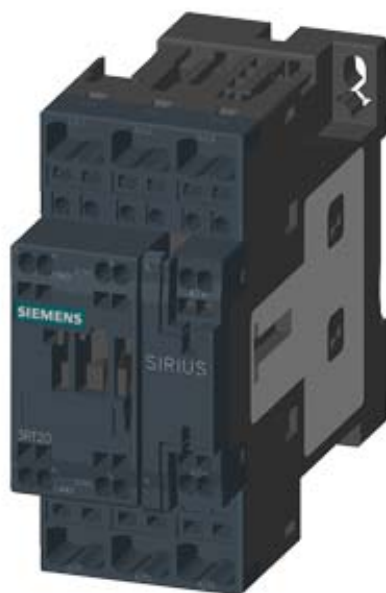




CONTACTOR, AC-3, 18.5KW/400V, 1NO+1NC,  
DC 125V, 3-POLE,  
SZ S0 SPRING-LOADED TERMINAL

### General technical data:

|                                                              |    |                          |
|--------------------------------------------------------------|----|--------------------------|
| product brand name                                           |    | SIRIUS                   |
| Size of the contactor                                        |    | S0                       |
| Product extension                                            |    |                          |
| • auxiliary switch                                           |    | Yes                      |
| • function module for communication                          |    | No                       |
| Protection class IP / on the front                           |    | IP20                     |
| Protection against electrical shock                          |    | finger-safe              |
| Degree of pollution                                          |    | 3                        |
| Installation altitude / at a height over sea level / maximum | m  | 2,000                    |
| Ambient temperature                                          |    |                          |
| • during storage                                             | °C | -55 ... +80              |
| • during operating                                           | °C | -25 ... +60              |
| Shock resistance                                             |    |                          |
| • at rectangular impulse                                     |    |                          |
| • at DC                                                      |    | 10g / 5 ms, 7,5g / 10 ms |
| • at sine pulse                                              |    |                          |
| • at DC                                                      |    | 15g / 5 ms, 10g / 10 ms  |
| Impulse voltage resistance / rated value                     | kV | 6                        |
| Insulation voltage / rated value                             | V  | 690                      |

|                                                                                                                               |                 |            |
|-------------------------------------------------------------------------------------------------------------------------------|-----------------|------------|
| <b>Maximum permissible voltage for protective separation / between coil and main contacts / in accordance with EN 60947-1</b> | V               | 400        |
| <b>Mechanical operating cycles as operating time</b>                                                                          |                 |            |
| • of the contactor / typical                                                                                                  |                 | 10,000,000 |
| • of the contactor with added auxiliary switch block / typical                                                                |                 | 10,000,000 |
| • of the contactor with added electronics-compatible auxiliary switch block / typical                                         |                 | 5,000,000  |
| <b>Main circuit:</b>                                                                                                          |                 |            |
| <b>Number of NC contacts / for main contacts</b>                                                                              |                 | 0          |
| <b>Number of NO contacts / for main contacts</b>                                                                              |                 | 3          |
| <b>Connectable conductor cross-section / in main circuit</b>                                                                  |                 |            |
| • at AC-1                                                                                                                     |                 |            |
| • at 40 °C / minimum permissible                                                                                              | mm <sup>2</sup> | 10         |
| • at 60 °C / minimum permissible                                                                                              | mm <sup>2</sup> | 10         |
| <b>Operating current</b>                                                                                                      |                 |            |
| • at AC-1 / up to 690 V                                                                                                       |                 |            |
| • at 40 °C ambient temperature / rated value                                                                                  | A               | 50         |
| • at 60 °C ambient temperature / rated value                                                                                  | A               | 42         |
| • at AC-2 / at 400 V / rated value                                                                                            | A               | 38         |
| • at AC-3                                                                                                                     |                 |            |
| • at 400 V / rated value                                                                                                      | A               | 38         |
| • at 500 V / rated value                                                                                                      | A               | 32         |
| • at 690 V / rated value                                                                                                      | A               | 21         |
| • at AC-4 / at 400 V / rated value                                                                                            | A               | 22         |
| <b>Operational current / for ≥ 200000 operating cycles / at AC-4</b>                                                          |                 |            |
| • at 400 V / rated value                                                                                                      | A               | 12         |
| • at 690 V / rated value                                                                                                      | A               | 12         |
| <b>Operating current</b>                                                                                                      |                 |            |
| • with 1 current path / at DC-1                                                                                               |                 |            |
| • at 24 V / rated value                                                                                                       | A               | 35         |
| • at 110 V / rated value                                                                                                      | A               | 4.5        |
| • at 220 V / rated value                                                                                                      | A               | 1          |
| • at 440 V / rated value                                                                                                      | A               | 0.4        |
| • at 600 V / rated value                                                                                                      | A               | 0.25       |
| • with 2 current paths in series / at DC-1                                                                                    |                 |            |
| • at 24 V / rated value                                                                                                       | A               | 35         |
| • at 110 V / rated value                                                                                                      | A               | 35         |
| • at 220 V / rated value                                                                                                      | A               | 5          |
| • at 440 V / rated value                                                                                                      | A               | 1          |
| • at 600 V / rated value                                                                                                      | A               | 0.8        |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |    |      |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----|------|
| <ul style="list-style-type: none"> <li>• with 3 current paths in series / at DC-1 <ul style="list-style-type: none"> <li>• at 24 V / rated value</li> <li>• at 110 V / rated value</li> <li>• at 220 V / rated value</li> <li>• at 440 V / rated value</li> <li>• at 600 V / rated value</li> </ul> </li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | A  | 35   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | A  | 35   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | A  | 35   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | A  | 2.9  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | A  | 1.4  |
| <b>Operating current</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |    |      |
| <ul style="list-style-type: none"> <li>• with 1 current path / at DC-3 / at DC-5 <ul style="list-style-type: none"> <li>• at 24 V / rated value</li> <li>• at 110 V / rated value</li> <li>• at 220 V / rated value</li> <li>• at 440 V / rated value</li> <li>• at 600 V / rated value</li> </ul> </li> <li>• with 2 current paths in series / at DC-3 / at DC-5 <ul style="list-style-type: none"> <li>• at 24 V / rated value</li> <li>• at 110 V / rated value</li> <li>• at 220 V / rated value</li> <li>• at 440 V / rated value</li> <li>• at 600 V / rated value</li> </ul> </li> <li>• with 3 current paths in series / at DC-3 / at DC-5 <ul style="list-style-type: none"> <li>• at 24 V / rated value</li> <li>• at 110 V / rated value</li> <li>• at 220 V / rated value</li> <li>• at 440 V / rated value</li> <li>• at 600 V / rated value</li> </ul> </li> </ul> | A  | 20   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | A  | 2.5  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | A  | 1    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | A  | 0.09 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | A  | 0.06 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | A  | 35   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | A  | 15   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | A  | 3    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | A  | 0.27 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | A  | 0.16 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | A  | 35   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | A  | 35   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | A  | 10   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | A  | 0.6  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | A  | 0.6  |
| <b>Operating performance</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |    |      |
| <ul style="list-style-type: none"> <li>• at AC-1 / at 230 V / rated value</li> <li>• at AC-1 / at 400 V / rated value</li> <li>• at AC-1 / at 690 V / rated value</li> <li>• at AC-2 <ul style="list-style-type: none"> <li>• at 400 V / rated value</li> </ul> </li> <li>• at AC-3 <ul style="list-style-type: none"> <li>• at 230 V / rated value</li> <li>• at 400 V / rated value</li> <li>• at 690 V / rated value</li> </ul> </li> <li>• at AC-4 <ul style="list-style-type: none"> <li>• at 400 V / rated value</li> </ul> </li> </ul>                                                                                                                                                                                                                                                                                                                                    | kW | 16   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | kW | 28   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | kW | 48   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | kW | 18.5 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | kW | 11   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | kW | 18.5 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | kW | 18.5 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | kW | 11   |
| <b>Operating performance / for <math>\geq 200000</math> operating cycles / at AC-4</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |    |      |
| <ul style="list-style-type: none"> <li>• at 400 V / rated value</li> <li>• at 690 V / rated value</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | kW | 6    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | kW | 10.3 |

|                                                                                                                                   |                          |                            |
|-----------------------------------------------------------------------------------------------------------------------------------|--------------------------|----------------------------|
| <b>Thermal short-time current / restricted to 10 s</b>                                                                            | A                        | 304                        |
| <b>Active power loss / at AC-3 / at 400 V / with rated Operating current value / per conductor</b>                                | W                        | 3.8                        |
| <b>Off-load operating frequency</b><br>• at DC                                                                                    | 1/h                      | 1,500                      |
| <b>Frequency of operation</b><br>• with AC-1 / maximum<br>• with AC-2 / maximum<br>• with AC-3 / maximum<br>• with AC-4 / maximum | 1/h<br>1/h<br>1/h<br>1/h | 1,000<br>750<br>750<br>250 |

| Control circuit/ Control:                                                                                                                                               |          |             |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|-------------|
| <b>Voltage type / of control feed voltage</b>                                                                                                                           |          | DC          |
| <b>Control supply voltage</b><br>• for DC / rated value                                                                                                                 | V        | 125         |
| <b>Operating range factor control supply voltage rated value / of the magnet coil</b><br>• for DC                                                                       |          | 0.8 ... 1.1 |
| <b>Pull-in power / of the solenoid / for DC</b>                                                                                                                         | W        | 5.9         |
| <b>Holding power / of the solenoid / for DC</b>                                                                                                                         | W        | 5.9         |
| <b>Closing delay</b><br>• at DC                                                                                                                                         | ms       | 50 ... 170  |
| <b>Opening delay</b><br>• at DC                                                                                                                                         | ms       | 15 ... 17.5 |
| <b>Arcing time</b>                                                                                                                                                      | ms       | 10 ... 10   |
| <b>Residual current / of electronics / for control with signal &lt;0&gt;</b><br>• at 230 V / with AC / maximum permissible<br>• at 24 V / with DC / maximum permissible | mA<br>mA | 7<br>16     |

| Auxiliary circuit:                                                                                                                                                             |                       |                                                 |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-------------------------------------------------|
| <b>Contact reliability / of the auxiliary contacts</b>                                                                                                                         |                       | 1 faulty switching per 100 million (17 V, 1 mA) |
| <b>Number of NC contacts / for auxiliary contacts / instantaneous switching</b>                                                                                                |                       | 1                                               |
| <b>Number of NO contacts / for auxiliary contacts / instantaneous switching</b>                                                                                                |                       | 1                                               |
| <b>Operating current</b><br>• at AC-12 / maximum<br>• at AC-15<br>• at 230 V / rated value<br>• at 400 V / rated value<br>• at 500 V / rated value<br>• at 690 V / rated value | A<br>A<br>A<br>A<br>A | 10<br>10<br>3<br>2<br>1                         |

|                                     |   |      |
|-------------------------------------|---|------|
| <b>Operating current / at DC-12</b> |   |      |
| • at 24 V / rated value             | A | 10   |
| • at 48 V / rated value             | A | 6    |
| • at 60 V / rated value             | A | 6    |
| • at 110 V / rated value            | A | 3    |
| • at 125 V / rated value            | A | 2    |
| • at 220 V / rated value            | A | 1    |
| • at 440 V / rated value            | A | 0.3  |
| • at 600 V / rated value            | A | 0.15 |
| <b>Operating current / at DC-13</b> |   |      |
| • at 24 V / rated value             | A | 10   |
| • at 48 V / rated value             | A | 2    |
| • at 60 V / rated value             | A | 2    |
| • at 110 V / rated value            | A | 1    |
| • at 125 V / rated value            | A | 0.9  |
| • at 220 V / rated value            | A | 0.3  |
| • at 440 V / rated value            | A | 0.14 |
| • at 600 V / rated value            | A | 0.1  |

#### UL/CSA ratings:

|                                                                              |    |             |
|------------------------------------------------------------------------------|----|-------------|
| <b>yielded mechanical performance [hp]</b>                                   |    |             |
| • for single-phase squirrel cage motors                                      |    |             |
| • at 110/120 V / rated value                                                 | hp | 3           |
| • at 230 V / rated value                                                     | hp | 5           |
| • for three-phase squirrel cage motors                                       |    |             |
| • at 200/208 V / rated value                                                 | hp | 10          |
| • at 220/230 V / rated value                                                 | hp | 10          |
| • at 460/480 V / rated value                                                 | hp | 25          |
| • at 575/600 V / rated value                                                 | hp | 25          |
| <b>Full-load current (FLA) / for 3-phase motor</b>                           |    |             |
| • at 480 V / rated value                                                     | A  | 34          |
| • at 600 V / rated value                                                     | A  | 27          |
| <b>Contact rating designation / for auxiliary contacts / according to UL</b> |    | A600 / Q600 |

#### Short-circuit:

|                                                                   |  |                                                    |
|-------------------------------------------------------------------|--|----------------------------------------------------|
| <b>Design of the fuse link</b>                                    |  |                                                    |
| • for short-circuit protection of the auxiliary switch / required |  | fuse gL/gG: 10 A                                   |
| • for short-circuit protection of the main circuit                |  |                                                    |
| • with type of assignment 1 / required                            |  | gL/gG LV HRC 3NA, DIAZED 5SB, NEOZED 5SE:<br>100 A |

- at type of coordination 2 / required

gL/gG LV HRC 3NA, DIAZED 5SB, NEOZED 5SE:  
35A

#### Installation/ mounting/ dimensions:

|                                                                     |    |                                                                                                                                            |
|---------------------------------------------------------------------|----|--------------------------------------------------------------------------------------------------------------------------------------------|
| <b>mounting position</b>                                            |    | +/-180° rotation possible on vertical mounting surface;<br>can be tilted forward and backward by +/- 22.5° on<br>vertical mounting surface |
| <b>Mounting type</b>                                                |    | screw and snap-on mounting onto 35 mm standard<br>mounting rail according to DIN EN 50022                                                  |
| <b>Mounting type / series installation</b>                          |    | Yes                                                                                                                                        |
| <b>Width</b>                                                        | mm | 45                                                                                                                                         |
| <b>Height</b>                                                       | mm | 102                                                                                                                                        |
| <b>Depth</b>                                                        | mm | 107                                                                                                                                        |
| <b>Distance, to be maintained, to the ranks assembly / sideways</b> | mm | 0                                                                                                                                          |

#### Connections/ terminals:

##### Design of the electrical connection

- for main current circuit
- for auxiliary and control current circuit
- for main contacts / finely stranded / with conductor end processing
- for main contacts / finely stranded / without conductor final cutting
- for AWG conductors / for main contacts
- for auxiliary contacts / finely stranded / with conductor end processing
- for auxiliary contacts / finely stranded / without conductor final cutting
- for AWG conductors / for auxiliary contacts

spring-loaded terminals  
spring-loaded terminals  
2x (1 ... 6 mm²)  
2x (1 ... 6 mm²)  
2x (18 ... 8)  
2x (0.5 ... 1.5 mm²)  
2x (0.5 ... 2.5 mm²)  
2x (20 ... 14)

#### Safety related data:

|                                                           |     |           |
|-----------------------------------------------------------|-----|-----------|
| <b>B10 value / with high demand rate</b>                  |     |           |
| • according to SN 31920                                   |     | 1,000,000 |
| <b>T1 value / for proof test interval or service life</b> |     |           |
| • according to IEC 61508                                  | a   | 20        |
| <b>Proportion of dangerous failures</b>                   |     |           |
| • with low demand rate / according to SN 31920            | %   | 40        |
| • with high demand rate / according to SN 31920           | %   | 73        |
| <b>Failure rate [FIT] / with low demand rate</b>          |     |           |
| • according to SN 31920                                   | FIT | 100       |
| <b>Product function</b>                                   |     |           |
| • mirror contact to IEC 60947-4-1                         |     | Yes       |
| • positively driven operation to IEC 60947-5-1            |     | No        |

## Certificates/ approvals:

General Product Approval

EMC

Functional Safety /  
Safety of Machinery



CCC



CSA



UL



C-TICK

[Type Examination](#)

Declaration of  
Conformity

Test Certificates



EG-Konf.

[Special Test  
Certificate](#)

[Type Test  
Certificates/Test  
Report](#)

## Shipping Approval



ABS



BUREAU  
VERITAS



DNV



GL



LRS



PRS

## Shipping Approval

other



RINA



RMRS

[Confirmation](#)



VDE

[Environmental  
Confirmations](#)

## Further information:

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

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

Industry Mall (Online ordering system)

<http://mall.industry.siemens.com/>

Cax online generator

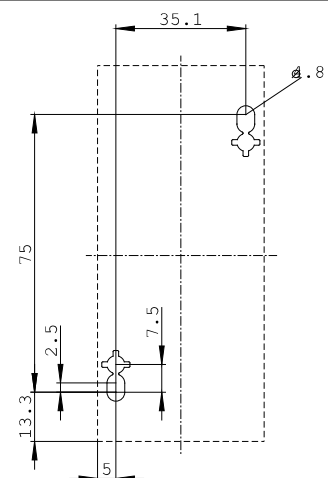
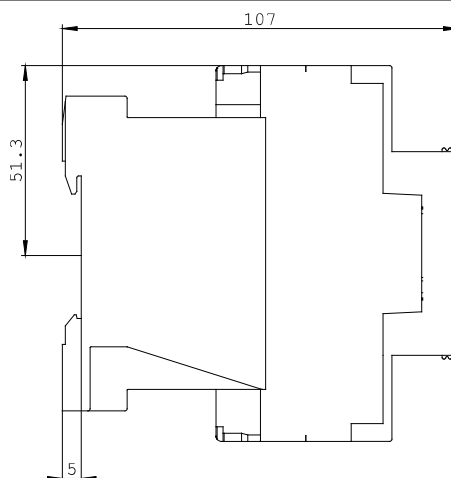
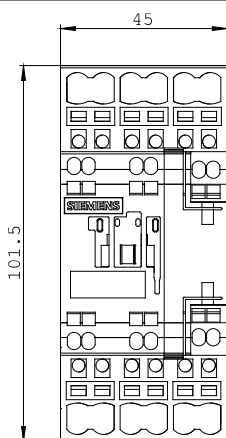
<http://www.siemens.com/cax>

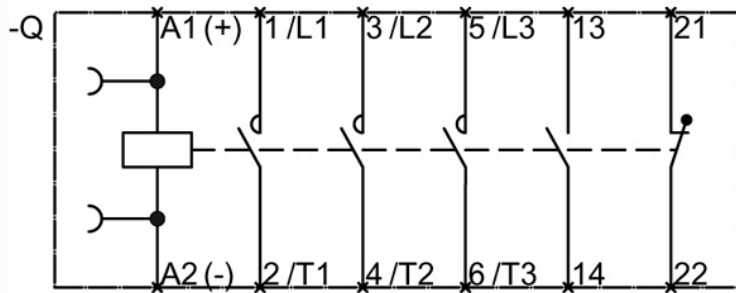
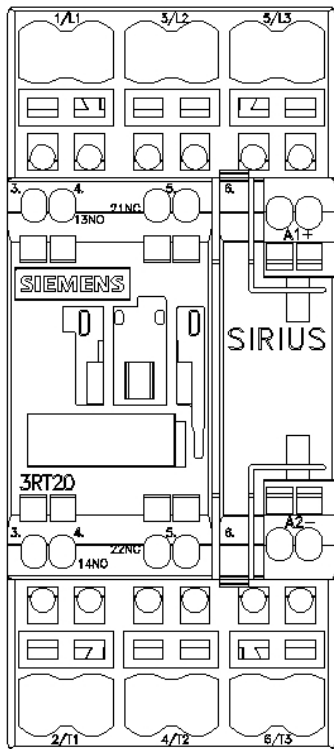
Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<http://support.automation.siemens.com/WW/view/en/3RT2028-2BG40/all>

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

[http://www.automation.siemens.com/bilddb/cax\\_en.aspx?mlfb=3RT2028-2BG40](http://www.automation.siemens.com/bilddb/cax_en.aspx?mlfb=3RT2028-2BG40)





last change:

Aug 4, 2014