

Analog monitoring relay Phase failure and sequence 3 x 160...690 V
50...60 Hz AC 1 change-over contact screw terminal



Figure similar

product brand name	SIRIUS
Product designation	Network monitoring relay with analog setting
Design of the product	2 functions
Product type designation	3UG4

General technical data	
Product function	Phase monitoring relay
Display version LED	Yes
<ul style="list-style-type: none"> — 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 <ul style="list-style-type: none"> • for monitoring • of the control supply voltage 	AC AC
Surge voltage resistance rated value	6 kV
<ul style="list-style-type: none"> • Protection class IP 	IP20
Shock resistance	

• acc. to IEC 60068-2-27	sinusoidal half-wave 15g / 11 ms
Vibration resistance	
• acc. to IEC 60068-2-6	1 ... 6 Hz: 15 mm, 6 ... 500 Hz: 2g
Mechanical service life (switching cycles)	
• typical	10 000 000
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	
• undervoltage detection	No
• Overvoltage detection	No
• phase sequence recognition	Yes
• Phase failure detection	Yes
• Phase unbalance	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	
• at 50 Hz rated value	160 ... 690 V
• at 60 Hz rated value	160 ... 690 V
operating range factor control supply voltage rated value at AC at 50 Hz	
• initial value	1
• full-scale value	1
operating range factor control supply voltage rated value at AC at 60 Hz	
• initial value	1
• full-scale value	1

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	3
Outputs	
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
Operating current at 17 V minimum	5 mA
Continuous current of the DIAZED fuse link of the output relay	4 A
Electromagnetic compatibility	
Conducted interference	
• due to burst acc. to IEC 61000-4-4	2 kV
• due to conductor-earth surge acc. to IEC 61000-4-5	2 kV
• 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	
• Galvanic isolation between entrance and outlet	Yes
• galvanic isolation between the outputs	Yes
• Galvanic isolation between the voltage supply and other circuits	Yes
Connections/ Terminals	
Product function	
• removable terminal for auxiliary and control circuit	Yes
• type of electrical connection	screw-type terminals
• type of connectable conductor cross-sections solid	1x (0.5 ... 4 mm ²), 2x (0.5 ... 2.5 mm ²)
• 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)
• 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	83 mm
Width	22.5 mm
Depth	91 mm
Required spacing	
<ul style="list-style-type: none"> with side-by-side mounting <ul style="list-style-type: none"> — forwards — Backwards — upwards — downwards — at the side 	0 mm
<ul style="list-style-type: none"> for grounded parts <ul style="list-style-type: none"> — forwards — Backwards — upwards — at the side — downwards 	0 mm
<ul style="list-style-type: none"> for live parts <ul style="list-style-type: none"> — forwards — Backwards — upwards — downwards — at the side 	0 mm

Ambient conditions






Installation altitude at height above sea level	
<ul style="list-style-type: none"> maximum 	2 000 m
Ambient temperature	
<ul style="list-style-type: none"> during operation 	-25 ... +60 °C

- during storage
- during transport

-40 ... +85 °C

-40 ... +85 °C

Certificates/ approvals

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

[Miscellaneous](#)

Test Certificates	Marine / Shipping	other	Railway
Type Test Certificates/Test Report	Special Test Certificate	Confirmation	Vibration and Shock
	 LRS	 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?mlfb=3UG4512-1AR20>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3UG4512-1AR20>

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

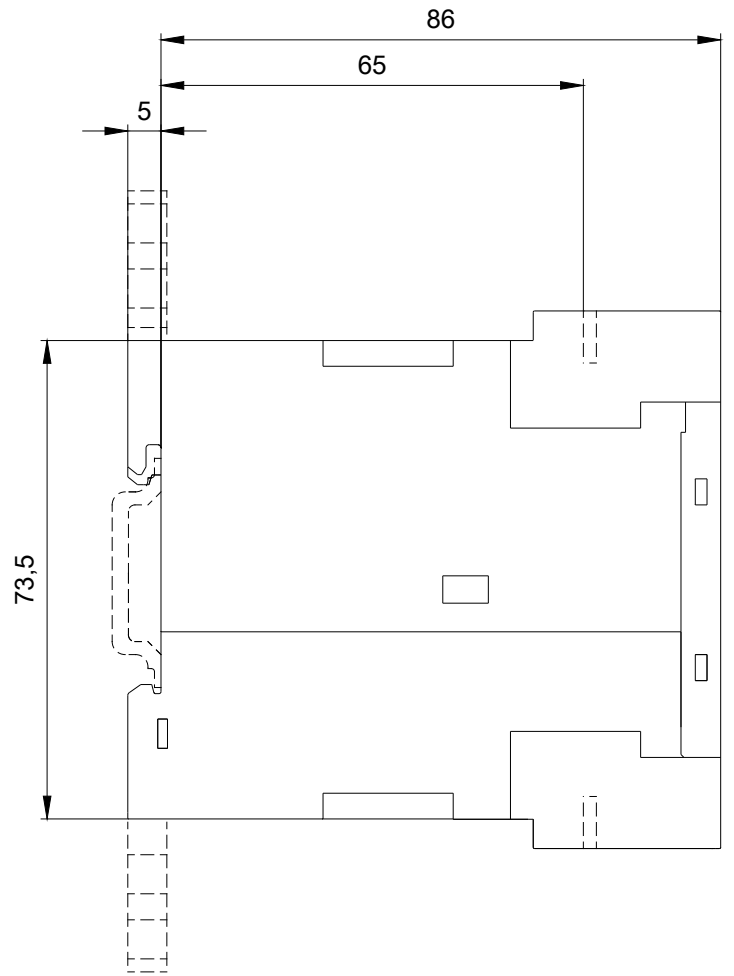
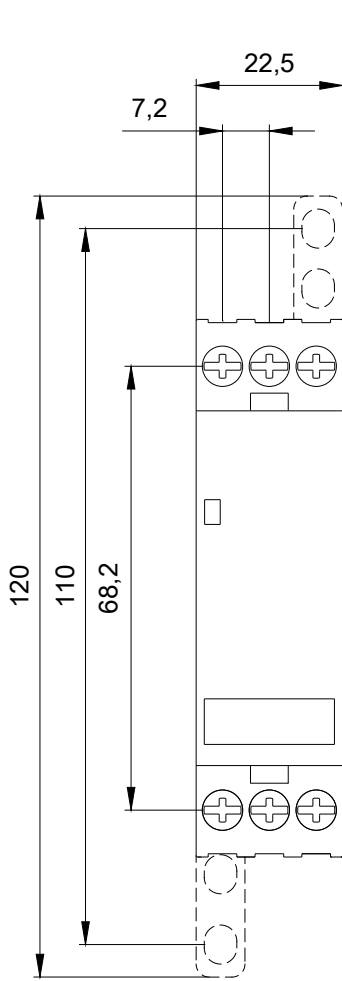
<https://support.industry.siemens.com/cs/ww/en/ps/3UG4512-1AR20>

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3UG4512-1AR20&lang=en

Characteristic: Derating

<https://support.industry.siemens.com/cs/ww/en/ps/3UG4512-1AR20/manual>



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