## **SIEMENS**

Data sheet 3UG4512-1BR20



Analog monitoring relay Phase failure and sequence 3 x 160...690 V 50...60 Hz AC 2 change-over contacts screw terminal Successor product for 3UG3513-1BL50 or 3UG3513-1PB50

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			
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><li>for monitoring</li></ul>	AC			
of the control supply voltage	AC			
surge voltage resistance rated value	6 kV			
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 IEC 81346-2	K			
relative repeat accuracy	1 %			
Substance Prohibitance (Date)	28.05.2009			
Product Function				
product function				
<ul> <li>undervoltage detection</li> </ul>	No			
<ul> <li>overvoltage detection</li> </ul>	No			
<ul> <li>phase sequence recognition</li> </ul>	Yes			
<ul> <li>phase failure detection</li> </ul>	Yes			
<ul> <li>asymmetry detection</li> </ul>	No			
<ul> <li>overvoltage detection 3 phase</li> </ul>	No			
<ul> <li>undervoltage detection 3 phases</li> </ul>	No			
<ul> <li>voltage window recognition 3 phase</li> </ul>	No			
<ul> <li>adjustable open/closed-circuit current principle</li> </ul>	No			
• auto-RESET	Yes			
Control circuit/ Control				

control supply voltage at AC  • at 60 Hz rated value  • finital		_
# at 60 Hz rated value operating range factor control supply voltage rated value at AC at 50 Hz  # initial value # initial val	control supply voltage at AC	
operating range factor control supply voltage rated value at AC at 50 Hz  initial value initial valu	at 50 Hz rated value	160 690 V
Value at AC at 50 Hz   It   It   It   It   It   It   It   I		160 690 V
* full-scale value   1   1   1   1   1   1   1   1   1		
sperating range factor control supply voltage rated value at A at 68 ftz  initial value  initial value  initial value initial va	initial value	1
value at AC at 60 ftz	• full-scale value	1
Initial value		
Measuring circuit   measurable voltage at AC   690 160 V		
Measuring circuit   measurable voltage at AC		
measurable voltage at AC  Auxilitry credit  number of NC contacts delayed switching 0 number of NC contacts delayed switching 2 operating frequency with 3RT2 contactor maximum 5 000 1/h  Main circuit 1 number of OC contacts delayed switching 2 operating frequency with 3RT2 contactor maximum 5 000 1/h  Main circuit 1 number of poles for main current circuit 3 ampacity of the output relay at AC-15 • at 250 vat 50/60 Hz 3 A 3 A 3 A 3 A 3 A 3 A 3 A 3 A 3 A 3 A		1
Auxiliary circuit number of NC contacts delayed switching number of CO contacts delayed switching operating frequency with 3RT2 contactor maximum  Nain circuit number of Poles for main current circuit ampacity of the output relay at AC-15  • at 250 V at 50/60 Hz • at 400 V at 50/60 Hz • at 125 V		
number of NC contacts delayed switching number of NC contacts delayed switching number of CO contacts delayed switching 2 operating frequency with 3RT2 contactor maximum 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 • at 400 v at 50/60 Hz  3 A ampacity of the output relay at DC-13 • at 125 V		690 160 V
number of NO contacts delayed switching number of CO conlacts delayed switching operating frequency with SRTZ contactor maximum  Main circuit number of poles for main current circuit ampacity of the output relay at AC-15 • at 250 V at 50/60 Hz • at 24 V • at 250 V at 50/60 Hz ampacity of the output relay at DC-13 • at 24 V • at 125 V • at 250 V • at	Auxiliary circuit	
number of CO contacts delayed switching operating frequency with 3RT2 contactor maximum Mini circuit  number of poles for main current circuit ampacity of the output relay at AC-15 • at 1250 V 3 4 50960 Hz 3 A ant 250 V 0.1 A operational current at 17 V minimum 5 mA continuous current of the DIAZED fuse link of the output relay operational current at 17 V minimum 5 mA continuous current of the DIAZED fuse link of the output relay  Electromagnatic compatibility  conducted interference • due to burst acc. to IEC 61000-4-5 • due to conductor-earth surge acc. to IEC 61000-4-5 felicl-based interference acc. to IEC 61000-4-2 6 due to conductor-earth surge acc. to IEC 61000-4-2 6 due to conductor surge acc. to IEC 61000-4-2 6 due to conductor surge acc. to IEC 61000-4-2 6 due to burst acc. to IEC 61000-4-2 6 due to be conductor-earth surge acc. to IEC 61000-4-5 felicl-based interference acc. to IEC 61000-4-2 6 due to conductor-earth surge acc. to IEC 61000-4-5 felicl-based interference acc. to IEC 61000-4-2 6 divo conductor surge acc. to IEC 61000-4-2 6 divo conductor surge acc. to IEC 61000-4-3 electrostatic discharge acc. to IEC 61000-4-2 6 divo contact discharge / 8 kV air discharge  Calvanic Isolation  • between the outputs • solid • finely stranded with core end processing • at AWG cables solid • at AWG cables solid • at AWG cables stranded • at AWG cables stranded • finely stranded with core end processing • solid • finely stranded with core end processing • solid • finely stranded with core end processing • solid • finely stranded with core end processing • solid • so	number of NC contacts delayed switching	0
operating frequency with 3RT2 contactor maximum  Main circuit number of poles for main current circuit ampacity of the output relay at AC-15 • at 250 V at 50/60 Hz at 260 V at 50/60 Hz at 24 V 1A • at 125 V • at 250 V operational current at 17 V minimum continuous current of the DIAZED fuse link of the output relay continuous current of the DIAZED fuse link of the output relay conducted interference • due to burst acc. to IEC 61000-4-4 • due to conductor-cardh surge acc. to IEC 61000-4-5 • due to conductor-cardh surge acc. to IEC 61000-4-5 • field-based interference acc. to IEC 61000-4-2 • due to conductor-conductor surge acc. to IEC 61000-4-2 • due to bender acc. to IEC 61000-4-2 • due to conductor-conductor surge acc. to IEC 61000-4-5 • field-based interference acc. to IEC 61000-4-2 • deven the compact of the surge acc. to IEC 61000-4-2 • deven the compact of the surge acc. to IEC 61000-4-2 • deven input and output • between the voltage supply and other circuits  yes  between the voltage supply and other circuits  yes  Connections/ Terminals  product component removable terminal for auxiliary and control circuit  type of electrical connection  type of connectable conductor cross-sections • solid • finely stranded with core end processing • at AWG cables solid • finely stranded with core end processing • solid • finely stranded with core end processing • solid • finely stranded with core end processing • solid • finely stranded with core end processing • solid • stranded	number of NO contacts delayed switching	0
Main circuit  number of poles for main current circuit  ampacity of the output relay at AC-15  • at 250 V at 50/80 Hz  • at 400 V at 50/80 Hz  • at 400 V at 50/80 Hz  • at 250 V  • at 125 V  • at 250 V  operational current at 17 V minimum  continuous current of the DIAZED fuse link of the output relay  deformagnetic compatibility  conducted interference  • due to burst acc. to IEC 61000-4-5  • due to conductor-earth surge acc. to IEC 61000-4-5  • due to conductor-conductor surge acc. to IEC 61000-4-5  fillot-based interference acc. to IEC 61000-4-2  electrostatic discharge acc. to IEC 61000-4-2  fillot-based interference acc. to IEC 61000-4-2  electrostatic discharge acc. to IEC 61000-4-2  fillot-based interference acc. to IEC 61000-4-2  fillot-based interference acc. to IEC 61000-4-2  electrostatic discharge acc. to IEC 61000-4-2  fillot-based interference acc. to IEC 61000-4-2  fillot-based interference acc. to IEC 61000-4-2  fillot-based interference acc. to IEC 61000-4-3  electrostatic discharge acc. to IEC 61000-4-2  fillot-based interference acc. to IEC 61000-4-3  electrostatic discharge acc. to IEC 61000-4-2  fillot-based interference acc. to IEC 61000-4-2  fillot-based interference acc. to IEC 61000-4-2  fillot-based interference acc. to IEC 61000-4-3  electrostatic discharge acc. to IEC 61000-4-2  fillot-based interference acc. to IEC 61000-4-2  fillot-based interference acc. to IEC 61000-4-2  fillot-based interference acc. to IEC 61000-4-3  electrostatic discharge acc. to IEC 61000-4-3	number of CO contacts delayed switching	
number of poles for main current circuit ampacity of the output relay at AC-15	operating frequency with 3RT2 contactor maximum	5 000 1/h
ampacity of the output relay at AC-15  • at 250 V at 50/60 Hz  ampacity of the output relay at DC-13  • at 240 V  • at 125 V  • at 125 V  • at 250 V  • operational current at 17 V minimum  continuous current of the DIAZED fuse link of the output relay  toconducted interference  • due to burst acc. to IEC 61000-4-4  • due to conductor-earth surge acc. to IEC 61000-4-5  field-based interference acc. to IEC 61000-4-2  6 due to conductor-conductor surge acc. to IEC 61000-4-2  field-based interference acc. to IEC 61000-4-2  6 kV contact discharge / 8 kV air discharge  Calvanic isolation  galvanic isolation  • between input and output  • between the outputs  • between the voltage supply and other circuits  Connections/ terminals  product component removable terminal for auxiliary and control circuit  type of electrical connection  type of connectable conductor cross-sections  • solid  • at AWG cables stranded  connectable conductor cross-section  • solid  • finely stranded with core end processing  AWG number as coded connectable conductor cross section  • solid  • finely stranded with core end processing  AWG number as coded connectable conductor cross section  • solid  • solid  • stranded	Main circuit	
	number of poles for main current circuit	3
ampacity of the output relay at DC-13  an at 22 V  at 125 V  at 125 V  operational current at 17 V minimum  continuous current of the DIAZED fuse link of the output relay  conducted interference  due to burst acc. to IEC 61000-4-4  due to conductor-conductor surge acc. to IEC 61000-4-5  due to conductor-conductor surge acc. to IEC 61000-4-5  due to conductor-conductor surge acc. to IEC 61000-4-3  due to conductor-conductor surge acc. to IEC 61000-4-3  due to conductor-conductor surge acc. to IEC 61000-4-3  due to conductor-conductor surge acc. to IEC 61000-4-5  field-based interference acc. to IEC 61000-4-3  delectrostatic discharge acc. to IEC 61000-4-2  6 kV contact discharge / 8 kV air discharge  Galvanic isolation  galvanic isolation  • between input and output  • between the outputs  • between the outputs  • between the voltage supply and other circuits  Yes  Connections/ Torminals  product component removable terminal for auxiliary and control circuit  type of electrical connection  type of electrical connection  type of connectable conductor cross-sections  • solid  • at AWG cables solid  • at AWG cables stranded  connectable conductor cross-section  • solid  • finely stranded with core end processing  AWG number as coded connectable conductor cross-section  • solid  • finely stranded with core end processing  AWG number as coded connectable conductor cross-section  • solid  • stranded	ampacity of the output relay at AC-15	
ampacity of the output relay at DC-13  • at 24 V	<ul> <li>at 250 V at 50/60 Hz</li> </ul>	3 A
at 24 V at 125 V at 250 V operational current at 17 V minimum continuous current of the DIAZED fuse link of the output relay  Electromagnetic compatibility conducted interference due to burst acc. to IEC 61000-4-4 due to conductor-certh surge acc. to IEC 61000-4-5 due to conductor-conductor surge acc. to IEC 61000-4-5 field-based interference acc. to IEC 61000-4-3 electrostatic discharge acc. to IEC 61000-4-2 field-based interference acc. to IEC 61000-4-3 electrostatic discharge acc. to IEC 61000-4-2 field-based interference acc. to IEC 61000-4-3 electrostatic discharge acc. to IEC 61000-4-2 field-based interference acc. to IEC 61000-4-3 electrostatic discharge acc. to IEC 61000-4-3 electrostatic discharge / 8 kV air discharge  Stavanic Isolation  9 alvanic Isolation  9 between the outputs 9 between the outputs 9 between the outputs 9 between the outputs 9 between the voltage supply and other circuits Yes  Connections/ Terminals  product component removable terminal for auxiliary and control circuit  type of electrical connection  type of connectable conductor cross-sections 9 solid 1 x (0.5 4 mm2), 2x (0.5 2.5 mm2) 1 x (0.5 2.5 mm2), 2x (0.5 1.5 mm2) 2 x (20 14)  connectable conductor cross-section 9 solid 6 finely stranded with core end processing  AWG number as coded connectable conductor cross section 9 solid 9 finely stranded 0 finely stranded 0 finely stranded with core end processing  AWG number as coded connectable conductor cross section 9 solid 9 finely stranded 0 finely stranded 0 finely stranded 0 finely stranded 0 finely stranded	• at 400 V at 50/60 Hz	3 A
• at 125 V • at 250 V 0.1 A  operational current at 17 V minimum  continuous current of the DIAZED fuse link of the output relay  Electromagnetic compatibility  conducted interference • due to burst acc. to IEC 61000-4-4 • due to conductor-centh surge acc. to IEC 61000-4-5 • due to conductor-centh surge acc. to IEC 61000-4-5 • due to conductor-conductor surge acc. to IEC 61000-4-5 • field-based interference acc. to IEC 61000-4-2 • due to conductor surge acc. to IEC 61000-4-3 • due to conductor-conductor surge acc. to IEC 61000-4-3 • due to conductor-conductor surge acc. to IEC 61000-4-3 • due to conductor-conductor surge acc. to IEC 61000-4-3 • delectrostatic discharge acc. to IEC 61000-4-2 • 6 kV contact discharge / 8 kV air discharge  Galvanic isolation  galvanic isolation  galvanic isolation • between the voltage supply and other circuits  Yes  connections/ Terminals  product component removable terminal for auxiliary and control circuit  type of electrical connection  type of connectable conductor cross-sections • solid • finely stranded with core end processing • at AWG cables solid • at AWG cables stranded • at AWG cables stranded • solid • finely stranded with core end processing  AWG number as coded connectable conductor cross-section • solid • solid • stranded	ampacity of the output relay at DC-13	
• at 250 V  operational current at 17 V minimum  continuous current of the DIAZED fuse link of the output relay  Electromagnetic compatibility  conducted interference  • due to burst acc. to IEC 61000-4-4 • due to conductor-earth surge acc. to IEC 61000-4-5 • due to conductor-conductor surge acc. to IEC 61000-4-5  filed-based interference acc. to IEC 61000-4-2  filed-based interference acc. to IEC 61000-4-3  ves  filed-based interference acc. to IEC 61000-4-2  filed-based interference acc. to IEC 61000-4-3  ves  ves  ves  ves  ves  ves  ves  ve	• at 24 V	1 A
operational current at 17 V minimum continuous current of the DIAZED fuse link of the output relay  Electromagnetic compatibility  conducted interference • due to burst acc. to IEC 61000-4-4 • due to conductor-earth surge acc. to IEC 61000-4-5 • due to conductor-earth surge acc. to IEC 61000-4-5 • due to conductor-conductor surge acc. to IEC 61000-4-5 • due to conductor-conductor surge acc. to IEC 61000-4-5 • due to conductor-conductor surge acc. to IEC 61000-4-3 electrostatic discharge acc. to IEC 61000-4-2 6 kV contact discharge / 8 kV air discharge  Galvanic isolation galvanic isolation  • between input and output • between the outputs • between the voltage supply and other circuits  Connections/ Terminals product component removable terminal for auxiliary and control circuit  type of electrical connection  type of connectable conductor cross-sections • solid • finely stranded with core end processing • at AWG cables stranded 2x (20 14)  connectable conductor cross-section • solid • finely stranded with core end processing • Solid • finely stranded with core end processing • Solid • finely stranded with core end processing • Solid • finely stranded with core end processing • Solid • Solid • Solid • Solid • Solid • Stranded	● at 125 V	0.2 A
continuous current of the DIAZED fuse link of the output relay  Electromagnetic compatibility  conducted interference  • due to burst acc. to IEC 61000-4-4 • due to conductor-earth surge acc. to IEC 61000-4-5 • due to conductor-conductor surge acc. to IEC 61000-4-5 • due to conductor-conductor surge acc. to IEC 61000-4-2 • field-based interference acc. to IEC 61000-4-2 • 6 kV contact discharge / 8 kV air discharge  Galvanic Isolation  galvanic isolation • between input and output • between the outputs  product component removable terminal for auxiliary and control circuit  type of electrical connection  type of connectable conductor cross-sections • solid • at AWG cables solid • at AWG cables solid • at AWG cables stranded  connectable conductor cross-section • solid • finely stranded with core end processing • solid • finely stranded with core end processing • Solid • finely stranded with core end processing • Solid • finely stranded with core end processing • Solid • finely stranded with core end processing • Solid • Solid • Solid • Solid • Stranded	• at 250 V	0.1 A
Electromagnetic compatibility  conducted interference  • due to burst acc. to IEC 61000-4-4 • due to conductor-earth surge acc. to IEC 61000-4-5 • due to conductor-conductor surge acc. to IEC 61000-4-5  field-based interference acc. to IEC 61000-4-3 • dectrostatic discharge acc. to IEC 61000-4-2  field-based interference acc. to IEC 61000-4-2  for kV contact discharge / 8 kV air discharge  Galvanic Isolation  • between input and output • between input and output • between the outputs • between the voltage supply and other circuits  Connections/ Terminals  product component removable terminal for auxiliary and control circuit  type of electrical connection  type of connectable conductor cross-sections • solid • finely stranded with core end processing • at AWG cables solid • at AWG cables stranded • finely stranded with core end processing • solid • finely stranded with core end processing • solid • finely stranded with core end processing  AWG number as coded connectable conductor cross section • solid • stranded • stranded	operational current at 17 V minimum	5 mA
conducted interference  • due to burst acc. to IEC 61000-4-4 • due to conductor-earth surge acc. to IEC 61000-4-5 • due to conductor-conductor surge acc. to IEC 61000-4-5 • due to conductor-conductor surge acc. to IEC 61000-4-3 • electrostatic discharge acc. to IEC 61000-4-2 • de to to conductor-conductor surge acc. to IEC 61000-4-3 • electrostatic discharge acc. to IEC 61000-4-2 • 6 kV contact discharge / 8 kV air discharge  Galvanic isolation • between input and output • between the outputs • between the voltage supply and other circuits  Connections/ Terminals  product component removable terminal for auxiliary and control circuit  type of electrical connection  type of electrical connectable conductor cross-sections • solid • finely stranded with core end processing • at AWG cables stranded  connectable conductor cross-section • solid • at AWG cables stranded  connectable conductor cross-section • solid • finely stranded with core end processing • solid • finely stranded with core end processing • solid • finely stranded with core end processing  AWG number as coded connectable conductor cross-section • solid • solid • solid • stranded		4 A
conducted interference  • due to burst acc. to IEC 61000-4-4 • due to conductor-earth surge acc. to IEC 61000-4-5 • due to conductor-conductor surge acc. to IEC 61000-4-5 • due to conductor-conductor surge acc. to IEC 61000-4-3 • electrostatic discharge acc. to IEC 61000-4-2 • de to to conductor-conductor surge acc. to IEC 61000-4-3 • electrostatic discharge acc. to IEC 61000-4-2 • 6 kV contact discharge / 8 kV air discharge  Galvanic isolation • between input and output • between the outputs • between the voltage supply and other circuits  Connections/ Terminals  product component removable terminal for auxiliary and control circuit  type of electrical connection  type of electrical connectable conductor cross-sections • solid • finely stranded with core end processing • at AWG cables stranded  connectable conductor cross-section • solid • at AWG cables stranded  connectable conductor cross-section • solid • finely stranded with core end processing • solid • finely stranded with core end processing • solid • finely stranded with core end processing  AWG number as coded connectable conductor cross-section • solid • solid • solid • stranded	F14	
<ul> <li>due to conductor-earth surge acc. to IEC 61000-4-5</li> <li>due to conductor-conductor surge acc. to IEC 61000-4-5</li> <li>field-based interference acc. to IEC 61000-4-2</li> <li>electrostatic discharge acc. to IEC 61000-4-2</li> <li>6 kV contact discharge / 8 kV air discharge</li> <li>galvanic isolation</li> <li>galvanic isolation</li> <li>between input and output</li> <li>between the outputs</li> <li>between the voltage supply and other circuits</li> <li>Connections/ Terminals</li> <li>product component removable terminal for auxiliary and control circuit</li> <li>type of electrical connection</li> <li>soild</li> <li>at AWG cables solid</li> <li>at AWG cables stranded</li> <li>finely stranded with core end processing</li> <li>at AWG number as coded connectable conductor crosssection</li> <li>soild</li> <li>finely stranded with core end processing</li> <li>at AWG number as coded connectable conductor crosssection</li> <li>soild</li> <li>finely stranded with core end processing</li> <li>at AWG number as coded connectable conductor crosssection</li> <li>soild</li> <li>soild</li> <li>stranded</li> <li>40 4 mm²</li> <li>50 2.5 mm²</li> </ul> <li>AWG number as coded connectable conductor crosssection</li> <li>soild</li> <li>soild</li> <li>stranded</li> <li>40 14</li> <li>stranded</li>	Electromagnetic compatibility	
due to conductor-conductor surge acc. to IEC 61000-4-5  field-based interference acc. to IEC 61000-4-3 electrostatic discharge acc. to IEC 61000-4-2 for kV contact discharge / 8 kV air discharge  Galvanic isolation      e between input and output		
due to conductor-conductor surge acc. to IEC 61000-4-5 field-based interference acc. to IEC 61000-4-2     electrostatic discharge acc. to IEC 61000-4-2	conducted interference	2 kV
field-based interference acc. to IEC 61000-4-3 electrostatic discharge acc. to IEC 61000-4-2 6 kV contact discharge / 8 kV air discharge  Galvanic isolation  • between input and output • between the outputs • between the voltage supply and other circuits  Connections/ Terminals  product component removable terminal for auxiliary and control circuit  type of electrical connection  • solid • at AWG cables solid • at AWG cables stranded • finely stranded with core end processing • solid • finely stranded with core end processing • solid • finely stranded with core end processing • solid • stranded	conducted interference • due to burst acc. to IEC 61000-4-4	
electrostatic discharge acc. to IEC 61000-4-2  Galvanic isolation  galvanic isolation  • between input and output  • between the outputs  • between the voltage supply and other circuits  Connections/ Terminals  product component removable terminal for auxiliary and control circuit  type of electrical connection  • solid  • finely stranded with core end processing  • solid  • at AWG cables stranded  connectable conductor cross-section  • solid  • solid  • solid  • at AWG cables stranded  connectable conductor cross-section  • solid  • stranded	conducted interference  • due to burst acc. to IEC 61000-4-4  • due to conductor-earth surge acc. to IEC 61000-4-5	2 kV
Galvanic isolation  • between input and output • between the outputs • between the voltage supply and other circuits  Connections/ Terminals  product component removable terminal for auxiliary and control circuit  type of electrical connection  type of connectable conductor cross-sections • solid  • finely stranded with core end processing • at AWG cables solid • at AWG cables stranded • at AWG cables stranded  connectable conductor cross-section • solid • finely stranded with core end processing • solid • at AWG cables stranded  connectable conductor cross-section • solid • finely stranded with core end processing • solid • solid • finely stranded with core end processing • solid • stranded	conducted interference  • due to burst acc. to IEC 61000-4-4  • due to conductor-earth surge acc. to IEC 61000-4-5  • due to conductor-conductor surge acc. to IEC	2 kV
galvanic isolation  • between input and output  • between the outputs  • between the voltage supply and other circuits  Connections/ Terminals  product component removable terminal for auxiliary and control circuit  type of electrical connection  type of connectable conductor cross-sections  • solid  • finely stranded with core end processing  • at AWG cables stranded  • at AWG cables stranded  connectable conductor cross-section  • solid  • finely stranded with core end processing  • solid  • finely stranded with core end processing  • solid  • finely stranded with core end processing  • solid  • finely stranded with core end processing  • solid  • finely stranded with core end processing  • solid  • finely stranded with core end processing  • solid  • finely stranded with core end processing  AWG number as coded connectable conductor cross section  • solid  • solid  • stranded  20 14  • stranded	conducted interference     • due to burst acc. to IEC 61000-4-4     • due to conductor-earth surge acc. to IEC 61000-4-5     • due to conductor-conductor surge acc. to IEC 61000-4-5 field-based interference acc. to IEC 61000-4-3	2 kV 1 kV
between input and output between the outputs between the voltage supply and other circuits  Connections/ Terminals  product component removable terminal for auxiliary and control circuit  type of electrical connection screw-type terminals  type of connectable conductor cross-sections solid finely stranded with core end processing at AWG cables solid at AWG cables stranded  connectable conductor cross-section solid finely stranded with core end processing at AWG cables stranded connectable conductor cross-section solid finely stranded with core end processing at AWG mumber as coded connectable conductor cross-section solid solid stranded  20 14 stranded	conducted interference     • due to burst acc. to IEC 61000-4-4     • due to conductor-earth surge acc. to IEC 61000-4-5     • due to conductor-conductor surge acc. to IEC 61000-4-5 field-based interference acc. to IEC 61000-4-3	2 kV 1 kV 10 V/m
<ul> <li>between the outputs</li> <li>between the voltage supply and other circuits</li> <li>Yes</li> </ul> Connections/ Terminals product component removable terminal for auxiliary and control circuit type of electrical connection <ul> <li>screw-type terminals</li> </ul> 1x (0.5 4 mm2), 2x (0.5 2.5 mm2) <ul> <li>finely stranded with core end processing</li> <li>at AWG cables solid</li> <li>at AWG cables stranded</li> <li>at AWG cables stranded</li> <li>finely stranded with core end processing</li> <li>at AWG cables of the conductor cross-section</li> <li>finely stranded with core end processing</li> <li>at AWG number as coded connectable conductor cross section</li> <li>solid</li> <li>finely stranded with core end processing</li> <li>AWG number as coded connectable conductor cross section</li> <li>solid</li> <li>solid</li> <li>solid</li> <li>stranded</li> </ul> 20 14 20 14 20 14	conducted interference  • due to burst acc. to IEC 61000-4-4  • due to conductor-earth surge acc. to IEC 61000-4-5  • due to conductor-conductor surge acc. to IEC 61000-4-5  field-based interference acc. to IEC 61000-4-3  electrostatic discharge acc. to IEC 61000-4-2	2 kV 1 kV 10 V/m
between the voltage supply and other circuits  Connections/ Terminals  product component removable terminal for auxiliary and control circuit  type of electrical connection  type of connectable conductor cross-sections      solid     solid     inely stranded with core end processing     at AWG cables solid     at AWG cables stranded     connectable conductor cross-section      solid     stranded      solid	conducted interference  • due to burst acc. to IEC 61000-4-4  • due to conductor-earth surge acc. to IEC 61000-4-5  • due to conductor-conductor surge acc. to IEC 61000-4-5  field-based interference acc. to IEC 61000-4-3  electrostatic discharge acc. to IEC 61000-4-2  Galvanic isolation	2 kV 1 kV 10 V/m
product component removable terminal for auxiliary and control circuit  type of electrical connection  screw-type terminals  type of connectable conductor cross-sections  solid  at (0.5 4 mm2), 2x (0.5 2.5 mm2)  at AWG cables solid  at AWG cables stranded  connectable conductor cross-section  solid  finely stranded with core end processing  at AWG number as coded connectable conductor cross section  solid  solid  at AWG number as coded connectable conductor cross section  solid  solid  at AWG number as coded connectable conductor cross section  solid  solid  stranded  20 14  20 14	conducted interference  • due to burst acc. to IEC 61000-4-4  • due to conductor-earth surge acc. to IEC 61000-4-5  • due to conductor-conductor surge acc. to IEC 61000-4-5  field-based interference acc. to IEC 61000-4-3  electrostatic discharge acc. to IEC 61000-4-2  Galvanic isolation  galvanic isolation  • between input and output	2 kV 1 kV 10 V/m 6 kV contact discharge / 8 kV air discharge
product component removable terminal for auxiliary and control circuit  type of electrical connection  screw-type terminals  type of connectable conductor cross-sections  • solid  • finely stranded with core end processing  • at AWG cables solid  • at AWG cables stranded  connectable conductor cross-section  • solid  • finely stranded with core end processing  • solid  • finely stranded with core end processing  • solid  • stranded  20 14  • stranded	conducted interference  • due to burst acc. to IEC 61000-4-4  • due to conductor-earth surge acc. to IEC 61000-4-5  • due to conductor-conductor surge acc. to IEC 61000-4-5  field-based interference acc. to IEC 61000-4-3  electrostatic discharge acc. to IEC 61000-4-2  Galvanic isolation  galvanic isolation  • between input and output  • between the outputs	2 kV 1 kV  10 V/m 6 kV contact discharge / 8 kV air discharge  Yes
type of electrical connection  screw-type terminals  type of connectable conductor cross-sections  • solid  • finely stranded with core end processing  • at AWG cables solid  • at AWG cables stranded  connectable conductor cross-section  • solid  • finely stranded with core end processing  • solid  • stranded	conducted interference  • due to burst acc. to IEC 61000-4-4  • due to conductor-earth surge acc. to IEC 61000-4-5  • due to conductor-conductor surge acc. to IEC 61000-4-5  field-based interference acc. to IEC 61000-4-3  electrostatic discharge acc. to IEC 61000-4-2  Galvanic isolation  galvanic isolation  • between input and output  • between the outputs	2 kV 1 kV  10 V/m 6 kV contact discharge / 8 kV air discharge  Yes Yes
type of connectable conductor cross-sections  • solid  • finely stranded with core end processing  • at AWG cables solid  • at AWG cables stranded  • at AWG cables stranded  • solid  • finely stranded with core end processing  • solid  • solid  • finely stranded with core end processing  • solid  • stranded  • stranded	conducted interference  • due to burst acc. to IEC 61000-4-4  • due to conductor-earth surge acc. to IEC 61000-4-5  • due to conductor-conductor surge acc. to IEC 61000-4-5  field-based interference acc. to IEC 61000-4-3  electrostatic discharge acc. to IEC 61000-4-2  Galvanic isolation  galvanic isolation  • between input and output  • between the outputs  • between the voltage supply and other circuits	2 kV 1 kV  10 V/m 6 kV contact discharge / 8 kV air discharge  Yes Yes
<ul> <li>solid</li> <li>finely stranded with core end processing</li> <li>at AWG cables solid</li> <li>at AWG cables stranded</li> <li>at AWG cables cab</li></ul>	conducted interference  • due to burst acc. to IEC 61000-4-4  • due to conductor-earth surge acc. to IEC 61000-4-5  • due to conductor-conductor surge acc. to IEC 61000-4-5  field-based interference acc. to IEC 61000-4-3  electrostatic discharge acc. to IEC 61000-4-2  Galvanic isolation  galvanic isolation  • between input and output  • between the outputs  • between the voltage supply and other circuits  Connections/ Terminals  product component removable terminal for auxiliary	2 kV 1 kV  10 V/m 6 kV contact discharge / 8 kV air discharge  Yes Yes Yes
<ul> <li>finely stranded with core end processing</li> <li>at AWG cables solid</li> <li>at AWG cables stranded</li> <li>at AWG number conductor cross-section</li> <li>at AWG number as coded connectable conductor cross section</li> <li>at AWG number as coded connectable conductor cross section</li> <li>at AWG number as coded connectable conductor cross section</li> <li>at AWG number as coded connectable conductor cross section</li> <li>at AWG number as coded connectable conductor cross section</li> <li>at AWG number as coded connectable conductor cross section</li> <li>at AWG number as coded connectable conductor cross section</li> <li>at AWG number as coded connectable conductor cross section</li> <li>at AWG number as coded connectable conductor cross section</li> <li>at AWG number as coded connectable conductor cross section</li> <li>at AWG number as coded connectable conductor cross section</li> <li>at AWG number as coded connectable conductor cross section</li> <li>at AWG number as coded connectable conductor cross section</li> <li>at AWG number as coded connectable conductor cross section</li> <li>at AWG number as coded connectable conductor cross section</li> <li>at AWG number as coded connectable conductor cross section</li> <li>at AWG number as coded connectable conductor cross section</li> <li>at AWG number as coded connectable conductor cross section</li> <li>at AWG number as coded connectable conductor cross section</li> <li>at AWG number as coded connectable conductor cross section</li> <li>at AWG number as coded connectable conductor cross section</li> <li>at AWG number as coded connectable conductor cross section</li> <li>at AWG number as coded connectable conductor cross section</li> <li>at AWG number as coded connectable conductor cross section</li> <li>at AWG number as coded</li></ul>	conducted interference  • due to burst acc. to IEC 61000-4-4  • due to conductor-earth surge acc. to IEC 61000-4-5  • due to conductor-conductor surge acc. to IEC 61000-4-5  field-based interference acc. to IEC 61000-4-3  electrostatic discharge acc. to IEC 61000-4-2  Galvanic isolation  galvanic isolation  • between input and output  • between the outputs  • between the voltage supply and other circuits  Connections/ Terminals  product component removable terminal for auxiliary and control circuit	2 kV 1 kV  10 V/m 6 kV contact discharge / 8 kV air discharge  Yes Yes Yes
<ul> <li>at AWG cables solid</li> <li>at AWG cables stranded</li> <li>at AWG number conductor cross section</li> <li>at AWG number as coded connectable conductor cross section</li> <li>at Solid</li> <li>at AWG number code conductor cross section</li> <li>at AWG number code connectable conductor cross code connectable conductor cross section</li> <li>at AWG number code connectable conductor cross code connectable conductor cross section</li> <li>at AWG number code connectable conductor cross code connectable conductor cross section</li> <li>at AWG number code connectable conductor cross code code connectable conductor cross code code connectable conductor cross code code code code code code code code</li></ul>	conducted interference  • due to burst acc. to IEC 61000-4-4  • due to conductor-earth surge acc. to IEC 61000-4-5  • due to conductor-conductor surge acc. to IEC 61000-4-5  field-based interference acc. to IEC 61000-4-3  electrostatic discharge acc. to IEC 61000-4-2  Galvanic isolation  galvanic isolation  • between input and output  • between the outputs  • between the voltage supply and other circuits  Connections/ Terminals  product component removable terminal for auxiliary and control circuit  type of electrical connection	2 kV 1 kV  10 V/m 6 kV contact discharge / 8 kV air discharge  Yes Yes Yes
<ul> <li>at AWG cables stranded</li> <li>connectable conductor cross-section</li> <li>solid</li> <li>finely stranded with core end processing</li> <li>AWG number as coded connectable conductor cross section</li> <li>solid</li> <li>solid</li> <li>stranded</li> <li>20 14</li> <li>stranded</li> </ul>	conducted interference  • due to burst acc. to IEC 61000-4-4  • due to conductor-earth surge acc. to IEC 61000-4-5  • due to conductor-conductor surge acc. to IEC 61000-4-5  field-based interference acc. to IEC 61000-4-3  electrostatic discharge acc. to IEC 61000-4-2  Galvanic isolation  galvanic isolation  • between input and output  • between the outputs  • between the voltage supply and other circuits  Connections/ Terminals  product component removable terminal for auxiliary and control circuit  type of electrical connection  type of connectable conductor cross-sections	2 kV 1 kV  10 V/m 6 kV contact discharge / 8 kV air discharge  Yes Yes Yes Yes Screw-type terminals
<ul> <li>at AWG cables stranded</li> <li>connectable conductor cross-section</li> <li>solid</li> <li>finely stranded with core end processing</li> <li>AWG number as coded connectable conductor cross section</li> <li>solid</li> <li>solid</li> <li>stranded</li> <li>20 14</li> <li>stranded</li> </ul>	conducted interference  • due to burst acc. to IEC 61000-4-4  • due to conductor-earth surge acc. to IEC 61000-4-5  • due to conductor-conductor surge acc. to IEC 61000-4-5  field-based interference acc. to IEC 61000-4-3  electrostatic discharge acc. to IEC 61000-4-2  Galvanic isolation  galvanic isolation  • between input and output  • between the outputs  • between the voltage supply and other circuits  Connections/ Terminals  product component removable terminal for auxiliary and control circuit  type of electrical connection  type of connectable conductor cross-sections  • solid	2 kV 1 kV  10 V/m 6 kV contact discharge / 8 kV air discharge  Yes Yes Yes Yes  Yes  10 V/m 1
connectable conductor cross-section  ● solid  ● finely stranded with core end processing  AWG number as coded connectable conductor cross section  ● solid  ● stranded  20 14  ● stranded	conducted interference  • due to burst acc. to IEC 61000-4-4  • due to conductor-earth surge acc. to IEC 61000-4-5  • due to conductor-conductor surge acc. to IEC 61000-4-5  field-based interference acc. to IEC 61000-4-3  electrostatic discharge acc. to IEC 61000-4-2  Galvanic isolation  galvanic isolation  • between input and output  • between the outputs  • between the voltage supply and other circuits  Connections/ Terminals  product component removable terminal for auxiliary and control circuit  type of electrical connection  type of connectable conductor cross-sections  • solid  • finely stranded with core end processing	2 kV 1 kV  10 V/m 6 kV contact discharge / 8 kV air discharge  Yes Yes Yes Yes  Yes  10 V/m 10 kV contact discharge / 8 kV air discharge
<ul> <li>finely stranded with core end processing</li> <li>AWG number as coded connectable conductor cross section</li> <li>solid</li> <li>stranded</li> <li>20 14</li> <li>20 14</li> </ul>	conducted interference  • due to burst acc. to IEC 61000-4-4  • due to conductor-earth surge acc. to IEC 61000-4-5  • due to conductor-conductor surge acc. to IEC 61000-4-5  field-based interference acc. to IEC 61000-4-3  electrostatic discharge acc. to IEC 61000-4-2  Galvanic isolation  galvanic isolation  • between input and output  • between the outputs  • between the voltage supply and other circuits  Connections/ Terminals  product component removable terminal for auxiliary and control circuit  type of electrical connection  type of connectable conductor cross-sections  • solid  • finely stranded with core end processing  • at AWG cables solid	2 kV 1 kV  10 V/m 6 kV contact discharge / 8 kV air discharge  Yes Yes Yes Yes  Yes  1x (0.5 4 mm2), 2x (0.5 2.5 mm2) 1x (0.5 2.5 mm2), 2x (0.5 1.5 mm2) 2x (20 14)
AWG number as coded connectable conductor cross section  • solid • stranded 20 14 20 14	conducted interference  • due to burst acc. to IEC 61000-4-4  • due to conductor-earth surge acc. to IEC 61000-4-5  • due to conductor-conductor surge acc. to IEC 61000-4-5  field-based interference acc. to IEC 61000-4-3  electrostatic discharge acc. to IEC 61000-4-2  Galvanic isolation  galvanic isolation  • between input and output  • between the outputs  • between the voltage supply and other circuits  Connections/ Terminals  product component removable terminal for auxiliary and control circuit  type of electrical connection  type of connectable conductor cross-sections  • solid  • finely stranded with core end processing  • at AWG cables solid  • at AWG cables stranded	2 kV 1 kV  10 V/m 6 kV contact discharge / 8 kV air discharge  Yes Yes Yes Yes  Yes  1x (0.5 4 mm2), 2x (0.5 2.5 mm2) 1x (0.5 2.5 mm2), 2x (0.5 1.5 mm2) 2x (20 14)
AWG number as coded connectable conductor cross section  • solid • stranded 20 14 20 14	conducted interference  • due to burst acc. to IEC 61000-4-4  • due to conductor-earth surge acc. to IEC 61000-4-5  • due to conductor-conductor surge acc. to IEC 61000-4-5  field-based interference acc. to IEC 61000-4-3  electrostatic discharge acc. to IEC 61000-4-2  Galvanic isolation  galvanic isolation  • between input and output  • between the outputs  • between the voltage supply and other circuits  Connections/ Terminals  product component removable terminal for auxiliary and control circuit  type of electrical connection  type of connectable conductor cross-sections  • solid  • finely stranded with core end processing  • at AWG cables solid  • at AWG cables stranded  connectable conductor cross-section	2 kV 1 kV  10 V/m 6 kV contact discharge / 8 kV air discharge  Yes Yes Yes Yes  Yes  1x (0.5 4 mm2), 2x (0.5 2.5 mm2) 1x (0.5 2.5 mm2), 2x (0.5 1.5 mm2) 2x (20 14) 2x (20 14)
• stranded 20 14	conducted interference  • due to burst acc. to IEC 61000-4-4  • due to conductor-earth surge acc. to IEC 61000-4-5  • due to conductor-conductor surge acc. to IEC 61000-4-5  field-based interference acc. to IEC 61000-4-3  electrostatic discharge acc. to IEC 61000-4-2  Galvanic isolation  galvanic isolation  • between input and output  • between the outputs  • between the voltage supply and other circuits  Connections/ Terminals  product component removable terminal for auxiliary and control circuit  type of electrical connection  type of connectable conductor cross-sections  • solid  • finely stranded with core end processing  • at AWG cables solid  • at AWG cables stranded  connectable conductor cross-section  • solid	2 kV 1 kV  10 V/m 6 kV contact discharge / 8 kV air discharge  Yes Yes Yes Yes  Yes  10 V/m 1
• stranded 20 14	conducted interference  • due to burst acc. to IEC 61000-4-4  • due to conductor-earth surge acc. to IEC 61000-4-5  • due to conductor-conductor surge acc. to IEC 61000-4-5  field-based interference acc. to IEC 61000-4-3  electrostatic discharge acc. to IEC 61000-4-2  Galvanic isolation  galvanic isolation  • between input and output  • between the outputs  • between the voltage supply and other circuits  Connections/ Terminals  product component removable terminal for auxiliary and control circuit  type of electrical connection  type of connectable conductor cross-sections  • solid  • finely stranded with core end processing  • at AWG cables solid  • at AWG cables stranded  connectable conductor cross-section  • solid  • finely stranded with core end processing  AWG number as coded connectable conductor cross	2 kV 1 kV  10 V/m 6 kV contact discharge / 8 kV air discharge  Yes Yes Yes Yes  Yes  10 V/m 10 kV contact discharge / 8 kV air discharge  Yes Yes Yes Yes  Yes  Yes  Yes  10 V/m
	conducted interference  • due to burst acc. to IEC 61000-4-4  • due to conductor-earth surge acc. to IEC 61000-4-5  • due to conductor-conductor surge acc. to IEC 61000-4-5  field-based interference acc. to IEC 61000-4-3  electrostatic discharge acc. to IEC 61000-4-2  Galvanic isolation  galvanic isolation  • between input and output  • between the outputs  • between the voltage supply and other circuits  Connections/ Terminals  product component removable terminal for auxiliary and control circuit  type of electrical connection  type of connectable conductor cross-sections  • solid  • finely stranded with core end processing  • at AWG cables solid  • at AWG cables stranded  connectable conductor cross-section  • solid  • finely stranded with core end processing  AWG number as coded connectable conductor cross section	2 kV 1 kV  10 V/m 6 kV contact discharge / 8 kV air discharge  Yes Yes Yes Yes  10 V/m 11 V/m 11 V/m 12 V/m 12 V/m 13 V/m 14 V/m 15 V/m 16 V/m 17 V/m 18 V/m
tightening torque with screw-type terminals 0.8 1.2 N·m	conducted interference  • due to burst acc. to IEC 61000-4-4  • due to conductor-earth surge acc. to IEC 61000-4-5  • due to conductor-conductor surge acc. to IEC 61000-4-5  • due to conductor-conductor surge acc. to IEC 61000-4-5  field-based interference acc. to IEC 61000-4-3  electrostatic discharge acc. to IEC 61000-4-2  Galvanic isolation  • between input and output  • between the outputs  • between the voltage supply and other circuits  Connections/ Terminals  product component removable terminal for auxiliary and control circuit  type of electrical connection  type of connectable conductor cross-sections  • solid  • finely stranded with core end processing  • at AWG cables stranded  connectable conductor cross-section  • solid  • finely stranded with core end processing  AWG number as coded connectable conductor cross section  • solid	2 kV 1 kV  10 V/m 6 kV contact discharge / 8 kV air discharge  Yes Yes Yes Yes  10 V/m 11 V/m 11 V/m 11 V/m 12 V/m 12 V/m 13 V/m 14 V/m 14 V/m 15 V/m 16 V/m 17 V/m 18 V/m

Installation/ mounting/ dimensions								
mounting position	any	any						
fastening method	snap	snap-on mounting						
height	92 m	92 mm						
width	22.5 mm							
depth	91 m	91 mm						
required spacing								
<ul> <li>with side-by-side mounting</li> </ul>								
— forwards	0 mn	0 mm						
— backwards	0 mn	n						
— upwards	0 mn	0 mm						
— downwards	0 mn	0 mm						
— at the side	0 mn	0 mm						
<ul> <li>for grounded parts</li> </ul>								
— forwards	0 mn	0 mm						
— backwards	0 mn	0 mm						
— upwards	0 mn	0 mm						
— at the side	0 mn	0 mm						
— downwards	0 mn	0 mm						
<ul> <li>for live parts</li> </ul>								
— forwards	0 mn	0 mm						
— backwards	0 mn	0 mm						
— upwards	0 mn	0 mm						
— downwards	0 mn	0 mm						
— at the side	0 mn	0 mm						
Ambient conditions								
installation altitude at height above sea level maximum	2 00	2 000 m						
ambient temperature								
<ul> <li>during operation</li> </ul>	-25 .	-25 +60 °C						
<ul><li>during storage</li></ul>	-40 .	-40 +85 °C						
<ul> <li>during transport</li> </ul>	-40 .	-40 +85 °C						
Certificates/ approvals								
General Product Approval		ЕМС	Declaration of Conformity	Test Certificates				











**Special Test Certific**ate

**Test Certificates** 

Marine / Shipping

other

Railway

Type Test Certificates/Test Report





Confirmation

Vibration and Shock

Information- and Downloadcenter (Catalogs, Brochures,...)

https://www.siemens.com/ic10

Industry Mall (Online ordering system)

 $\underline{https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3UG4512-1BR20}$ 

Cax online generator

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

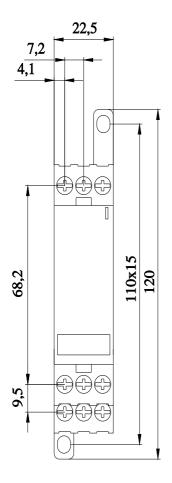
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

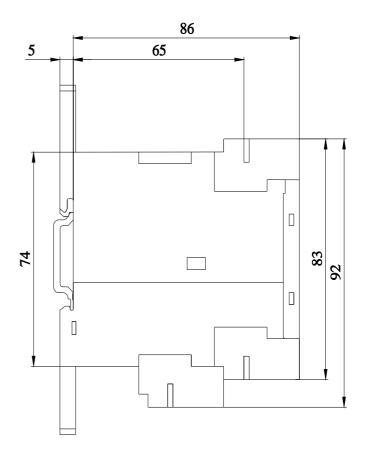
https://support.industry.siemens.com/cs/ww/en/ps/3UG4512-1BR20

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) <a href="http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3UG4512-1BR20&lang=en">http://www.automation.siemens.com/bilddb/cax\_de.aspx?mlfb=3UG4512-1BR20&lang=en</a>

**Characteristic: Derating** 

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





last modified: 12/21/2020 ☑