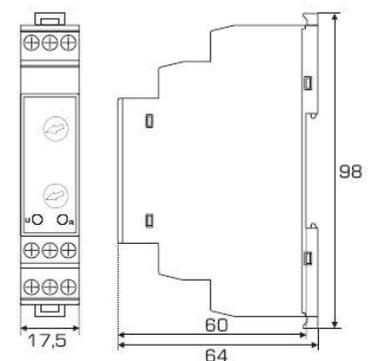
### Function



### Connections



### Dimension [mm]





## Star-Delta relay

### GRT-2-SD

- **Module housing 17,5mm**
- **Time delay 0,2s to 60s**
- **24V AC/DC or 230V AC**
- **Rated current 8A**
- **2 independent relays**

### Technical data

#### Supply

Voltage: 230V AC 47-63Hz  
24V AC/DC  
Tolerance: +10/-20%  
Power: 8,5VA / 1,3W  
Indication: LED green

#### Output

Indication: LED red  
Relay contacts: 2 changeover  
Material: AgNi  
Voltage: 250Vac, max 440V  
Current @ 25°C: > 20mA  
< 8A AC1  
Inrush current: 10A < 3s  
Power: < 2000VA AC1  
> 0,5W DC  
Life Time: mech. < 10<sup>7</sup>  
electr. @ I<sub>n</sub> < 10<sup>5</sup>

#### Function / Time

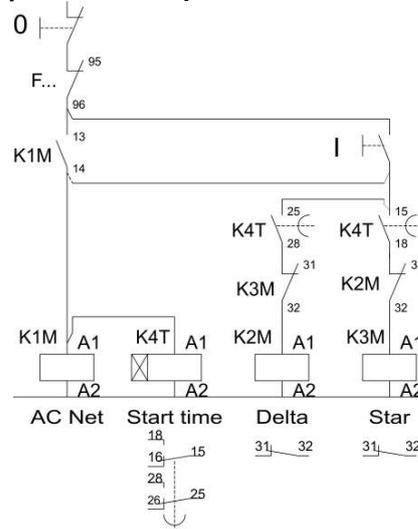
Star – Delta Starter

Time Range: 0,2 – 60s  
Changeover time: 100ms  
Start up delay: 100ms

#### Ambience

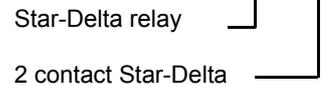
Storage temp.: -30°C to +70°C  
Working temp.: -10°C to +55°C  
Humidity: < 95%RH not cond.  
Isolation: 4kV  
Protection degree: IP 40  
Weight: 50g  
Dimensions: 98 x 17.5 x 68mm  
Standards: CE conform  
EN-61812-1, EN50081-1,  
EN61010-1, EN50082-2

#### Application Sample

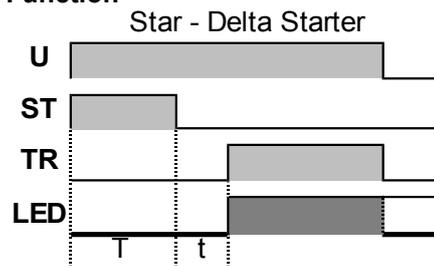


#### Order code

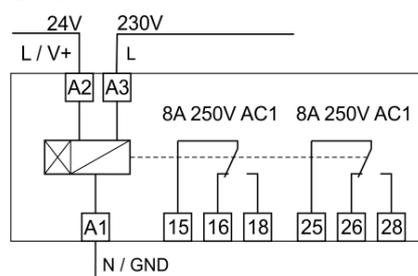
GRT -2-SD



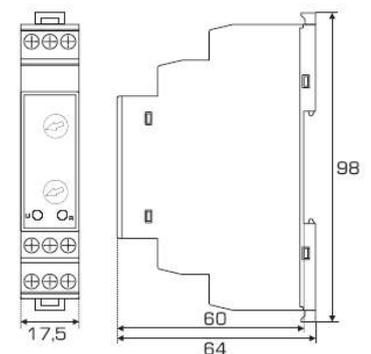
#### Function



#### Connections



#### Dimension [mm]





## Installation relay

### GRIR-11

- **Module housing 17,5mm**
- **Wide input range**
- **Optical indication**
- **16A SPDT contact**

### Technical specification

#### Supply

Voltage: 24 - 240V AC  
20 - 40V DC

#### Output

Indication: LED red  
Relay: 1 Changeover  
Material: AgSnO<sub>2</sub>  
Rated load AC1: 16 A / 250V AC  
Inrush current: max. 30A  
Life time AC1: electr. > 0,7\*10<sup>5</sup>  
mech. > 3\*10<sup>7</sup>

#### Ambience

Storage temp.: -30°C to +70°C  
Working temp.: -10°C to +55°C  
Humidity: <95%RH not cond.  
Isolation: 4kV  
Protection degree: IP 40  
Weight: 50 g  
Dimensions: 98 x 17.5 x 68 mm  
Standards: CE conform

#### Description

This unit can be used as a normal coupling relay, but offers a wide input voltage range. It includes an optical status indication and is able to switch a nominal current up to 16A.

#### Order code

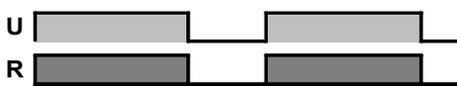
GRIR - 11

Installation relay

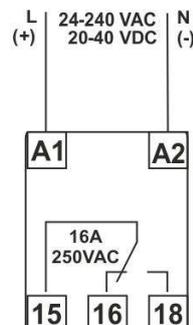
1 no time function  
1 contact



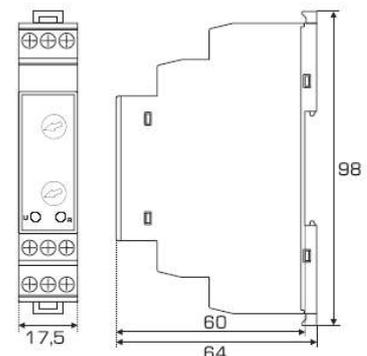
#### Function



#### Connections



#### Dimension [mm]





# GRUBER COUPLING RELAYS



## Digital override relay GR1-H0A-RGP-24UC

- Hand 0 Auto switch
- 2 LED indicators
- 2 SPDT outputs 6A
- Feedback contact
- Supply 24V AC / DC
- Module housing 22,5mm

### Technical specification

#### Supply

Voltage range: 21,0V – 26,5V  
 Rated consumption: 0,4 W / 0,7VA  
 Power dissipation: max. 0,48W

#### Contacts

Relay contact: 2 change over AgNi  
 Rated load: 6A 240V AC1  
 Signal contact: brass gold plated  
 I<sub>max</sub>. 15mA @ 24V

#### Environment

Working temp.: -10°C to +55°C  
 Storage temp.: -40°C to +70°C  
 Humidity: <85% RH  
 non-condensing

#### Mechanical characteristics

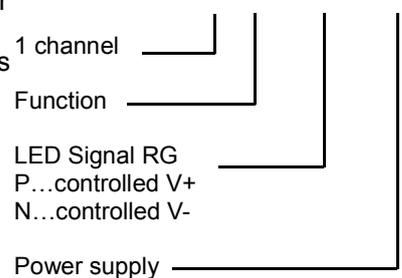
Housing: PU-UL 94 V0, gray  
 Screw terminals: 2,5mm<sup>2</sup> / AWG14  
 Dimensions: 22,5\*98\*56 mm  
 Weight (kg): 0,15 kg

#### Function

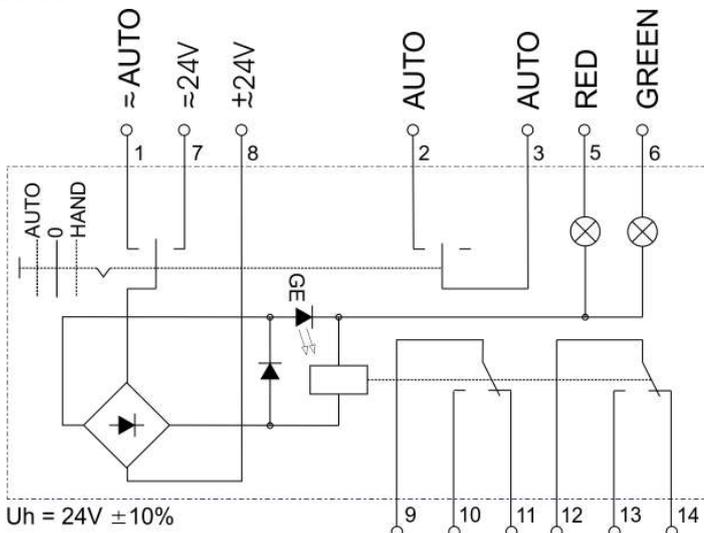
The Hand – 0 – Auto coupling module enables local access points independent of your DDC. Switch to **Auto** position to get controlled by the external DDC and get feedback to the DDC. Switch to **0** position and the output is turned off. Using the **Hand** function for starting your application locally. 2 LED indicators (red and green) provides independent signalization, or feedback from your application. You can change the polarity of those LEDs by order. Please refer to order code. The yellow LED shows the status of the relay contact.

#### Order code

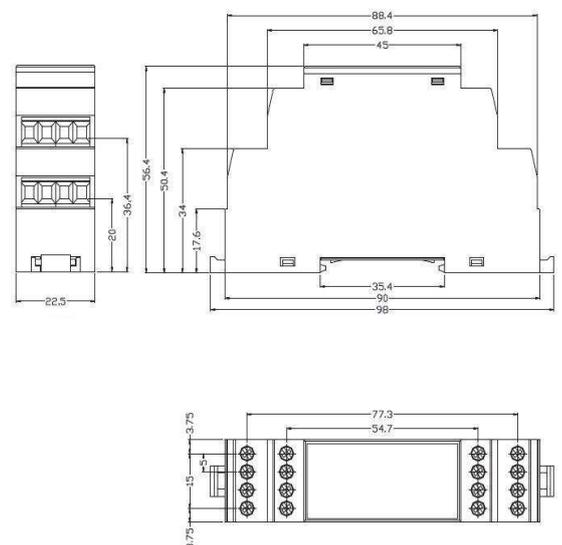
GR1-H0A-RGP-24UC



### Connection



### Dimensions [mm]





## Technical specification

### Supply

Voltage range: 21,0V – 26,5V  
 Rated consumption: 0,8 W / 2,4VA  
 Power dissipation: max. 3,8W

### Analog signal:

Indicator: Input Pin 8  
 0...10V / 10 LEDs  
 Default setting: Output 7  
 0...10V / I<sub>max</sub>: 1mA  
 Auto contact: brass gold plated  
 I<sub>max</sub>. 15mA @ 24V

### Environment

Working temp.: -10°C to +55°C  
 Storage temp.: -40°C to +70°C  
 Humidity: <85% RH  
 non-condensing

### Mechanical characteristics

Housing: PU-UL 94 V0, gray  
 Screw terminals: 2,5mm<sup>2</sup> / AWG14  
 Dimensions: 22,5\*98\*56 mm  
 Weight (kg): 0,16 kg

## Function

The Hand – 0 – Auto coupling module with bar graph indication can be used for local set point settings and offers digital and optical feedback.  
 In **Auto** position the Auto - feedback contact is closed and the analog signal will be put through directly from the DDC to the output.  
 In **0** position the output signal is 0V.  
 In **Hand** position the set point value can be adjusted by the internal potentiometer between 0-10V.  
 The bargraph indicator might be used as an optical feedback of your 0-10V signal.

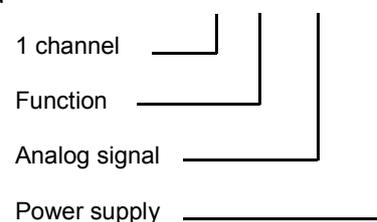
## Analog override relay

### GR1-H0A-10V-24UC

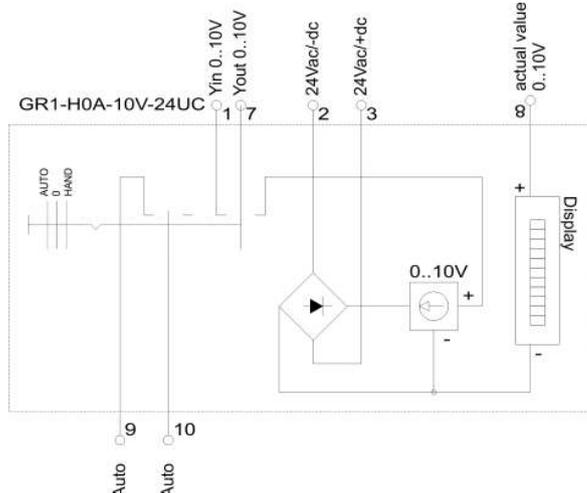
- Hand 0 Auto switch
- Analog indicator 0..10V
- Analog locally setting
- Feedback contact
- Supply 24V AC / DC
- Module housing 22,5mm

### Order code

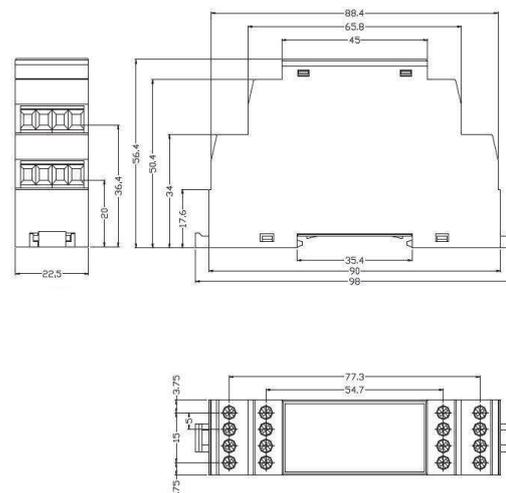
GR1-H0A-10V-24UC



## Connection



## Dimensions [mm]





## Current monitoring relay

### GRCR-31

- Galvanic insulated measurement
- Adjustable set point
- Time delay up to 10s
- Wide input range
- Suitable for current transformers
- LED status indication



### Technical specification

#### Supply

Voltage: 12 – 240V AC/DC  
 Frequency: 47 - 63Hz  
 Rated consumption: 1,5W  
 Indication: U LED green

#### Measurement

Range: 0.8 - 16A  
 0.25-5A  
 Hysteresis: 0.6 - 1.2%  
 Time delay: 0.25 – 10s

#### Output

Indication: R LED red  
 Relay: 1 Changeover  
 Material: AgSnO<sub>2</sub>  
 Rated load AC1: 8A @ 250V  
 Inrush current: max. 15 A  
 Life time AC1: electr. > 0,7\*10<sup>5</sup>  
 mech. > 3\*10<sup>7</sup>  
 Switching current: min. 10mA  
 Switching voltage: min. 10V  
 Switching load: min. 1,0W

#### Ambience

Storage temp.: -30° to +70° C  
 Working temp.: -10° to +55° C  
 Humidity: <95%RH not cond.  
 Isolation: 4 kV  
 Protection degree: IP 40  
 Weight: 60 g  
 Dimensions: 98 x 17.5 x 68 mm  
 Standards: CE conform  
 EN-61812-1, EN50081-1,  
 EN61010-1, EN50082-2

#### Description

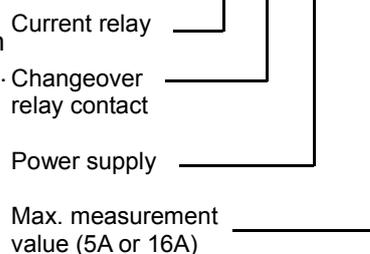
Use the current monitoring relay for setting a limit value at a certain current level, which needs to be signalized. If you want monitor CT's order 5A version or make direct measurement up to 16A.

#### Notes

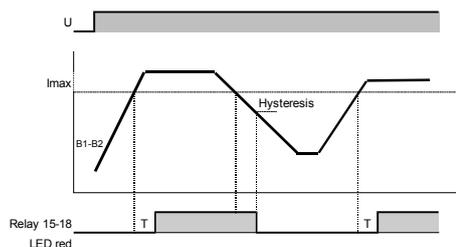
For perfect operation, a side clearance of min. 5mm is recommended.

#### Order code

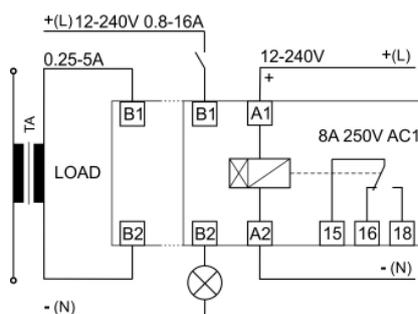
GRCR-31-230-16A



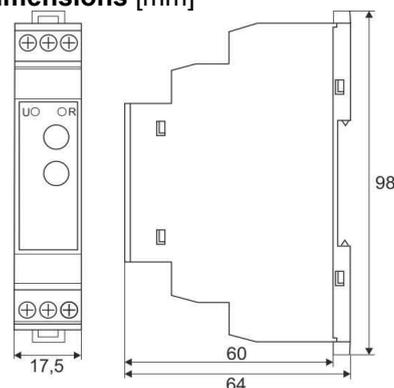
### Function



### Connections



### Dimensions [mm]







# GRUBER MONITORING RELAYS



AC under-voltage control

## GRVR - 51

- Module housing 17,5mm
- Trip value fix adjusted
- Time delay adjustable
- 1, 2 or 3 times 230V
- Independent of phase sequence
- 8A SPDT contact
- 2 LED status indication

### Technical data

#### Supply

Measure Voltage: 1\*230V AC (L1+L2+L3) or 3\*400V AC (L1/L2/L3) + N  
 Tolerance: 0,75 – 1,15%  
 Frequency: 47 .. 63Hz  
 Power: 8,4VA  
 Indication: LED green

#### Measures

Under Voltage: < 175V AC  
 Time delay: 0 - 10s  
 Under Voltage: 0 - 10s  
 Phase loss: 200ms

#### Output

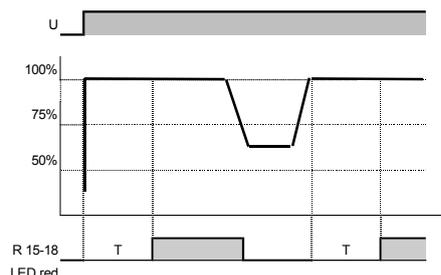
Indication: LED red  
 Relay Contact: 1 change over  
 Material: AgNi  
 Voltage: 250V AC  
 Current @ 25°C: > 20mA  
 < 8AAC1  
 Inrush current: 10A < 3s  
 Power: < 2000VA AC1  
 > 0,5W DC  
 Life time: mech. <math>10^7</math>  
 electr. @  $I_n < 10^5</math>$

#### Ambience

Storage temp.: -30°C bis +70° C  
 Working temp.: -10°C bis +50° C  
 Humidity: <math>< 95\%RH</math> not cond.  
 Isolation: 4kV  
 Protection degree: IP 40  
 Weight: 56g  
 Dimensions: 98 x 17.5 x 68mm  
 Standards: CE conform

#### Function

This monitoring relay recognizes an under voltage lower than 75% from nominal voltage. You can use it for 230V single phase or all three phases at 3\*230V / N. Use the time delay function to enable a save restart of your system



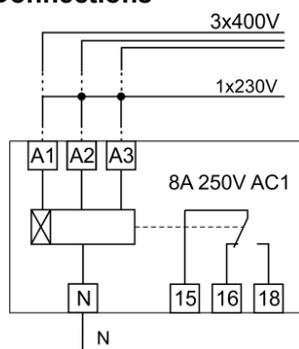
#### Order code

GRVR-51

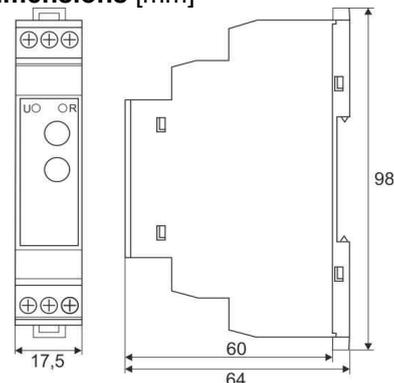
Voltage relay

Monitoring function

#### Connections



#### Dimensions [mm]





## 3-Phase monitoring relay

### GRVR – 52 / N

- **Module housing 17,5mm**
- **Deviation adjustable**
- **Time delay adjustable**
- **No auxiliary supply needed**
- **8A SPDT contact**
- **2 LED status indication**

#### Technical data

##### Supply

Measure range: 3\*400V AC  
with or w/o Neutral  
Frequency: 47 .. 63Hz  
Power L1: < 13VA  
Power L2,L3: < 0,1VA  
Indication: LED green

##### Measures

Over voltage: 420 – 500V AC  
Hysteresis: 5 % fix  
Under voltage: 300 – 380V AC  
Hysteresis: 5 % fix  
Phase failure:  $U < 165V AC$   
Delay time (Td): 100ms  
Voltage failure (t): 0,2-10ms  
Phase failure (tr): 50ms

##### Output

Indication: LED red  
Relay Contact: 1 change over  
Material: AgNi  
Voltage: 250V AC  
Current @ 25°C: > 20mA  
< 8A AC1  
Inrush current: 10A < 3s  
Power: < 2000VA AC1  
> 0,5W DC  
Life time: mech.  $< 10^7$   
electr. @  $I_n < 10^5$

##### Ambience

Storage temp.: -30°C bis +70° C  
Working temp.: -10°C bis +55° C  
Humidity: <95%RH not cond.  
Isolation: 4kV  
Protection degree: IP 40  
Weight: 35 g  
Dimensions: 98 x 17.5 x 68 mm  
Standards: CE conform

#### Description

This 3 phase relay monitors the phase voltage 3\*400V for maximum, minimum and asymmetric. In case of at least one phase has a deviation of more than adjusted, the mains asymmetric will be indicated, as well as in the case of broken neutral conductor, or drift of the neutral potential. In these cases the relay trips after the adjusted time delay.

#### Order code

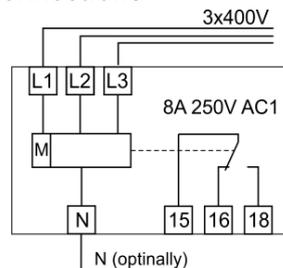
GRVR-52 / N

Voltage relay

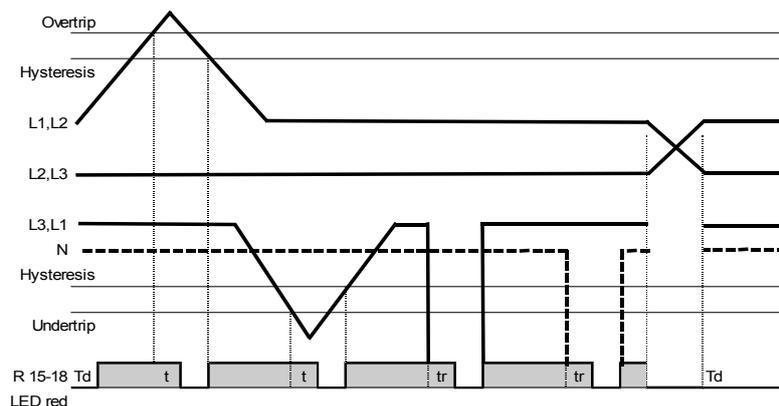
3Phase monitoring

With neutral wire connection

#### Connections



#### Function





# GRUBER MONITORING RELAYS



## Phase sequence relay

### GRVR - 53

- **Module housing 17,5mm**
- **Phase sequence clock wise**
- **Wide voltage range 3\*200-3\*450V AC**
- **8A SPDT contact**
- **1 LED status indication**

### Technical data

#### Supply

Measure Voltage: 3\*200 – 3\*450V AC  
 Minimum: 3\*165V AC  
 Maximum: 3\*450V AC  
 Frequency: 47 .. 63Hz  
 Power L1,L2: < 15VA  
 Power L3: < 0,2VA  
 Indication: LED red

#### Description

Use this relay for monitoring the phase sequence and total phase loss of your three phase power network. If the sequence is clockwise and every phase voltage is more than 165V, the Relay switch on and the red LED is lighting.

#### Measures

Phase loss:  $U < 165V AC$   
 Time delay:  
 Phase sequence: 10ms  
 Phase loss: 100ms

#### Output

Indication: LED red  
 Relay Contact: 1 change over  
 Material: AgNi  
 Voltage: 250V AC  
 Current @ 25°C: > 20mA  
 < 8A AC1

Inrush current:  $10A < 3s$   
 Power: < 2000VA AC1  
 > 0,5W DC

Life time: mech.  $< 10^7$   
 electr.  $< 10^5$

#### Ambience

Storage temp.:  $-30^{\circ}C$  bis  $+70^{\circ}C$   
 Working temp.:  $-10^{\circ}C$  bis  $+55^{\circ}C$   
 Humidity: <95%RH not cond.  
 Isolation: 4 kV  
 Protection degree: IP 40  
 Weight: 35g  
 Dimensions: 98 x 17.5 x 68mm  
 Standards: CE conform

#### Order code

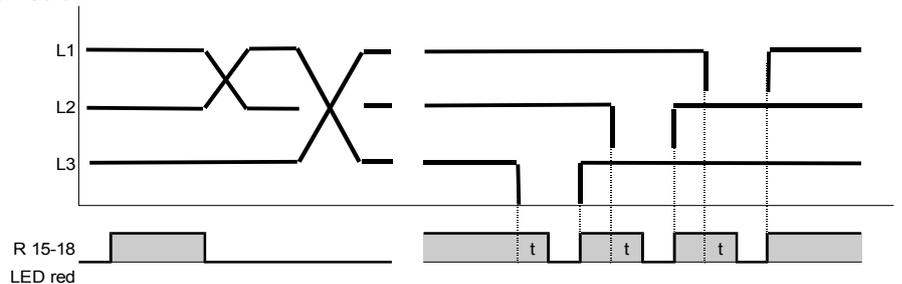
GRVR-53-400

Voltage relay

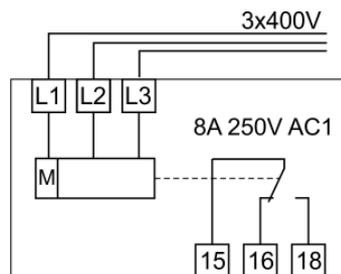
3Phase monitoring

3x 400V AC

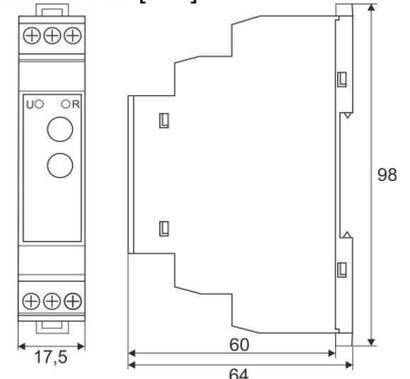
#### Function



#### Connections



#### Dimensions [mm]





Battery charger 12V

## GR-BC-12L005

- Module housing 17,5mm
- U/I charging curve
- Recommended for batteries up to 7 Ah

### Technical specification

#### Supply:

Voltage: 230 Vac +- 10%  
43Hz - 63 Hz  
Cold start: < 30A  
Overload protection: 110% Hiccup

#### Output:

Voltage: 13,8Vdc +- 7%  
Charging current: max. 0,5A  
Continuous power: max. 7W  
Ripple noise: max. 300 mV  
Charging curve: U/I

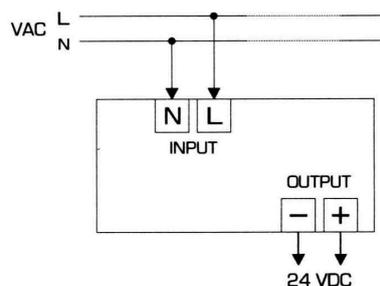
#### General informations:

Efficiency: 75%  
Electrical Insulation: 3kV  
Derating 3,4%/ln/°C >45°C  
MTBF: 20.000h  
Protection degree: IP20  
Weight: 60g  
Dimensions: 98\*17,5\*64mm  
Status indication: LED green  
Working temperature: -20..+60°C  
(free air cooling)  
Storage temperature: -30..+70°C  
Humidity: < 95%RH non cond.  
Mounting: 35mm Rail

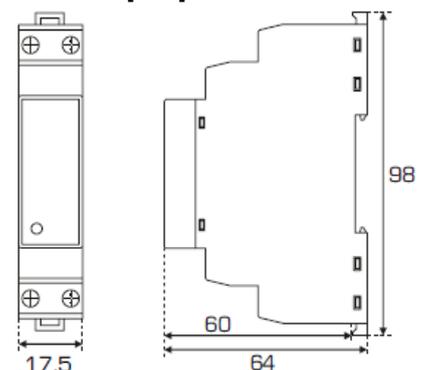
#### Order code

GR-BC-12L005  
Battery charger  
Output voltage  
Charging current

#### Connections



#### Dimensions [mm]





# GRUBER BATTERY CHARGER



Battery charger 24V

## GR-BC-24L002

- Module housing 17,5mm
- U/I charging curve
- Recommended for batteries up to 7 Ah

### Technical specification

#### Supply:

Voltage: 230 Vac +/- 10%  
43Hz - 63 Hz  
Cold start: < 30A  
Overload protection: 110% Hiccup

#### Output:

Voltage: 27,6Vdc +/- 7%  
Charging current: max. 0,2A  
Continuous power: max. 5,5W  
Ripple noise: max. 300 mV  
Charging curve: U/I

#### General informations:

Efficiency: 75%  
Electrical Insulation: 3kV  
Derating 3,4%/ln/°C >45°C  
MTBF: 20.000h  
Protection degree: IP20  
Weight: 60g  
Dimensions: 98\*17,5\*64mm  
Status indication: LED green  
Working temperature: -20..+60°C  
(free air cooling)  
Storage temperature: -30..+70°C  
Humidity: < 95%RH non cond.  
Mounting: 35mm Rail

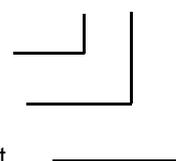
#### Order code

GR-BC-24L002

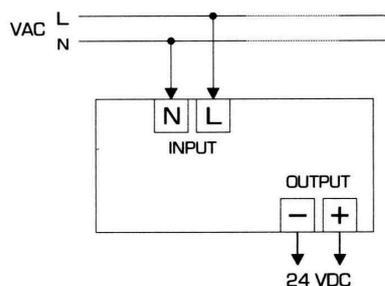
Battery charger

Output voltage

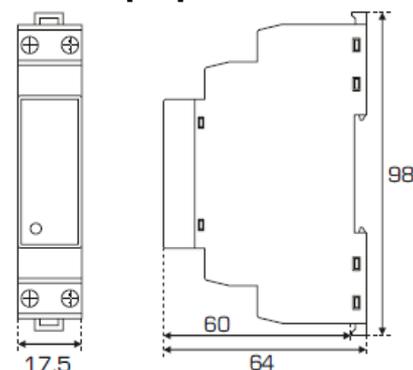
Charging current



#### Connections



#### Dimensions [mm]





Battery charger 24V

## GR-BCMF-24 01

- Module housing 17,5mm
- U/I charging curve
- Recommended for batteries up to 24 Ah

### Technical specification

#### Supply:

Voltage: 230 Vac +- 10%  
43Hz - 63 Hz  
Cold start: < 30A  
Overload protection: <110% Un

#### Output:

Voltage: 27,6Vdc +- 7%  
Charging current: max. 1,2A  
Continuous power: max. 25W  
Ripple noise: max. 300 mV  
Charging curve: U/I

#### General informations:

Efficiency: 80%  
Electrical Insulation: 3kV  
Derating 3,4%/ln/°C >45°C  
MTBF: 20.000h  
Protection degree: IP20  
Weight: 130g  
Dimensions: 95\*70\*60mm  
Status indication: LED green  
Working temperature: -20..+60°C  
(free air cooling)  
Storage temperature: -30..+70°C  
Humidity: < 95%RH non cond.  
Mounting: 35mm Rail

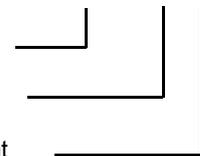
#### Order code

GR-BCMF-24 01

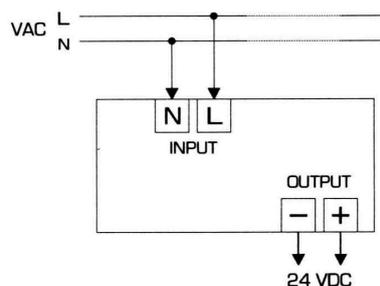
Battery charger

Output voltage

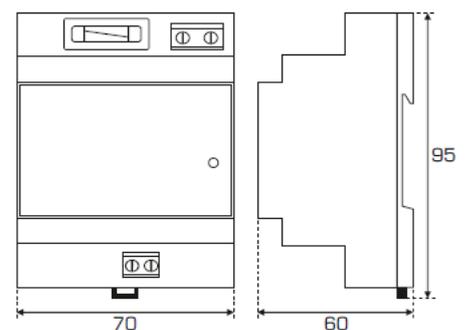
Charging current



#### Connections



#### Dimensions [mm]







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## Dinrail 45mm

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