

### Overview



SIRIUS 3UG4622 monitoring relay

The relays monitor single-phase AC currents (rms value) and DC currents against the set threshold value for overshoot and undershoot. They differ with regard to their measuring ranges and control supply voltage types.

### Benefits

- Versions with wide voltage supply range
- Variably adjustable to overshoot, undershoot or range monitoring
- Freely configurable delay times and RESET response
- Width 22.5 mm
- Display of ACTUAL value and status messages
- All versions with removable terminals
- All versions with screw or spring-type terminals

### Application

- Overcurrent and undercurrent monitoring
- Monitoring the functionality of electrical loads
- Open-circuit monitoring
- Threshold switch for analog signals from 4 to 20 mA

### Technical specifications

#### 3UG4621/3UG4622 monitoring relays

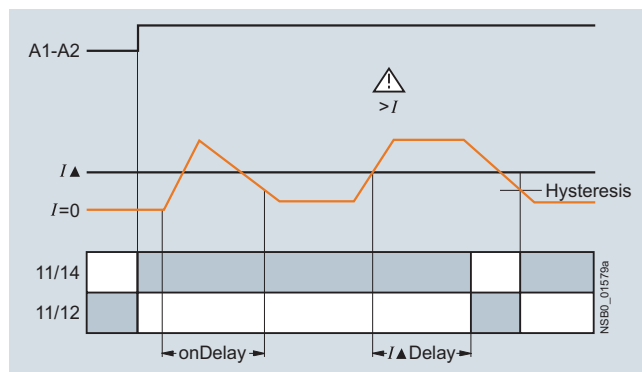
The 3UG4621 or 3UG4622 current monitoring relay is supplied with an auxiliary voltage of 24 V AC/DC or 24 to 240 V AC/DC and performs overshoot, undershoot or range monitoring of the current depending on parameterization. The device is equipped with a display and is parameterized using three buttons.

The measuring range extends from 3 to 500 mA or 0.05 to 10 A. The rms value of the current is measured. The threshold values for overshoot or undershoot can be freely configured within this range. If one of these threshold values is reached, the output relay responds according to the set principle of operation as soon as the tripping delay time  $I_{Del}$  has elapsed. This time and the ON-delay time  $on_{Del}$  are adjustable from 0.1 to 20 s.

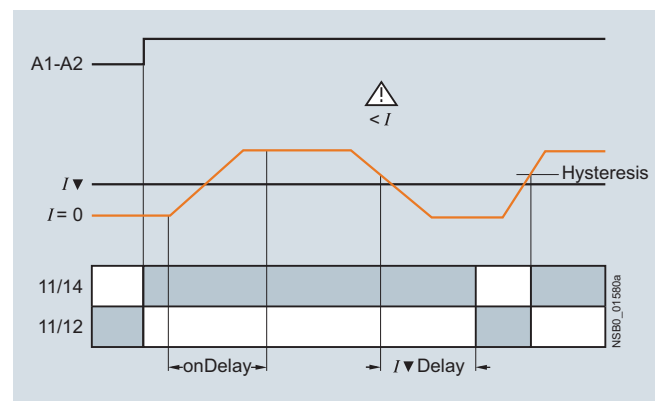
The hysteresis is adjustable from 0.1 to 250 mA or 0.01 to 5 A. The device can be operated with manual or Auto RESET and on the basis of either the open-circuit or closed-circuit principle. Following options are available: Response of the output relay when the control supply voltage  $U_s = ON$  is applied or not until the lower measuring range limit of the measuring current ( $I > 3 \text{ mA}/50 \text{ mA}$ ) is reached. One output changeover contact is available as signaling contact.

With the closed-circuit principle selected upon application of the control supply voltage

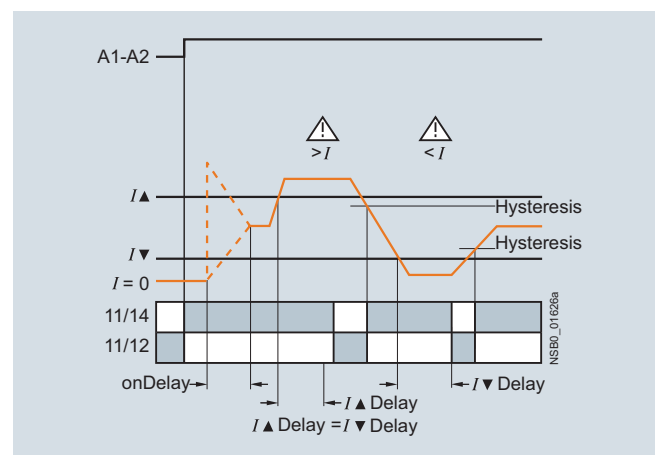
#### Current overshoot



#### Current undershoot



#### Range monitoring



## Relays

### SIRIUS 3UG45, 3UG46 Monitoring Relays for Stand-Alone Installation

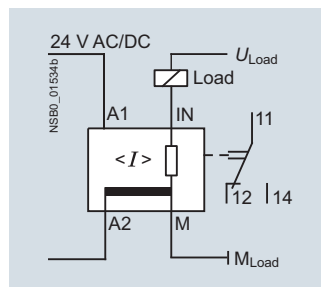
#### Current monitoring

Type		3UG4621-.AA	3UG4621-.AW	3UG4622-.AA	3UG4622-.AW
<b>General data</b>					
<b>Rated insulation voltage <math>U_i</math></b>	V	690			
Pollution degree 3; overvoltage category III according to VDE 0110					
<b>Rated impulse withstand voltage <math>U_{imp}</math></b>	kV	6			
<b>Measuring circuit</b>					
<b>Measuring range single-phase AC/DC current</b>	A	0.003 ... 0.6		0.05 ... 15	
<b>Setting range for single-phase current</b>	A	0.003 ... 0.5			
<b>Load supply voltage</b>	V	24	Max. 300 <sup>1)</sup> Max. 500 <sup>2)</sup>	24	Max. 300 <sup>1)</sup> Max. 500 <sup>2)</sup>
<b>Control circuit</b>					
<b>Load capacity of the output relay</b>					
• Conventional thermal current $I_{th}$	A	5			
<b>Rated operational current <math>I_e</math> at</b>					
• AC-15/24 ... 400 V	A	3			
• DC-13/24 V	A	1			
• DC-13/125 V	A	0.2			
• DC-13/250 V	A	0.1			
<b>Minimum contact load at 17 V DC</b>	mA	5			

1) With protective separation.

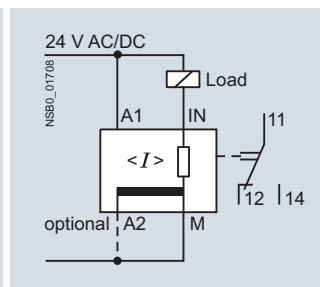
2) With simple separation.

#### Circuit diagrams



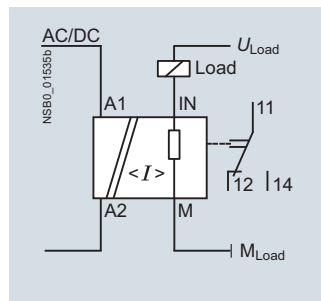
3UG4621-.AA30,  
3UG4622-.AA30

Operation with separate  
control circuit and load circuit



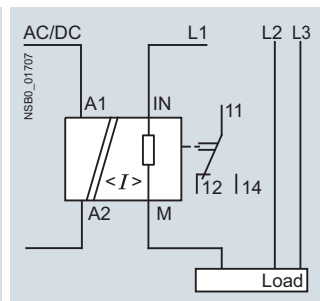
3UG4621-.AA30,  
3UG4622-.AA30

Operation with joint  
control circuit and load circuit



3UG4621-.AW30,  
3UG4622-.AW30

Single-phase operation

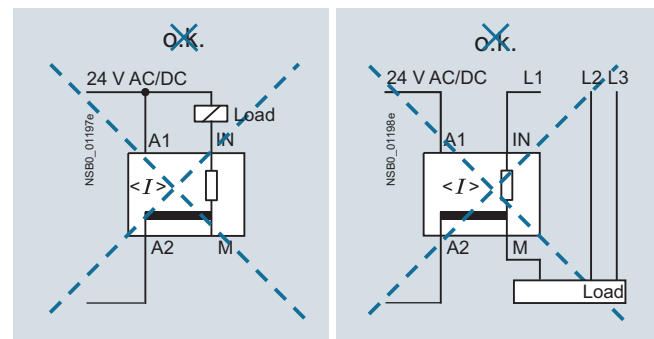
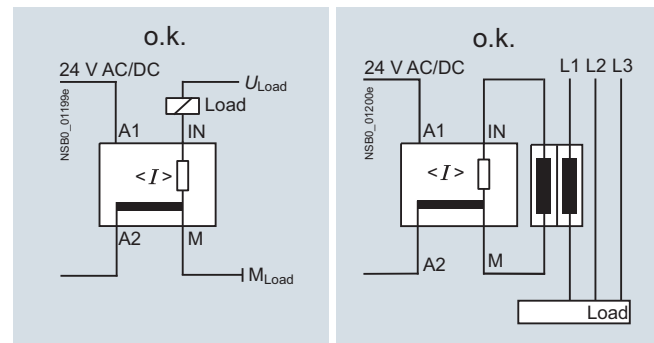


3UG4621-.AW30,  
3UG4622-.AW30

Three-phase operation

#### Connection diagrams for 24 V AC/DC (only 3UG462-.AA30)

From the following circuit diagrams it is clear that loads in measuring circuits have to be in the current flow upstream from the monitoring relay. Otherwise, the monitoring relay could be destroyed and the short-circuit current could cause damage to the plant.



#### Configuring note:

A2 and M are electrically connected internally.

For applications in which the load to be monitored and the monitoring relay are supplied from the same power supply, there is no need for connection A2.

The load current must always flow through M or the monitoring relay may be destroyed.

## Selection and ordering data

- Digitally adjustable, with illuminated LCD
- Auto or Manual RESET
- Open or closed-circuit principle
- 1 CO contact



PU (UNIT, SET, M) = 1  
 PS\* = 1 unit  
 PG = 41H



3UG4621-1AA30



3UG4622-2AW30

Measuring range	Adjustable hysteresis	Rated control supply voltage $U_s$	DT	Screw terminals 		Spring-type terminals 	
				Article No.	Price per PU	Article No.	Price per PU
				V			
<b>Monitoring of undercurrent and overcurrent, start up delay and tripping delay times can be adjusted separately 0.1 ... 20 s</b>							
3 ... 500 mA AC/DC	0.1 ... 250 mA	24 AC/DC <sup>1)</sup>	A	<b>3UG4621-1AA30</b>	A	<b>3UG4621-2AA30</b>	
0.05 ... 10 A AC/DC	0.01 ... 5 A		A	<b>3UG4622-1AA30</b>	A	<b>3UG4622-2AA30</b>	
3 ... 500 mA AC/DC	0.1 ... 250 mA	24 ... 240 AC/DC <sup>2)</sup>	A	<b>3UG4621-1AW30</b>	A	<b>3UG4621-2AW30</b>	
0.05 ... 10 A AC/DC	0.01 ... 5 A		A	<b>3UG4622-1AW30</b>	A	<b>3UG4622-2AW30</b>	

<sup>1)</sup> No electrical separation. Load supply voltage 24 V.

<sup>2)</sup> Electrical separation between control circuit and measuring circuit. Load supply voltage for protective separation max. 300 V, for simple isolation max. 500 V.

For accessories, see page 10/132.

With AC currents  $I > 10$  A it is possible to use 4NC current transformers as an accessory, see Catalog LV 10 "Low-Voltage Power Distribution and Electrical Installation Technology".