

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
Product type designation	3UG4

General technical data	
Product function	Current monitoring relay
design of the display	LCD
<ul style="list-style-type: none"> — Insulation voltage for overvoltage category III according to IEC 60664 with degree of pollution 2 rated value 	690 V
Degree of pollution	2
Surge voltage resistance rated value	6 kV
maximum permissible voltage for safe isolation <ul style="list-style-type: none"> • between control and auxiliary circuit 	690 V
<ul style="list-style-type: none"> • Protection class IP 	IP20
Shock resistance <ul style="list-style-type: none"> • acc. to IEC 60068-2-27 	sinusoidal half-wave 15g / 11 ms
Vibration resistance <ul style="list-style-type: none"> • acc. to IEC 60068-2-6 	1 ... 6 Hz: 15 mm, 6 ... 500 Hz: 2g

Mechanical service life (switching cycles)	
• typical	10 000 001
Electrical endurance (switching cycles)	
• at AC-15 at 230 V typical	100 000
Thermal current of the switching element with contacts maximum	5 A
Reference code acc. to DIN EN 81346-2	K
relative repeat accuracy	1 %

Product Function

Product function	
• Overcurrent detection 1 phase	Yes
• Overcurrent detection 3 phase	No
• undercurrent detection 1 phase	Yes
• undercurrent detection 3 phases	No
• Overcurrent detection DC	Yes
• undercurrent detection DC	Yes
• Current window recognition DC	Yes
• Voltage window recognition 1 phase	No
• Voltage window recognition 3 phase	No
• Adjustable open/closed-circuit current principle	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 pick-up value current	
• 1	0.05 ... 10 A
• 2	0.05 ... 10 A
adjustable response delay time	
• when starting	0 ... 999.9 s
• with lower or upper limit violation	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	Yes
<ul style="list-style-type: none"> IO-Link protocol 	Yes
IO-Link transfer rate	COM2 (38,4 kBaud)
Point-to-point cycle time between master and IO-Link device minimum	10 ms
Type of voltage supply via input/output link master	Yes
Amount of data	
<ul style="list-style-type: none"> of the address area of the inputs with cyclical transfer total 	4 byte
<ul style="list-style-type: none"> of the address area of the outputs with cyclical transfer total 	2 byte
Auxiliary circuit	
Number of NC contacts	
<ul style="list-style-type: none"> delayed switching 	0
Number of NO contacts	
<ul style="list-style-type: none"> delayed switching 	0
Number of CO contacts	
<ul style="list-style-type: none"> 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	
<ul style="list-style-type: none"> rated value 	24 ... 24 V
Outputs	
Ampacity of the output relay at AC-15	
<ul style="list-style-type: none"> at 250 V at 50/60 Hz 	3 A
<ul style="list-style-type: none"> at 400 V at 50/60 Hz 	3 A
Ampacity of the output relay at DC-13	
<ul style="list-style-type: none"> at 24 V 	1 A
<ul style="list-style-type: none"> at 125 V 	0.2 A
<ul style="list-style-type: none"> at 250 V 	0.1 A
Ampacity of the semiconductor output in SIO mode	200 mA
Operating current at 17 V minimum	0.01 A
Continuous current of the DIAZED fuse link of the output relay	4 A
Electromagnetic compatibility	
Conducted interference	
<ul style="list-style-type: none"> due to burst acc. to IEC 61000-4-4 	2 kV

<ul style="list-style-type: none"> • due to conductor-earth surge acc. to IEC 61000-4-5 	2 kV
<ul style="list-style-type: none"> • due to conductor-conductor surge acc. to IEC 61000-4-5 	1 kV
Field-bound parasitic coupling acc. to IEC 61000-4-3	10 V/m
Electrostatic discharge acc. to IEC 61000-4-2	6 kV contact discharge / 8 kV air discharge

Galvanic isolation	
<ul style="list-style-type: none"> • design of the electrical isolation 	Protective separation
<ul style="list-style-type: none"> • Galvanic isolation between entrance and outlet 	Yes
<ul style="list-style-type: none"> • Galvanic isolation between the voltage supply and other circuits 	Yes

Connections/ Terminals	
Product function	
<ul style="list-style-type: none"> • removable terminal for main circuit 	Yes
<ul style="list-style-type: none"> • removable terminal for auxiliary and control circuit 	Yes
<ul style="list-style-type: none"> • Type of electrical connection for main current circuit 	screw-type terminals
<ul style="list-style-type: none"> • Type of electrical connection for auxiliary and control current circuit 	screw-type terminals
<ul style="list-style-type: none"> • type of connectable conductor cross-sections solid 	1x (0.5 ... 4.0 mm ²), 2x (0.5 ... 2.5 mm ²)
<ul style="list-style-type: none"> • Type of connectable conductor cross-sections finely stranded with core end processing 	1x (0.5 ... 2.5 mm ²), 2x (0.5 ... 1.5 mm ²)
<ul style="list-style-type: none"> • Type of connectable conductor cross-sections at AWG conductors solid 	2x (20 ... 14)
<ul style="list-style-type: none"> • Type of connectable conductor cross-sections at AWG conductors stranded 	2x (20 ... 14)
<ul style="list-style-type: none"> • connectable conductor cross-section solid 	0.5 ... 4 mm ²
<ul style="list-style-type: none"> • connectable conductor cross-section finely stranded with core end processing 	0.5 ... 2.5 mm ²
AWG number as coded connectable conductor cross section	
<ul style="list-style-type: none"> • solid 	20 ... 14
<ul style="list-style-type: none"> • stranded 	20 ... 14
Tightening torque	
<ul style="list-style-type: none"> • with screw-type terminals 	0.8 ... 1.2 N·m

Installation/ mounting/ dimensions	
<ul style="list-style-type: none"> • mounting position 	any
Mounting type	snap-on mounting
Height	92 mm
Width	22.5 mm
Depth	91 mm

Required spacing

• with side-by-side mounting	
— forwards	0 mm
— Backwards	0 mm
— upwards	0 mm
— downwards	0 mm
— at the side	0 mm
• for grounded parts	
— forwards	0 mm
— Backwards	0 mm
— upwards	0 mm
— at the side	0 mm
— downwards	0 mm
• for live parts	
— forwards	0 mm
— Backwards	0 mm
— upwards	0 mm
— downwards	0 mm
— at the side	0 mm

Ambient conditions

Installation altitude at height above sea level


• maximum	2 000 m
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Ambient temperature

• during operation	-25 ... +60 °C
• during storage	-40 ... +85 °C
• during transport	-40 ... +85 °C

Certificates/ approvals

General Product Approval	EMC	Declaration of Conformity
 CCC	Manufacturer Declaration	 UL
	 EAC	 RCM
		 EG-Konf.

Declaration of Conformity	Test Certificates	Marine / Shipping	other	Railway
Miscellaneous	Type Test Certificates/Test Report	Special Test Certificate	Confirmation	Vibration and Shock
		 DNV-GL DNVGL.COM/AF		

Further information

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?mfb=3UG4822-1AA40>

Cax online generator

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

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

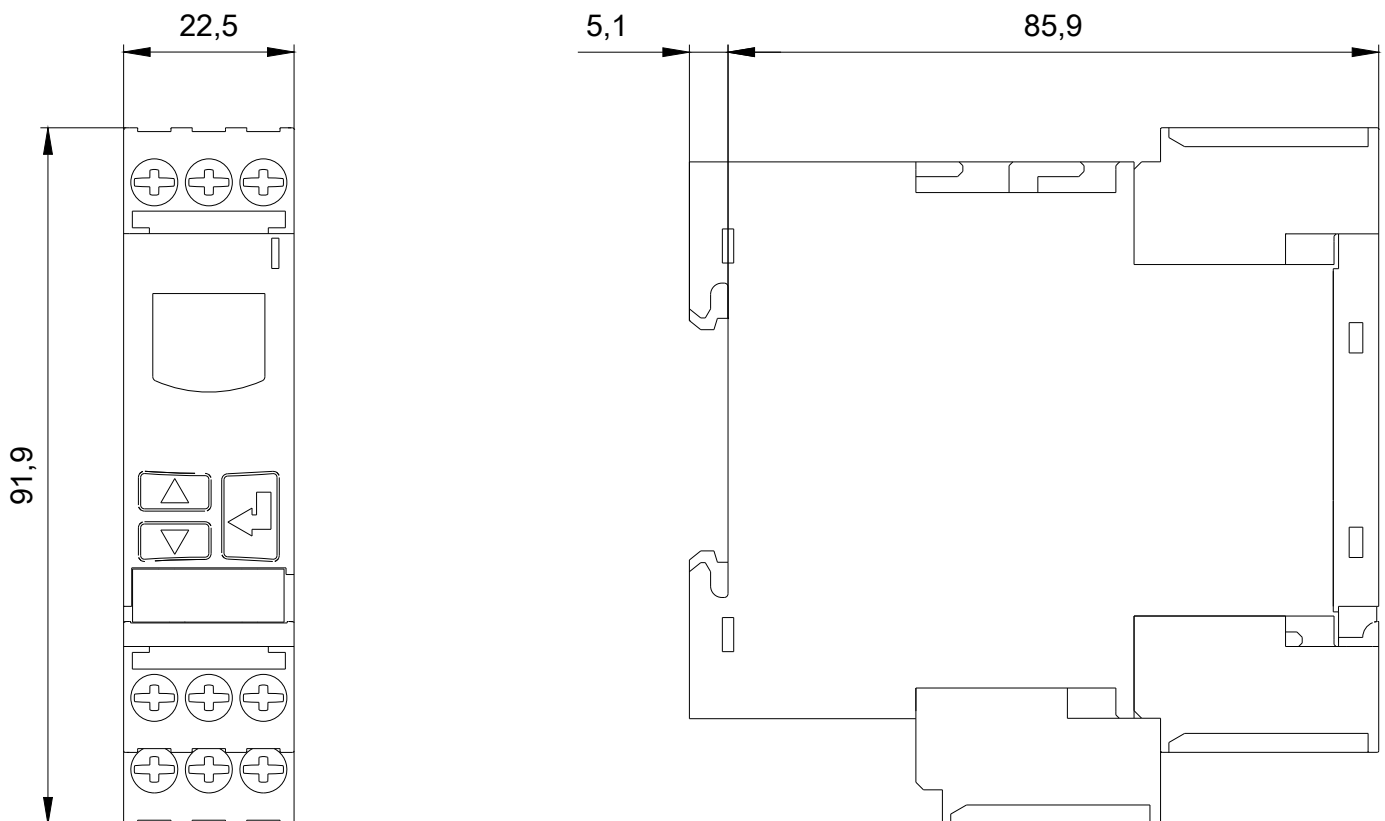
<https://support.industry.siemens.com/cs/ww/en/ps/3UG4822-1AA40>

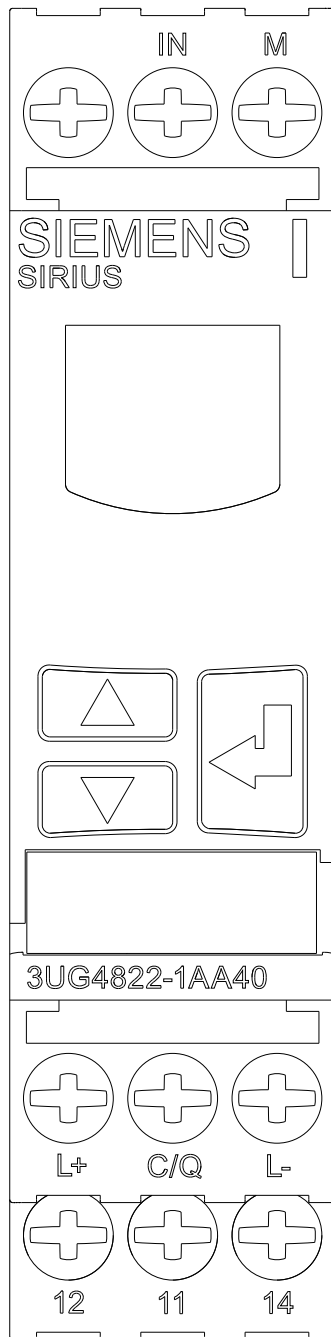
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

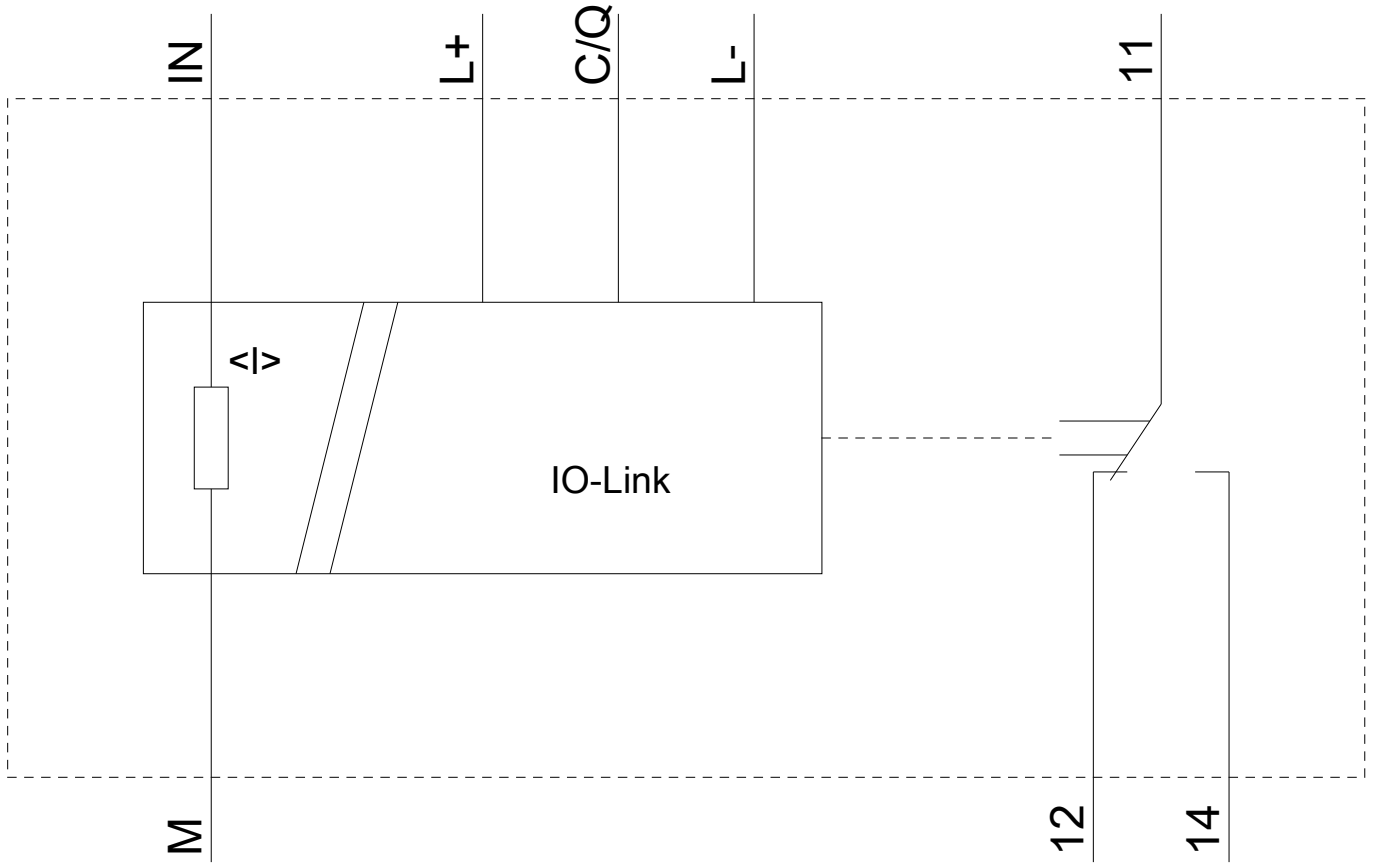
http://www.automation.siemens.com/bilddb/cax_de.aspx?mfb=3UG4822-1AA40&lang=en

Characteristic: Derating

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







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