

SIRIUS safety relay Output expansion 3RO Power, with Relay enabling circuits 3 NO contacts plus Relay signaling circuit 1 NC contact $U_s = 230 \text{ V AC}$ screw terminal



Figure similar

| General technical data | |
|---|-------------------------|
| Product brand name | SIRIUS |
| Product category | Safety relays |
| Product designation | Output expansion |
| 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 | 5 g / 10 ms |
| Surge voltage resistance rated value | 4 000 V |

| | |
|---|--|
| EMC emitted interference | IEC 60947-5-1, IEC 61000 |
| Installation environment regarding EMC | This product is suitable for Class B environments and can also be used in domestic environments. |
| Overvoltage category | 3 |
| Degree of pollution | 3 |
| Reference code acc. to DIN EN 61346-2 | F |
| 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 |
| PFHD with high demand rate acc. to EN 62061 | 0.000000001 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 delayed switching | 0 |
| — for feedback circuit instantaneous contact | 1 |
| — safety-related instantaneous contact | 0 |
| — safety-related delayed switching | 0 |
| • as NO contact | |
| — for signaling function instantaneous contact | 0 |
| — for signaling function delayed switching | 0 |
| — safety-related instantaneous contact | 3 |
| — safety-related delayed switching | 0 |
| Stop category acc. to DIN EN 60204-1 | 0 |

General technical data

| | |
|---|---------|
| 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 | 6 A |
| — at 115 V | 1.1 A |
| — at 230 V | 0.55 A |
| • at AC-15 | |
| — at 24 V | 10 A |
| — at 115 V | 10 A |
| — at 230 V | 10 A |

| | |
|--|--|
| Thermal current of the switching element with contacts maximum | 10 A |
| Operating current at 17 V minimum | 5 mA |
| Mechanical service life (switching cycles) typical | 10 000 000 |
| maximum permissible voltage for safe isolation between electronic evaluation device and enabling circuit acc. to EN 60947-1 | 300 V |
| Design of the fuse link for short-circuit protection of the NO contacts of the relay outputs required | gL/gG: 16 A or MCB type A: 6 A or MCB type B: 4 A or MCB type C: 4 A |
| Make time with automatic start | |
| • typical | 10 ms |
| • at AC maximum | 15 ms |
| Make time with automatic start after power failure | |
| • typical | 10 ms |
| • maximum | 15 ms |
| Backslide delay time in the event of power failure | |
| • typical | 15 ms |
| • maximum | 15 ms |
| Recovery time after power failure typical | 0 s |

Control circuit/ Control

| | |
|---|--------------|
| Type of voltage of the control supply voltage | AC |
| Control supply voltage frequency | |
| • 1 rated value | 50 Hz |
| • 2 rated value | 60 Hz |
| Control supply voltage | |
| • at AC | |
| — at 50 Hz | |
| — rated value | 230 V |
| — at 60 Hz | |
| — rated value | 230 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 |
| Power loss [W] typical | 3.5 W |

Installation/ mounting/ dimensions

| | |
|--|--------------------------------------|
| Mounting position | on horizontal standard mounting rail |
| Required spacing for grounded parts at the side | 5 mm |
| Required spacing with side-by-side mounting at the side | 0 mm |
| Mounting type | screw and snap-on mounting |
| Width | 90 mm |

| | |
|--------|----------|
| Height | 100 mm |
| Depth | 121.6 mm |

Connections/Terminals

| | |
|--|--|
| Type of electrical connection | screw-type terminals |
| Type of connectable conductor cross-sections | 1x (0.5 ... 4.0 mm ²), 2x (0.5 ... 2.5 mm ²) |
| <ul style="list-style-type: none"> • solid • finely stranded — with core end processing | 1x (0.5 ... 2.5 mm ²), 2x (0.5 ... 1.5 mm ²) |
| Type of connectable conductor cross-sections at AWG conductors | |
| <ul style="list-style-type: none"> • solid | 1x (20 ... 12), 2x (20 ... 14) |

Product Function

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|---|-----|
| Suitability for operation Device connector 3ZY12 | No |
| Suitability for use | |
| <ul style="list-style-type: none"> • safety-related circuits | Yes |

Certificates/approvals

| | |
|--|------------|
| Certificate of suitability | |
| <ul style="list-style-type: none"> • TÜV (German technical inspectorate) certificate • UL approval | Yes Yes |

| | | |
|--------------------------|-----|---------------------------------------|
| General Product Approval | EMC | Functional Safety/Safety of Machinery |
|--------------------------|-----|---------------------------------------|



[Type Examination](#)

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



[Type Test Certificates/Test Report](#)



[Confirmation](#)

Railway

[Confirmation](#)

Further information

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

<http://www.siemens.com/industrial-controls/catalogs>

Industry Mall (Online ordering system)

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3SK1213-1AL20>

Cax online generator

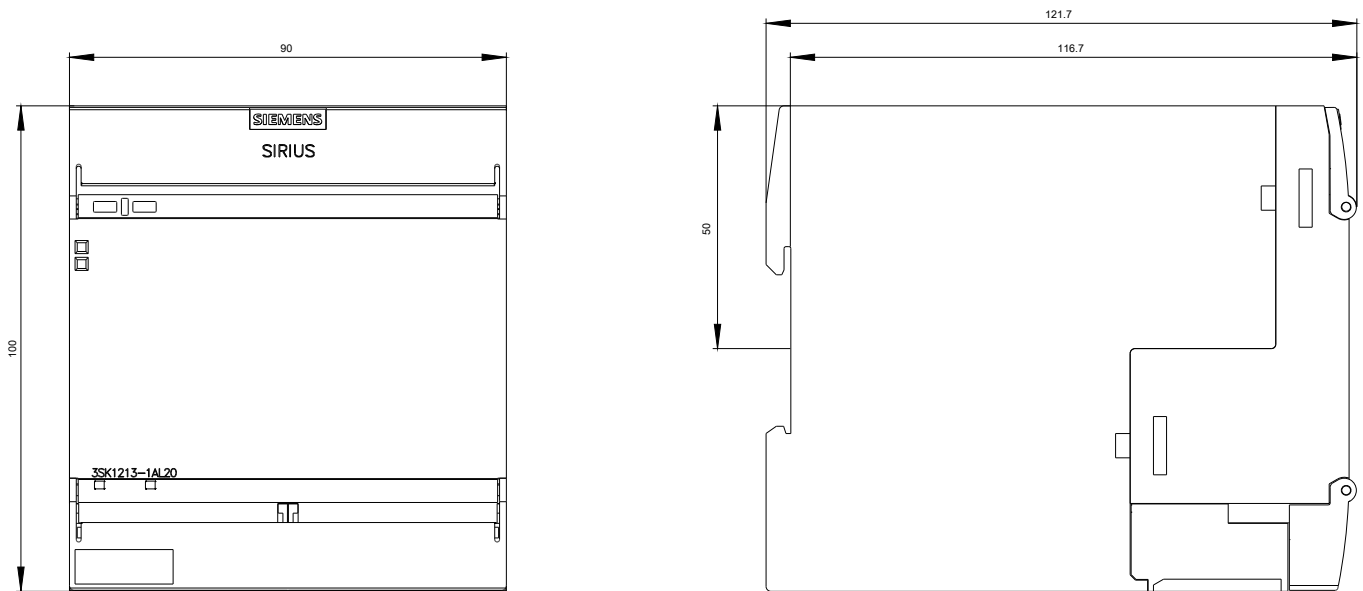
<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3SK1213-1AL20>

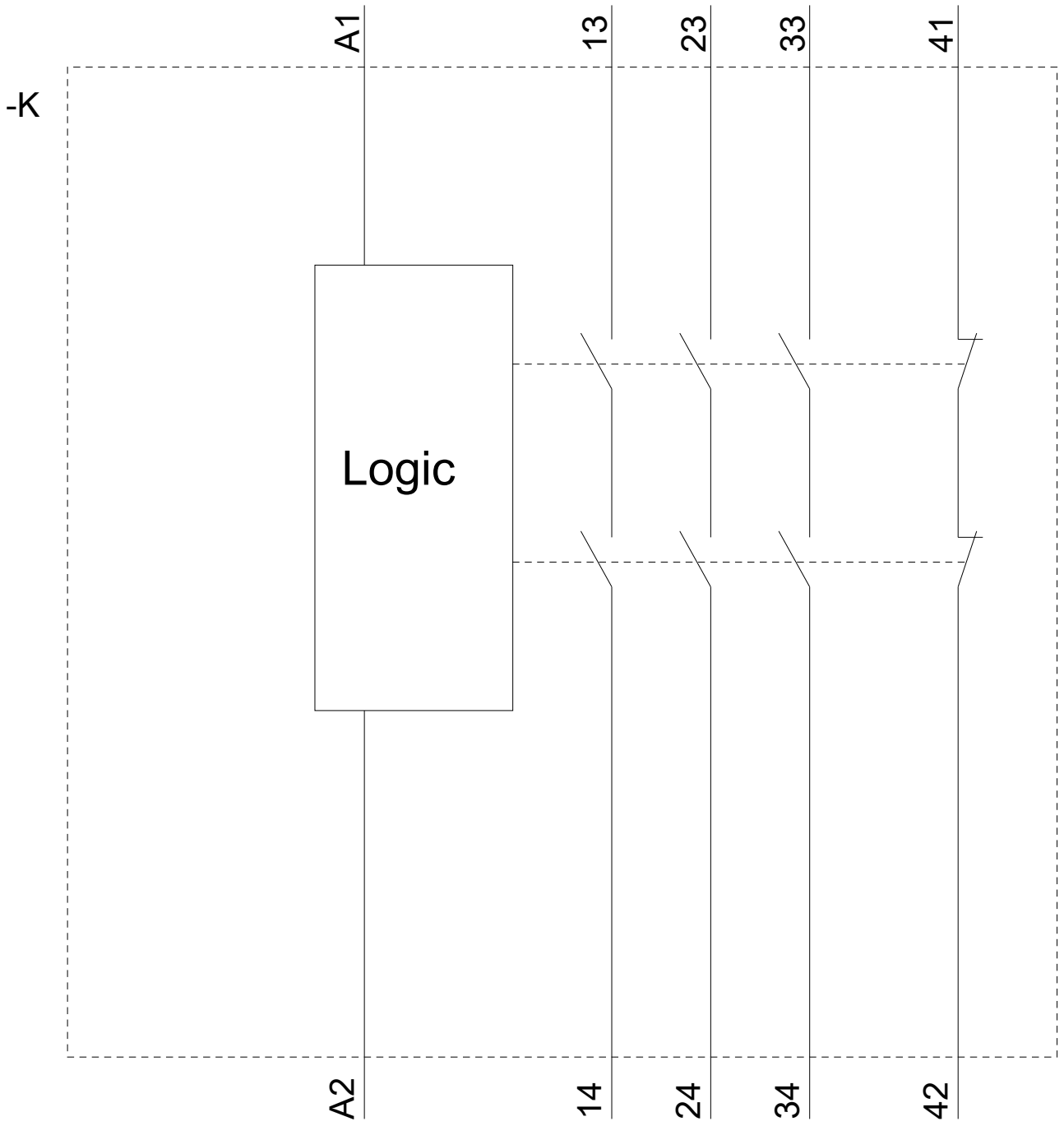
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

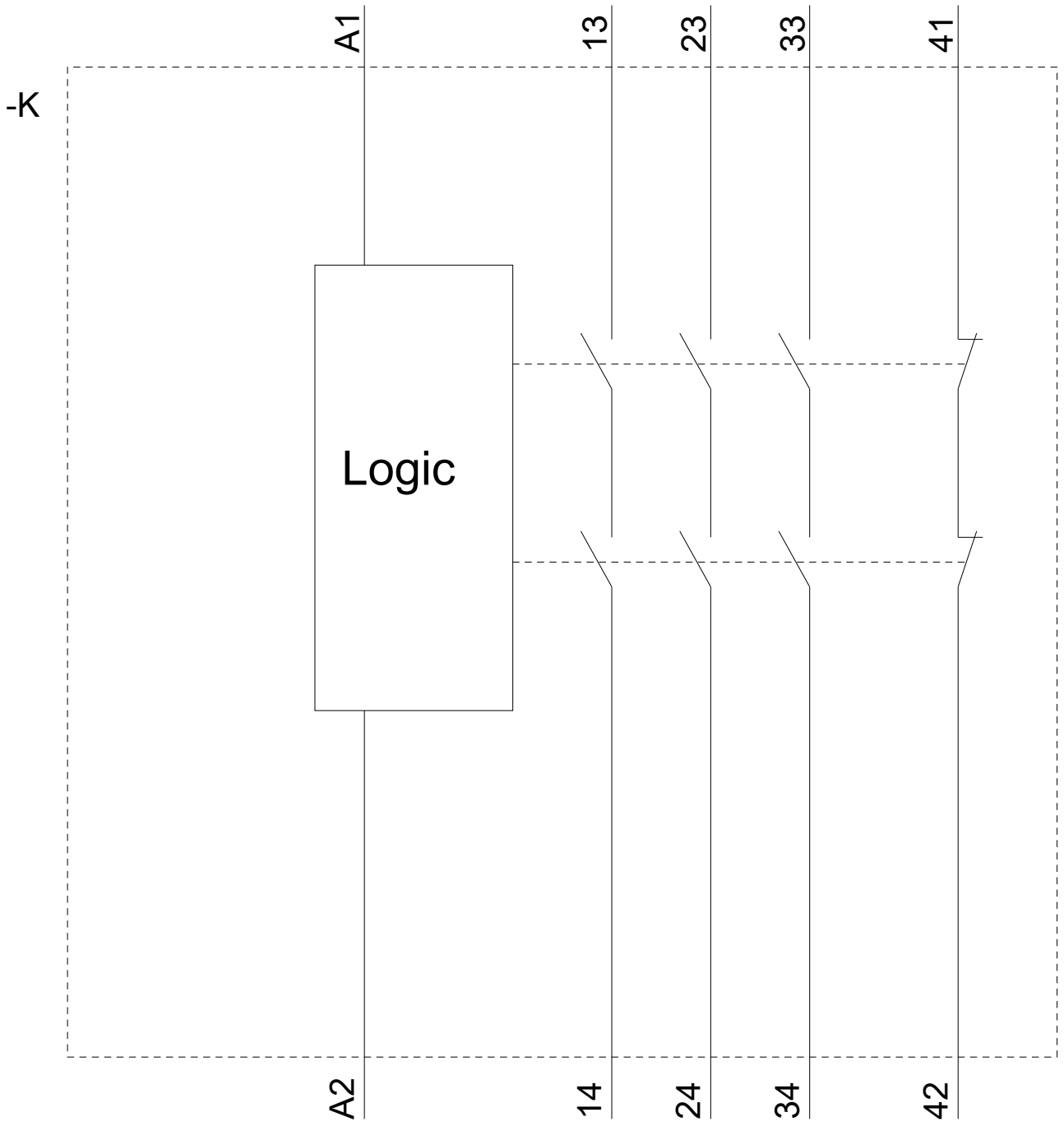
<https://support.industry.siemens.com/cs/ww/en/ps/3SK1213-1AL20>

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

http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3SK1213-1AL20&lang=en







last modified:

06/22/2018