



Direct starter, 3RM1, 500 V, 0.55 - 3 kW, 1.6 - 7 A, 24 V DC, spring-type terminals

|                                                                                     |                                                                |
|-------------------------------------------------------------------------------------|----------------------------------------------------------------|
| <b>product brand name</b>                                                           | SIRIUS                                                         |
| <b>product category</b>                                                             | Motor starter                                                  |
| <b>product designation</b>                                                          | Direct-on-line starter                                         |
| <b>design of the product</b>                                                        | with electronic overload protection                            |
| <b>product type designation</b>                                                     | 3RM1                                                           |
| <b>General technical data</b>                                                       |                                                                |
| <b>trip class</b>                                                                   | CLASS 10A                                                      |
| <b>product function</b>                                                             |                                                                |
| • intrinsic device protection                                                       | Yes                                                            |
| <b>suitability for operation device connector 3ZY12</b>                             | Yes                                                            |
| power loss [W] for rated value of the current at AC in hot operating state per pole | 1.13 W                                                         |
| insulation voltage rated value                                                      | 500 V                                                          |
| <b>surge voltage resistance rated value</b>                                         | 6 kV                                                           |
| <b>maximum permissible voltage for safe isolation</b>                               |                                                                |
| • between main and auxiliary circuit                                                | 500 V                                                          |
| • between control and auxiliary circuit                                             | 250 V                                                          |
| <b>shock resistance</b>                                                             | 6g / 11 ms                                                     |
| <b>vibration resistance</b>                                                         | 1 ... 6 Hz, 15 mm; 20 m/s <sup>2</sup> , 500 Hz                |
| <b>operating frequency maximum</b>                                                  | 1 1/s                                                          |
| mechanical service life (switching cycles) typical                                  | 30 000 000                                                     |
| <b>reference code acc. to IEC 81346-2</b>                                           | Q                                                              |
| Substance Prohibitance (Date)                                                       | 01.03.2017 00:00:00                                            |
| <b>product function</b>                                                             |                                                                |
| • direct start                                                                      | Yes                                                            |
| • reverse starting                                                                  | No                                                             |
| <b>product function short circuit protection</b>                                    | No                                                             |
| <b>Electromagnetic compatibility</b>                                                |                                                                |
| <b>conducted interference</b>                                                       |                                                                |
| • due to burst acc. to IEC 61000-4-4                                                | 3 kV / 5 kHz                                                   |
| • due to conductor-earth surge acc. to IEC 61000-4-5                                | 2 kV                                                           |
| • due to conductor-conductor surge acc. to IEC 61000-4-5                            | 1 kV                                                           |
| • due to high-frequency radiation acc. to IEC 61000-4-6                             | 10 V                                                           |
| <b>electrostatic discharge acc. to IEC 61000-4-2</b>                                | 4 kV contact discharge / 8 kV air discharge                    |
| <b>conducted HF interference emissions acc. to CISPR11</b>                          | Class B for the domestic, business and commercial environments |
| <b>field-bound HF interference emission acc. to CISPR11</b>                         | Class B for the domestic, business and commercial environments |

|                                                                                                                                                                                  |                                                              |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------|
| <b>Main circuit</b>                                                                                                                                                              |                                                              |
| number of poles for main current circuit                                                                                                                                         | 3                                                            |
| design of the switching contact as NO contact for signaling function                                                                                                             | OUT, electronic, 24 V DC, 15 mA                              |
| adjustable current response value current of the current-dependent overload release                                                                                              | 1.6 ... 7 A                                                  |
| minimum load [%]                                                                                                                                                                 | 20 %                                                         |
| type of the motor protection                                                                                                                                                     | solid-state                                                  |
| <ul style="list-style-type: none"> <li>operating voltage rated value</li> </ul>                                                                                                  | 48 ... 500 V                                                 |
| relative symmetrical tolerance of the operating voltage                                                                                                                          | 10 %                                                         |
| operating frequency 1 rated value                                                                                                                                                | 50 Hz                                                        |
| operating frequency 2 rated value                                                                                                                                                | 60 Hz                                                        |
| relative symmetrical tolerance of the operating frequency                                                                                                                        | 10 %                                                         |
| operational current <ul style="list-style-type: none"> <li>at AC at 400 V rated value</li> <li>at AC-53a at 400 V at ambient temperature 40 °C rated value</li> </ul>            | 7 A<br>7 A                                                   |
| ampacity when starting maximum                                                                                                                                                   | 56 A                                                         |
| operating power for 3-phase motors at 400 V at 50 Hz                                                                                                                             | 0.55 ... 3 kW                                                |
| derating temperature                                                                                                                                                             | 40 °C                                                        |
| <b>Inputs/ Outputs</b>                                                                                                                                                           |                                                              |
| input voltage at digital input <ul style="list-style-type: none"> <li>at DC rated value</li> <li>with signal &lt;0&gt; at DC</li> <li>for signal &lt;1&gt; at DC</li> </ul>      | 24 V<br>0 ... 5 V<br>15 ... 30                               |
| input current at digital input <ul style="list-style-type: none"> <li>for signal &lt;1&gt; at DC</li> <li>with signal &lt;0&gt; at DC</li> </ul>                                 | 11 mA<br>1 mA                                                |
| number of CO contacts for auxiliary contacts                                                                                                                                     | 1                                                            |
| operational current of auxiliary contacts at AC-15 at 230 V maximum                                                                                                              | 3 A                                                          |
| operational current of auxiliary contacts at DC-13 at 24 V maximum                                                                                                               | 1 A                                                          |
| <b>Control circuit/ Control</b>                                                                                                                                                  |                                                              |
| type of voltage of the control supply voltage                                                                                                                                    | DC                                                           |
| <ul style="list-style-type: none"> <li>control supply voltage 1 at DC rated value</li> </ul>                                                                                     | 24 V                                                         |
| operating range factor control supply voltage rated value at DC <ul style="list-style-type: none"> <li>initial value</li> <li>full-scale value</li> </ul>                        | 0.8<br>1.25                                                  |
| control current at DC <ul style="list-style-type: none"> <li>in standby mode of operation</li> <li>when switching on</li> <li>during operation</li> </ul>                        | 25 mA<br>150 mA<br>70 mA                                     |
| <b>Response times</b>                                                                                                                                                            |                                                              |
| switch ON delay time                                                                                                                                                             | 60 ... 90 ms                                                 |
| OFF delay time                                                                                                                                                                   | 60 ... 90 ms                                                 |
| <b>Installation/ mounting/ dimensions</b>                                                                                                                                        |                                                              |
| mounting position                                                                                                                                                                | vertical, horizontal, standing (observe derating)            |
| fastening method                                                                                                                                                                 | screw and snap-on mounting onto 35 mm standard mounting rail |
| height                                                                                                                                                                           | 100 mm                                                       |
| width                                                                                                                                                                            | 22.5 mm                                                      |
| depth                                                                                                                                                                            | 141.6 mm                                                     |
| required spacing <ul style="list-style-type: none"> <li>with side-by-side mounting <ul style="list-style-type: none"> <li>— forwards</li> <li>— backwards</li> </ul> </li> </ul> | 0 mm<br>0 mm                                                 |

|                                                                                  |                                                                                                           |
|----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|
| — upwards                                                                        | 50 mm                                                                                                     |
| — downwards                                                                      | 50 mm                                                                                                     |
| — at the side                                                                    | 0 mm                                                                                                      |
| • for grounded parts                                                             |                                                                                                           |
| — forwards                                                                       | 0 mm                                                                                                      |
| — backwards                                                                      | 0 mm                                                                                                      |
| — upwards                                                                        | 50 mm                                                                                                     |
| — at the side                                                                    | 3.5 mm                                                                                                    |
| — downwards                                                                      | 50 mm                                                                                                     |
| <b>Ambient conditions</b>                                                        |                                                                                                           |
| installation altitude at height above sea level maximum                          | 4 000 m                                                                                                   |
| relative humidity during operation                                               | 10 ... 95 %                                                                                               |
| • air pressure acc. to SN 31205                                                  | 900 ... 1 060 hPa                                                                                         |
| <b>Communication/ Protocol</b>                                                   |                                                                                                           |
| product function bus communication                                               | No                                                                                                        |
| <b>Connections/ Terminals</b>                                                    |                                                                                                           |
| <b>type of electrical connection</b>                                             | spring-loaded terminals (push-in) for main circuit, spring-loaded terminals (push-in) for control circuit |
| • for main current circuit                                                       | spring-loaded terminals (push-in)                                                                         |
| • for auxiliary and control circuit                                              | spring-loaded terminals (push-in)                                                                         |
| <b>type of electrical wiring</b>                                                 |                                                                                                           |
| • for main current circuit                                                       | 1 or 2 conductors                                                                                         |
| • for auxiliary and control circuit                                              | 1 or 2 conductors                                                                                         |
| <b>type of connectable conductor cross-sections</b>                              |                                                                                                           |
| • for main contacts                                                              |                                                                                                           |
| — solid                                                                          | 1x (0.5 ... 4 mm <sup>2</sup> )                                                                           |
| — finely stranded with core end processing                                       | 1x (0.5 ... 2.5 mm <sup>2</sup> )                                                                         |
| — finely stranded without core end processing                                    | 1x (0.5 ... 4 mm <sup>2</sup> )                                                                           |
| • at AWG cables for main contacts                                                | 1x (20 ... 12)                                                                                            |
| <b>connectable conductor cross-section for main contacts</b>                     |                                                                                                           |
| • solid or stranded                                                              | 0.5 ... 4 mm <sup>2</sup>                                                                                 |
| • finely stranded with core end processing                                       | 0.5 ... 2.5 mm <sup>2</sup>                                                                               |
| • finely stranded without core end processing                                    | 0.5 ... 4 mm <sup>2</sup>                                                                                 |
| <b>connectable conductor cross-section for auxiliary contacts</b>                |                                                                                                           |
| • solid or stranded                                                              | 0.5 ... 1.5 mm <sup>2</sup>                                                                               |
| • finely stranded with core end processing                                       | 0.5 ... 1 mm <sup>2</sup>                                                                                 |
| • finely stranded without core end processing                                    | 0.5 ... 1.5 mm <sup>2</sup>                                                                               |
| <b>type of connectable conductor cross-sections</b>                              |                                                                                                           |
| • for auxiliary contacts                                                         |                                                                                                           |
| — solid                                                                          | 1x (0.5 ... 1.5 mm <sup>2</sup> ), 2x (0.5 ... 1.5 mm <sup>2</sup> )                                      |
| — finely stranded with core end processing                                       | 1x (0.5 ... 1.0 mm <sup>2</sup> ), 2x (0.5 ... 1.0 mm <sup>2</sup> )                                      |
| — finely stranded without core end processing                                    | 1x (0.5 ... 1.5 mm <sup>2</sup> ), 2x (0.5 ... 1.5 mm <sup>2</sup> )                                      |
| • at AWG cables for auxiliary contacts                                           | 1x (20 ... 16), 2x (20 ... 16)                                                                            |
| • AWG number as coded connectable conductor cross section for main contacts      | 20 ... 12                                                                                                 |
| • AWG number as coded connectable conductor cross section for auxiliary contacts | 20 ... 16                                                                                                 |
| <b>UL/CSA ratings</b>                                                            |                                                                                                           |
| <b>yielded mechanical performance [hp]</b>                                       |                                                                                                           |
| • for single-phase AC motor                                                      |                                                                                                           |
| — at 110/120 V rated value                                                       | 0.25 hp                                                                                                   |
| — at 230 V rated value                                                           | 0.5 hp                                                                                                    |
| • for 3-phase AC motor                                                           |                                                                                                           |
| — at 200/208 V rated value                                                       | 1 hp                                                                                                      |
| — at 220/230 V rated value                                                       | 1.5 hp                                                                                                    |
| — at 460/480 V rated value                                                       | 3 hp                                                                                                      |

## Certificates/ approvals

| General Product Approval | EMC | Declaration of Conformity |
|--------------------------|-----|---------------------------|
|--------------------------|-----|---------------------------|



| Declaration of Conformity | Test Certificates | other | Railway |
|---------------------------|-------------------|-------|---------|
|---------------------------|-------------------|-------|---------|

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## 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=3RM1007-2AA04>

Cax online generator

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RM1007-2AA04>

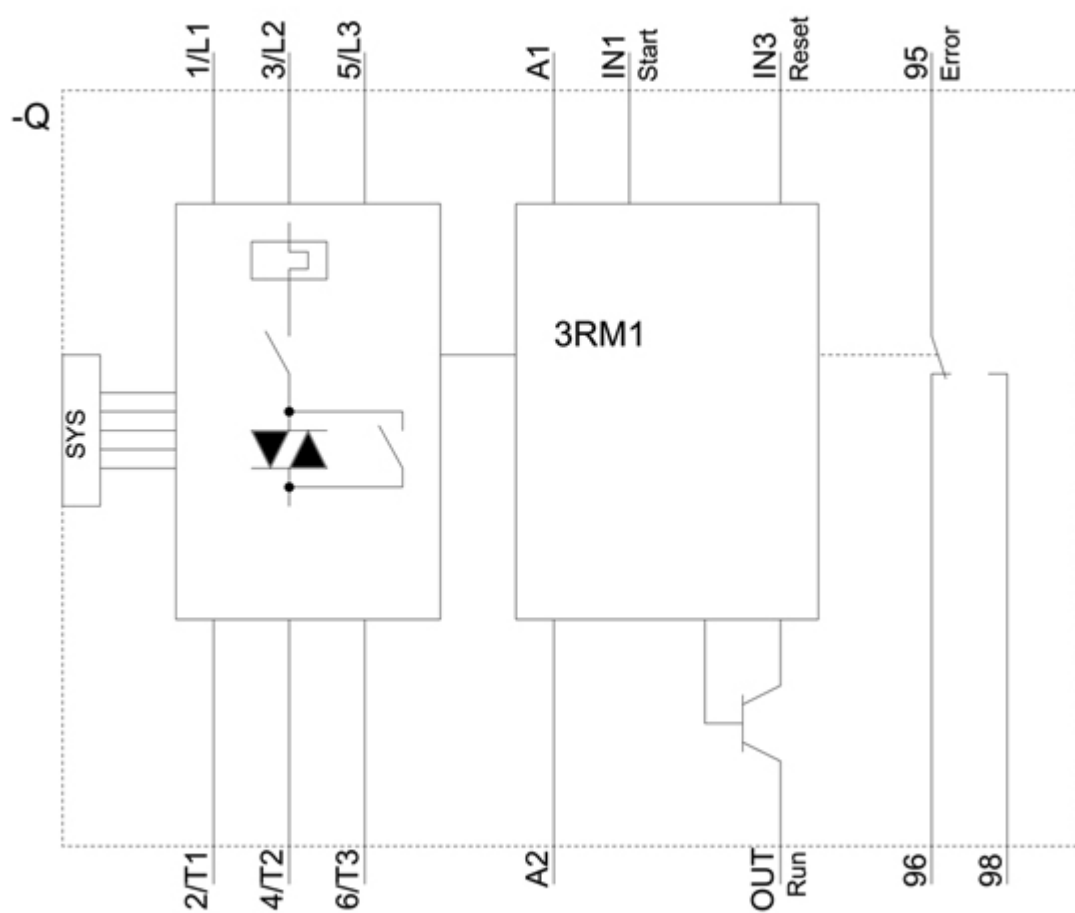
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

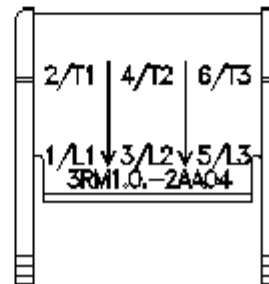
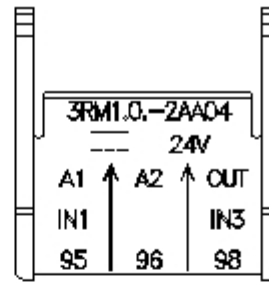
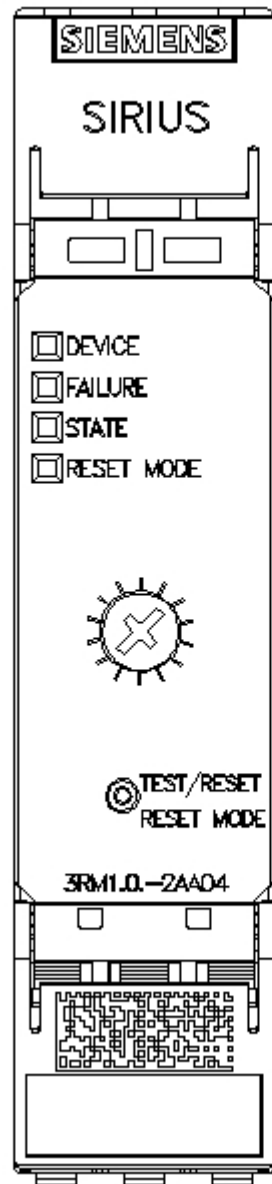
<https://support.industry.siemens.com/cs/ww/en/ps/3RM1007-2AA04>

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

[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RM1007-2AA04&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RM1007-2AA04&lang=en)







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