



DC load monitoring relay for PROFINET, max. 2x8 A / 1x16 A DC, max. 800 V  
 Width: 22.5 mm Monitoring for violation of upper and lower limit of current, voltage and power; Energy consumption counter, energy recovery counter, switching cycle counter, operating hours counter, warning and alarm thresholds, automatic or manual reset, ON delay 0-999.0 sec, OFF delay 0-999.0 sec, automatic reclosing delay 0-999.0 sec Supply voltage: 24 V DC 1 changeover contact, screw terminal

product brand name	SIRIUS
product designation	DC load monitoring relay
design of the product	for PROFINET
product type designation	3UG5

### General technical data

product function	DC load monitoring relay
power loss [W] maximum	3 W
insulation voltage	
<ul style="list-style-type: none"> <li>for overvoltage category II according to IEC 60664 with degree of pollution 3 rated value</li> </ul>	800 V
<ul style="list-style-type: none"> <li>for overvoltage category III according to IEC 60664 with degree of pollution 3 rated value</li> </ul>	600 V
<ul style="list-style-type: none"> <li>of the auxiliary and control circuit for overvoltage category III according to IEC 60664 with degree of pollution 3 rated value</li> </ul>	30 V
type of voltage for monitoring	DC
surge voltage resistance rated value	6 kV
maximum permissible voltage for protective separation	
<ul style="list-style-type: none"> <li>between auxiliary and auxiliary circuit</li> </ul>	24 V
<ul style="list-style-type: none"> <li>between control and auxiliary circuit</li> </ul>	24 V
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	10 000 000
electrical endurance (operating cycles) for relay outputs maximum	100 000
<ul style="list-style-type: none"> <li>note</li> </ul>	0.5 A 125 V AC, with resistive load up to 40 °C
thermal current of the switching element with contacts maximum	1 A
reference code according to IEC 81346-2	K
Substance Prohibitance (Date)	05/31/2019
SVHC substance name	Lead - 7439-92-1 Lead monoxide (lead oxide) - 1317-36-8 6,6'-di-tert-butyl-2,2'-methylenedi-p-cresol - 119-47-1 2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one - 71868-10-5
Weight	0.255 kg

### Product Function

product function	
<ul style="list-style-type: none"> <li>overvoltage detection DC</li> </ul>	Yes
<ul style="list-style-type: none"> <li>undervoltage detection DC</li> </ul>	Yes
<ul style="list-style-type: none"> <li>overcurrent detection DC</li> </ul>	Yes
<ul style="list-style-type: none"> <li>undercurrent detection DC</li> </ul>	Yes
<ul style="list-style-type: none"> <li>auto-RESET</li> </ul>	Yes

• manual RESET	Yes
<b>Supply voltage</b>	
type of voltage of the supply voltage	DC
supply voltage 1 at DC rated value	24 V
operating range factor supply voltage rated value at DC	0.85 ... 1.15
<b>Measuring circuit</b>	
type of current for monitoring	DC
measurable current	-8 ... +8 A
measurable voltage at DC	0 ... 800 V
adjustable voltage range	0 ... 800 V
adjustable current response value current	
• 1	-8 ... +8 A
• 2	-8 ... +8 A
adjustable response delay time	
• when starting	0 ... 999 s
• with lower or upper limit violation	0 ... 999 s
response time maximum	100 ms
relative temperature-related measurement deviation	0.5 %
internal resistance of the measuring circuit	10 mΩ
<b>Communication/ Protocol</b>	
protocol is supported	
• PROFINET IO protocol	Yes
• Address Resolution Protocol (ARP)	Yes
design of the interface Fast Ethernet interface	Yes
number of interfaces according to PROFINET	1
product function at the Ethernet interface Autocrossover	Yes
interface design 1 RJ45 (Ethernet)	Yes
product function at the 1st interface PROFINET IO device	Yes
number of ports at the 1st interface	1
service for open IE communication LLDP	Yes
transmission mode for Industrial Ethernet	PROFINET with 100 Mbps full duplex (100BASE-TX)
PROFINET conformity class	A
network load class according to PROFINET	I
<b>Auxiliary circuit</b>	
number of CO contacts for auxiliary contacts	1
ampacity of the output relay at DC-13	
• at 24 V	1 A
ampacity for overcurrent duration < 1 s maximum permissible	1 A
continuous current of the DIAZED fuse link of the output relay	2 A
<b>Electromagnetic compatibility</b>	
EMC emitted interference according to IEC 60947-1	ambience A (industrial sector)
EMC immunity according to IEC 60947-1	ambience A (industrial sector)
conducted interference	
• due to burst according to IEC 61000-4-4	2 kV
• due to conductor-earth surge according to IEC 61000-4-5	2 kV
• due to conductor-conductor surge according to IEC 61000-4-5	1 kV
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
<b>Galvanic isolation</b>	
design of the electrical isolation	Protective separation
galvanic isolation	
• between input and output	Yes
• between the voltage supply and other circuits	Yes
<b>Electrical Safety</b>	
protection class IP on the front according to IEC 60529	IP20
touch protection on the front according to IEC 60529	finger-safe

Connections/ Terminals	
product component removable terminal for main circuit	Yes
product component removable terminal for auxiliary and control circuit	Yes
type of electrical connection	screw terminal
type of connectable conductor cross-sections for main contacts	
<ul style="list-style-type: none"> <li>• solid</li> <li>• stranded</li> <li>• finely stranded with core end processing</li> </ul>	1x (0,5 ... 4 mm <sup>2</sup> ), 2x (0,5 ... 2,5 mm <sup>2</sup> ) 1x (0,5 ... 4 mm <sup>2</sup> ), 2x (0,5 ... 2,5 mm <sup>2</sup> ) 1x (0,5 ... 4 mm <sup>2</sup> ), 2x (0,5 ... 2,5 mm <sup>2</sup> )
type of connectable conductor cross-sections	
<ul style="list-style-type: none"> <li>• for auxiliary contacts               <ul style="list-style-type: none"> <li>— solid</li> <li>— finely stranded with core end processing</li> </ul> </li> <li>• for AWG cables for auxiliary contacts</li> </ul>	1x (0,5 ... 4 mm <sup>2</sup> ), 2x (0,5 ... 2,5 mm <sup>2</sup> ) 2x (0,5 ... 1,5 mm <sup>2</sup> ), 1x (0,5 ... 4 mm <sup>2</sup> ) 1x (20 ... 12), 2x (20 ... 14)
tightening torque	
<ul style="list-style-type: none"> <li>• for main contacts with screw-type terminals</li> <li>• for auxiliary contacts with screw-type terminals</li> </ul>	0.6 ... 0.8 N·m 0.6 ... 0.8 N·m

Installation/ mounting/ dimensions	
mounting position	any
fastening method	screw and snap-on mounting onto 35 mm DIN rail
height	100 mm
width	22.5 mm
depth	141.6 mm
required spacing	
<ul style="list-style-type: none"> <li>• with side-by-side mounting               <ul style="list-style-type: none"> <li>— forwards</li> <li>— backwards</li> <li>— upwards</li> <li>— downwards</li> <li>— at the side</li> </ul> </li> <li>• for grounded parts               <ul style="list-style-type: none"> <li>— forwards</li> <li>— backwards</li> <li>— upwards</li> <li>— at the side</li> <li>— downwards</li> </ul> </li> <li>• for live parts               <ul style="list-style-type: none"> <li>— forwards</li> <li>— backwards</li> <li>— upwards</li> <li>— downwards</li> <li>— at the side</li> </ul> </li> </ul>	0 mm 0 mm 50 mm 50 mm 0 mm  0 mm 0 mm 50 mm 3 mm 50 mm  0 mm 0 mm 50 mm 50 mm 3 mm

Ambient conditions	
installation altitude at height above sea level maximum	2 000 m
ambient temperature	
<ul style="list-style-type: none"> <li>• during operation</li> <li>• during storage</li> <li>• during transport</li> </ul>	-25 ... +60 °C -40 ... +80 °C -40 ... +80 °C

#### Approvals Certificates

General Product Approval	Test Certificates	other
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[Type Test Certificates/Test Report](#)



[Confirmation](#)

other	Environment	Industrial Communication
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Further information

Information on the packaging

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

Information for data generation and storage

<https://support.industry.siemens.com/cs/ww/en/view/109995012>

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=3UG5461-1AA40>

Cax online generator

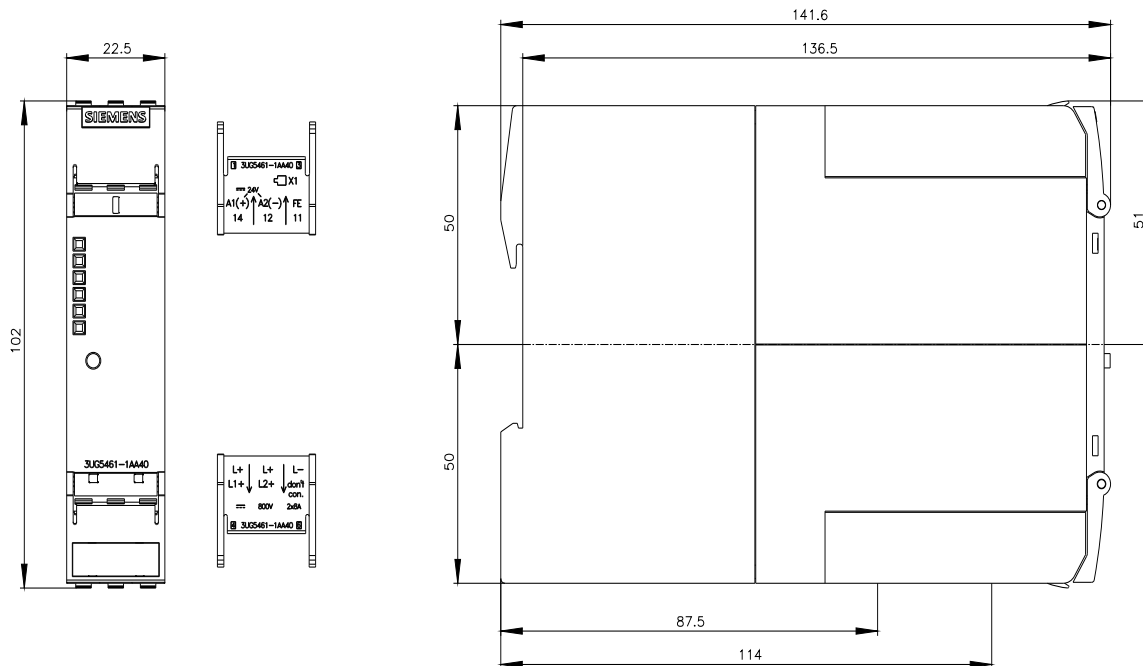
<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3UG5461-1AA40>

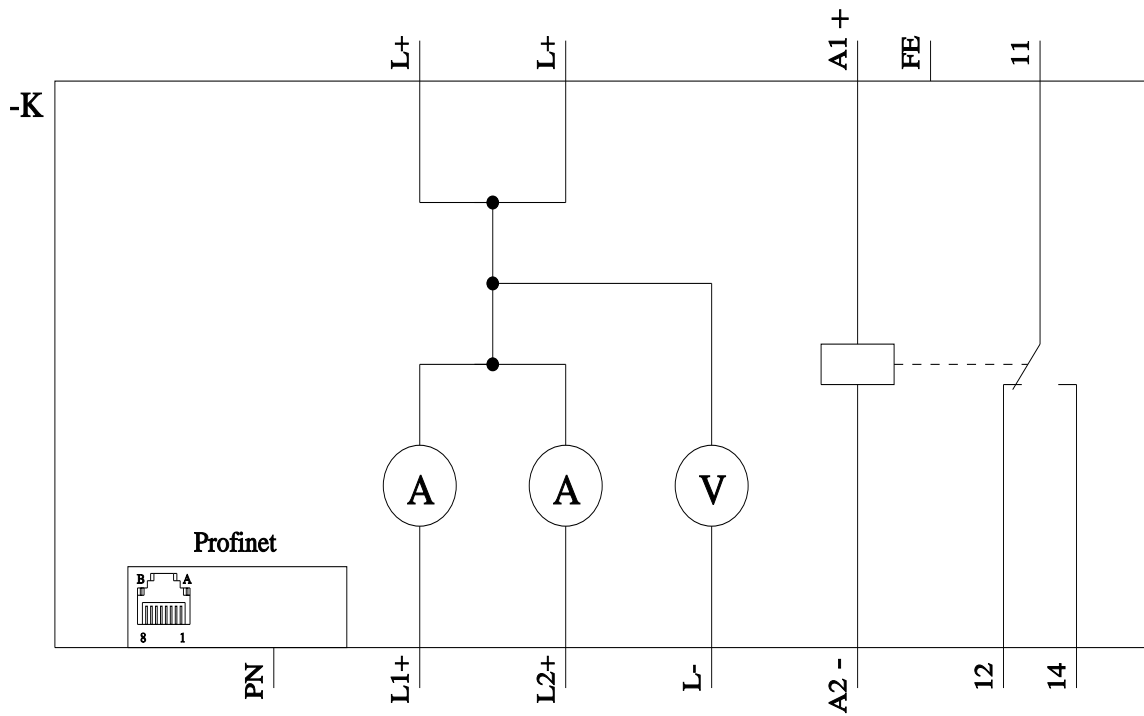
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<https://support.industry.siemens.com/cs/ww/en/ps/3UG5461-1AA40>

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

[https://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3UG5461-1AA40&lang=en](https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3UG5461-1AA40&lang=en)





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