



SIRIUS safety relay Basic unit Standard series Relay enabling circuits 3 NO contacts plus Relay signaling circuit 1 NC contact $U_s = 110 - 240 \text{ V}$ AC/DC 50/60 Hz screw terminal

General technical data	
product brand name	SIRIUS
product category	Safety relays
product designation	safety relays
design of the product	Relay enabling circuits
protection class IP of the enclosure	IP20
touch protection against electrical shock	finger-safe
insulation voltage rated value	300 V
ambient temperature	
• during storage	-40 ... +80 °C
• during operation	-25 ... +60 °C
air pressure acc. to SN 31205	900 ... 1 060 hPa
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: 0.75 mm
shock resistance	10g / 11 ms
surge voltage resistance rated value	4 000 V
EMC emitted interference	IEC 60947-5-1, Class A
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.
overvoltage category	3
degree of pollution	3
reference code acc. to IEC 81346-2	F
power loss [W] maximum	2.5 W
number of sensor inputs 1-channel or 2-channel	1
design of the cascading	none
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
performance level (PL)	
• acc. to EN ISO 13849-1	e
category acc. to EN ISO 13849-1	4
Safe failure fraction (SFF)	99 %
PFHD with high demand rate acc. to EN 62061	0.0000000015 1/h
PFDavg with low demand rate acc. to IEC 61508	0.000001
T1 value for proof test interval or service life acc. to	20 y

IEC 61508	
hardware fault tolerance acc. to IEC 61508	1
safety device type acc. to IEC 61508-2	Type A
number of outputs as contact-affected switching element	
• as NC contact	
— for signaling function instantaneous contact	1
• as NO contact	
— safety-related instantaneous contact	3
— safety-related delayed switching	0
stop category acc. to DIN EN 60204-1	0
General technical data	
design of input	
• cascading input/functional switching	No
• feedback input	Yes
• start input	Yes
type of electrical connection plug-in socket	No
operating frequency maximum	360 1/h
switching capacity current	
• of the NO contacts of the relay outputs	
— at DC-13	
— at 24 V	5 A
— at 115 V	0.2 A
— at 230 V	0.1 A
— at AC-15	
— at 115 V	5 A
— at 230 V	5 A
• of the NC contacts of the relay outputs	
— at DC-13	
— at 24 V	1 A
— at 115 V	0.2 A
— at 230 V	0.1 A
— at AC-15	
— at 115 V	1.5 A
— at 230 V	1.5 A
thermal current of the switching element with contacts maximum	5 A
operational current at 17 V minimum	5 mA
total current maximum	12 A
mechanical service life (switching cycles) typical	10 000 000
design of the fuse link for short-circuit protection of the NO contacts of the relay outputs required	gL/gG: 6A or circuit breaker type A: 3A or circuit breaker type B: 2A or circuit breaker type C: 1A
design of the fuse link for short circuit protection of the NC contacts of the relay outputs required	Diased or Neozed fuses, operating class gL/gG: 6 A or MCB type A: 2 A or MCB type B: 2 A or MCB type C: 1 A
wire length	
• for total of all sensor circuits with Cu 1.5 mm² and 150 nF/km maximum	2 000 m
make time with automatic start	
• typical	110 ms
• at DC maximum	130 ms
• at AC maximum	130 ms
make time with automatic start after power failure	
• typical	110 ms
• maximum	130 ms
make time with monitored start	
• maximum	15 ms
• typical	15 ms
backslide delay time after opening of the safety circuits typical	10 ms
backslide delay time in the event of power failure	

<ul style="list-style-type: none"> • typical 	200 ms
<ul style="list-style-type: none"> • maximum 	300 ms
recovery time after opening of the safety circuits typical	10 ms
recovery time after power failure typical	0.32 s
pulse duration	
<ul style="list-style-type: none"> • of the sensor input minimum 	150 ms
<ul style="list-style-type: none"> • of the ON pushbutton input minimum 	0.015 s
Control circuit/ Control	
type of voltage of the control supply voltage	AC/DC
control supply voltage frequency	
<ul style="list-style-type: none"> • 1 rated value 	50 Hz
<ul style="list-style-type: none"> • 2 rated value 	60 Hz
control supply voltage	
<ul style="list-style-type: none"> • at DC <ul style="list-style-type: none"> — rated value 	110 ... 240 V
<ul style="list-style-type: none"> • at AC <ul style="list-style-type: none"> — at 50 Hz <ul style="list-style-type: none"> — rated value — at 60 Hz <ul style="list-style-type: none"> — rated value 	110 ... 240 V
	110 ... 240 V
operating range factor control supply voltage rated value of magnet coil	
<ul style="list-style-type: none"> • at AC <ul style="list-style-type: none"> — at 50 Hz — at 60 Hz 	0.85 ... 1.1
	0.85 ... 1.1
<ul style="list-style-type: none"> • at DC 	0.85 ... 1.1
Installation/ mounting/ dimensions	
mounting position	any
required spacing for grounded parts at the side	5 mm
fastening method	screw and snap-on mounting
width	22.5 mm
height	100 mm
depth	121.6 mm
Connections/ Terminals	
type of electrical connection	screw-type terminals
type of connectable conductor cross-sections	
<ul style="list-style-type: none"> • solid 	1x (0.5 ... 2.5 mm ²), 2x (1.0 ... 1.5 mm ²)
<ul style="list-style-type: none"> • finely stranded <ul style="list-style-type: none"> — with core end processing 	1x (0.5 ... 2.5 mm ²), 2x (0.5 ... 1.0 mm ²)
type of connectable conductor cross-sections at AWG cables	
<ul style="list-style-type: none"> • solid 	1x (20 ... 14), 2x (18 ... 16)
<ul style="list-style-type: none"> • stranded 	1x (20 ... 16), 2x (20 ... 16)
Product Function	
product function parameterizable	Sensor floating / monitored start / automatic start
suitability for operation device connector 3ZY12	No
suitability for interaction press control	No
suitability for use	
<ul style="list-style-type: none"> • safety switch 	Yes
<ul style="list-style-type: none"> • monitoring of floating sensors 	Yes
<ul style="list-style-type: none"> • monitoring of non-floating sensors 	No
<ul style="list-style-type: none"> • magnetically operated switch monitoring 	No
<ul style="list-style-type: none"> • safety-related circuits 	Yes
Certificates/ approvals	
General Product Approval	EMC



Functional
Safety/Safety of
Machinery

Declaration of Conformity

Test Certificates

Shipping Approval

[Type Examination
Certificate](#)

[Miscellaneous](#)



[Type Test Certificates/Test Report](#)



Shipping Ap-
proval

other

Railway



[Confirmation](#)

[Confirmation](#)

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=3SK1111-1AW20>

Cax online generator

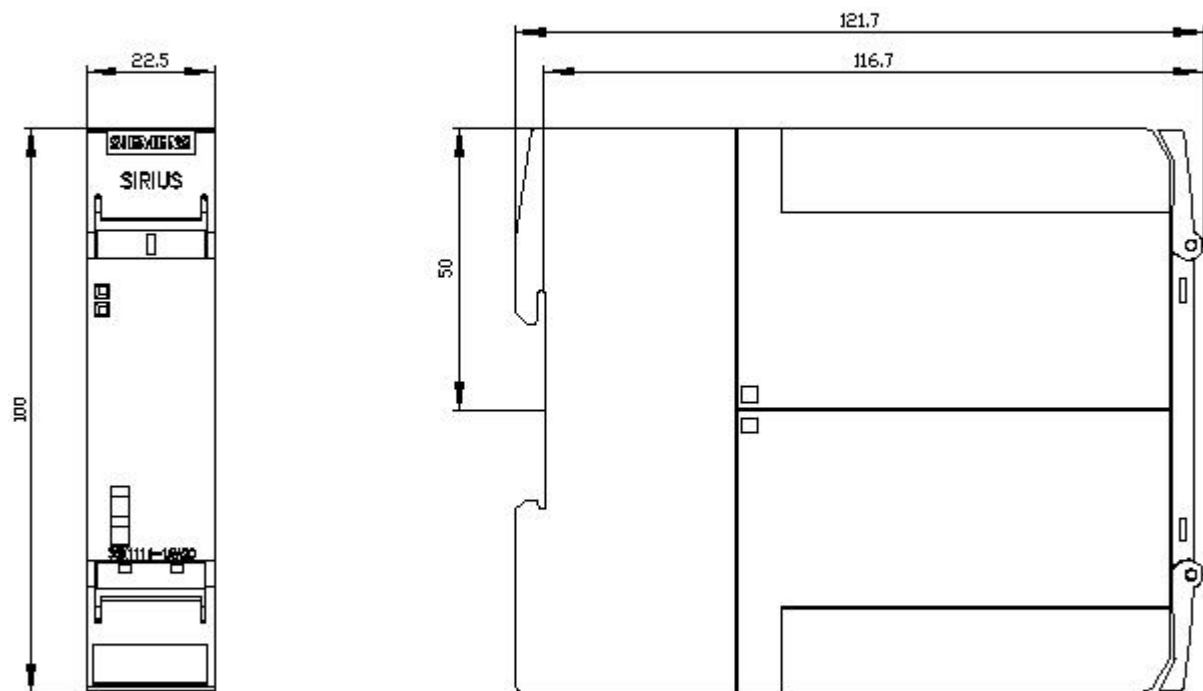
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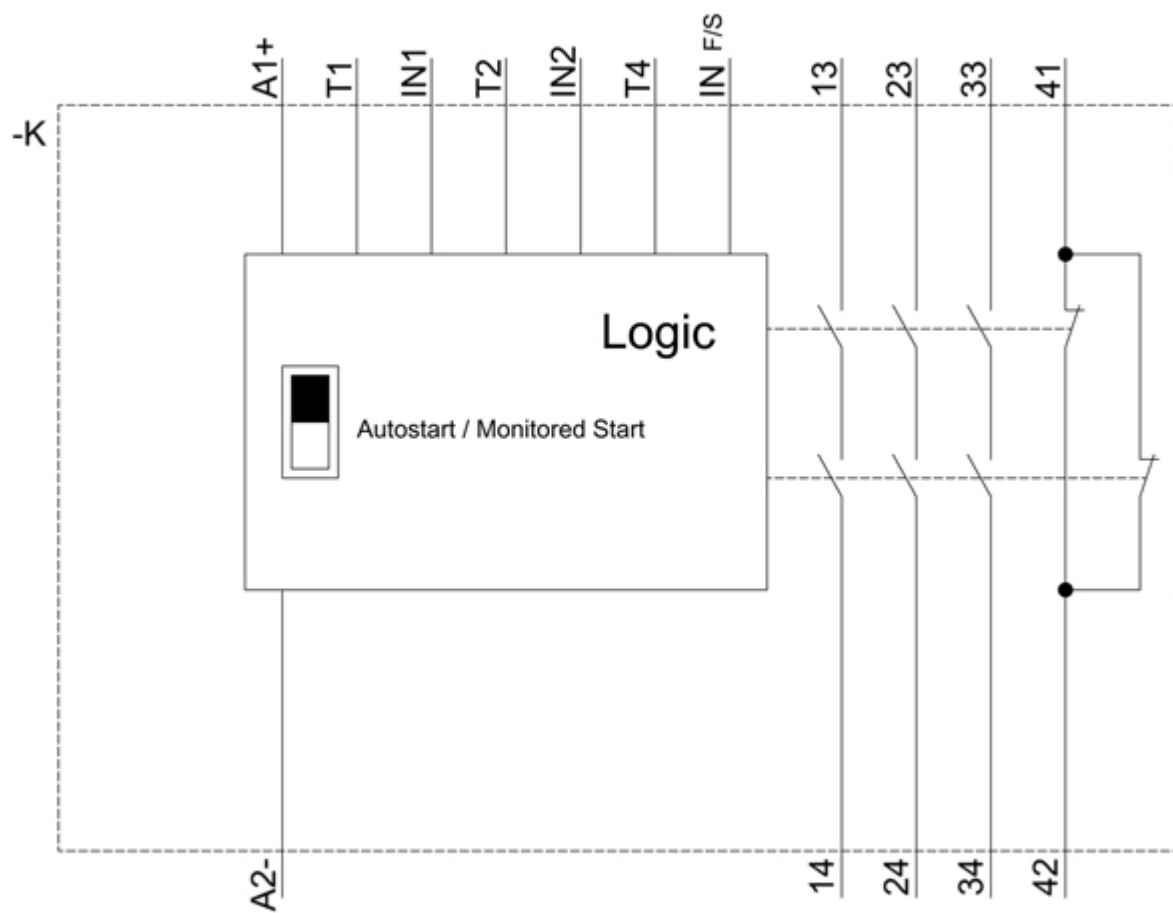
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

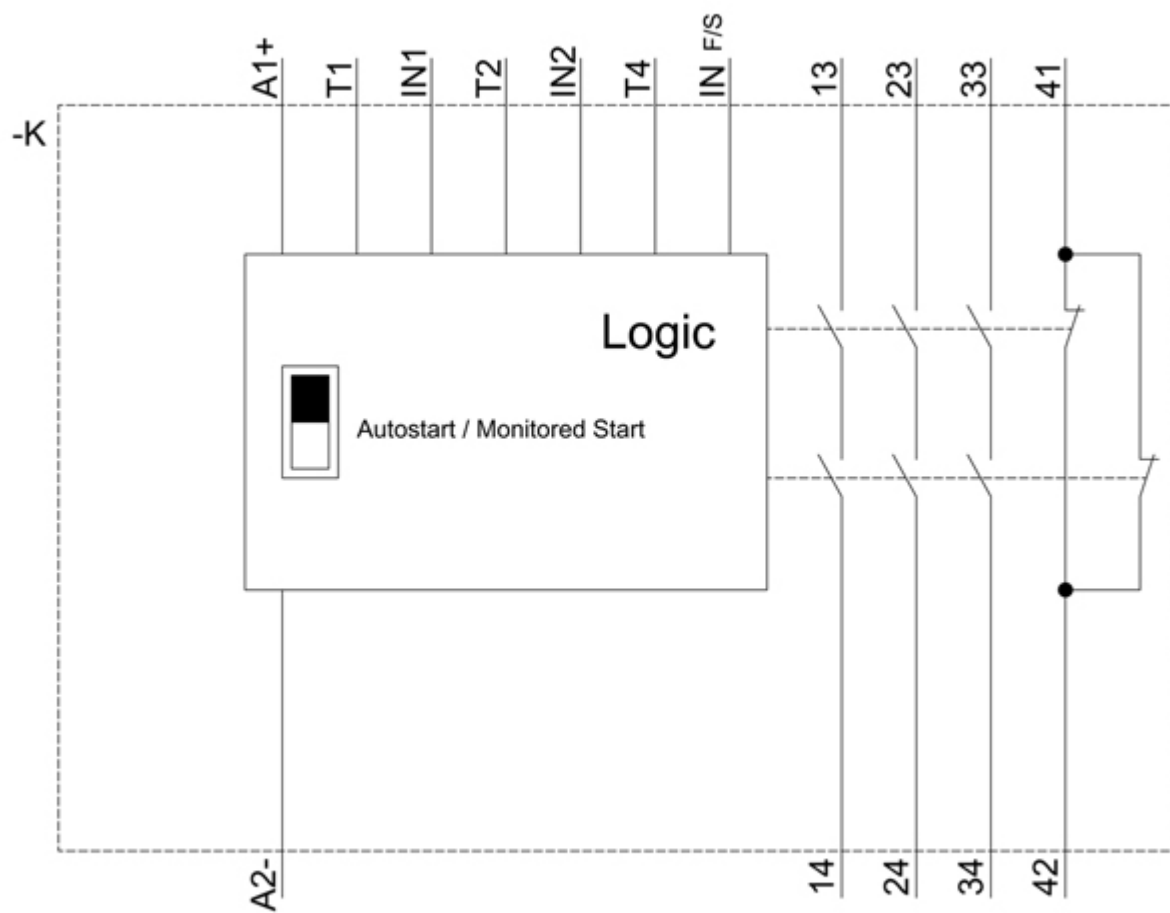
<https://support.industry.siemens.com/cs/ww/en/ps/3SK1111-1AW20>

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3SK1111-1AW20&lang=en







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