SIEMENS

Data sheet 3UG4513-1BR20



!!! product phase-out !!! The preferred successor type is 3UG5514-1BR20 phase failure and sequence adjustment undervoltage analog monitoring relay phase failure and sequence adjustable undervoltage asymmetry 20% fixed 3 x 160 to 690 V 50 to 60 Hz AC hysteresis 5% fixed delay time 0-20 s 2 changeover contacts screw terminal

product designation 4 functions design of the product product Separation 3UG4 Separative Christian Support Separation Support	product brand name	SIRIUS
product type designation investigate technical data product function display version LED yes insulation voltage for overvoltage category III according to liec 69684 • with degree of pollution 3 rated value degree of pollution type of voltage • for monitoring • of the control supply voltage surge voltage resistance rated value for the control supply voltage surge voltage resistance rated value • of the control supply voltage surge voltage resistance rated value • for monitoring • of the control supply voltage surge voltage resistance rated value • for monitoring • of the control supply voltage surge voltage resistance rated value • for woltage surge voltage resistance rated value • for woltage voltage voltag	product designation	Network monitoring relay with analog setting
product function Phase monitoring relay (display version LED Yes (displ	design of the product	4 functions
Phase monitoring relay Phase monitoring relay Pres	product type designation	3UG4
display version LED insulation voltage for vervroltage category Ill according to IEC 60664 • with degree of pollution 3 rated value degree of pollution type of voltage • for monitoring • of the control supply voltage • for monitoring • of the control supply voltage • for monitoring • of the control supply voltage * for monitoring • of the control supply voltage * for monitoring • of the control supply voltage * for monitoring • of the control supply voltage * for monitoring • of the control supply voltage * for monitoring • of the control supply voltage * for monitoring • of the control supply voltage * for monitoring • of the control supply voltage * for monitoring • of the control supply voltage * for monitoring • for the control supply voltage * for monitoring • for the control supply voltage *	General technical data	
insulation voltage for overvoltage category III according to IEC 60664 • with degree of pollution 3 rated value 690 V degree of pollution 1 yype of voltage • for monitoring • of the control supply voltage 9 of the control supply voltage 1 P20 surge voltage resistance rated value 9 fok voltage resistance rated value 9 fok voltage resistance rated value 9 fok voltage resistance according to IEC 60068-2-27 mechanical service life (operating cycles) typical 10 000 000 electrical endurance (operating cycles) typical 10 000 000 electrical endurance (operating cycles) typical 10 000 000 thermal current of the switching element with contacts maximum 5 A substance Prohibitance (Date) SYHC substance name Coduct Function • undervoltage detection • overvoltage detection • overvoltage detection • overvoltage detection • phase sequence recognition • phase failure detection • overvoltage detection 3 phase • overvoltage detection 4 phase • overvoltage detection 5 phase • overvoltag	product function	Phase monitoring relay
IEC 60664 • with degree of pollution 3 rated value degree of pollution type of voltage • for monitoring • of the control supply voltage surge voltage resistance rated value protection class IP shock resistance according to IEC 60068-2-27 sinusoidal half-wave 15g / 11 ms reference cleetrical endurance (operating cycles) typical thermal current of the switching element with contacts shaximum reference code according to IEC 81346-2 relative repeat accuracy 1% Substance Prohibitance (Date) SVHC substance name **Coduct Function** reduct function • undervoltage detection • undervoltage detection • undervoltage detection • phase sequence recognition • phase sequence recognition • phase failure detection • phase failure detection • asymmetry detection • asymmetry detection • overvoltage detection 3 phase • undervoltage detection 3 phases • voltage window recognition 3 phase • voltage window recognition 3 phase • voltage window recognition 3 phase • adjustable open/closed-circuit current principle • auto-RESET *Ves	display version LED	Yes
type of voltage of or monitoring of the control supply voltage of of the control supply voltage and of the control supply voltage surge voltage resistance rated value protection class IP shock resistance according to IEC 60068-2-27 sinusoidal half-wave 15g / 11 ms mechanical service life (operating cycles) typical electrical endurance (operating cycles) typical electrical endurance (operating cycles) at AC-15 at 230 V typical thermal current of the switching element with contacts maximum reference code according to IEC 81346-2 K relative repeat accuracy 1 % Substance Prohibitance (Date) SVHC substance name coduct Function reduct Function oundervoltage detection overvoltage detection ophase sequence recognition ophase sequence recognition ophase sequence recognition ophase asymmetry detection overvoltage detection 3 phase overvoltage detection 3 phase oundervoltage detection 4 phase 5 phase 5 phase 5 phase 5		
type of voltage	 with degree of pollution 3 rated value 	690 V
of for monitoring of the control supply voltage surge voltage resistance rated value protection class IP protection class IP shock resistance according to IEC 60068-2-27 inusoidal half-wave 15g / 11 ms mechanical service life (operating cycles) typical electrical endurance (operating cycles) at AC-15 at 230 V typical thermal current of the switching element with contacts maximum reference code according to IEC 81346-2 K relative repeat accuracy 1 % Substance Prohibitance (Date) SVHC substance name Lead - 7439-92-1 Lead monoxide (lead oxide) - 1317-36-8 Product Function undervoltage detection overvoltage detection overvoltage detection phase sequence recognition ophase failure detection phase failure detection ves asymmetry detection ves overvoltage detection 3 phase undervoltage detection 3 phase voltage window recognition 3 phase voltage window recognition 3 phase adjustable open/closed-circuit current principle adjustable open/closed-circuit current principle auto-RESET	degree of pollution	3
of the control supply voltage surge voltage resistance rated value protection class IP shock resistance according to IEC 60068-2-27 shock resistance according to IEC 60068-2-27 sinusoidal half-wave 15g / 11 ms mechanical service life (operating cycles) typical electrical endurance (operating cycles) at AC-15 at 230 V typical thermal current of the switching element with contacts maximum reference code according to IEC 81346-2 K relative repeat accuracy 1% Substance Prohibitance (Date) SVHC substance name Lead - 7439-92-1 Lead - 7439-92-1 Lead monoxide (lead oxide) - 1317-36-8 Product Function undervoltage detection veervoltage detection veervoltage detection phase sequence recognition phase failure detection yes asymmetry detection veervoltage detection 3 phase voltage window recognition 3 phase voltage wind	type of voltage	
surge voltage resistance rated value protection class IP shock resistance according to IEC 60068-2-27 sinusoidal half-wave 15g / 11 ms mechanical service life (operating cycles) typical electrical endurance (operating cycles) at AC-15 at 230 V typical thermal current of the switching element with contacts maximum reference code according to IEC 81346-2 Krelative repeat accuracy 1 % Substance Prohibitance (Date) SVHC substance name Lead - 7439-92-1 Lead monoxide (lead oxide) - 1317-36-8 Product Function o undervoltage detection o vervoltage detection o phase sequence recognition o phase sequence recognition o phase failure detection asymmetry detection o asymmetry detection o vervoltage detection o vervoltage detection o phase failure detection o vervoltage detection o phase failure detection o asymmetry detection o vervoltage detection o vervoltage detection o vervoltage detection o asymmetry detection o vervoltage detection o vervoltage detection o vervoltage detection o vervoltage detection o phase sequence recognition o vervoltage detection o phase failure detection o vervoltage detection o vervoltage detection 3 phase o voltage window recognition 3 phase	• for monitoring	AC
protection class IP	of the control supply voltage	AC
shock resistance according to IEC 60068-2-27 sinusoidal half-wave 15g / 11 ms mechanical service life (operating cycles) typical electrical endurance (operating cycles) at AC-15 at 230 V typical thermal current of the switching element with contacts maximum reference code according to IEC 81346-2 K relative repeat accuracy 1 % Substance Prohibitance (Date) 5VHC substance name Lead - 7439-92-1 Lead monoxide (lead oxide) - 1317-36-8 roduct Function product function undervoltage detection versultage detection phase sequence recognition phase sequence recognition phase failure detection saymmetry detection overvoltage detection 3 phase overvoltage detection 3 phase undervoltage detection 3 phases voltage window recognition 3 phase overlage window recognition 3 phase adjustable open/closed-circuit current principle auto-RESET Yes	surge voltage resistance rated value	6 kV
mechanical service life (operating cycles) typical electrical endurance (operating cycles) at AC-15 at 230 V typical thermal current of the switching element with contacts maximum reference code according to IEC 81346-2 K relative repeat accuracy 1 % Substance Prohibitance (Date) 55/01/2012 SVHC substance name Lead - 7439-92-1 Lead monoxide (lead oxide) - 1317-36-8 roduct Function product function undervoltage detection overvoltage detection ophase sequence recognition overvoltage detection sphase failure detection overvoltage detection 3 phase overvoltage detection 3 phase undervoltage detection 3 phase overvoltage detection 3 phase ovoltage window recognition 3 phase	protection class IP	IP20
electrical endurance (operating cycles) at AC-15 at 230 V typical thermal current of the switching element with contacts maximum reference code according to IEC 81346-2 K relative repeat accuracy 1 % Substance Prohibitance (Date) 5VHC substance name Lead - 7439-92-1 Lead monoxide (lead oxide) - 1317-36-8 roduct Function requirement of the switching element with contacts maximum very substance of the switching element with contacts maximum 1 % Substance Prohibitance (Date) 5VHC substance name Lead - 7439-92-1 Lead monoxide (lead oxide) - 1317-36-8 roduct Function Yes overvoltage detection Yes overvoltage detection Yes asymmetry detection yes asymmetry detection very overvoltage detection 3 phase overvoltage detection 3 phase undervoltage detection 3 phase voltage window recognition 3 phase voltage window recognition 3 phase adjustable open/closed-circuit current principle auto-RESET Yes	shock resistance according to IEC 60068-2-27	sinusoidal half-wave 15g / 11 ms
thermal current of the switching element with contacts maximum reference code according to IEC 81346-2 Krelative repeat accuracy Substance Prohibitance (Date) SVHC substance name Croduct Function product Function • undervoltage detection • overvoltage detection • phase sequence recognition • phase failure detection • overvoltage detection • overvoltage detection • overvoltage detection • yes • overvoltage detection 3 phase • overvoltage detection 3 phases • voltage window recognition 3 phase • undervoltage detection 3 phase • overvoltage window recognition 3 phase • overvoltage detection 3 phase • overvoltage window recognition 3 phase	mechanical service life (operating cycles) typical	10 000 000
reference code according to IEC 81346-2 relative repeat accuracy Substance Prohibitance (Date) SVHC substance name Lead - 7439-92-1 Lead monoxide (lead oxide) - 1317-36-8 roduct Function oundervoltage detection 3 phase overvoltage detection 3 phase oundervoltage detection 3 phases oundervoltage detection 3 phase oundervoltage detection 4 phase oundervoltage 4 phase ounder		100 000
relative repeat accuracy Substance Prohibitance (Date) SVHC substance name Lead - 7439-92-1 Lead monoxide (lead oxide) - 1317-36-8 Product Function product function undervoltage detection overvoltage detection phase sequence recognition phase failure detection phase failure detection overvoltage detection yes overvoltage detection 3 phase voltage detection 3 phases voltage window recognition 3 phase overvoltage detection 3 phase voltage window recognition 3 phase overvoltage detection 3 phase voltage window recognition 3 phase overvoltage detection 3 phase voltage window recognition 3 phase overvoltage detection 3 phase voltage window recognition 3 phase overvoltage detection 3 phase voltage window recognition 3 phase overvoltage detection 3 phase voltage window recognition 3 phase overvoltage detection 3 phase voltage window recognition 3 phase		5 A
Substance Prohibitance (Date) SVHC substance name Lead - 7439-92-1 Lead monoxide (lead oxide) - 1317-36-8 Product Function product function undervoltage detection overvoltage detection phase sequence recognition phase failure detection phase failure detection overvoltage detection yes overvoltage detection 3 phase voltage detection 3 phases voltage window recognition 3 phase overvoltage detection 3 phase overvoltage detection 3 phase voltage window recognition 3 phase overvoltage detection 3 phase voltage window recognition 3 phase overvoltage detection 3 phase voltage window recognition 3 phase overvoltage detection 3 phase voltage window recognition 3 phase overvoltage detection 3 phase voltage window recognition 3 phase overvoltage detection 3 phase voltage window recognition 3 phase overvoltage detection 3 phase voltage window recognition 3 phase overvoltage detection 3 phase voltage window recognition 3 phase	reference code according to IEC 81346-2	К
Lead - 7439-92-1 Lead monoxide (lead oxide) - 1317-36-8 Product Function product function undervoltage detection overvoltage detection ophase sequence recognition overvoltage detection 3 phase overvoltage detection 3 phase overvoltage detection 3 phase overvoltage window recognition 3 phase	relative repeat accuracy	1 %
Lead monoxide (lead oxide) - 1317-36-8 Product Function product function undervoltage detection overvoltage detection phase sequence recognition phase failure detection asymmetry detection overvoltage detection 3 phase undervoltage detection 3 phase voltage window recognition 3 phase ovoltage window recognition 3 phase adjustable open/closed-circuit current principle auto-RESET Lead monoxide (lead oxide) - 1317-36-8 Product Function Yes No	Substance Prohibitance (Date)	05/01/2012
product function • undervoltage detection Yes • overvoltage detection No • phase sequence recognition Yes • phase failure detection Yes • asymmetry detection Yes • overvoltage detection 3 phase No • undervoltage detection 3 phases Yes • voltage window recognition 3 phase No • adjustable open/closed-circuit current principle No • auto-RESET Yes	SVHC substance name	
 undervoltage detection overvoltage detection phase sequence recognition phase failure detection asymmetry detection overvoltage detection 3 phase undervoltage detection 3 phases voltage window recognition 3 phase voltage window recognition 3 phase adjustable open/closed-circuit current principle auto-RESET 	Product Function	
 overvoltage detection phase sequence recognition phase failure detection asymmetry detection overvoltage detection 3 phase undervoltage detection 3 phases voltage window recognition 3 phase voltage window recognition 3 phase adjustable open/closed-circuit current principle auto-RESET No 	product function	
 phase sequence recognition phase failure detection asymmetry detection overvoltage detection 3 phase undervoltage detection 3 phases voltage window recognition 3 phase voltage window recognition 3 phase adjustable open/closed-circuit current principle auto-RESET 	 undervoltage detection 	Yes
 phase failure detection asymmetry detection overvoltage detection 3 phase undervoltage detection 3 phases voltage window recognition 3 phase voltage window recognition 3 phase adjustable open/closed-circuit current principle auto-RESET Yes No No No No No No Yes	 overvoltage detection 	No
 asymmetry detection overvoltage detection 3 phase undervoltage detection 3 phases voltage window recognition 3 phase voltage window recognition 3 phase adjustable open/closed-circuit current principle auto-RESET Yes No auto-RESET 	 phase sequence recognition 	Yes
 overvoltage detection 3 phase undervoltage detection 3 phases voltage window recognition 3 phase adjustable open/closed-circuit current principle auto-RESET No Yes	 phase failure detection 	Yes
 undervoltage detection 3 phases voltage window recognition 3 phase adjustable open/closed-circuit current principle auto-RESET Yes No Yes	 asymmetry detection 	Yes
 voltage window recognition 3 phase adjustable open/closed-circuit current principle auto-RESET No Yes 	 overvoltage detection 3 phase 	No
 adjustable open/closed-circuit current principle auto-RESET No 	 undervoltage detection 3 phases 	Yes
• auto-RESET Yes	 voltage window recognition 3 phase 	No
	 adjustable open/closed-circuit current principle 	No
ontrol circuit/ Control	• auto-RESET	Yes
	Control circuit/ Control	

at FO LIP rated walking	400 000 V
 at 50 Hz rated value at 60 Hz rated value 	160 690 V 160 690 V
• at 60 Hz rated value operating range factor control supply voltage rated value at	100 080 V
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
Measuring circuit	
measurable voltage at AC	160 690 V
response time maximum Precision	450 ms
relative metering precision	5 %
Auxiliary circuit	3 /0
number of NC contacts delayed switching	0
number of NO contacts delayed switching	0
number of CO contacts	
for auxiliary contacts	2
delayed switching	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	
• 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	1A
• at 125 V	0.2 A
• at 250 V	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	
 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	
galvanic isolation	Von
between input and output between the cutnuts	Yes
 between the outputs between the voltage supply and other circuits 	Yes Yes
Connections/ Terminals	
product component 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 4.0 mm²), 2x (0.5 2.5 mm²)
 finely stranded with core end processing 	1x (0.5 2.5 mm²), 2x (0.5 1.5 mm²)
 for AWG cables solid 	2x (20 14)
for AWG cables stranded	2x (20 14)
connectable conductor cross-section	
• solid	0.5 4 mm²
• finely stranded with core end processing AWC number as goded connectable conductor group	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
Approvals Certificates	

General Product Approval







Confirmation





EMV Test Certificates Marine / Shipping



<u>KC</u>

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=3UG4513-1BR20

Cax online generator

 $\underline{\text{http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en\&mlfb=3UG4513-1BR20}$

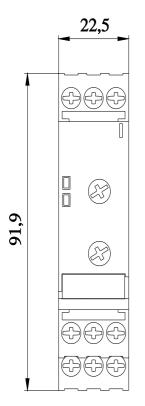
Service&Support (Manuals, Certificates, Characteristics, FAQs,...) https://support.industry.siemens.com/cs/ww/en/ps/3UG4513-1BR20

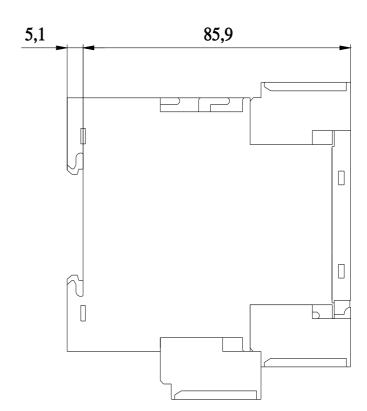
Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...)

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3UG4513-1BR20&lang=en

Characteristic: Derating

https://support.industry.siemens.com/cs/ww/en/ps/3UG4513-1BR20/manual





last modified: 3/11/2024 🖸