

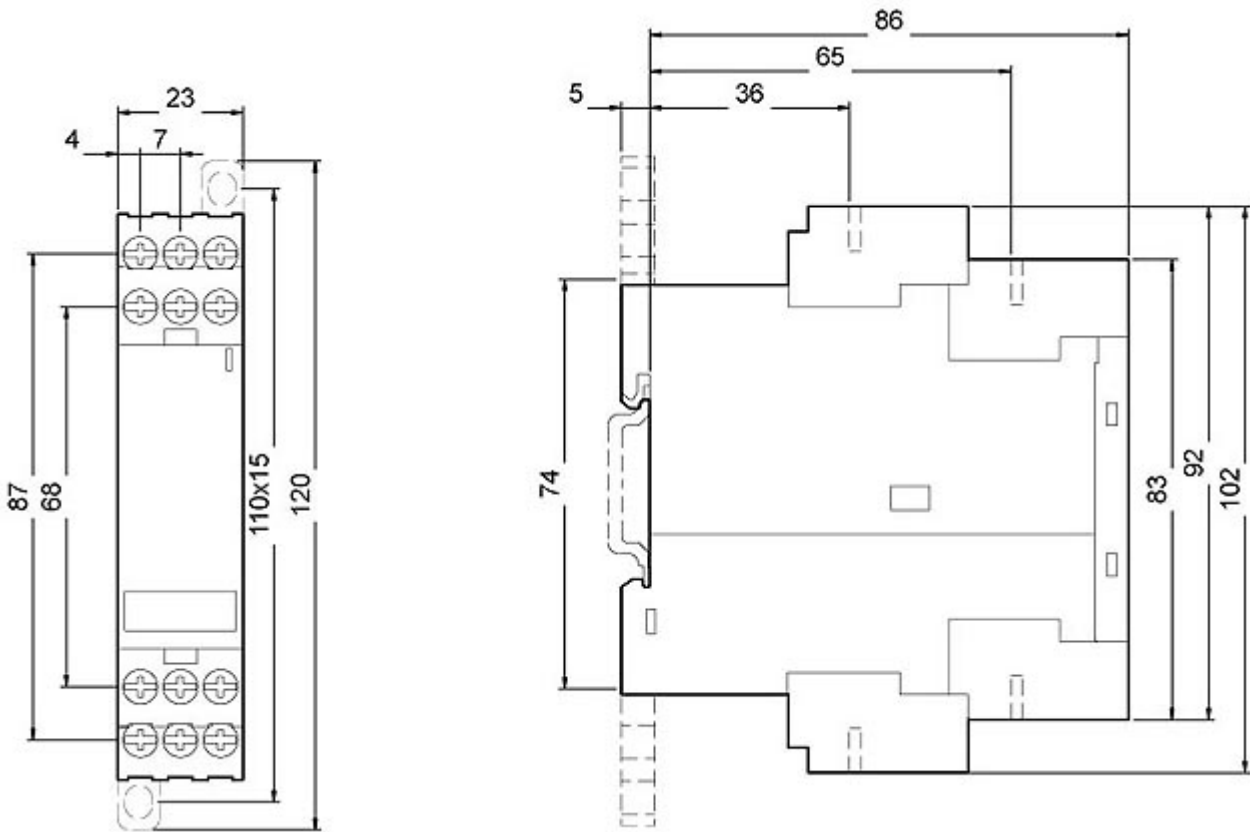


SIRIUS safety relay with electronic enabling circuits (EC) 24 V DC, 22.5 mm Screw terminal EC instantaneous: 1 HL EC delayed: 1 HL, 0.5...30 s SC: 0 Autostart/monitored start Standard device Maximum achieved SIL: 3, PL: e

General technical data	
product brand name	SIRIUS
product designation	safety relays
design of the product	for EMERGENCY-STOP and safety doors
protection class IP of the enclosure	IP40
protection class IP of the terminal	IP20
touch protection against electrical shock	finger-safe
insulation voltage rated value	50 V
ambient temperature	
• during storage	-40 ... +80 °C
• during operation	-25 ... +60 °C
air pressure acc. to SN 31205	90 ... 106 kPa
relative humidity during operation	10 ... 95 %
installation altitude at height above sea level maximum	2 000 m
vibration resistance acc. to IEC 60068-2-6	5 ... 500 Hz: 0,075 mm
shock resistance	8g / 10 ms and 15g / 5 ms
surge voltage resistance rated value	500 V
EMC emitted interference	IEC 60947-5-1, IEC 60000-4-3, IEC 60000-4-5, IEC 60000-4-6
installation environment regarding EMC	This product is suitable for Class A environments only. It can cause undesired radio-frequency interference in residential environments. If this is the case, the user must take appropriate measures.
reference code acc. to DIN 40719 extended according to IEC 204-2 acc. to IEC 750	KT
reference code acc. to DIN EN 61346-2	F
number of sensor inputs	
• 1-channel or 2-channel	1
design of the cascading	cascading or in-service switching
type of the safety-related wiring of the inputs	single-channel and two-channel
product feature cross-circuit-proof	Yes
Safety Integrity Level (SIL)	
• acc. to IEC 61508	3
• for delayed release circuit acc. to IEC 61508	SIL3
SIL Claim Limit (subsystem) acc. to EN 62061	3
performance level (PL)	
• acc. to EN ISO 13849-1	e
• for delayed release circuit acc. to EN ISO 13849-1	e
category acc. to EN ISO 13849-1	4
hardware fault tolerance acc. to IEC 61508	1

safety device type acc. to IEC 61508-2	Type B
PFHD with high demand rate acc. to EN 62061	0.00000000005 1/h
T1 value for proof test interval or service life acc. to IEC 61508	20 y
number of outputs as contact-affected switching element	
<ul style="list-style-type: none"> ● as NC contact <ul style="list-style-type: none"> — for signaling function instantaneous contact ● as NO contact <ul style="list-style-type: none"> — safety-related instantaneous contact — safety-related delayed switching 	0 0 0
number of outputs as contact-less semiconductor switching element	
<ul style="list-style-type: none"> ● safety-related <ul style="list-style-type: none"> — delayed switching — instantaneous contact ● for signaling function <ul style="list-style-type: none"> — delayed switching — instantaneous contact 	1 1 0 0
stop category acc. to DIN EN 60204-1	0 + 1
Inputs	
design of input	
<ul style="list-style-type: none"> ● cascading input/functional switching ● feedback input ● start input 	Yes Yes Yes
Outputs	
type of electrical connection plug-in socket	Yes
operating frequency maximum	2 000 1/h
switching capacity current	
<ul style="list-style-type: none"> ● of semiconductor outputs <ul style="list-style-type: none"> — for enabling circuit at DC-13 at 24 V 	1.5 A
design of the fuse link for short-circuit protection of the NO contacts of the relay outputs required	not required
DC resistance of the cable maximum	1 000 Ω
wire length between sensor and electronics evaluation device with Cu 1.5 mm² and 150 nF/km maximum	2 000 m
make time with automatic start	
<ul style="list-style-type: none"> ● typical ● at DC maximum 	60 ms 100 ms
make time with automatic start after power failure	
<ul style="list-style-type: none"> ● typical ● maximum 	6 000 ms 7 000 ms
make time with monitored start	
<ul style="list-style-type: none"> ● maximum ● typical 	100 ms 60 ms
backslide delay time in the event of power failure	
<ul style="list-style-type: none"> ● typical ● maximum 	0 ms 0 ms
adjustable OFF-delay time after opening of the safety circuits	0.5 ... 30 s
recovery time after opening of the safety circuits typical	400 ms
recovery time after power failure typical	7 s
pulse duration	
<ul style="list-style-type: none"> ● of the sensor input minimum ● of the ON pushbutton input minimum ● of the cascading input minimum 	45 ms 0.2 s 0.045 s
Control circuit/ Control	
type of voltage of the control supply voltage	DC

control supply voltage 1 • at DC rated value	24 V
operating range factor control supply voltage rated value of magnet coil • at DC	0.9 ... 1.15
Installation/ mounting/ dimensions	
mounting position	any
fastening method	screw and snap-on mounting
width	22.5 mm
height	100 mm
depth	88 mm
Connections/ Terminals	
type of electrical connection	screw-type terminals
type of connectable conductor cross-sections • solid • finely stranded — with core end processing	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)
type of connectable conductor cross-sections at AWG cables • solid • stranded	2x (20 ... 14) 2x (20 ... 14)
Product Function	
product function • light barrier monitoring • standstill monitoring • protective door monitoring • automatic start • magnetically operated switch monitoring NC-NO • rotation speed monitoring • laser scanner monitoring • monitored start-up • light array monitoring • magnetically operated switch monitoring NC-NC • EMERGENCY OFF function • pressure-sensitive mat monitoring	Yes No Yes Yes No No Yes Yes Yes Yes Yes Yes Yes Yes
suitability for interaction press control	No
suitability for use • monitoring of floating sensors • monitoring of non-floating sensors • safety switch • position switch monitoring • EMERGENCY-OFF circuit monitoring • valve monitoring • tactile sensor monitoring • magnetically operated switch monitoring • safety-related circuits	Yes Yes Yes Yes Yes No Yes Yes Yes Yes
Certificates/ approvals	
certificate of suitability • TÜV (German technical inspectorate) certificate • UL approval • BG BIA approval	UL, CSA, EN 60204-1, EN ISO 12100, EN 954-1, IEC 61508, DIN EN 50156-1 Yes Yes Yes
<i>Approvals Certificates</i>	
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?mfib=3TK2842-1BB42	
Cax online generator	



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