

Siemens  
EcoTech



SIRIUS soft starter S0 38 A, 18.5 kW/400 V, 40 °C 200-480 V AC, 110-230 V  
AC/DC Screw terminals



### General technical data

|                                                                                            |                          |
|--------------------------------------------------------------------------------------------|--------------------------|
| product brand name                                                                         | SIRIUS                   |
| product designation                                                                        | Soft starter             |
| product feature                                                                            |                          |
| • integrated bypass contact system                                                         | Yes                      |
| • thyristors                                                                               | Yes                      |
| product function                                                                           |                          |
| • intrinsic device protection                                                              | Yes                      |
| • motor overload protection                                                                | Yes                      |
| • evaluation of thermistor motor protection                                                | No                       |
| • external reset                                                                           | Yes                      |
| • adjustable current limitation                                                            | Yes                      |
| • inside-delta circuit                                                                     | No                       |
| product component motor brake output                                                       | No                       |
| insulation voltage rated value                                                             | 600 V                    |
| degree of pollution                                                                        | 3, acc. to IEC 60947-4-2 |
| blocking voltage of the thyristor maximum                                                  | 1 600 V                  |
| reference code according to EN 61346-2                                                     | Q                        |
| reference code according to DIN 40719 extended according to IEC 204-2 according to IEC 750 | G                        |

### Power Electronics

|                                                                                                                |               |
|----------------------------------------------------------------------------------------------------------------|---------------|
| operational current                                                                                            |               |
| • at 40 °C rated value                                                                                         | 38 A          |
| • at 50 °C rated value                                                                                         | 34 A          |
| • at 60 °C rated value                                                                                         | 31 A          |
| yielded mechanical performance for 3-phase motors                                                              |               |
| • at 230 V                                                                                                     |               |
| — at standard circuit at 40 °C rated value                                                                     | 11 kW         |
| • at 400 V                                                                                                     |               |
| — at standard circuit at 40 °C rated value                                                                     | 18.5 kW       |
| yielded mechanical performance [hp] for 3-phase AC motor at 200/208 V at standard circuit at 50 °C rated value | 10 hp         |
| operating frequency rated value                                                                                | 50 ... 60 Hz  |
| relative negative tolerance of the operating frequency                                                         | -10 %         |
| relative positive tolerance of the operating frequency                                                         | 10 %          |
| operating voltage at standard circuit rated value                                                              | 200 ... 480 V |
| relative negative tolerance of the operating voltage at                                                        | -15 %         |

|                                                                                                                |                                                                                                                                                                                                                                                                 |
|----------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| standard circuit                                                                                               |                                                                                                                                                                                                                                                                 |
| relative positive tolerance of the operating voltage at standard circuit                                       | 10 %                                                                                                                                                                                                                                                            |
| minimum load [%]                                                                                               | 20 %                                                                                                                                                                                                                                                            |
| adjustable motor current for motor overload protection minimum rated value                                     | 23 A                                                                                                                                                                                                                                                            |
| continuous operating current [% of I <sub>e</sub> ] at 40 °C                                                   | 115 %                                                                                                                                                                                                                                                           |
| power loss [W] at operational current at 40 °C during operation typical                                        | 19 W                                                                                                                                                                                                                                                            |
| <b>Control circuit/ Control</b>                                                                                |                                                                                                                                                                                                                                                                 |
| type of voltage of the control supply voltage                                                                  | AC/DC                                                                                                                                                                                                                                                           |
| control supply voltage frequency 1 rated value                                                                 | 50 Hz                                                                                                                                                                                                                                                           |
| control supply voltage frequency 2 rated value                                                                 | 60 Hz                                                                                                                                                                                                                                                           |
| relative negative tolerance of the control supply voltage frequency                                            | -10 %                                                                                                                                                                                                                                                           |
| relative positive tolerance of the control supply voltage frequency                                            | 10 %                                                                                                                                                                                                                                                            |
| control supply voltage 1 at AC at 50 Hz                                                                        | 110 ... 230 V                                                                                                                                                                                                                                                   |
| control supply voltage 1 at AC at 60 Hz                                                                        | 110 ... 230 V                                                                                                                                                                                                                                                   |
| relative negative tolerance of the control supply voltage at AC at 50 Hz                                       | -15 %                                                                                                                                                                                                                                                           |
| relative positive tolerance of the control supply voltage at AC at 50 Hz                                       | 10 %                                                                                                                                                                                                                                                            |
| relative negative tolerance of the control supply voltage at AC at 60 Hz                                       | -15 %                                                                                                                                                                                                                                                           |
| relative positive tolerance of the control supply voltage at AC at 60 Hz                                       | 10 %                                                                                                                                                                                                                                                            |
| control supply voltage 1 at DC                                                                                 | 110 ... 230 V                                                                                                                                                                                                                                                   |
| relative negative tolerance of the control supply voltage at DC                                                | -15 %                                                                                                                                                                                                                                                           |
| relative positive tolerance of the control supply voltage at DC                                                | 10 %                                                                                                                                                                                                                                                            |
| display version for fault signal                                                                               | red                                                                                                                                                                                                                                                             |
| <b>Mechanical data</b>                                                                                         |                                                                                                                                                                                                                                                                 |
| size of engine control device                                                                                  | S0                                                                                                                                                                                                                                                              |
| width                                                                                                          | 45 mm                                                                                                                                                                                                                                                           |
| height                                                                                                         | 125 mm                                                                                                                                                                                                                                                          |
| depth                                                                                                          | 155 mm                                                                                                                                                                                                                                                          |
| fastening method                                                                                               | screw and snap-on mounting                                                                                                                                                                                                                                      |
| mounting position                                                                                              | With additional fan: With vertical mounting surface +/-90° rotatable, with vertical mounting surface +/- 22.5° tiltable to the front and back Without additional fan: With vertical mounting surface +/-10° rotatable, with vertical mounting surface +/- 10° t |
| required spacing with side-by-side mounting                                                                    |                                                                                                                                                                                                                                                                 |
| • upwards                                                                                                      | 60 mm                                                                                                                                                                                                                                                           |
| • at the side                                                                                                  | 15 mm                                                                                                                                                                                                                                                           |
| • downwards                                                                                                    | 40 mm                                                                                                                                                                                                                                                           |
| wire length maximum                                                                                            | 300 m                                                                                                                                                                                                                                                           |
| number of poles for main current circuit                                                                       | 3                                                                                                                                                                                                                                                               |
| <b>Connections/ Terminals</b>                                                                                  |                                                                                                                                                                                                                                                                 |
| type of electrical connection                                                                                  |                                                                                                                                                                                                                                                                 |
| • for main current circuit                                                                                     | screw-type terminals                                                                                                                                                                                                                                            |
| • for auxiliary and control circuit                                                                            | screw-type terminals                                                                                                                                                                                                                                            |
| number of NC contacts for auxiliary contacts                                                                   | 0                                                                                                                                                                                                                                                               |
| number of NO contacts for auxiliary contacts                                                                   | 2                                                                                                                                                                                                                                                               |
| number of CO contacts for auxiliary contacts                                                                   | 1                                                                                                                                                                                                                                                               |
| type of connectable conductor cross-sections for main contacts for box terminal using the front clamping point |                                                                                                                                                                                                                                                                 |
| • solid                                                                                                        | 2x (1 ... 2.5 mm²), 2x (2.5 ... 6 mm²), max. 1x 10 mm²                                                                                                                                                                                                          |
| • finely stranded with core end processing                                                                     | 2x (1 ... 2.5 mm²), 2x (2.5 ... 6 mm²)                                                                                                                                                                                                                          |
| type of connectable conductor cross-sections for AWG cables for main contacts for box terminal                 |                                                                                                                                                                                                                                                                 |
| • using the front clamping point                                                                               | 1x 8, 2x (16 ... 10)                                                                                                                                                                                                                                            |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                               |                                                                                                                                                                                                                                                                                                |                                                                                     |                                                                                       |                                                                                       |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| type of connectable conductor cross-sections for auxiliary contacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                               |                                                                                                                                                                                                                                                                                                |                                                                                     |                                                                                       |                                                                                       |
| • solid                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2x (0.5 ... 2.5 mm²)                                                                                          |                                                                                                                                                                                                                                                                                                |                                                                                     |                                                                                       |                                                                                       |
| • finely stranded with core end processing                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 2x (0.5 ... 1.5 mm²)                                                                                          |                                                                                                                                                                                                                                                                                                |                                                                                     |                                                                                       |                                                                                       |
| type of connectable conductor cross-sections for AWG cables                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                               |                                                                                                                                                                                                                                                                                                |                                                                                     |                                                                                       |                                                                                       |
| • for auxiliary contacts                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 2x (20 ... 14)                                                                                                |                                                                                                                                                                                                                                                                                                |                                                                                     |                                                                                       |                                                                                       |
| • for auxiliary contacts finely stranded with core end processing                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 2x (20 ... 16)                                                                                                |                                                                                                                                                                                                                                                                                                |                                                                                     |                                                                                       |                                                                                       |
| Ambient conditions                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                               |                                                                                                                                                                                                                                                                                                |                                                                                     |                                                                                       |                                                                                       |
| installation altitude at height above sea level                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 5 000 m                                                                                                       |                                                                                                                                                                                                                                                                                                |                                                                                     |                                                                                       |                                                                                       |
| environmental category                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                               |                                                                                                                                                                                                                                                                                                |                                                                                     |                                                                                       |                                                                                       |
| • during transport according to IEC 60721                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 2K2, 2C1, 2S1, 2M2 (max. fall height 0.3 m)                                                                   |                                                                                                                                                                                                                                                                                                |                                                                                     |                                                                                       |                                                                                       |
| • during storage according to IEC 60721                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 1K6 (only occasional condensation), 1C2 (no salt mist), 1S2 (sand must not get inside the devices), 1M4       |                                                                                                                                                                                                                                                                                                |                                                                                     |                                                                                       |                                                                                       |
| • during operation according to IEC 60721                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 3K6 (no formation of ice, no condensation), 3C3 (no salt mist), 3S2 (sand must not get into the devices), 3M6 |                                                                                                                                                                                                                                                                                                |                                                                                     |                                                                                       |                                                                                       |
| ambient temperature                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                               |                                                                                                                                                                                                                                                                                                |                                                                                     |                                                                                       |                                                                                       |
| • during operation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | -25 ... +60 °C                                                                                                |                                                                                                                                                                                                                                                                                                |                                                                                     |                                                                                       |                                                                                       |
| • during storage                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | -40 ... +80 °C                                                                                                |                                                                                                                                                                                                                                                                                                |                                                                                     |                                                                                       |                                                                                       |
| derating temperature                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 40 °C                                                                                                         |                                                                                                                                                                                                                                                                                                |                                                                                     |                                                                                       |                                                                                       |
| protection class IP on the front according to IEC 60529                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | IP20                                                                                                          |                                                                                                                                                                                                                                                                                                |                                                                                     |                                                                                       |                                                                                       |
| touch protection on the front according to IEC 60529                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | finger-safe, for vertical contact from the front                                                              |                                                                                                                                                                                                                                                                                                |                                                                                     |                                                                                       |                                                                                       |
| UL/CSA ratings                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                               |                                                                                                                                                                                                                                                                                                |                                                                                     |                                                                                       |                                                                                       |
| yielded mechanical performance [hp] for 3-phase AC motor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                               |                                                                                                                                                                                                                                                                                                |                                                                                     |                                                                                       |                                                                                       |
| • at 220/230 V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                               |                                                                                                                                                                                                                                                                                                |                                                                                     |                                                                                       |                                                                                       |
| — at standard circuit at 50 °C rated value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 10 hp                                                                                                         |                                                                                                                                                                                                                                                                                                |                                                                                     |                                                                                       |                                                                                       |
| • at 460/480 V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                               |                                                                                                                                                                                                                                                                                                |                                                                                     |                                                                                       |                                                                                       |
| — at standard circuit at 50 °C rated value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 25 hp                                                                                                         |                                                                                                                                                                                                                                                                                                |                                                                                     |                                                                                       |                                                                                       |
| contact rating of auxiliary contacts according to UL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | B300 / R300                                                                                                   |                                                                                                                                                                                                                                                                                                |                                                                                     |                                                                                       |                                                                                       |
| Approvals Certificates                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                               |                                                                                                                                                                                                                                                                                                |                                                                                     |                                                                                       |                                                                                       |
| Environmental Product Declaration                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                               |                                                                                                                                                                                                                                                                                                |                                                                                     |                                                                                       |                                                                                       |
| • global warming potential [CO2 eq] / during manufacturing                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 4.24 kg                                                                                                       |                                                                                                                                                                                                                                                                                                |                                                                                     |                                                                                       |                                                                                       |
| • global warming potential [CO2 eq] / during sales                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 0.207 kg                                                                                                      |                                                                                                                                                                                                                                                                                                |                                                                                     |                                                                                       |                                                                                       |
| • global warming potential [CO2 eq] / during operation                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 117 kg                                                                                                        |                                                                                                                                                                                                                                                                                                |                                                                                     |                                                                                       |                                                                                       |
| • global warming potential [CO2 eq] / after end of life                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | -0.229 kg                                                                                                     |                                                                                                                                                                                                                                                                                                |                                                                                     |                                                                                       |                                                                                       |
| • global warming potential [CO2 eq] / total                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 121 kg                                                                                                        |                                                                                                                                                                                                                                                                                                |                                                                                     |                                                                                       |                                                                                       |
| Environment                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | General Product Approval                                                                                      |                                                                                                                                                                                                                                                                                                |                                                                                     |                                                                                       |                                                                                       |
| <div><div><a href="#">Environmental Confirmations</a></div><div></div><div></div><div></div><div></div><div></div><div></div></div> |                                                                                                               |                                                                                                                                                                                                                                                                                                |                                                                                     |                                                                                       |                                                                                       |
| General Product Approval                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | EMV                                                                                                           | For use in hazardous locations                                                                                                                                                                                                                                                                 |                                                                                     |                                                                                       |                                                                                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                            |                                                                                                                                                                                                             |  |  |  |
| Test Certificates                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                               | Maritime application                                                                                                                                                                                                                                                                           | other                                                                               |                                                                                       |                                                                                       |
| <div><div><a href="#">Type Test Certificates/Test Report</a></div><div><a href="#">Special Test Certificate</a></div></div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                               | <div></div> <div></div> <div></div> | <div><a href="#">Confirmation</a></div>                                             |                                                                                       |                                                                                       |
| other                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Railway                                                                                                       |                                                                                                                                                                                                                                                                                                |                                                                                     |                                                                                       |                                                                                       |



[Confirmation](#)

#### Further information

##### Simulation Tool for Soft Starters (STS)

<https://support.industry.siemens.com/cs/ww/en/view/101494917>

##### Information on the packaging

<https://support.industry.siemens.com/cs/ww/en/view/109813875>

##### Information for data generation and storage

<https://support.industry.siemens.com/cs/ww/en/view/109995012>

##### 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=3RW4028-1BB14>

##### Cax online generator

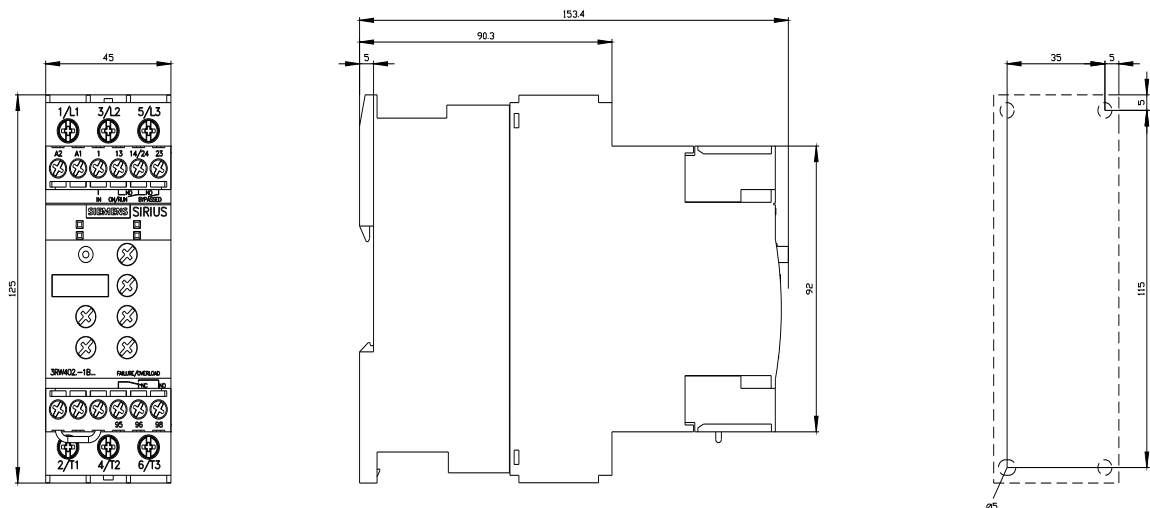
<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RW4028-1BB14>

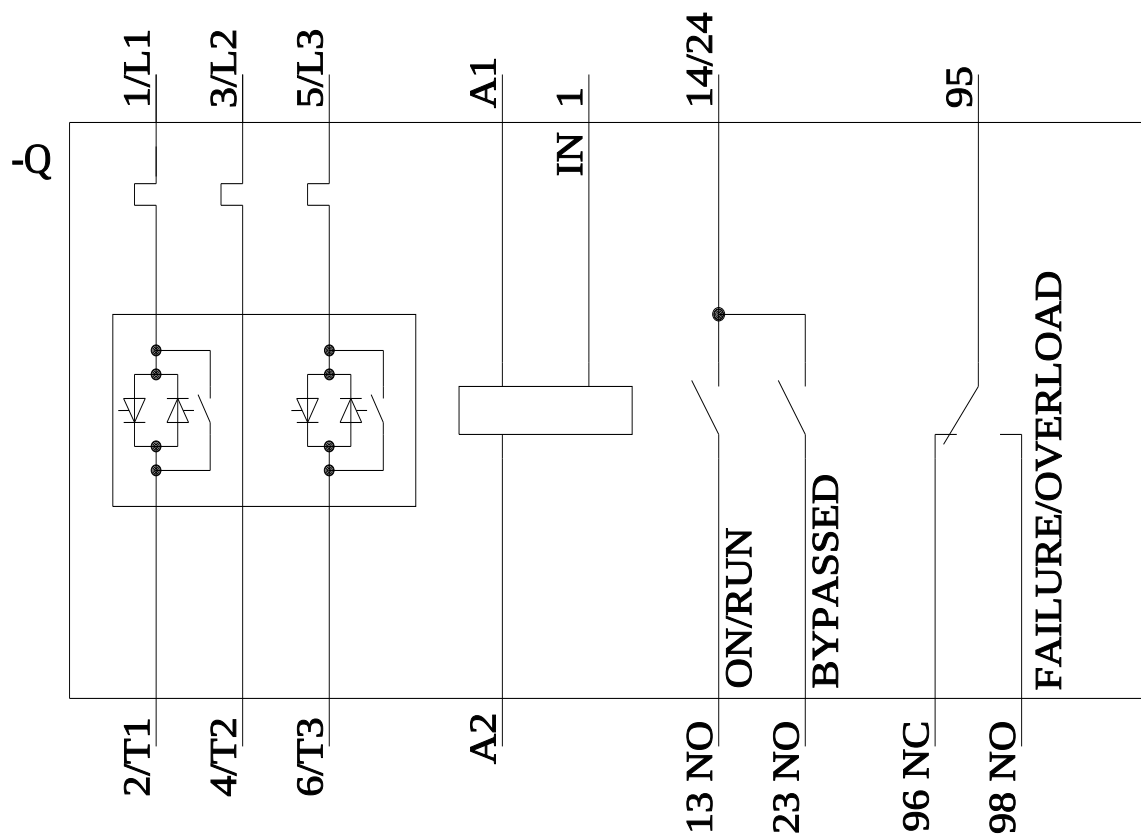
##### Service&Support (Manuals, Certificates, Characteristics, FAQs,...)

<https://support.industry.siemens.com/cs/ww/en/ps/3RW4028-1BB14>

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

[https://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RW4028-1BB14&lang=en](https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RW4028-1BB14&lang=en)





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