

# Monitoring Relays

## 3UG Monitoring Relays for Electrical and Additional Measurements

Current monitoring

### Technical specifications

		3UG46 21-AA	3UG46 21-AW	3UG46 22-AA	3UG46 22-AW
<b>General data</b>					
Rated control supply voltage $U_s$	V	24	24 ... 240	24	24 ... 240
Rated frequency	Hz	50/60			
Operating range	V	20.4 ... 26.4	20.4 ... 264	20.4 ... 26.4	20.4 ... 264
Rated power	W/VA	2/4			
Width	mm	22.5			
RESET		Automatic/ manual			
Availability time after application of $U_s$	ms	1000			
Response time once a switching threshold is reached	ms	Max. 450			
Adjustable tripping delay time/ON-delay time	s	0.1 ... 20			
Mains buffering time, minimum	ms	10			
Rated insulation voltage $U_i$	V	690			
Degree of pollution 3; overvoltage category III acc. to VDE 0110					
Rated impulse withstand voltage $U_{imp}$	kV	6			
Safe isolation acc. to EN 60947-1	V	300			
Permissible ambient temperature					
• During operation	°C	-25 ... +60			
• During storage	°C	-40 ... +85			
EMC tests <sup>1)</sup>		IEC 60947-1/ IEC 61000-6-2 / IEC 61000-6-4			
Degree of protection					
• Enclosures		IP40			
• Terminals		IP20			
Vibration resistance acc. to IEC 60068-2-6		1 ... 6 Hz: 15 mm; 6 ... 500 Hz: 2 g			
Shock resistance acc. to IEC 60068-2-27		12 shocks (half-sine 15 g/11 ms)			
Connection type		<b>Screw terminals</b>			
• Terminal screw		M 3 (standard screwdriver, size 2 and Pozidriv 2)			
• Solid	mm <sup>2</sup>	1 x (0.5 ... 4) / 2 x (0.5 ... 2.5)			
• Finely stranded with end sleeve	mm <sup>2</sup>	1 x (0.5 ... 2.5) / 2 x (0.5 ... 1.5)			
• AWG cables, solid or stranded	AWG	2 x (20 ... 14)			
• Tightening torque	Nm	0.8 ... 1.2			
Connection type		<b>Spring-loaded terminals</b>			
• Solid	mm <sup>2</sup>	2 x (0.25 ... 1.5)			
• Finely stranded, with end sleeves acc. to DIN 46228	mm <sup>2</sup>	2 x (0.25 ... 1.5)			
• Finely stranded	mm <sup>2</sup>	2 x (0.25 ... 1.5)			
• AWG cables, solid or stranded	AWG	2 x (24 ... 16)			
<b>Measuring circuit</b>					
Measuring range for single-phase AC/DC current	A	0.003 ... 0.6		0.05 ... 15	
Setting range for single-phase current	A	0.003 ... 0.5		0.05 ... 10	
Load supply voltage	V	24	Max. 300 <sup>2)</sup> Max. 500 <sup>2)</sup>	24	Max. 300 <sup>2)</sup> Max. 500 <sup>3)</sup>
Measuring accuracy	%	5			
Repeat accuracy at constant parameters	%	1			
Accuracy of digital display		±1 digit			
Deviations for temperature fluctuations	%/°C	±0.1			
Hysteresis for single-phase current		0.1 ... 250 mA		0.01 ... 5 A	
Permissible overcurrent, continuous	A	0.6		15	
Permissible overcurrent, < 1 s	A	5		50	
Protection against destruction, DIAZED gL/gG	A	2		16	
Measuring circuit internal resistance, shunt	mΩ	500		5	
<b>Control circuit</b>					
Load capacity of the output relay					
• Thermal current $I_{th}$	A	5			
Rated operational current $I_e$ at					
• 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			
Minimum contact load at 17 V DC	mA	5			
Output relay with DIAZED fuse gL/gG	A	4			
Electrical endurance AC15	Million oper. cycles	0.1			
Endurance with contactor relay	Million oper. cycles	10			

<sup>1)</sup> Caution: This is a Class A product. In the household environment this device may cause radio interference. In this case the user must introduce suitable measures.

<sup>2)</sup> With safe isolation.

<sup>3)</sup> With standard isolation.

