

SIRIUS safety relay Basic unit Standard series Relay enabling circuits 3 NO contacts plus Relay signaling circuit 1 NC contact Us = 110 - 240 V AC/DC 50/60 Hz Spring-type terminal (push-in)



| 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 |
| 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 | 90 kPa ... 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: 0.75 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 DIN EN 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 IEC 61508 | 20 y |
| 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 |
| Operating 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 | Diazed 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 mm ² 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 | |
| • typical | 200 ms |
| • 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 | |
| • of the sensor input minimum | 150 ms |
| • of the ON pushbutton input minimum | 0.015 s |

Control circuit/ Control

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|---|---------------|
| Type of voltage of the control supply voltage | AC/DC |
| Control supply voltage frequency | |
| • 1 rated value | 50 Hz |
| • 2 rated value | 60 Hz |
| Control supply voltage | |
| • at DC | |
| — rated value | 110 ... 240 V |
| • at AC | |
| — at 50 Hz | |
| — rated value | 110 ... 240 V |
| — at 60 Hz | |
| — rated value | 110 ... 240 V |
| Operating range factor control supply voltage rated value of magnet coil | |
| • at AC | |
| — at 50 Hz | 0.85 ... 1.1 |
| — at 60 Hz | 0.85 ... 1.1 |
| • at DC | 0.85 ... 1.1 |

Installation/ mounting/ dimensions

| | |
|--|----------------------------|
| Mounting position | any |
| Required spacing for grounded parts at the side | 5 mm |
| Mounting type | screw and snap-on mounting |
| Width | 22.5 mm |
| Height | 100 mm |
| Depth | 121.6 mm |

Connections/ Terminals

| | |
|---|--|
| Type of electrical connection | Push-in terminal |
| Type of connectable conductor cross-sections | |
| • solid | 1x (0.5 ... 1.5 mm ²), 2x (0.5 ... 1.5 mm ²) |
| • finely stranded | |
| — with core end processing | 1x (0.5 ... 1.0 mm ²), 2x (0.5 ... 1.0 mm ²) |
| — without core end processing | 1x (0.5 ... 1.5 mm ²), 2x (0.5 ... 1.5 mm ²) |
| Type of connectable conductor cross-sections at AWG conductors | |
| • solid | 1x (20 ... 16), 2x (20 ... 16) |
| • 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 |
|--------------------------|-----|---------------------------------------|



CCC



CSA



UL



RCM

[Type Examination Certificate](#)

| | | |
|---------------------------|-------------------|-------------------|
| Declaration of Conformity | Test Certificates | Shipping Approval |
|---------------------------|-------------------|-------------------|



EG-Konf.

[Miscellaneous](#)

[Type Test Certificates/Test Report](#)



LRS



RINA



RMRS

| | |
|------------------------------|------------------------------|
| other | Railway |
| Confirmation | Confirmation |

Further information

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

www.siemens.com/ic10

Industry Mall (Online ordering system)

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3SK1111-2AW20>

Cax online generator

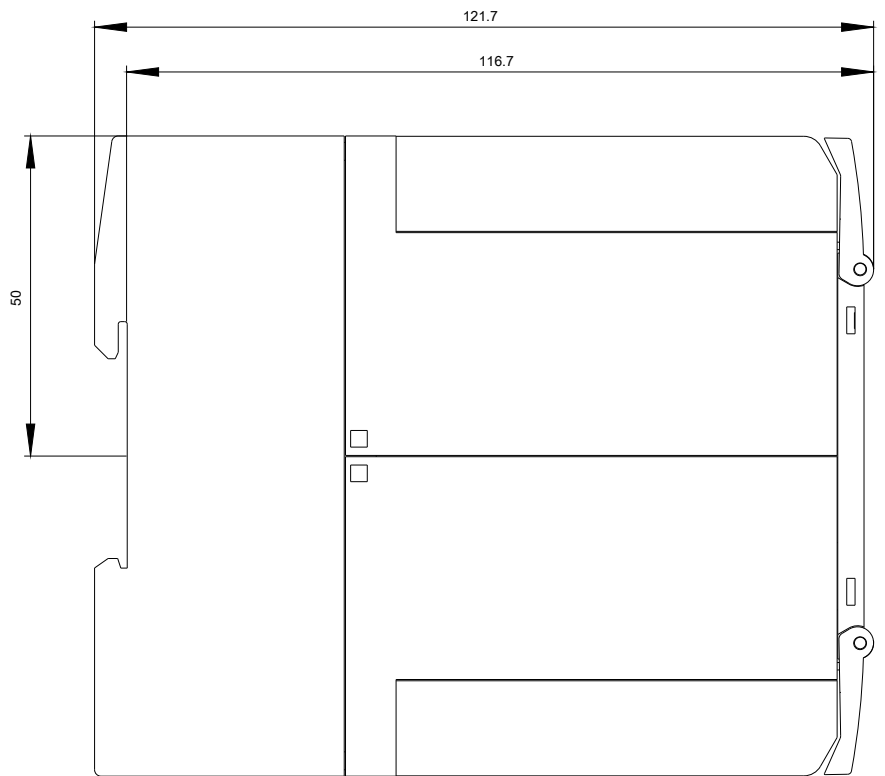
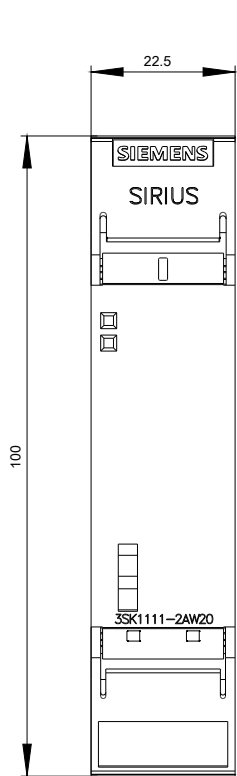
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3SK1111-2AW20>

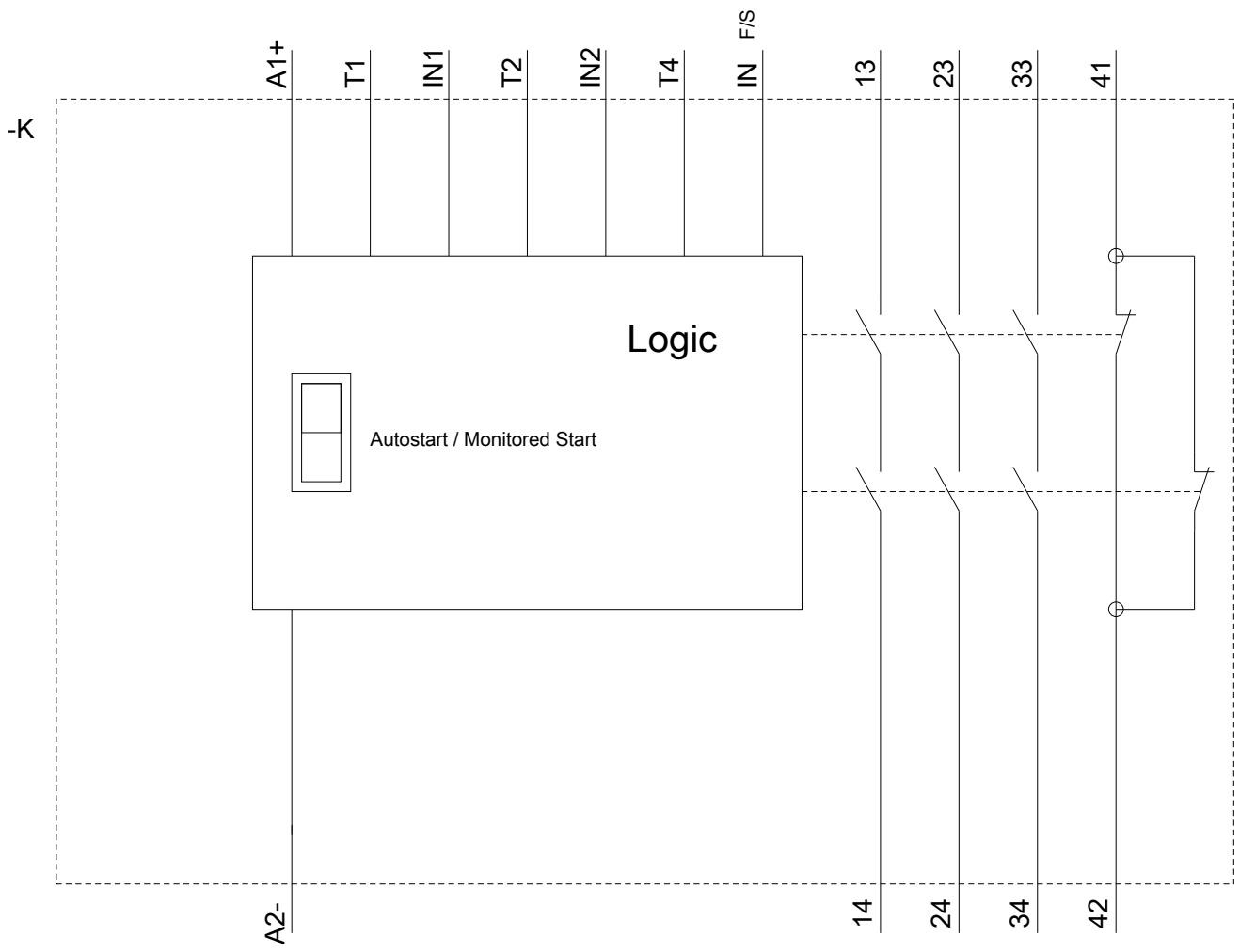
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

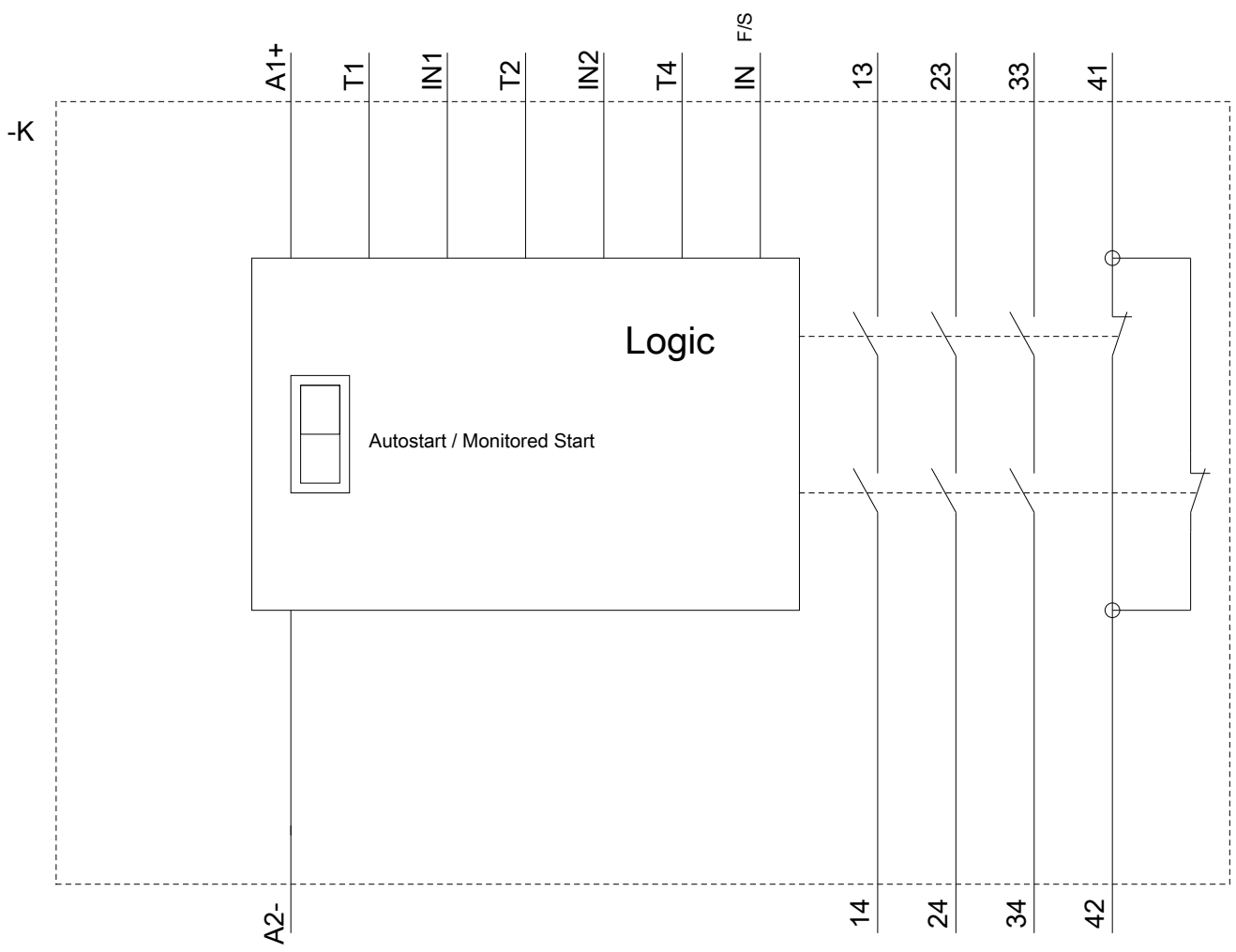
<https://support.industry.siemens.com/cs/ww/en/ps/3SK1111-2AW20>

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3SK1111-2AW20&lang=en







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