



!!! product phase-out !!! The preferred successor type is 3UG5512-1BR20 phase failure and sequence 3x160-690 V analog monitoring relay phase failure and sequence 3 x 160...690 V 50...60 Hz AC 2 changeover contacts screw terminal

product brand name	SIRIUS
product designation	Line monitoring relay
design of the product	2 functions
product type designation	3UG4
General technical data	
product function	Phase monitoring relay
display version LED	Yes
insulation voltage for overvoltage category III according to IEC 60664	
• with degree of pollution 3 rated value	690 V
degree of pollution	3
type of voltage	
• for monitoring	AC
• of the control supply voltage	AC
surge voltage resistance rated value	6 kV
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) 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	K
relative repeat accuracy	1 %
Substance Prohibitance (Date)	05/28/2009
SVHC substance name	Lead - 7439-92-1 Lead monoxide (lead oxide) - 1317-36-8
Weight	144 g
Product Function	
product function	
• undervoltage detection	No
• overvoltage detection	No
• phase sequence recognition	Yes
• phase failure detection	Yes
• asymmetry detection	No
• overvoltage detection 3 phase	No
• undervoltage detection 3 phases	No
• voltage window recognition 3 phase	No
• adjustable open/closed-circuit current principle	No
• auto-RESET	Yes
Control circuit/ Control	

control supply voltage at AC	
<ul style="list-style-type: none"> at 50 Hz rated value at 60 Hz rated value 	160 ... 690 V 160 ... 690 V
operating range factor control supply voltage rated value at AC at 50 Hz	
<ul style="list-style-type: none"> initial value full-scale value 	1 1
operating range factor control supply voltage rated value at AC at 60 Hz	
<ul style="list-style-type: none"> initial value full-scale value 	1 1
Measuring circuit	
measurable voltage at AC	160 ... 690 V
response time maximum	450 ms
Auxiliary circuit	
number of NC contacts delayed switching	0
number of NO contacts delayed switching	0
number of CO contacts	
<ul style="list-style-type: none"> for auxiliary contacts delayed switching 	2 2
operating frequency with 3RT2 contactor maximum	5 000 1/h
Main circuit	
number of poles for main current circuit	3
ampacity of the output relay at AC-15	
<ul style="list-style-type: none"> at 250 V at 50/60 Hz at 400 V at 50/60 Hz 	3 A 3 A
ampacity of the output relay at DC-13	
<ul style="list-style-type: none"> at 24 V at 125 V at 250 V 	1 A 0.2 A 0.1 A
operational current at 17 V minimum	5 mA
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 according to IEC 61000-4-4 due to conductor-earth surge according to IEC 61000-4-5 due to conductor-conductor surge according to IEC 61000-4-5 	2 kV 2 kV 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	
galvanic isolation	
<ul style="list-style-type: none"> between input and output between the outputs between the voltage supply and other circuits 	Yes Yes Yes
Electrical Safety	
protection class IP on the front according to IEC 60529	IP20
Connections/ Terminals	
product component removable terminal for auxiliary and control circuit	Yes
type of electrical connection	screw terminal
type of connectable conductor cross-sections	
<ul style="list-style-type: none"> solid finely stranded with core end processing for AWG cables solid for AWG cables stranded 	1x (0.5 ... 4.0 mm ²), 2x (0.5 ... 2.5 mm ²) 1x (0.5 ... 2.5 mm ²), 2x (0.5 ... 1.5 mm ²) 2x (20 ... 14) 2x (20 ... 14)
connectable conductor cross-section	
<ul style="list-style-type: none"> solid finely stranded with core end processing 	0.5 ... 4 mm ² 0.5 ... 2.5 mm ²
AWG number as coded connectable conductor cross section	

• solid	20 ... 14
• stranded	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	
• 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
ambient temperature	
• during operation	-25 ... +60 °C
• during storage	-40 ... +85 °C
• during transport	-40 ... +85 °C

Environmental footprint

Global Warming Potential [CO2 eq] total	16.1 kg
Global Warming Potential [CO2 eq] during manufacturing	3.51 kg
Global Warming Potential [CO2 eq] during operation	13.7 kg
Global Warming Potential [CO2 eq] after end of life	-1.12 kg

Approvals Certificates

General Product Approval



[Confirmation](#)



EMV Test Certificates Marine / Shipping



[KC](#)

[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)



other Railway Environment

[Confirmation](#)

[Special Test Certificate](#)



[Environmental Confirmations](#)

Further information

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=3UG4512-1BR20>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3UG4512-1BR20>

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

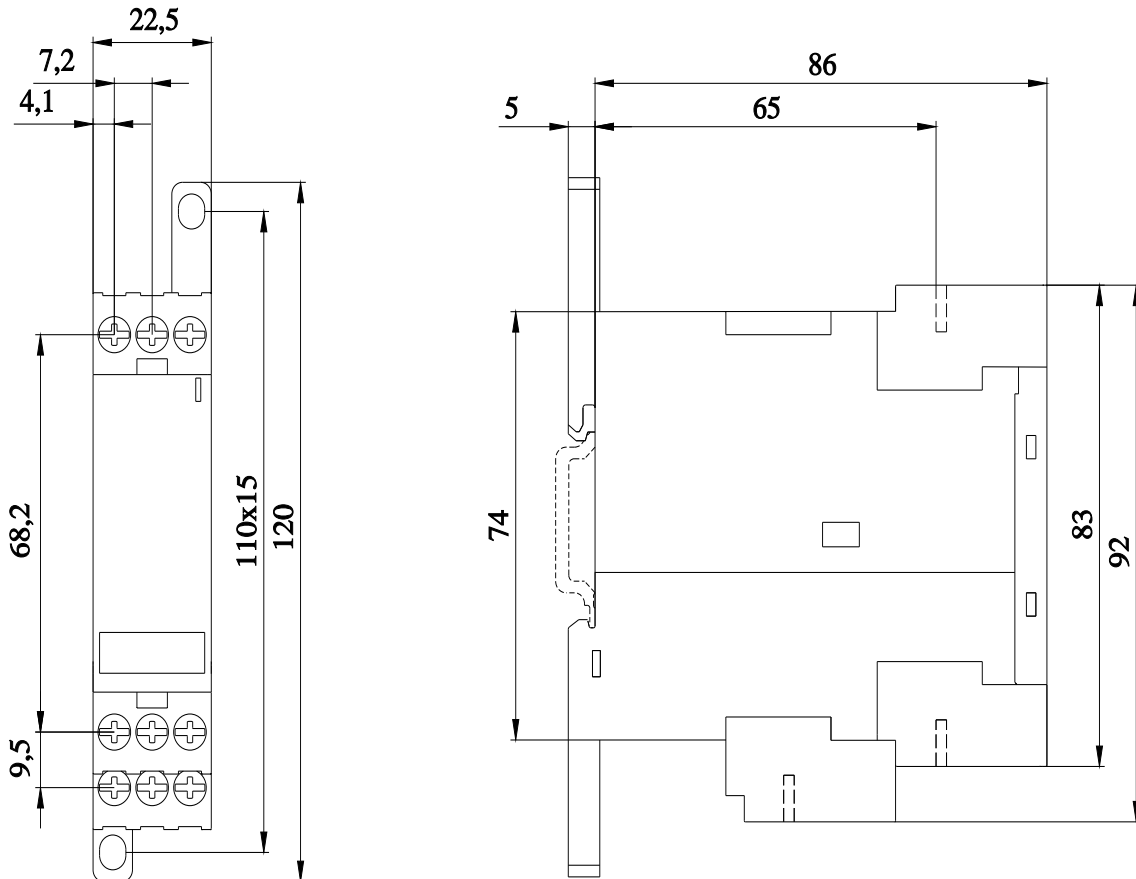
<https://support.industry.siemens.com/cs/ww/en/ps/3UG4512-1BR20>

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3UG4512-1BR20&lang=en

Characteristic: Derating

<https://support.industry.siemens.com/cs/ww/en/ps/3UG4512-1BR20/manual>



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