



contactor AC-1, 18 A, 400 V / 40 °C, 4-pole, 24 V DC, screw terminal, size: S00

|                                                                               |                              |
|-------------------------------------------------------------------------------|------------------------------|
| product brand name                                                            | SIRIUS                       |
| product designation                                                           | Contactor                    |
| product type designation                                                      | 3RT23                        |
| <b>General technical data</b>                                                 |                              |
| size of contactor                                                             | S00                          |
| product extension                                                             |                              |
| • function module for communication                                           | No                           |
| • auxiliary switch                                                            | Yes                          |
| power loss [W] for rated value of the current                                 |                              |
| • at AC in hot operating state                                                | 4.4 W                        |
| • at AC in hot operating state per pole                                       | 1.1 W                        |
| • without load current share typical                                          | 4 W                          |
| type of calculation of power loss current-dependent                           | quadratic                    |
| insulation voltage                                                            |                              |
| • of main circuit with degree of pollution 3 rated value                      | 690 V                        |
| • of the auxiliary and control circuit with degree of pollution 3 rated value | 690 V                        |
| surge voltage resistance                                                      |                              |
| • of main circuit rated value                                                 | 6 kV                         |
| • of auxiliary circuit rated value                                            | 6 kV                         |
| shock resistance at rectangular impulse                                       |                              |
| • at DC                                                                       | 6,7 g / 5 ms, 4,2 g / 10 ms  |
| shock resistance with sine pulse                                              |                              |
| • at DC                                                                       | 10,5 g / 5 ms, 6,6 g / 10 ms |
| mechanical service life (operating cycles)                                    |                              |
| • of contactor typical                                                        | 30 000 000                   |
| • of the contactor with added auxiliary switch block typical                  | 10 000 000                   |
| reference code according to IEC 81346-2                                       | Q                            |
| Substance Prohibition (day/month/year)                                        | 10/01/2009                   |
| Net Weight                                                                    | 292 g                        |
| <b>Ambient conditions</b>                                                     |                              |
| installation altitude at height above sea level maximum                       | 2 000 m                      |
| ambient temperature                                                           |                              |
| • during operation                                                            | -25 ... +60 °C               |
| • during storage                                                              | -55 ... +80 °C               |
| relative humidity minimum                                                     | 10 %                         |
| relative humidity at 55 °C according to IEC 60068-2-30 maximum                | 95 %                         |
| <b>Main circuit</b>                                                           |                              |

|                                                                                                                                                                                    |                     |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|
| <b>number of poles for main current circuit</b>                                                                                                                                    | 4                   |
| <b>number of NO contacts for main contacts</b>                                                                                                                                     | 4                   |
| <b>type of voltage for main current circuit</b>                                                                                                                                    | AC                  |
| <b>operational current</b>                                                                                                                                                         |                     |
| <ul style="list-style-type: none"> <li>• at AC-1 at 400 V at ambient temperature 40 °C rated value</li> </ul>                                                                      | 18 A                |
| <ul style="list-style-type: none"> <li>• at AC-1 <ul style="list-style-type: none"> <li>— up to 690 V at ambient temperature 40 °C rated value</li> </ul> </li> </ul>              | 18 A                |
| <ul style="list-style-type: none"> <li>— up to 690 V at ambient temperature 60 °C rated value</li> </ul>                                                                           | 16 A                |
| <ul style="list-style-type: none"> <li>• at AC-3 <ul style="list-style-type: none"> <li>— at 400 V rated value</li> </ul> </li> </ul>                                              | 9 A                 |
| <ul style="list-style-type: none"> <li>• at AC-4 at 400 V rated value</li> </ul>                                                                                                   | 8.5 A               |
| minimum cross-section in main circuit at maximum AC-1 rated value                                                                                                                  | 2.5 mm <sup>2</sup> |
| <b>operational current</b>                                                                                                                                                         |                     |
| <ul style="list-style-type: none"> <li>• <b>at 1 current path at DC-1</b> <ul style="list-style-type: none"> <li>— at 24 V rated value</li> </ul> </li> </ul>                      | 16 A                |
| <ul style="list-style-type: none"> <li>— at 60 V rated value</li> </ul>                                                                                                            | 16 A                |
| <ul style="list-style-type: none"> <li>— at 110 V rated value</li> </ul>                                                                                                           | 2.1 A               |
| <ul style="list-style-type: none"> <li>— at 220 V rated value</li> </ul>                                                                                                           | 0.8 A               |
| <ul style="list-style-type: none"> <li>— at 440 V rated value</li> </ul>                                                                                                           | 0.6 A               |
| <ul style="list-style-type: none"> <li>• <b>with 2 current paths in series at DC-1</b> <ul style="list-style-type: none"> <li>— at 24 V rated value</li> </ul> </li> </ul>         | 16 A                |
| <ul style="list-style-type: none"> <li>— at 60 V rated value</li> </ul>                                                                                                            | 16 A                |
| <ul style="list-style-type: none"> <li>— at 110 V rated value</li> </ul>                                                                                                           | 12 A                |
| <ul style="list-style-type: none"> <li>— at 220 V rated value</li> </ul>                                                                                                           | 1.6 A               |
| <ul style="list-style-type: none"> <li>— at 440 V rated value</li> </ul>                                                                                                           | 0.8 A               |
| <ul style="list-style-type: none"> <li>• <b>with 3 current paths in series at DC-1</b> <ul style="list-style-type: none"> <li>— at 24 V rated value</li> </ul> </li> </ul>         | 16 A                |
| <ul style="list-style-type: none"> <li>— at 60 V rated value</li> </ul>                                                                                                            | 16 A                |
| <ul style="list-style-type: none"> <li>— at 110 V rated value</li> </ul>                                                                                                           | 16 A                |
| <ul style="list-style-type: none"> <li>— at 220 V rated value</li> </ul>                                                                                                           | 16 A                |
| <ul style="list-style-type: none"> <li>— at 440 V rated value</li> </ul>                                                                                                           | 1.3 A               |
| <ul style="list-style-type: none"> <li>• <b>at 1 current path at DC-3 at DC-5</b> <ul style="list-style-type: none"> <li>— at 24 V rated value</li> </ul> </li> </ul>              | 16 A                |
| <ul style="list-style-type: none"> <li>— at 60 V rated value</li> </ul>                                                                                                            | 0.5 A               |
| <ul style="list-style-type: none"> <li>— at 110 V rated value</li> </ul>                                                                                                           | 0.15 A              |
| <ul style="list-style-type: none"> <li>• <b>with 2 current paths in series at DC-3 at DC-5</b> <ul style="list-style-type: none"> <li>— at 24 V rated value</li> </ul> </li> </ul> | 16 A                |
| <ul style="list-style-type: none"> <li>— at 60 V rated value</li> </ul>                                                                                                            | 5 A                 |
| <ul style="list-style-type: none"> <li>— at 110 V rated value</li> </ul>                                                                                                           | 0.35 A              |
| <ul style="list-style-type: none"> <li>• <b>with 3 current paths in series at DC-3 at DC-5</b> <ul style="list-style-type: none"> <li>— at 24 V rated value</li> </ul> </li> </ul> | 16 A                |
| <ul style="list-style-type: none"> <li>— at 60 V rated value</li> </ul>                                                                                                            | 16 A                |
| <ul style="list-style-type: none"> <li>— at 110 V rated value</li> </ul>                                                                                                           | 16 A                |
| <ul style="list-style-type: none"> <li>— at 220 V rated value</li> </ul>                                                                                                           | 1.5 A               |
| <ul style="list-style-type: none"> <li>— at 440 V rated value</li> </ul>                                                                                                           | 0.2 A               |
| <b>operating power</b>                                                                                                                                                             |                     |
| <ul style="list-style-type: none"> <li>• at AC-3 at 400 V rated value</li> </ul>                                                                                                   | 4 kW                |
| <ul style="list-style-type: none"> <li>• at AC-4 at 400 V rated value</li> </ul>                                                                                                   | 4 kW                |
| <b>no-load switching frequency</b>                                                                                                                                                 |                     |
| <ul style="list-style-type: none"> <li>• at DC</li> </ul>                                                                                                                          | 10 000 1/h          |
| <b>operating frequency</b>                                                                                                                                                         |                     |
| <ul style="list-style-type: none"> <li>• at AC-1 maximum</li> </ul>                                                                                                                | 1 000 1/h           |
| <b>Control circuit/ Control</b>                                                                                                                                                    |                     |
| <b>type of voltage</b>                                                                                                                                                             | DC                  |
| <b>type of voltage of the control supply voltage</b>                                                                                                                               | DC                  |
| <b>control supply voltage at DC rated value</b>                                                                                                                                    | 24 V                |

|                                                                                       |                                                                                                                                      |
|---------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| <b>operating range factor control supply voltage rated value of magnet coil at DC</b> |                                                                                                                                      |
| • initial value                                                                       | 0.8                                                                                                                                  |
| • full-scale value                                                                    | 1.1                                                                                                                                  |
| <b>closing power of magnet coil at DC</b>                                             | 4 W                                                                                                                                  |
| <b>holding power of magnet coil at DC</b>                                             | 4 W                                                                                                                                  |
| <b>closing delay</b>                                                                  |                                                                                                                                      |
| • at DC                                                                               | 30 ... 100 ms                                                                                                                        |
| <b>opening delay</b>                                                                  |                                                                                                                                      |
| • at DC                                                                               | 7 ... 13 ms                                                                                                                          |
| <b>arcing time</b>                                                                    | 10 ... 15 ms                                                                                                                         |
| <b>control version of the switch operating mechanism</b>                              | Standard A1 - A2                                                                                                                     |
| <b>Auxiliary circuit</b>                                                              |                                                                                                                                      |
| <b>number of NC contacts for auxiliary contacts</b>                                   |                                                                                                                                      |
| • attachable                                                                          | 2                                                                                                                                    |
| <b>number of NO contacts for auxiliary contacts</b>                                   |                                                                                                                                      |
| • attachable                                                                          | 2                                                                                                                                    |
| <b>Short-circuit protection</b>                                                       |                                                                                                                                      |
| <b>design of the fuse link</b>                                                        |                                                                                                                                      |
| • for short-circuit protection of the main circuit                                    |                                                                                                                                      |
| — with type of coordination 1 required                                                | gG: 35 A (690 V, 100 kA)                                                                                                             |
| — with type of coordination 2 required                                                | gG: 20 A (690 V, 100 kA)                                                                                                             |
| <b>Installation/ mounting/ dimensions</b>                                             |                                                                                                                                      |
| <b>mounting position</b>                                                              | +/-180° rotation possible on vertical mounting surface; can be tilted forward and backward by +/- 22.5° on vertical mounting surface |
| <b>fastening method side-by-side mounting</b>                                         | Yes                                                                                                                                  |
| <b>fastening method</b>                                                               | screw and snap-on mounting onto 35 mm DIN rail according to DIN EN 60715                                                             |
| <b>height</b>                                                                         | 58 mm                                                                                                                                |
| <b>width</b>                                                                          | 45 mm                                                                                                                                |
| <b>depth</b>                                                                          | 73 mm                                                                                                                                |
| <b>required spacing</b>                                                               |                                                                                                                                      |
| • with side-by-side mounting                                                          |                                                                                                                                      |
| — forwards                                                                            | 10 mm                                                                                                                                |
| — upwards                                                                             | 10 mm                                                                                                                                |
| — downwards                                                                           | 10 mm                                                                                                                                |
| — at the side                                                                         | 0 mm                                                                                                                                 |
| • for grounded parts                                                                  |                                                                                                                                      |
| — forwards                                                                            | 10 mm                                                                                                                                |
| — upwards                                                                             | 10 mm                                                                                                                                |
| — at the side                                                                         | 6 mm                                                                                                                                 |
| — downwards                                                                           | 10 mm                                                                                                                                |
| • for live parts                                                                      |                                                                                                                                      |
| — forwards                                                                            | 10 mm                                                                                                                                |
| — upwards                                                                             | 10 mm                                                                                                                                |
| — downwards                                                                           | 10 mm                                                                                                                                |
| — at the side                                                                         | 6 mm                                                                                                                                 |
| <b>Connections/ Terminals</b>                                                         |                                                                                                                                      |
| <b>type of electrical connection</b>                                                  |                                                                                                                                      |
| • for main current circuit                                                            | screw-type terminals                                                                                                                 |
| • for auxiliary and control circuit                                                   | screw-type terminals                                                                                                                 |
| • at contactor for auxiliary contacts                                                 | Screw-type terminals                                                                                                                 |
| • of magnet coil                                                                      | screw terminal                                                                                                                       |
| <b>type of connectable conductor cross-sections</b>                                   |                                                                                                                                      |
| • for main contacts                                                                   |                                                                                                                                      |
| — solid                                                                               | 2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²), 2x 4 mm²                                                                                |
| — solid or stranded                                                                   | 2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²), 2x 4 mm²                                                                                |
| — finely stranded with core end processing                                            | 2x (0.5 ... 1.5 mm²), 2x (0.75 ... 2.5 mm²)                                                                                          |
| • for AWG cables for main contacts                                                    | 2x (20 ... 16), 2x (18 ... 14), 2x 12                                                                                                |
| <b>connectable conductor cross-section for main contacts</b>                          |                                                                                                                                      |

|                                                                                       |                                                                                             |
|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| • solid                                                                               | 0.5 ... 4 mm <sup>2</sup>                                                                   |
| • solid or stranded                                                                   | 0.5 ... 4 mm <sup>2</sup>                                                                   |
| • stranded                                                                            | 0.5 ... 4 mm <sup>2</sup>                                                                   |
| • finely stranded with core end processing                                            | 0.5 ... 2.5 mm <sup>2</sup>                                                                 |
| <b>connectable conductor cross-section for auxiliary contacts</b>                     |                                                                                             |
| • solid or stranded                                                                   | 0.5 ... 4 mm <sup>2</sup>                                                                   |
| • finely stranded with core end processing                                            | 0.5 ... 2.5 mm <sup>2</sup>                                                                 |
| <b>type of connectable conductor cross-sections</b>                                   |                                                                                             |
| • for auxiliary contacts                                                              |                                                                                             |
| — solid                                                                               | 2x (0.5 ... 1.5 mm <sup>2</sup> ), 2x (0.75 ... 2.5 mm <sup>2</sup> )                       |
| — solid or stranded                                                                   | 2x (0.5 ... 1.5 mm <sup>2</sup> ), 2x (0.75 ... 2.5 mm <sup>2</sup> ), 2x 4 mm <sup>2</sup> |
| — finely stranded with core end processing                                            | 2x (0.5 ... 1.5 mm <sup>2</sup> ), 2x (0.75 ... 2.5 mm <sup>2</sup> )                       |
| • for AWG cables for auxiliary contacts                                               | 2x (20 ... 16), 2x (18 ... 14), 2x 12                                                       |
| <b>AWG number as coded connectable conductor cross section for main contacts</b>      | 20 ... 12                                                                                   |
| <b>AWG number as coded connectable conductor cross section for auxiliary contacts</b> | 20 ... 12                                                                                   |

#### Safety related data

|                                                          |                 |
|----------------------------------------------------------|-----------------|
| <b>product function</b>                                  |                 |
| • mirror contact according to IEC 60947-4-1              | Yes; with 3RH29 |
| • positively driven operation according to IEC 60947-5-1 | No              |

#### Electrical Safety

|                                                                |                                                  |
|----------------------------------------------------------------|--------------------------------------------------|
| <b>protection class IP on the front according to IEC 60529</b> | IP20                                             |
| <b>touch protection on the front according to IEC 60529</b>    | finger-safe, for vertical contact from the front |

#### Communication/ Protocol

|                                           |    |
|-------------------------------------------|----|
| <b>product function bus communication</b> | No |
|-------------------------------------------|----|

#### Approvals Certificates

|                                                            |           |
|------------------------------------------------------------|-----------|
| <b>Environmental Product Declaration</b>                   |           |
| • global warming potential [CO2 eq] / during manufacturing | 1.55 kg   |
| • global warming potential [CO2 eq] / during operation     | 183 kg    |
| • global warming potential [CO2 eq] / after end of life    | -0.249 kg |
| • global warming potential [CO2 eq] / total                | 184 kg    |

#### Environment General Product Approval

[Environmental Confirmations](#)



#### General Product Approval EMV Test Certificates Maritime application



[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)



#### Maritime application other



[Confirmation](#)

#### other Railway Dangerous goods



[Miscellaneous](#)

[Special Test Certificate](#)

[Transport Information](#)

## Further information

### 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=3RT2316-1BB40>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT2316-1BB40>

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

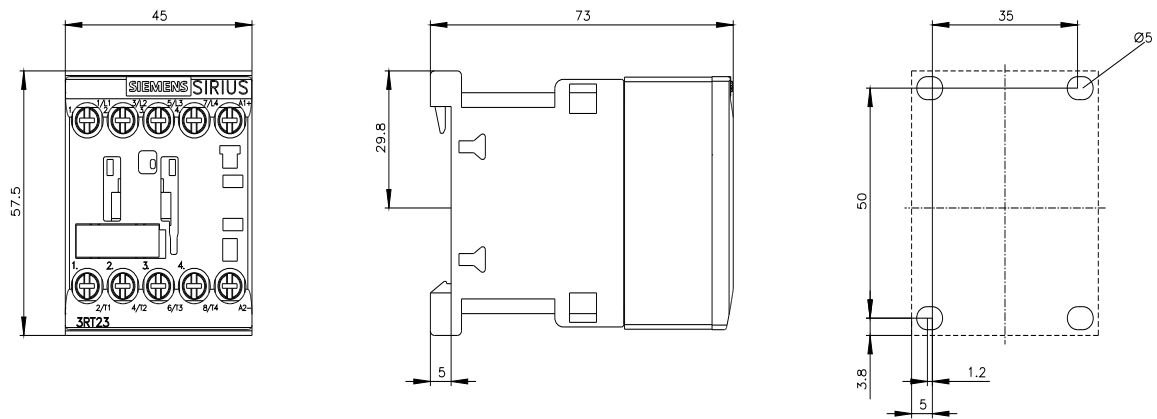
[https://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RT2316-1BB40&lang=en](https://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT2316-1BB40&lang=en)

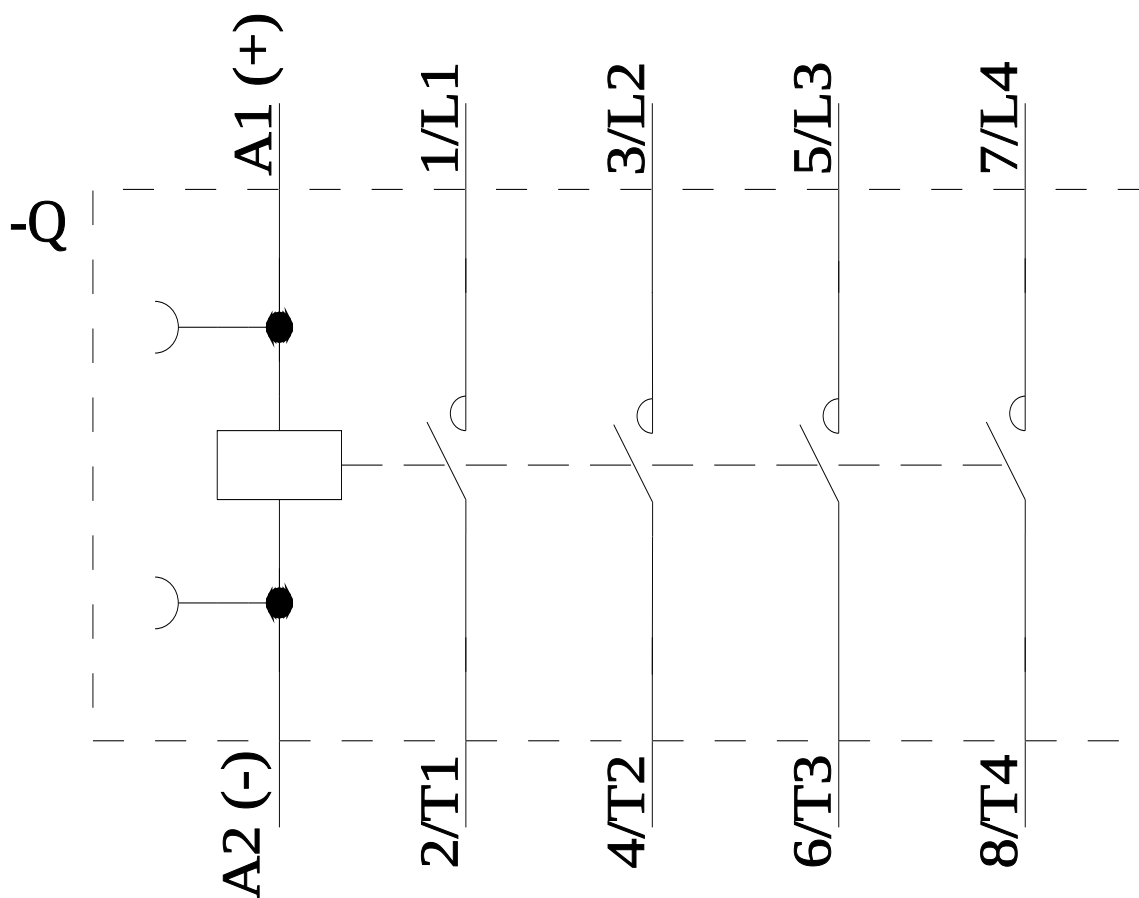
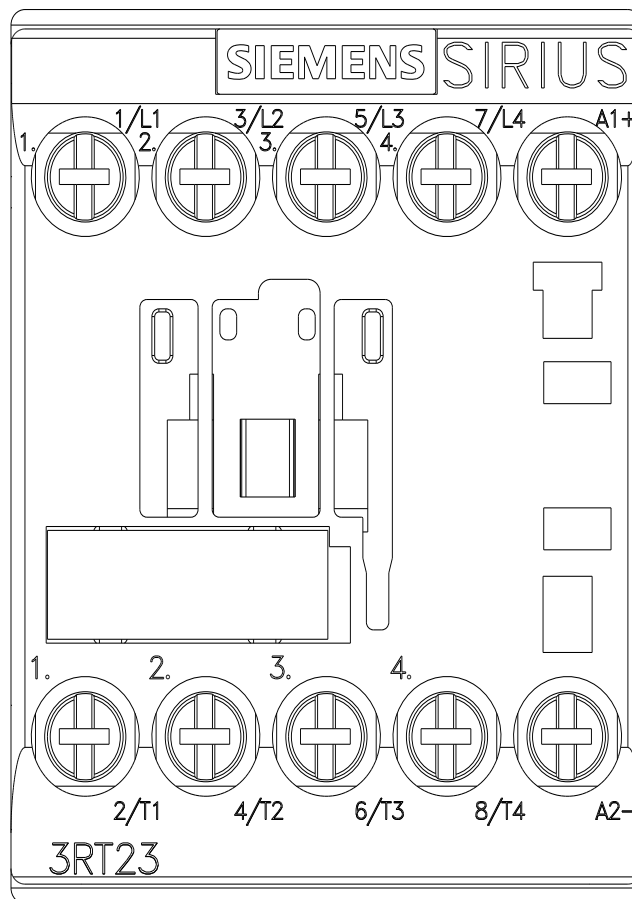
### Cax online generator

<https://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT2316-1BB40>

### Characteristic curves

[https://curves.simaris.siemens.com/curves/<mmp\\_prod\\_noCOMP='HAUPT'></mmp\\_prod\\_no>](https://curves.simaris.siemens.com/curves/<mmp_prod_noCOMP='HAUPT'></mmp_prod_no>)





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