

SIRIUS Compact load feeder DOL starter for IO-Link 690 V 24 V DC  
1...4 A IP20 Connection main circuit: plug-in, without terminals  
Connection control circuit: screw terminal



|                          |                             |
|--------------------------|-----------------------------|
| Product brand name       | SIRIUS                      |
| Product designation      | Compact starter for IO-Link |
| Design of the product    | direct starter              |
| Product type designation | 3RA64                       |

| General technical data                                                                  |         |
|-----------------------------------------------------------------------------------------|---------|
| <b>Product function</b>                                                                 |         |
| • Control circuit interface to parallel wiring                                          | No      |
| <b>Product extension</b>                                                                |         |
| • Auxiliary switch                                                                      | Yes     |
| <b>Power loss [W] for rated value of the current</b>                                    |         |
| • at AC in hot operating state                                                          | 1 W     |
| • at AC in hot operating state per pole                                                 | 0.33 W  |
| <b>Power loss [W] for rated value of the current without load current share typical</b> | 2.9 W   |
| <b>Insulation voltage</b>                                                               |         |
| • rated value                                                                           | 690 V   |
| <b>Degree of pollution</b>                                                              | 3       |
| <b>Surge voltage resistance rated value</b>                                             | 6 000 V |
| <b>Protection class IP</b>                                                              | IP20    |

|                                                                      |                                                                                  |
|----------------------------------------------------------------------|----------------------------------------------------------------------------------|
| <b>Shock resistance</b>                                              | a=60 m/s <sup>2</sup> (6g) with 10 ms per 3 shocks in all axes                   |
| <b>Vibration resistance</b>                                          | f= 4 ... 5.8 Hz, d= 15 mm; f= 5.8 ... 500 Hz, a= 20 m/s <sup>2</sup> ; 10 cycles |
| <b>Mechanical service life (switching cycles)</b>                    |                                                                                  |
| • of the main contacts typical                                       | 10 000 000                                                                       |
| • of auxiliary contacts typical                                      | 10 000 000                                                                       |
| • of the signaling contacts typical                                  | 10 000 000                                                                       |
| <b>Electrical endurance (switching cycles) of auxiliary contacts</b> |                                                                                  |
| • at DC-13 at 6 A at 24 V typical                                    | 30 000                                                                           |
| • at AC-15 at 6 A at 230 V typical                                   | 200 000                                                                          |
| <b>Type of assignment</b>                                            | continuous operation according to IEC 60947-6-2                                  |
| <b>Reference code acc. to DIN EN 81346-2</b>                         | Q                                                                                |
| <b>Reference code acc. to DIN EN 61346-2</b>                         | Q                                                                                |

#### Ambient conditions

|                                                        |                |
|--------------------------------------------------------|----------------|
| <b>Installation altitude at height above sea level</b> |                |
| • maximum                                              | 2 000 m        |
| <b>Ambient temperature</b>                             |                |
| • during operation                                     | -20 ... +60 °C |
| • during storage                                       | -55 ... +80 °C |
| • during transport                                     | -55 ... +80 °C |
| <b>Relative humidity during operation</b>              | 10 ... 90 %    |

#### Main circuit

|                                                                                   |                     |
|-----------------------------------------------------------------------------------|---------------------|
| <b>Number of poles for main current circuit</b>                                   | 3                   |
| <b>Adjustable pick-up value current of the current-dependent overload release</b> | 1 ... 4 A           |
| <b>Formula for making capacity limit current</b>                                  | 12 x I <sub>e</sub> |
| <b>Formula for interruption capacity limit current</b>                            | 10 x I <sub>e</sub> |
| <b>Mechanical power output for 4-pole AC motor</b>                                |                     |
| • at 400 V rated value                                                            | 1.5 kW              |
| • at 500 V rated value                                                            | 2.2 kW              |
| • at 690 V rated value                                                            | 3 kW                |
| <b>Operating voltage</b>                                                          |                     |
| • at AC-3 rated value maximum                                                     | 690 V               |
| <b>Operating current</b>                                                          |                     |
| • at AC at 400 V rated value                                                      | 4 A                 |
| • at AC-43                                                                        |                     |
| — at 400 V rated value                                                            | 3.6 A               |
| — at 500 V rated value                                                            | 3.9 A               |
| — at 690 V rated value                                                            | 3.8 A               |
| <b>Operating power</b>                                                            |                     |
| • at AC-3                                                                         |                     |
| — at 400 V rated value                                                            | 1 500 W             |

|                                                                                                                                                                                                                                                                               |                               |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|
| <ul style="list-style-type: none"> <li>• at AC-43 <ul style="list-style-type: none"> <li>— at 400 V rated value</li> <li>— at 500 V rated value</li> <li>— at 690 V rated value</li> </ul> </li> </ul>                                                                        | 1 500 W<br>2 200 W<br>3 000 W |
| <b>No-load switching frequency</b>                                                                                                                                                                                                                                            | 3 600 1/h                     |
| <b>Operating frequency</b> <ul style="list-style-type: none"> <li>• at AC-41 acc. to IEC 60947-6-2 maximum</li> <li>• at AC-43 acc. to IEC 60947-6-2 maximum</li> </ul>                                                                                                       | 750 1/h<br>250 1/h            |
| <b>Control circuit/ Control</b>                                                                                                                                                                                                                                               |                               |
| <b>Type of voltage</b>                                                                                                                                                                                                                                                        | DC                            |
| <b>Holding power</b> <ul style="list-style-type: none"> <li>• at DC maximum</li> </ul>                                                                                                                                                                                        | 2.9 W                         |
| <b>Auxiliary circuit</b>                                                                                                                                                                                                                                                      |                               |
| <b>Number of NC contacts for auxiliary contacts</b>                                                                                                                                                                                                                           | 0                             |
| <b>Number of NO contacts for auxiliary contacts</b>                                                                                                                                                                                                                           | 0                             |
| <b>Number of NO contacts</b> <ul style="list-style-type: none"> <li>• of instantaneous short-circuit trip unit for signaling contact</li> </ul>                                                                                                                               | 0                             |
| <b>Number of CO contacts</b> <ul style="list-style-type: none"> <li>• of the current-dependent overload release for signaling contact</li> </ul>                                                                                                                              | 0                             |
| <b>Operating current of auxiliary contacts at AC-12 maximum</b>                                                                                                                                                                                                               | 10 A                          |
| <b>Operating current of auxiliary contacts at DC-13</b> <ul style="list-style-type: none"> <li>• at 250 V</li> </ul>                                                                                                                                                          | 0.27 A                        |
| <b>Protective and monitoring functions</b>                                                                                                                                                                                                                                    |                               |
| <b>Trip class</b>                                                                                                                                                                                                                                                             | CLASS 10 and 20 adjustable    |
| <b>Operational short-circuit current breaking capacity (Ics)</b> <ul style="list-style-type: none"> <li>• at 400 V</li> <li>• at 500 V rated value</li> <li>• at 690 V rated value</li> </ul>                                                                                 | 53 kA<br>3 kA<br>3 kA         |
| <b>UL/CSA ratings</b>                                                                                                                                                                                                                                                         |                               |
| <b>Full-load current (FLA) for three-phase AC motor</b> <ul style="list-style-type: none"> <li>• at 480 V rated value</li> <li>• at 600 V rated value</li> </ul>                                                                                                              | 4 A<br>4 A                    |
| <b>Yielded mechanical performance [hp]</b> <ul style="list-style-type: none"> <li>• for three-phase AC motor <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> | 0.75 hp<br>0.75 hp<br>2 hp    |

— at 575/600 V rated value

3 hp

## Short-circuit protection

|                                                                                                                                                |                  |
|------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| <b>Product function Short circuit protection</b>                                                                                               | Yes              |
| <b>Design of short-circuit protection</b>                                                                                                      | electromagnetic  |
| <b>Design of the fuse link</b> <ul style="list-style-type: none"> <li>for short-circuit protection of the auxiliary switch required</li> </ul> | fuse gL/gG: 10 A |

## Installation/ mounting/ dimensions

|                                                                                        |                                                       |
|----------------------------------------------------------------------------------------|-------------------------------------------------------|
| <b>Mounting position</b> <ul style="list-style-type: none"> <li>recommended</li> </ul> | any<br>vertical, on horizontal standard mounting rail |
| <b>Mounting type</b>                                                                   | screw and snap-on mounting                            |
| <b>Height</b>                                                                          | 170 mm                                                |
| <b>Width</b>                                                                           | 45 mm                                                 |
| <b>Depth</b>                                                                           | 165 mm                                                |

## Connections/ Terminals

|                                                                                                                                                                                                                                                                                               |                                                                                                                                                    |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Product function</b> <ul style="list-style-type: none"> <li>removable terminal for main circuit</li> <li>removable terminal for auxiliary and control circuit</li> </ul>                                                                                                                   | Yes<br>Yes                                                                                                                                         |
| <b>Type of electrical connection</b> <ul style="list-style-type: none"> <li>for main current circuit</li> <li>for auxiliary and control current circuit</li> </ul>                                                                                                                            | plug-in without terminals<br>screw-type terminals                                                                                                  |
| <b>Type of connectable conductor cross-sections</b> <ul style="list-style-type: none"> <li>for main contacts <ul style="list-style-type: none"> <li>— solid</li> <li>— finely stranded with core end processing</li> </ul> </li> <li>at AWG conductors for main contacts</li> </ul>           | 2x (1.5 ... 6 mm <sup>2</sup> ), 1x 10 mm <sup>2</sup><br>2x (1.5 ... 6 mm <sup>2</sup> )<br>2x (16 ... 10), 1x 8                                  |
| <b>Type of connectable conductor cross-sections</b> <ul style="list-style-type: none"> <li>for auxiliary contacts <ul style="list-style-type: none"> <li>— solid</li> <li>— finely stranded with core end processing</li> </ul> </li> <li>at AWG conductors for auxiliary contacts</li> </ul> | 0.5 ... 4 mm <sup>2</sup> , 2x (0.5 ... 2.5 mm <sup>2</sup> )<br>0.5 ... 2.5 mm <sup>2</sup> , 2x (0.5 ... 1.5 mm <sup>2</sup> )<br>2x (20 ... 14) |

## Safety related data

|                                                                                                                                  |           |
|----------------------------------------------------------------------------------------------------------------------------------|-----------|
| <b>B10 value</b> <ul style="list-style-type: none"> <li>with high demand rate acc. to SN 31920</li> </ul>                        | 3 000 000 |
| <b>Proportion of dangerous failures</b> <ul style="list-style-type: none"> <li>with high demand rate acc. to SN 31920</li> </ul> | 50 %      |

## Communication/ Protocol

|                                           |     |
|-------------------------------------------|-----|
| <b>Product function Bus communication</b> | Yes |
| <b>Protocol is supported</b>              |     |

|                                                                            |                   |
|----------------------------------------------------------------------------|-------------------|
| • IO-Link protocol                                                         | Yes               |
| Product function Control circuit interface with IO link                    | Yes               |
| <b>IO-Link transfer rate</b>                                               | COM2 (38,4 kBaud) |
| <b>Point-to-point cycle time between master and IO-Link device minimum</b> | 2.5 ms            |
| <b>Type of voltage supply via input/output link master</b>                 | No                |
| <b>Amount of data</b>                                                      |                   |
| • of the address area of the inputs with cyclical transfer total           | 2 byte            |
| • of the address area of the outputs with cyclical transfer total          | 2 byte            |

## Electromagnetic compatibility

|                                                             |                                                                                                            |
|-------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| <b>Conducted interference</b>                               |                                                                                                            |
| • due to burst acc. to IEC 61000-4-4                        | 4 kV main circuits, 2 kV auxiliary circuits, 2 kV IO-Link, 2 kV limit switches, 2 kV line hand-held device |
| • due to conductor-earth surge acc. to IEC 61000-4-5        | 4 kV main circuits, 0.5 kV auxiliary voltage with upstream overvoltage protection                          |
| • due to conductor-conductor surge acc. to IEC 61000-4-5    | 2 kV main circuits, 0.5 kV auxiliary voltage with upstream overvoltage protection                          |
| • due to high-frequency radiation acc. to IEC 61000-4-6     | 0.15-80Mhz at 10V                                                                                          |
| <b>Field-bound parasitic coupling acc. to IEC 61000-4-3</b> | 80 ... 3000 MHz at 10V/m                                                                                   |
| <b>Electrostatic discharge acc. to IEC 61000-4-2</b>        | 8 kV                                                                                                       |
| <b>Conducted HF-interference emissions acc. to CISPR11</b>  | 150 kHz ... 30 MHz Class A                                                                                 |
| <b>Field-bound HF-interference emission acc. to CISPR11</b> | 30 ... 1000 MHz Class A                                                                                    |

## Supply voltage

|                                                  |     |
|--------------------------------------------------|-----|
| <b>Supply voltage required Auxiliary voltage</b> | Yes |
|--------------------------------------------------|-----|

## Display

|                                                     |                    |
|-----------------------------------------------------|--------------------|
| <b>Display version</b>                              |                    |
| • as status display of the input/output link device | green/red dual LED |

## Certificates/ approvals

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



|                           |                   |                   |
|---------------------------|-------------------|-------------------|
| Declaration of Conformity | Test Certificates | Marine / Shipping |
|---------------------------|-------------------|-------------------|



[Miscellaneous](#)

[Type Test Certificates/Test Report](#)



|                   |       |
|-------------------|-------|
| Marine / Shipping | other |
|-------------------|-------|



[Confirmation](#)

#### 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=3RA6400-1CB43>

**Cax online generator**

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RA6400-1CB43>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RA6400-1CB43>

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

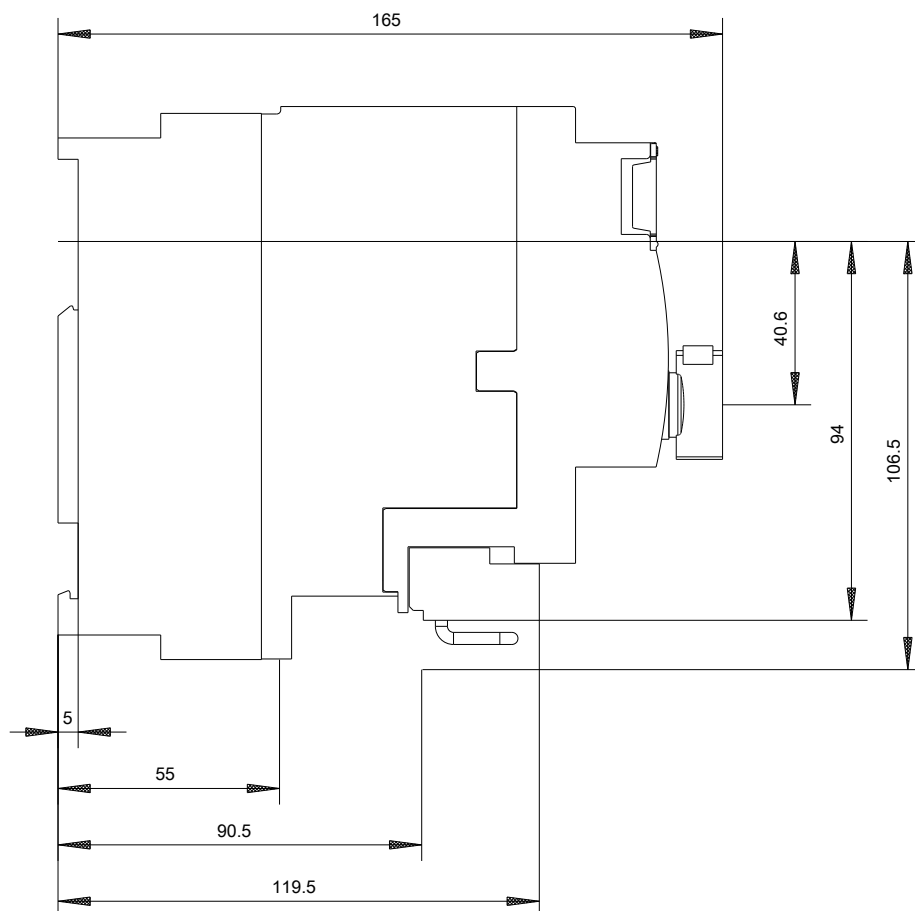
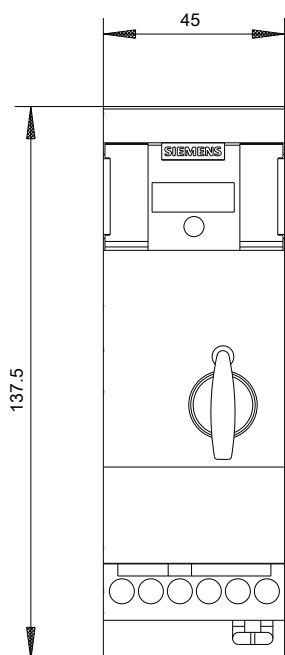
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RA6400-1CB43&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RA6400-1CB43&lang=en)

**Characteristic: Tripping characteristics, I<sub>t</sub>, Let-through current**

<https://support.industry.siemens.com/cs/ww/en/ps/3RA6400-1CB43/char>

**Further characteristics (e.g. electrical endurance, switching frequency)**

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RA6400-1CB43&objecttype=14&gridview=view1>



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