

Siemens
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digital monitoring relay speed monitoring from 0.1 to 2200 r/min overshoot and undershoot supply voltage 24 ... 240 V AC/DC, 50 .. 60 Hz ON delay and tripping delay 0.1..999.9 s 2 changeover contacts screw terminal SIL 1/PL c

product brand name	SIRIUS
product designation	Speed monitoring relay with digital setting
design of the product	monitoring of speed, external power supply with auxiliary voltage for safety applications
product type designation	3UG5
General technical data	
product function	RPM monitoring relay
design of the display	LCD
insulation voltage	
<ul style="list-style-type: none"> for overvoltage category III according to IEC 60664 <ul style="list-style-type: none"> with degree of pollution 2 rated value with degree of pollution 3 rated value 	690 V 690 V
degree of pollution	3
type of voltage of the control supply voltage	AC/DC
protection class IP	
<ul style="list-style-type: none"> of the enclosure of the terminal 	IP20 IP20
shock resistance according to IEC 60068-2-27	sinusoidal half-wave 15g / 11 ms
vibration resistance according to IEC 60068-2-6	f = 4 ... 5,81 Hz, dmax = 15 mm; f = 5,81 ... 500 Hz, Amax = 20 m/s ² ; 10 cycles
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
Substance Prohibitance (Date)	06/01/2023
SVHC substance name	Lead - 7439-92-1 Lead monoxide (lead oxide) - 1317-36-8 2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol - 79-94-7
Net Weight	0.19 kg
Product Function	
product function	
<ul style="list-style-type: none"> standstill monitoring rotation speed monitoring adjustable open/closed-circuit current principle manual RESET 	No Yes No Yes
suitability for use safety-related circuits	Yes
Control circuit/ Control	
control supply voltage at AC	

<ul style="list-style-type: none"> • at 50 Hz rated value 	24 ... 240 V
<ul style="list-style-type: none"> • at 60 Hz rated value 	24 ... 240 V
control supply voltage at DC rated value	24 ... 240 V
operating range factor control supply voltage rated value at DC	
<ul style="list-style-type: none"> • initial value 	0.85
<ul style="list-style-type: none"> • full-scale value 	1.1
operating range factor control supply voltage rated value at AC at 50 Hz	
<ul style="list-style-type: none"> • initial value 	0.85
<ul style="list-style-type: none"> • 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 	0.85
<ul style="list-style-type: none"> • full-scale value 	1.1
Measuring circuit	
measurable line frequency	50 ... 60 Hz
adjustable operating delay time	0 ... 999.9 s
adjustable response delay time	
<ul style="list-style-type: none"> • when starting 	0 ... 999.9 s
<ul style="list-style-type: none"> • with lower or upper limit violation 	0 ... 999.9 s
accuracy of digital display	+/- 1 Digit
Communication/ Protocol	
protocol is supported IO-Link protocol	No
Auxiliary circuit	
number of CO contacts delayed switching	2
Inputs/ Outputs	
design of input feedback input	No
number of outputs as contact-affected switching element	
<ul style="list-style-type: none"> • safety-related <ul style="list-style-type: none"> — delayed switching 	2
<ul style="list-style-type: none"> — instantaneous contact 	0
ampacity of the output relay at AC-15	
<ul style="list-style-type: none"> • at 230 V at 50/60 Hz 	3 A
<ul style="list-style-type: none"> • at 250 V at 50/60 Hz 	3 A
<ul style="list-style-type: none"> • at 400 V at 50/60 Hz 	3 A
ampacity of the output relay at DC-13	
<ul style="list-style-type: none"> • at 24 V 	1 A
<ul style="list-style-type: none"> • at 125 V 	0.2 A
<ul style="list-style-type: none"> • at 250 V 	0.1 A
operational current at 17 V minimum	5 mA
Galvanic isolation	
galvanic isolation	
<ul style="list-style-type: none"> • between input and output 	Yes
<ul style="list-style-type: none"> • between the outputs 	Yes
<ul style="list-style-type: none"> • between the voltage supply and other circuits 	Yes
Safety related data	
product function suitable for safety function	Yes
function test interval maximum	1 a
IEC 62061	
Safety Integrity Level (SIL) according to IEC 62061	SIL 1
PFHD with high demand rate according to IEC 62061	1.4E-6 1/h
ISO 13849	
performance level (PL) according to ISO 13849-1	PL c
category according to ISO 13849-1	2
IEC 61508	
Safety Integrity Level (SIL) according to IEC 61508	1
safety device type according to IEC 61508-2	Type B
PFDavg with low demand rate according to IEC 61508	0.0023

Safe failure fraction (SFF)	60 %
hardware fault tolerance according to IEC 61508	0
T1 value of service life according to IEC 61508	20 a
Connections/ Terminals	
product component removable terminal for auxiliary and control circuit	Yes
type of electrical connection	screw terminal
• for auxiliary and control circuit	screw-type terminals
type of connectable conductor cross-sections	
• solid	1x (0.5 ... 4 mm ²), 2x (0.5 ... 2.5 mm ²)
• finely stranded with core end processing	1x (0.5 ... 4 mm ²), 2x (0.5 ... 2.5 mm ²)
• for AWG cables solid	1x (20 ... 12), 2x (20 ... 14)
connectable conductor cross-section	
• solid	0.5 ... 4 mm ²
• finely stranded with core end processing	0.5 ... 4 mm ²
AWG number as coded connectable conductor cross section	
• solid	20 ... 12
• stranded	20 ... 12
tightening torque with screw-type terminals	0.6 ... 0.8 N·m
Installation/ mounting/ dimensions	
mounting position	any
fastening method	screw and snap-on mounting
height	100 mm
width	22.5 mm
depth	90 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 ... +80 °C
• during transport	-40 ... +80 °C
Approvals Certificates	
Environment	General Product Approval

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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=3UG5651-1CW31>

Cax online generator

<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3UG5651-1CW31>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3UG5651-1CW31>

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

https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3UG5651-1CW31&lang=en





