## SIEMENS

## Data sheet

## 3UG4822-1AA40



Digital monitoring relay Current monitoring, 22.5 mm for IO-Link 0.05...10.0 A AC/DC Overcurrent and undercurrent Transformer scaling factor Hysteresis 0.01 to 5.0 A ON-delay time Tripping delay time 1 change-over contact, screw terminal

product brand name	SIRIUS
product designation	Current monitoring relay with digital setting 3UG4
product type designation General technical data	3064
product function	Current monitoring relay
design of the display	LCD
insulation voltage for overvoltage category III	200
according to IEC 60664	
<ul> <li>with degree of pollution 2 rated value</li> </ul>	690 V
degree of pollution	2
surge voltage resistance rated value	6 kV
maximum permissible voltage for safe isolation	
<ul> <li>between control and auxiliary circuit</li> </ul>	690 V
protection class IP	IP20
shock resistance according to IEC 60068-2-27	sinusoidal half-wave 15g / 11 ms
vibration resistance according to IEC 60068-2-6	1 6 Hz: 15 mm, 6 500 Hz: 2g
mechanical service life (operating cycles) typical	10 000 001
electrical endurance (operating cycles) at AC-15 at 230 V typical	100 000
thermal current of the switching element with contacts maximum	5 A
reference code according to IEC 81346-2	К
relative repeat accuracy	1 %
Substance Prohibitance (Date)	05/01/2012
Product Function	
product function	
<ul> <li>overcurrent detection 1 phase</li> </ul>	Yes
<ul> <li>overcurrent detection 3 phase</li> </ul>	No
<ul> <li>undercurrent detection 1 phase</li> </ul>	Yes
<ul> <li>undercurrent detection 3 phases</li> </ul>	No
<ul> <li>overcurrent detection DC</li> </ul>	Yes
<ul> <li>undercurrent detection DC</li> </ul>	Yes
<ul> <li>current window recognition DC</li> </ul>	Yes
<ul> <li>voltage window recognition 1 phase</li> </ul>	No
<ul> <li>voltage window recognition 3 phase</li> </ul>	No
<ul> <li>adjustable open/closed-circuit current principle</li> </ul>	Yes
• external reset	Yes
auto-RESET	Yes
Supply voltage	
type of voltage of the supply voltage	DC
supply voltage 1 at DC	18 30 V
supply voltage 1 at DC rated value	24 V

Measuring circuit				
type of current for monitoring	AC/DC			
measurable current	0.05 10 A			
measurable line frequency	500 40 Hz			
adjustable current response value current				
•1	0.05 10 A			
• 2	0.05 10 A			
adjustable response delay time				
when starting	0 999.9 s			
<ul> <li>with lower or upper limit violation</li> </ul>	0 999.9 s			
adjustable switching hysteresis for measured current value	5 10 mA			
accuracy of digital display	+/-1 digit			
relative temperature-related measurement deviation	5 %			
internal resistance of the measuring circuit	5 mΩ			
Precision				
relative metering precision	5 %			
Communication/ Protocol				
protocol is supported IO-Link protocol	Yes			
IO-Link transfer rate	COM2 (38,4 kBaud)			
point-to-point cycle time between master and IO-Link	10 ms			
device minimum				
type of voltage supply via input/output link master	Yes			
data volume				
<ul> <li>of the address range of the inputs with cyclical transfer total</li> </ul>	4 byte			
<ul> <li>of the address range of the outputs with cyclical transfer total</li> </ul>	2 byte			
Auxiliary circuit				
number of NC contacts delayed switching	0			
number of NO contacts delayed switching	0			
number of CO contacts delayed switching	1			
operating frequency with 3RT2 contactor maximum	5 000 1/h			
Main circuit				
number of poles for main current circuit	1			
operating voltage rated value	24 24 V			
ampacity of the output relay at AC-15				
• at 250 V at 50/60 Hz	3 A			
● at 400 V at 50/60 Hz	3 A			
ampacity of the output relay at DC-13				
• at 24 V	1 A			
● at 125 V	0.2 A			
● at 250 V	0.1 A			
ampacity of the semiconductor output in SIO mode	200 mA			
operational current at 17 V minimum	0.01 A			
continuous current of the DIAZED fuse link of the	4 A			
output relay				
Electromagnetic compatibility				
conducted interference				
<ul> <li>due to burst according to IEC 61000-4-4</li> <li>due to conductor-earth surge according to IEC</li> </ul>	2 kV 2 kV			
<ul> <li>61000-4-5</li> <li>due to conductor-conductor surge according to IEC</li> </ul>	1 KV			
61000-4-5				
field-based interference according to IEC 61000-4-3	10 V/m			
electrostatic discharge according to IEC 61000-4-2	6 kV contact discharge / 8 kV air discharge			
Galvanic isolation				
design of the electrical isolation	Protective separation			
galvanic isolation	Vee			
<ul> <li>between input and output</li> <li>between the voltage gupply and other circuits</li> </ul>	Yes			
between the voltage supply and other circuits	Yes			
Connections/ Terminals				
product component removable terminal for main	Yes			

circuit				
product component removable terminal for a	auxiliary	Yes		
and control circuit				
type of electrical connection				
<ul> <li>for main current circuit</li> </ul>		screw-type terminals		
<ul> <li>for auxiliary and control circuit</li> </ul>		screw-type terminals		
type of connectable conductor cross-section	ns			
• solid		1x (0.5 4.0 mm²), 2x (0.5	2.5 mm²)	
<ul> <li>finely stranded with core end processing</li> </ul>		1x (0.5 2.5 mm²), 2x (0.5	1.5 mm²)	
<ul> <li>at AWG cables solid</li> </ul>		2x (20 14)		
<ul> <li>at AWG cables stranded</li> </ul>		2x (20 14)		
connectable conductor cross-section				
• solid		0.5 4 mm²		
<ul> <li>finely stranded with core end processing</li> </ul>		0.5 2.5 mm²		
AWG number as coded connectable conduct	tor cross			
section				
• solid		20 14		
<ul> <li>stranded</li> </ul>		20 14		
tightening torque with screw-type terminals		0.8 1.2 N·m		
Installation/ mounting/ dimensions				
mounting position		any		
fastening method		snap-on mounting		
height		92 mm		
width		22.5 mm		
depth		91 mm		
required spacing				
<ul> <li>with side-by-side mounting</li> </ul>				
— forwards		0 mm		
— backwards		0 mm		
— upwards		0 mm		
— downwards		0 mm		
— at the side		0 mm		
<ul> <li>for grounded parts</li> </ul>				
— forwards		0 mm		
— backwards		0 mm		
— backwards — upwards				
<ul><li>backwards</li><li>upwards</li><li>at the side</li></ul>		0 mm		
<ul> <li>backwards</li> <li>upwards</li> <li>at the side</li> <li>downwards</li> </ul>		0 mm 0 mm		
<ul> <li>backwards</li> <li>upwards</li> <li>at the side</li> <li>downwards</li> <li>for live parts</li> </ul>		0 mm 0 mm 0 mm 0 mm		
<ul> <li>backwards</li> <li>upwards</li> <li>at the side</li> <li>downwards</li> <li>for live parts</li> <li>forwards</li> </ul>		0 mm 0 mm 0 mm 0 mm		
<ul> <li>backwards</li> <li>upwards</li> <li>at the side</li> <li>downwards</li> <li>for live parts</li> <li>forwards</li> <li>backwards</li> </ul>		0 mm 0 mm 0 mm 0 mm 0 mm		
<ul> <li>backwards</li> <li>upwards</li> <li>at the side</li> <li>downwards</li> <li>for live parts</li> <li>forwards</li> <li>backwards</li> <li>upwards</li> </ul>		0 mm 0 mm 0 mm 0 mm 0 mm 0 mm		
<ul> <li>backwards</li> <li>upwards</li> <li>at the side</li> <li>downwards</li> <li>for live parts</li> <li>forwards</li> <li>backwards</li> <li>upwards</li> <li>downwards</li> </ul>		0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm		
<ul> <li>backwards</li> <li>upwards</li> <li>at the side</li> <li>downwards</li> <li>for live parts</li> <li>forwards</li> <li>backwards</li> <li>upwards</li> <li>downwards</li> <li>at the side</li> </ul>		0 mm 0 mm 0 mm 0 mm 0 mm 0 mm		
<ul> <li>backwards</li> <li>upwards</li> <li>at the side</li> <li>downwards</li> <li>for live parts</li> <li>forwards</li> <li>backwards</li> <li>backwards</li> <li>upwards</li> <li>downwards</li> <li>at the side</li> </ul> Ambient conditions		0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm		
<ul> <li>backwards</li> <li>upwards</li> <li>at the side</li> <li>downwards</li> <li>for live parts</li> <li>forwards</li> <li>forwards</li> <li>backwards</li> <li>upwards</li> <li>downwards</li> <li>at the side</li> </ul> Ambient conditions installation altitude at height above sea level mathematical parts	aximum	0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm		
<ul> <li>backwards</li> <li>upwards</li> <li>at the side</li> <li>downwards</li> <li>for live parts</li> <li>forwards</li> <li>forwards</li> <li>backwards</li> <li>upwards</li> <li>downwards</li> <li>at the side</li> </ul> Ambient conditions installation altitude at height above sea level material	aximum	0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 2 000 m		
<ul> <li>backwards</li> <li>upwards</li> <li>at the side</li> <li>downwards</li> <li>for live parts</li> <li>forwards</li> <li>backwards</li> <li>backwards</li> <li>upwards</li> <li>downwards</li> <li>at the side</li> </ul> Ambient conditions installation altitude at height above sea level material ambient temperature <ul> <li>during operation</li> </ul>	aximum	0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 2 000 m -25 +60 °C		
<ul> <li>backwards</li> <li>upwards</li> <li>at the side</li> <li>downwards</li> <li>for live parts</li> <li>forwards</li> <li>backwards</li> <li>backwards</li> <li>upwards</li> <li>downwards</li> <li>at the side</li> </ul> Ambient conditions installation altitude at height above sea level material ambient temperature <ul> <li>during operation</li> <li>during storage</li> </ul>	aximum	0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 2 000 m -25 +60 °C -40 +85 °C		
<ul> <li>backwards</li> <li>upwards</li> <li>at the side</li> <li>downwards</li> <li>for live parts</li> <li>forwards</li> <li>backwards</li> <li>backwards</li> <li>upwards</li> <li>downwards</li> <li>at the side</li> </ul> Ambient conditions installation altitude at height above sea level material ambient temperature <ul> <li>during operation</li> <li>during storage</li> <li>during transport</li> </ul>	aximum	0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 2 000 m -25 +60 °C		
<ul> <li>backwards</li> <li>upwards</li> <li>at the side</li> <li>downwards</li> <li>for live parts</li> <li>forwards</li> <li>backwards</li> <li>backwards</li> <li>upwards</li> <li>downwards</li> <li>at the side</li> </ul> Ambient conditions installation altitude at height above sea level material ambient temperature <ul> <li>during operation</li> <li>during storage</li> </ul>	aximum	0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 2 000 m -25 +60 °C -40 +85 °C		
<ul> <li>backwards</li> <li>upwards</li> <li>at the side</li> <li>downwards</li> <li>for live parts</li> <li>forwards</li> <li>backwards</li> <li>backwards</li> <li>upwards</li> <li>downwards</li> <li>at the side</li> </ul> Ambient conditions installation altitude at height above sea level material ambient temperature <ul> <li>during operation</li> <li>during storage</li> <li>during transport</li> </ul>	aximum	0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 2 000 m -25 +60 °C -40 +85 °C		EMC
<ul> <li>backwards</li> <li>upwards</li> <li>at the side</li> <li>downwards</li> <li>for live parts</li> <li>forwards</li> <li>forwards</li> <li>backwards</li> <li>upwards</li> <li>downwards</li> <li>at the side</li> </ul> Ambient conditions installation altitude at height above sea level material ambient temperature <ul> <li>during operation</li> <li>during storage</li> <li>during transport</li> </ul> Certificates/ approvals General Product Approval		0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 2 000 m -25 +60 °C -40 +85 °C -40 +85 °C		EMC
<ul> <li>backwards</li> <li>upwards</li> <li>at the side</li> <li>downwards</li> <li>for live parts</li> <li>forwards</li> <li>forwards</li> <li>backwards</li> <li>upwards</li> <li>downwards</li> <li>at the side</li> </ul> Ambient conditions installation altitude at height above sea level material ambient temperature <ul> <li>during operation</li> <li>during storage</li> <li>during transport</li> </ul> Certificates/ approvals General Product Approval	Manufacturer	0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 2 000 m -25 +60 °C -40 +85 °C -40 +85 °C	rnr	EMC
<ul> <li>backwards</li> <li>upwards</li> <li>at the side</li> <li>downwards</li> <li>for live parts</li> <li>forwards</li> <li>forwards</li> <li>backwards</li> <li>upwards</li> <li>downwards</li> <li>at the side</li> </ul> Ambient conditions installation altitude at height above sea level material ambient temperature <ul> <li>during operation</li> <li>during storage</li> <li>during transport</li> </ul> Certificates/ approvals General Product Approval		0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 2 000 m -25 +60 °C -40 +85 °C -40 +85 °C	FAſ	EMC
<ul> <li>backwards</li> <li>upwards</li> <li>at the side</li> <li>downwards</li> <li>for live parts</li> <li>forwards</li> <li>forwards</li> <li>backwards</li> <li>upwards</li> <li>downwards</li> <li>at the side</li> </ul> Ambient conditions installation altitude at height above sea level material ambient temperature <ul> <li>during operation</li> <li>during storage</li> <li>during transport</li> </ul> Certificates/ approvals General Product Approval	Manufacturer	0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 2 000 m -25 +60 °C -40 +85 °C -40 +85 °C	EAC	EMC
<ul> <li>backwards</li> <li>upwards</li> <li>at the side</li> <li>downwards</li> <li>for live parts</li> <li>forwards</li> <li>forwards</li> <li>backwards</li> <li>upwards</li> <li>downwards</li> <li>at the side</li> </ul> Ambient conditions installation altitude at height above sea level material ambient temperature <ul> <li>during operation</li> <li>during storage</li> <li>during transport</li> </ul> Certificates/ approvals General Product Approval	Manufacturer	0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 2 000 m -25 +60 °C -40 +85 °C -40 +85 °C	EAC	EMC ECM
<ul> <li>backwards</li> <li>upwards</li> <li>at the side</li> <li>downwards</li> <li>for live parts</li> <li>forwards</li> <li>forwards</li> <li>backwards</li> <li>upwards</li> <li>downwards</li> <li>at the side</li> </ul> Ambient conditions installation altitude at height above sea level material ambient temperature <ul> <li>during operation</li> <li>during storage</li> <li>during transport</li> </ul> Certificates/ approvals General Product Approval	Manufacturer	0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 2 000 m -25 +60 °C -40 +85 °C -40 +85 °C	EAC	EMC EMC
<ul> <li>backwards</li> <li>upwards</li> <li>at the side</li> <li>downwards</li> <li>for live parts</li> <li>forwards</li> <li>backwards</li> <li>backwards</li> <li>upwards</li> <li>downwards</li> <li>at the side</li> </ul> Ambient conditions installation altitude at height above sea level mata ambient temperature <ul> <li>during operation</li> <li>during storage</li> <li>during transport</li> </ul> Certificates/ approvals General Product Approval Confirmation	Manufacturer claration	0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 2 000 m -25 +60 °C -40 +85 °C -40 +85 °C -40 +85 °C		RCM
<ul> <li>backwards</li> <li>upwards</li> <li>at the side</li> <li>downwards</li> <li>for live parts</li> <li>forwards</li> <li>backwards</li> <li>backwards</li> <li>upwards</li> <li>downwards</li> <li>at the side</li> </ul> Ambient conditions installation altitude at height above sea level matambient temperature <ul> <li>during operation</li> <li>during storage</li> <li>during transport</li> </ul> Certificates/ approvals General Product Approval Confirmation	Manufacturer	0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 2 000 m -25 +60 °C -40 +85 °C -40 +85 °C -40 +85 °C	Marine / Shipping	EMC EMC iciter



Type Test Certificates/Test Report Special Test Certificate



**Confirmation** 

Railway

Vibration and Shock

Further information

Siemens has decided to exit the Russian market (see here).

https://press.siemens.com/global/en/pressrelease/siemens-wind-down-russian-business

Siemens is working on the renewal of the current EAC certificates.

Please contact your local Siemens office on the status of validity of the EAC certification if you intend to import or offer to supply these products to an EAC relevant market (other than the sanctioned EAEU member states Russia or Belarus).

Information on the packaging

https://support.industry.siemens.com/cs/ww/en/view/109813875

Information- and Downloadcenter (Catalogs, Brochures,...)

https://www.siemens.com/ic10

Industry Mall (Online ordering system)

https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3UG4822-1AA40

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3UG4822-1AA40

Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

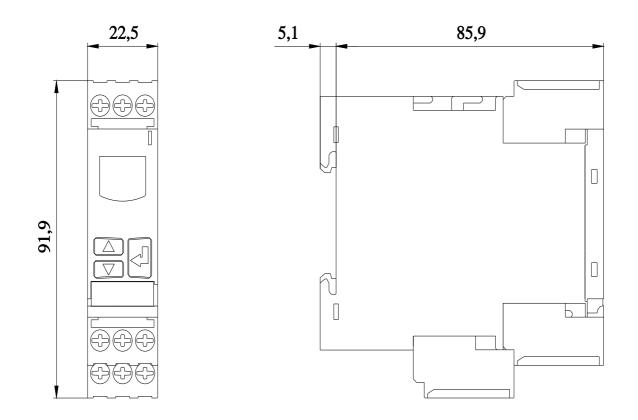
https://support.industry.siemens.com/cs/ww/en/ps/3UG4822-1AA40

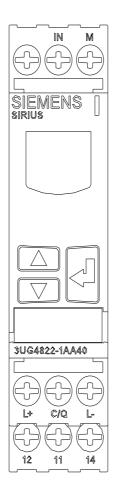
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

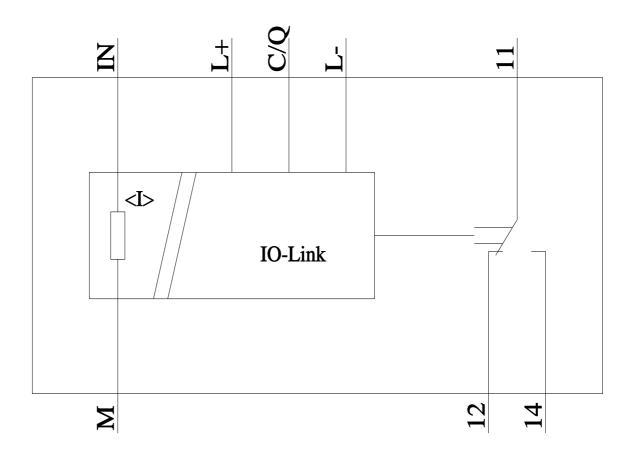
http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3UG4822-1AA40&lang=en

Characteristic: Derating

https://support.industry.siemens.com/cs/ww/en/ps/3UG4822-1AA40/manual







last modified:

1/8/2021 🖸