## **SIEMENS**

## Data sheet

## 3RM1301-1AA04



Figure similar

| General technical data:   |    |  |
|---|----|--|
| product brand name  |    | SIRIUS   |
| Product designation   |    | Motor starter  |
| Design of the product   |    | with reversing functionality and electronic overload<br>protection and safety-related shutdown |
| Trip class  |    | CLASS 10A  |
| Protection class IP   | -  | IP20   |
| Suitability for operation Device connector 3ZY12                              |    | Yes  |
| Product function Intrinsic device protection                                  |    | Yes  |
| Type of the motor protection  | -  | solid-state  |
| Product function Adjustable current limitation                                |    | Yes  |
| Installation altitude at height above sea level maximum                       | m  | 2 000  |
| Ambient temperature   | -  |  |
| <ul> <li>during operation</li> </ul>  | °C | -25 +60  |
| <ul> <li>during transport</li> </ul>  | °C | -40 +70  |
| <ul> <li>during storage</li> </ul>  | °C | -40 +70  |
| Shock resistance  |    | 6g / 11 ms   |
| Vibration resistance  |    | 1 6 Hz, 15 mm; 20 m/s², 500 Hz   |
| Surge voltage resistance Rated value  | kV | 6  |
| Insulation voltage Rated value  | V  | 500  |
| Mechanical service life (switching cycles) typical                            |    | 30 000 000   |
| Conducted interference due to conductor-conductor surge acc. to IEC 61000-4-5 |    | 2 kV   |
| Conducted interference due to burst acc. to IEC 61000-4-4                     |    | 3 kV / 5 kHz   |

MOTOR STARTER SIRIUS 3RM1 REVERSING STARTER SAFETY 500 V; 0,1 - 0,5 A; 24 V DC SCREW-TYPE CONNECTION SYSTEM

| Conducted interference due to high-frequency radiation acc. to IEC 61000-4-6               |     | 10 V   |
|--|-----|--|
| Electrostatic discharge acc. to IEC 61000-4-2  | _   | 6 kV contact discharge / 8 kV air discharge                    |
| Field-bound HF-interference emission acc. to<br>CISPR11                                    | _   | Class B for the domestic, business and commercial environments |
| Conducted HF-interference emissions acc. to<br>CISPR11                                     |     | Class B for the domestic, business and commercial environments |
| maximum permissible voltage for safe isolation   |     |  |
| <ul> <li>between main and auxiliary circuit</li> </ul>                                     | V   | 500  |
| <ul> <li>between control and auxiliary circuit</li> </ul>                                  | V   | 250  |
| Equipment marking acc. to DIN 40719 extended   | _   | Q  |
| according to IEC 204-2 acc. to IEC 750   |     |  |
| Equipment marking acc. to DIN EN 61346-2   |     | Q  |
| Safety related data:   |     |  |
| Safety Integrity Level (SIL) acc. to IEC 61508   |     | SIL3   |
| Performance level (PL) acc. to EN ISO 13849-1  |     | e  |
| Category acc. to EN ISO 13849-1  | _   | 4  |
| T1 value for proof test interval or service life acc. to IEC 61508                         | У   | 20   |
| PFHD with high demand rate acc. to EN 62061  | 1/h | 0.0000002  |
| Protection against electrical shock  | -   | finger-safe  |
| Safety device type acc. to IEC 61508-2   | _   | Туре В   |
| OFF-delay time with safety-related request when<br>switched off via control inputs maximum | ms  | 65   |
| OFF-delay time with safety-related request when<br>switched off via supply voltage maximum | ms  | 120  |
| Main circuit:  |     |  |
| Number of poles for main current circuit   | _   | 3  |
| Operating voltage Rated value maximum  | V   | 500  |
| Operating frequency  | _   |  |
| • 1 Rated value  | Hz  | 50   |
| • 2 Rated value  | Hz  | 60   |
| Operating current with AC at 400 V Rated value   | А   | 0.5  |
| Minimum load in % of I_M   | %   | 20   |
| Active power loss typical  | W   | 0.02   |
| Adjustable response value current of the current-<br>dependent overload release            | A   | 0.1 0.5  |
| Operating power for three-phase motors at 400 V at 50 Hz                                   | kW  | 0 0.12   |
| Operating frequency maximum  | 1/s | 1  |
| Control circuit/ Control:  |     |  |
| Type of voltage of the control supply voltage  |     | DC   |
| Control supply voltage 1   |     |  |

| <ul> <li>for DC Rated value</li> </ul>              | V  | 24       |
|---|----|----------|
| Operating range factor control supply voltage rated |    |          |
| value   |    |          |
| • for DC  |    | 0.8 1.25 |
| Control current                                     |    |          |
| • for DC  |    |          |
| — in standby mode                                   | mA | 13       |
| — during operation                                  | mA | 57       |
| — when switching on                                 | mA | 150      |
| Input voltage at digital input                      |    |          |
| ● for signal <1>                                    |    |          |
| — for DC  | V  | 15 30    |
| ● with signal <0>                                   |    |          |
| — for DC  | V  | 05       |
| Input current at digital input                      |    |          |
| ● for signal <1>                                    |    |          |
| — for DC  | mA | 8        |
| ● with signal <0>                                   |    |          |
| — for DC  | mA | 1        |
| Switch-on delay time                                | ms | 90 120   |
| OFF-delay time                                      | ms | 40 55    |

| Auxiliary circuit:  |   |            |
|---|---|------------|
| Number of CO contacts for auxiliary contacts                            |   | 1          |
| Design of the switching contact as NO contact for<br>signaling function |   | Electronic |
| Operating current of the auxiliary contacts                             |   |            |
| • at AC-15 maximum  | А | 3          |
| ● at DC-13 maximum  | А | 1          |

| Installation/ mounting/ dimensions: |    |  |  |
|-------------------------------------|----|--|--|
| mounting position                   |    | vertical, horizontal, standing                               |  |
| Mounting type                       |    | screw and snap-on mounting onto 35 mm standard mounting rail |  |
| Width                               | mm | 22.5   |  |
| Height                              | mm | 100  |  |
| Depth                               | mm | 141.6  |  |

| Connections/ Terminals:  |                                  |
|--|----------------------------------|
| Type of electrical connection                                    |                                  |
| <ul> <li>for main current circuit</li> </ul>                     | screw-type terminals             |
| <ul> <li>for auxiliary and control current circuit</li> </ul>    | screw-type terminals             |
| Type of connectable conductor cross-section for<br>main contacts |                                  |
| • solid  | 1x (0,5 4 mm²), 2x (0,5 2,5 mm²) |

|  | <ul> <li>finely stranded</li> </ul> |                    |               |      |                    |                      |            |
|--|-------------------------------------|--------------------|---------------|------|--------------------|----------------------|------------|
| AWG conductors for main contacts       Type of connectable conductor cross-section for auxiliary contacts         • solid       1x (0,5 2,5 mm²), 2x (1,0 1,5 mm²)         • finely stranded       - with core end processing       1x (0,5 2,5 mm²), 2x (0,5 1 mm²)         Type of connectable conductor cross-section for AWG conductors for auxiliary contacts       1x (0,5 2,5 mm²), 2x (0,5 1 mm²)         Type of connectable conductor cross-section for AWG conductors for auxiliary contacts       1x (20 14), 2x (18 16) <b>L ratings:</b> Full-load current (FLA) for three-phase AC motor at 480 V Rated value       A       0.5         Certificates/ approvals:       For use in hazardous locations       Functional Safety/Safety of Machinery       Declaration of Conformity of Machinery         Certificates/ ccc       UL       EFIEL       Effect       Effect         Vertificates/ ccc       UL       Effect       Effect       Effect         Vertificates/ ccc       UL       Effect       Effect       Effect       Effect         Vertificates/ ccc       UL       Effect  | — with core e                       | end processing     |               |      | 1x (0,5 2,         | ,5 mm²), 2x (0,5 1,5 | ō mm²)     |
| Type of connectable conductor cross-section for auxiliary contacts <ul> <li>solid</li> <li>finely stranded</li> <li>with core end processing</li> <li>Type of connectable conductor cross-section for AWG conductors for auxiliary contacts</li> </ul> <ul> <li>Type of connectable conductor cross-section for AWG conductors for auxiliary contacts</li> <li>1x (0.5 2.5 mm²), 2x (1.0 1,5 mm²)</li> <li>1x (0.5 2.5 mm²), 2x (0.5 1 mm²)</li> <li>1x (0.5 2.5 mm²), 2x (0.5 1 mm²)</li> <li>1x (20 14), 2x (18 16)</li> </ul> <li>Type of connectable conductor cross-section for AWG conductors for auxiliary contacts</li> <li>A 0.5</li> <li>Centificates/ approvals:</li> <li>Central Product Approval</li> <li>For use in hazardous locations</li> <li>Safety/Safety of Machinery</li> <li>Conformity</li> <li>Of Machinery</li> <li>Type Examination</li> <li>Certificates</li> <li>other</li> <li>Type Test Certificates</li> <li>Certificates/Test</li> <li>Centificates</li> <li>Certificates</li> <li>Certificates</li> <li>Certificates</li> <li>Certificates</li> <li>Certificates</li> <li>Certificates</li>   | Type of connectable                 | conductor cross-   | section for   |      | 1x (20 12          | 2), 2x (20 14)       |            |
| auxiliary contacts  • solid • finely stranded with core end processing  Type of connectable conductor cross-section for AWG conductors for auxiliary contacts  // ratings:  Full-load current (FLA) for three-phase AC motor at 480 V Rated value  Certificates/ approvals:  General Product Approval  For use in hazardous locations  Functional Safety/Safety of Machinery  Type Examination  Type Test Certificates   | AWG conductors for                  | main contacts      |               |      |                    |                      |            |
| <ul> <li>solid</li> <li>finely stranded         <ul> <li>with core end processing</li> <li>Type of connectable conductor cross-section for<br/>AWG conductors for auxiliary contacts</li> </ul> </li> <li>Type of connectable conductor cross-section for<br/>AWG conductors for auxiliary contacts</li> <li>1x (0.5 2.5 mm<sup>2</sup>), 2x (0.5 1 mm<sup>2</sup>)</li> <li>1x (20 14), 2x (18 16)</li> <li>1x (20 14), 2x (18 16)</li> <li>V ratings:</li> <li>Full-load current (FLA) for three-phase AC motor at<br/>480 V Rated value</li> <li>Certificates/ approvals:</li> <li>For use in<br/>hazardous<br/>locations</li> <li>Functional<br/>Safety/Safety<br/>of Machinery</li> <li>Declaration of<br/>Conformity</li> <li>Conformity</li> <li>Type Examination</li> <li>Type Test</li> <li>Special Test</li> <li>Certificates</li> <li>Certificates</li> <li>Certificates</li> <li>Certificates</li> </ul>   | ••                                  | conductor cross-   | section for   |      |                    |                      |            |
| <ul> <li>finely stranded         <ul> <li>with core end processing</li> <li>Type of connectable conductor cross-section for AWG conductors for auxiliary contacts</li> <li>1x (20 14), 2x (18 16)</li> </ul> </li> <li>In the process of the proce</li></ul> | auxiliary contacts                  |                    |               |      |                    |                      |            |
|  | <ul> <li>solid</li> </ul>           |                    |               |      | 1x (0,5 2,         | ,5 mm²), 2x (1,0 1,5 | 5 mm²)     |
| Type of connectable conductor cross-section for AWG conductors for auxiliary contacts       1x (20 14), 2x (18 16)         1x ratings:       Ix (20 14), 2x (18 16)         Full-load current (FLA) for three-phase AC motor at 480 V Rated value       A       0.5         Certificates/ approvals:       Image: Product Approval       For use in hazardous locations       Functional Safety/Safety of Machinery       Declaration of Conformity of Machinery         Image: Certificates       Image: Product Approval       Image: Product Approval       Image: Product Approval       Image: Product Approval       Declaration of Conformity         Image: Certificates       Image: Product Approval       Image: Product Approval <th><ul> <li>finely stranded</li> </ul></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th>  | <ul> <li>finely stranded</li> </ul> |                    |               |      |                    |                      |            |
| AWG conductors for auxiliary contacts          AWG conductors for auxiliary contacts         JL ratings:         Full-load current (FLA) for three-phase AC motor at 480 V Rated value         Certificates/ approvals:         General Product Approval         General Product Approval         For use in hazardous locations         Declaration of Conformity locations         Of Machinery         Type Examination         Type Test Certificates         Certificates         Certificates         Certificates         Special Test Certificate         Certificates         Certificates         Certificates         Certificates         Certificates         Certificates         Certificates         Certificates         Certificates   | — with core e                       | end processing     |               |      | 1x (0.5 2.         | .5 mm²), 2x (0.5 1 r | mm²)       |
| JL ratings:       Full-load current (FLA) for three-phase AC motor at 480 V Rated value       A       0.5         Certificates/ approvals:       Certificates/ approvals       For use in hazardous locations       Functional Safety/Safety of Machinery       Declaration of Conformity         Certificates/ ccc       Image: Conformity of Machinery       Image: Conformity of Machinery       Type Examination       Effect         Test Certificates       other       Other       Confirmation       Environmental Confirmations   | Type of connectable                 | conductor cross-   | section for   |      | 1x (20 14          | ), 2x (18 16)        |            |
| Full-load current (FLA) for three-phase AC motor at 480 V Rated value       A       0.5         Certificates/ approvals:       For use in hazardous locations       Functional Safety/Safety of Machinery       Declaration of Conformity         Certificates/ ccc       Image: Conformity of Machinery       Image: Conformity of Machinery       Image: Conformity of Machinery       Image: Conformity of Machinery         Image: Ccc       Image: Conformity of Machinery       Image: Conformity of Machinery       Image: Conformity of Machinery       Image: Conformity of Machinery         Image: Ccc       Image: Conformity of Machinery       Image: Conformity of Machinery       Image: Conformity of Machinery       Image: Conformity of Machinery         Image: Ccc       Image: Conformity of Conformity of Machinery       Image: Conformity of Machinery       Image: Conformity of Machinery       Image: Conformity of Machinery         Image: Ccc       Image: Cccc       Image: Cccc       Image: Cccc       Image: Cccc       Image: Cccc         Image: Ccc       Image: Cccc       Image: Ccccc       Image: Cccc       Image: Cccc  | AWG conductors for                  | auxiliary contacts | 3             |      |                    |                      |            |
| Full-load current (FLA) for three-phase AC motor at 480 V Rated value       A       0.5         Certificates/ approvals:       For use in hazardous locations       Functional Safety/Safety of Machinery       Declaration of Conformity         Certificates/ ccc       Image: Conformity of Machinery       Image: Conformity of Machinery       Image: Conformity of Machinery       Image: Conformity of Machinery         Image: Ccc       Image: Conformity of Machinery       Image: Conformity of Machinery       Image: Conformity of Machinery       Image: Conformity of Machinery         Image: Ccc       Image: Conformity of Machinery       Image: Conformity of Machinery       Image: Conformity of Machinery       Image: Conformity of Machinery         Image: Ccc       Image: Conformity of Conformity of Machinery       Image: Conformity of Machinery       Image: Conformity of Machinery       Image: Conformity of Machinery         Image: Ccc       Image: Cccc       Image: Cccc       Image: Cccc       Image: Cccc       Image: Cccc         Image: Ccc       Image: Cccc       Image: Ccccc       Image: Cccc       Image: Cccc  | Il ratings:                         |                    |               |      |                    |                      |            |
| 480 V Rated value         Certificates/ approvals:         General Product Approval       For use in hazardous locations       Functional Safety/Safety of Machinery       Declaration of Conformity         Image: Configure of the state  |                                     | A) for three-phase | e AC motor at | A    | 0.5                |                      |            |
| General Product Approval       For use in hazardous locations       Functional Safety/Safety of Machinery       Declaration of Conformity         Image: Ccc       Image: Cccc       Image: Ccccc       Image: Cccc       Im   |                                     | y                  |               |      | 0.0                |                      |            |
| General Product Approval       For use in hazardous locations       Functional Safety/Safety of Machinery       Declaration of Conformity         Image: Ccc       Image: Cccc       Image: Ccccc       Image: Cccc       Ima   |                                     |                    |               | _    |                    |                      |            |
| hazardous<br>locationsSafety/Safety<br>of MachineryConformityImage: Conference of the second se |                                     |                    |               |      |                    |                      |            |
| Iocations       of Machinery         Type Examination       Type Examination         Cccc       Other         Type Test       Special Test         Certificates       Confirmation         Environmental       Confirmation  | General Product                     | Approval           |               |      |                    |                      |            |
| Type Examination       Type Examination         Cccc       UL       Effect       Effect         Test Certificates       other         Type Test       Special Test       Confirmation       Environmental         Certificates/Test       Special Test       Confirmation       Environmental  |                                     |                    |               |      |                    |                      | Conformity |
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|  | Test Certificates                   |                    |               |      |                    |                      |            |
|  | Type Test                           |                    | Confirmation  |      |                    |                      |            |
|  | Type Test<br>Certificates/Test      |                    | Confirmatior  |      |                    |                      |            |

## Further information

Information- and Downloadcenter (Catalogs, Brochures,...) http://www.siemens.com/industrial-controls/catalogs

Industry Mall (Online ordering system) http://www.siemens.com/industrymall

Cax online generator

http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RM13011AA04

Service&Support (Manuals, Certificates, Characteristics, FAQs,...) http://support.automation.siemens.com/WW/view/en/3RM13011AA04/all

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