



MOTOR STARTER SIRIUS 3RM1 REVERSING STARTER  
500 V;  
1,6-7,0 A;  
110-230 V AC SCREW CONNECTION SYSTEM

### General technical data:

|  |    |   |
|--|----|---|
| product brand name   |    | SIRIUS  |
| Product designation  |    | Motor starter   |
| Design of the product  |    | with reversing functionality and electronic overload protection |
| Trip class   |    | CLASS 10A   |
| Protection class IP  |    | IP20  |
| Suitability for use / device connector 3ZY12                 |    | No  |
| Product function / intrinsic device protection               |    | Yes   |
| Type of the motor protection                                 |    | solid-state   |
| Product function / adjustable current limitation             |    | Yes   |
| Installation altitude / at a height over sea level / maximum | m  | 4,000   |
| Ambient temperature  |    |   |
| • during operating   | °C | -25 ... +60   |
| • during transport   | °C | -40 ... +70   |
| • during storage   | °C | -40 ... +70   |
| Resistance against shock                                     |    | 6g / 11 ms  |
| Resistance against vibration                                 |    | 1 ... 6 Hz, 15 mm; 20 m/s², 500 Hz                              |
| Impulse voltage resistance / rated value                     | kV | 6   |
| Insulation voltage / rated value                             | V  | 600   |

|  |   |   |
|--|---|---|
| <b>Mechanical operating cycles as operating time / typical</b>                                   |   | 30,000,000  |
| <b>Conductor-bound parasitic coupling conductor-conductor SURGE / according to IEC 61000-4-5</b> |   | 1 kV  |
| <b>Conductor-bound parasitic coupling BURST / according to IEC 61000-4-4</b>                     |   | 3 kV / 5 kHz  |
| <b>Conducted interference as high-frequency radiation according to IEC 61000-4-6</b>             |   | 10 V  |
| <b>Electrostatic discharge / according to IEC 61000-4-2</b>                                      |   | 4 kV contact discharge / 8 kV air discharge   |
| <b>Field-bound HF-interference emission / according to CISPR11</b>                               |   | Class B for domestic, business and commercial environments; Class A for industrial environments at 110 V DC |
| <b>Conductor-bound HF-interference emission / according to CISPR11</b>                           |   | Class B for domestic, business and commercial environments; Class A for industrial environments at 110 V DC |
| <b>Maximum permissible voltage for safe disconnection</b>  |   |   |
| • between main circuit and auxiliary circuit   | V | 500   |
| • between control and auxiliary circuit  | V | 250   |
| <b>Reference code</b>  |   |   |
| • according to DIN 40719 extended according to IEC 204-2 / according to IEC 750                  |   | Q   |
| • according to DIN EN 61346-2  |   | Q   |

#### Safety related data:

##### Protection against electrical shock

finger-safe

#### Main circuit:

|   |     |            |
|---|-----|------------|
| <b>Number of poles / for main current circuit</b>             |     | 3          |
| <b>Operating voltage / rated value / maximum</b>              | V   | 500        |
| <b>Operating frequency</b>                                    |     |            |
| • 1   | Hz  | 50         |
| • 2   | Hz  | 60         |
| <b>Operating current / at 400 V / for AC / rated value</b>    | A   | 7          |
| <b>Derating temperature</b>                                   | °C  | 40         |
| <b>Minimum load in % of I<sub>M</sub></b>                     | %   | 20         |
| <b>Active power loss / typical</b>                            | W   | 3.4        |
| <b>Adjustable response current</b>                            |     |            |
| • of the current-dependent overload release                   | A   | 1.6 ... 7  |
| <b>Service power / for three-phase servomotors / at 400 V</b> |     |            |
| • at 50 Hz  | kW  | 0.55 ... 3 |
| <b>Operating cycles / maximum</b>                             | 1/s | 1          |

#### Control circuit/ Control:

##### Voltage type / of control feed voltage

AC/DC

|  |    |              |
|--|----|--------------|
| <b>Control supply voltage / 1</b>                                |    |              |
| • for DC / rated value   | V  | 110          |
| • at 50 Hz   |    |              |
| • for AC   | V  | 110 ... 230  |
| • at 60 Hz   |    |              |
| • for AC   | V  | 110 ... 230  |
| <b>Operating range factor control supply voltage rated value</b> |    |              |
| • for DC   |    | 0.85 ... 1.1 |
| • at 50 Hz   |    |              |
| • for AC   |    | 0.85 ... 1.1 |
| • at 60 Hz   |    |              |
| • for AC   |    | 1.1 ... 0.85 |
| <b>Control current</b>   |    |              |
| • with AC  |    |              |
| • at 230 V   |    |              |
| • with standby operating mode                                    | mA | 9            |
| • during operation   | mA | 22           |
| • when switching on  | mA | 33           |
| • at 110 V   |    |              |
| • with standby operating mode                                    | mA | 16           |
| • during operation   | mA | 36           |
| • on switching on  | mA | 55           |
| • with DC  |    |              |
| • in standby mode  | mA | 6            |
| • during operation   | mA | 30           |
| • on switching on  | mA | 15           |
| <b>Input voltage / at the digital input</b>                      |    |              |
| • with signal <1>  |    |              |
| • for DC   | V  | 79 ... 121   |
| • with AC  | V  | 93 ... 253   |
| • with signal <0>  |    |              |
| • with AC  | V  | 0 ... 40     |
| • with DC  | V  | 0 ... 40     |
| <b>Input voltage / at digital input</b>                          |    |              |
| • with signal <1>  |    |              |
| • with AC  |    |              |
| • at 230 V   | mA | 2.3          |
| • at 110 V   | mA | 1.1          |
| • with DC  | mA | 1.5          |
| • with signal <0>  |    |              |

|  |    |           |
|--|----|-----------|
| <ul style="list-style-type: none"> <li>• with AC</li> <li>• at 230 V</li> <li>• at 110 V</li> <li>• with DC</li> </ul> | mA | 0.4       |
|  | mA | 0.2       |
|  | mA | 0.25      |
| <b>ON-delay time</b>   | ms | 60 ... 90 |
| <b>OFF-delay time</b>  | ms | 60 ... 90 |

| Auxiliary circuit:  |   |            |
|---|---|------------|
| <b>Number of changeover contacts / for auxiliary contacts</b>                     |   | 1          |
| <b>Design of the switching contact / as make contact / for reporting function</b> |   | Electronic |
| <b>Operating current / of the auxiliary contacts</b>                              |   |            |
| <ul style="list-style-type: none"> <li>• at AC-15</li> <li>• at DC-13</li> </ul>  | A | 3          |
|   | A | 1          |

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

| Connections/ terminals:   |  |  |
|---|--|--|
| <b>Design of the electrical connection</b>  |  |  |
| <ul style="list-style-type: none"> <li>• for main current circuit</li> <li>• for auxiliary and control current circuit</li> </ul>   |  | screw-type terminals<br>screw-type terminals   |
| <b>Type of the connectable conductor cross-section</b>  |  |  |
| <ul style="list-style-type: none"> <li>• for main contacts</li> <li>• solid</li> <li>• finely stranded               <ul style="list-style-type: none"> <li>• with conductor end processing</li> </ul> </li> <li>• for AWG conductors</li> </ul>      |  | 1x (0,5 ... 4 mm <sup>2</sup> ), 2x (0,5 ... 2,5 mm <sup>2</sup> )<br><br>1x (0,5 ... 2,5 mm <sup>2</sup> ), 2x (0,5 ... 1,5 mm <sup>2</sup> )<br>1x (20 ... 12), 2x (20 ... 14) |
| <b>Type of the connectable conductor cross-section</b>  |  |  |
| <ul style="list-style-type: none"> <li>• for auxiliary contacts</li> <li>• solid</li> <li>• finely stranded               <ul style="list-style-type: none"> <li>• with conductor end processing</li> </ul> </li> <li>• for AWG conductors</li> </ul> |  | 1x (0,5 ... 2,5 mm <sup>2</sup> ), 2x (1,0 ... 1,5 mm <sup>2</sup> )<br><br>1x (0,5 ... 2,5 mm <sup>2</sup> ), 2x (0,5 ... 1 mm <sup>2</sup> )<br>1x (20 ... 14), 2x (18 ... 16) |

| UL ratings: |
|-------------|
|-------------|

|   |                                |                                  |
|---|--------------------------------|----------------------------------|
| <b>Full-load current (FLA) / for 3-phase motor / at 480 V / rated value</b>   | A                              | 6.1                              |
| <b>yielded mechanical performance (hp)</b>  |                                |                                  |
| <ul style="list-style-type: none"> <li>for single-phase squirrel cage motors <ul style="list-style-type: none"> <li>at 110/120 V / rated value</li> <li>at 230 V / rated value</li> </ul> </li> <li>for three-phase squirrel cage motors <ul style="list-style-type: none"> <li>at 200/208 V / rated value</li> <li>at 220/230 V / rated value</li> <li>at 460/480 V / rated value</li> </ul> </li> </ul> | hp<br>hp<br><br>hp<br>hp<br>hp | 0.25<br>0.5<br><br>1<br>1.5<br>3 |

#### Certificates/ approvals:

##### General Product Approval



[Type Test Certificates/Test Report](#)

##### other

[Environmental Confirmations](#)

#### Further information:

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

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

##### Industry Mall (Online ordering system)

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

##### Cax online generator

<http://www.siemens.com/cax>

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

<http://support.automation.siemens.com/WW/view/en/3RM1207-1AA14/all>

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

[http://www.automation.siemens.com/bilddb/cax\\_en.aspx?mlfb=3RM1207-1AA14](http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3RM1207-1AA14)

