SIEMENS

Data sheet 3UG5461-1AA40



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	
● **for overvoltage category II according to IEC 60664 with degree of pollution 3 rated value**	800 V
● for overvoltage category III according to IEC 60664 with degree of pollution 3 rated value	600 V
● of the auxiliary and control circuit for overvoltage category III according to IEC 60664 with degree of pollution 3 rated value	30 V
type of voltage for monitoring	DC
surge voltage resistance rated value	6 kV
maximum permissible voltage for protective separation	
● between auxiliary and auxiliary circuit	24 V
● between control and auxiliary circuit	24 V
shock resistance according to IEC 60068-2-27	sinusoidal half-wave 15 g / 11 ms
vibration resistance according to IEC 60068-2-6	1 ... 6 Hz: 15 mm, 6 ... 500 Hz: 2 g
mechanical service life (operating cycles) typical	10 000 000
electrical endurance (operating cycles) for relay outputs maximum	100 000
● note	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 (day/month/year)	05/31/2019
SVHC substance name	Lead CAS-No. 7439-92-1 Lead monoxide (lead oxide) CAS-No. 1317-36-8 2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one CAS-No. 71868-10-5 Melamine CAS-No. 108-78-1 6,6'-di-tert-butyl-2,2'-methylenedi-p-cresol CAS-No. 119-47-1
Net Weight	0.23 kg
Product Function	
product function	

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● overvoltage detection DC	Yes
● undervoltage detection DC	Yes
● overcurrent detection DC	Yes
● undercurrent detection DC	Yes
● auto-RESET	Yes
● manual RESET	Yes
Supply voltage	
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
Measuring circuit	
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
Communication/ Protocol	
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
Auxiliary circuit	
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
Electromagnetic compatibility	
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
Galvanic isolation	
design of the electrical isolation	Protective separation
galvanic isolation	

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● between input and output	Yes
● between the voltage supply and other circuits	Yes
Electrical Safety	
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	
● solid	1x (0,5 ... 4 mm²), 2x (0,5 ... 2,5 mm²)
● stranded	1x (0,5 ... 4 mm²), 2x (0,5 ... 2,5 mm²)
● finely stranded with core end processing	1x (0.5 ... 4 mm²), 2x (0.5 ... 2.5 mm²)
type of connectable conductor cross-sections	
● for auxiliary contacts	
— solid	1x (0.5 ... 4 mm²), 2x (0.5 ... 2.5 mm²)
— finely stranded with core end processing	2x (0,5 ... 1,5 mm²), 1x (0,5 ... 4 mm²)
● for AWG cables for auxiliary contacts	1x (20 ... 12), 2x (20 ... 14)
tightening torque	
● for main contacts with screw-type terminals	0.6 ... 0.8 N·m
● for auxiliary contacts with screw-type terminals	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	
● with side-by-side mounting	
— forwards	0 mm
— backwards	0 mm
— upwards	50 mm
— downwards	50 mm
— at the side	0 mm
● for grounded parts	
— forwards	0 mm
— backwards	0 mm
— upwards	50 mm
— at the side	3 mm
— downwards	50 mm
● for live parts	
— forwards	0 mm
— backwards	0 mm
— upwards	50 mm
— downwards	50 mm
— at the side	3 mm
Ambient conditions	
installation altitude at height above sea level maximum	2 000 m
ambient temperature	
● during operation	-25 ... +60 °C
● during storage	-40 ... +80 °C
● during transport	-40 ... +80 °C
Approvals Certificates	

Environment	General Product Approval	Test Certificates

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Environmental Confirmations

Type Test Certificates/Test Report

other	Industrial Communication

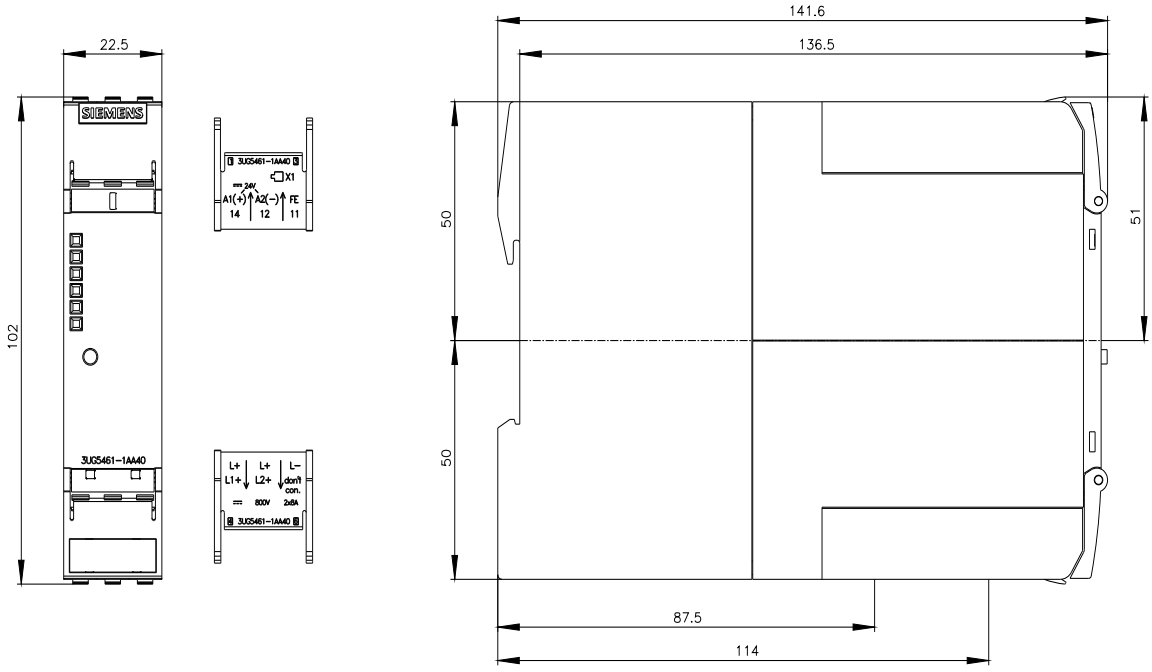
Confirmation

Declaration of Conformity

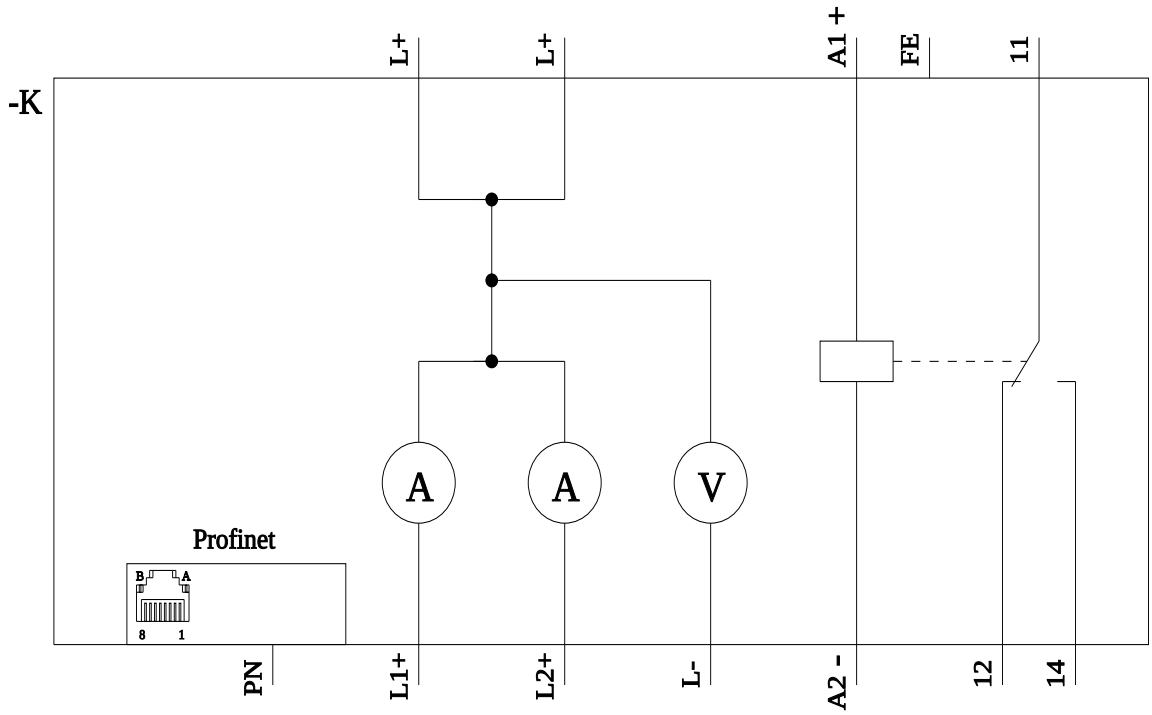
Profibus

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



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