

Power contactor, AC-3 500 A, 250 kW / 400 V AC (50-60 Hz) / DC 23-26 V UC Auxiliary contacts 2 NO + 2 NC 3-pole, size S12 Busbar connections Operating mechanism: conventional screw terminals



|   |   |
|---|---|
| <b>Product brand name</b>                             | SIRIUS  |
| <b>Product designation</b>                            | Power contactor                                   |
| <b>Product type designation</b>                       | 3RT1  |
| <b>General technical data</b>                         |   |
| <b>Size of contactor</b>                              | S12   |
| <b>Product extension</b>                              |   |
| • function module for communication                   | No  |
| • Auxiliary switch                                    | Yes   |
| <b>Surge voltage resistance</b>                       |   |
| • of main circuit rated value                         | 8 kV  |
| • of auxiliary circuit rated value                    | 6 kV  |
| <b>maximum permissible voltage for safe isolation</b> |   |
| • between coil and main contacts acc. to EN 60947-1   | 690 V   |
| <b>Protection class IP</b>                            |   |
| • on the front  | IP00; IP20 on the front with cover / box terminal |
| • of the terminal                                     | IP00  |
| <b>Shock resistance at rectangular impulse</b>        |   |
| • at AC   | 8,5g / 5 ms, 4,2g / 10 ms                         |

|   |                            |
|---|----------------------------|
| <ul style="list-style-type: none"> <li>• at DC</li> </ul>   | 8,5g / 5 ms, 4,2g / 10 ms  |
| <b>Shock resistance with sine pulse</b>   |                            |
| <ul style="list-style-type: none"> <li>• at AC</li> </ul>   | 13,4g / 5 ms, 6,5g / 10 ms |
| <ul style="list-style-type: none"> <li>• at DC</li> </ul>   | 13,4g / 5 ms, 6,5g / 10 ms |
| <b>Mechanical service life (switching cycles)</b>   |                            |
| <ul style="list-style-type: none"> <li>• of contactor typical</li> </ul>  | 10 000 000                 |
| <ul style="list-style-type: none"> <li>• of the contactor with added electronics-compatible auxiliary switch block typical</li> </ul> | 5 000 000                  |
| <ul style="list-style-type: none"> <li>• of the contactor with added auxiliary switch block typical</li> </ul>                        | 10 000 000                 |
| <b>Reference code acc. to DIN 40719 extended according to IEC 204-2 acc. to IEC 750</b>   | K                          |
| <b>Reference code acc. to DIN EN 81346-2</b>  | Q                          |

### Ambient conditions

|  |                |
|--|----------------|
| <b>Installation altitude at height above sea level</b>               |                |
| <ul style="list-style-type: none"> <li>• maximum</li> </ul>          | 2 000 m        |
| <b>Ambient temperature</b>   |                |
| <ul style="list-style-type: none"> <li>• during operation</li> </ul> | -25 ... +60 °C |
| <ul style="list-style-type: none"> <li>• during storage</li> </ul>   | -55 ... +80 °C |

### Main circuit

|   |                                  |
|---|----------------------------------|
| <b>Number of poles for main current circuit</b>   | 3                                |
| <b>Number of NO contacts for main contacts</b>  | 3                                |
| <b>Operating voltage</b>  |                                  |
| <ul style="list-style-type: none"> <li>• at AC-3 rated value maximum</li> </ul>   | 1 000 V                          |
| <b>Operating current</b>  |                                  |
| <ul style="list-style-type: none"> <li>• at AC-1 at 400 V <ul style="list-style-type: none"> <li>— at ambient temperature 40 °C rated value</li> </ul> </li> </ul>  | 610 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> <li>— up to 690 V at ambient temperature 60 °C rated value</li> <li>— up to 1000 V at ambient temperature 40 °C rated value</li> <li>— up to 1000 V at ambient temperature 60 °C rated value</li> </ul> </li> </ul> | 610 A<br>550 A<br>200 A<br>200 A |
| <ul style="list-style-type: none"> <li>• at AC-2 at 400 V rated value</li> </ul>  | 500 A                            |
| <ul style="list-style-type: none"> <li>• at AC-3 <ul style="list-style-type: none"> <li>— at 400 V rated value</li> <li>— at 500 V rated value</li> <li>— at 690 V rated value</li> <li>— at 1000 V rated value</li> </ul> </li> </ul>  | 500 A<br>500 A<br>450 A<br>180 A |

|   |   |
|---|---|
| <ul style="list-style-type: none"> <li>• at AC-4 at 400 V rated value</li> </ul>  | 430 A                                       |
| <b>Connectable conductor cross-section in main circuit at AC-1</b>  |   |
| <ul style="list-style-type: none"> <li>• at 60 °C minimum permissible</li> </ul>  | 370 mm <sup>2</sup>                         |
| <ul style="list-style-type: none"> <li>• at 40 °C minimum permissible</li> </ul>  | 370 mm <sup>2</sup>                         |
| <b>Operating current for approx. 200000 operating cycles at AC-4</b>  |   |
| <ul style="list-style-type: none"> <li>• at 400 V rated value</li> </ul>  | 175 A                                       |
| <ul style="list-style-type: none"> <li>• at 690 V rated value</li> </ul>  | 150 A                                       |
| <b>Operating current</b>  |   |
| <ul style="list-style-type: none"> <li>• at 1 current path at DC-1 <ul style="list-style-type: none"> <li>— at 24 V rated value</li> <li>— at 110 V rated value</li> <li>— at 220 V rated value</li> <li>— at 440 V rated value</li> <li>— at 600 V rated value</li> </ul> </li> </ul>                      | 400 A<br>33 A<br>3.8 A<br>0.9 A<br>0.6 A    |
| <ul style="list-style-type: none"> <li>• with 2 current paths in series at DC-1 <ul style="list-style-type: none"> <li>— at 24 V rated value</li> <li>— at 110 V rated value</li> <li>— at 220 V rated value</li> <li>— at 440 V rated value</li> <li>— at 600 V rated value</li> </ul> </li> </ul>         | 400 A<br>400 A<br>400 A<br>4 A<br>2 A       |
| <ul style="list-style-type: none"> <li>• with 3 current paths in series at DC-1 <ul style="list-style-type: none"> <li>— at 24 V rated value</li> <li>— at 110 V rated value</li> <li>— at 220 V rated value</li> <li>— at 440 V rated value</li> <li>— at 600 V rated value</li> </ul> </li> </ul>         | 400 A<br>400 A<br>400 A<br>11 A<br>5.2 A    |
| <b>Operating current</b>  |   |
| <ul style="list-style-type: none"> <li>• at 1 current path at DC-3 at DC-5 <ul style="list-style-type: none"> <li>— at 24 V rated value</li> <li>— at 110 V rated value</li> <li>— at 220 V rated value</li> <li>— at 440 V rated value</li> <li>— at 600 V rated value</li> </ul> </li> </ul>              | 400 A<br>3 A<br>0.6 A<br>0.18 A<br>0.125 A  |
| <ul style="list-style-type: none"> <li>• with 2 current paths in series at DC-3 at DC-5 <ul style="list-style-type: none"> <li>— at 24 V rated value</li> <li>— at 110 V rated value</li> <li>— at 220 V rated value</li> <li>— at 440 V rated value</li> <li>— at 600 V rated value</li> </ul> </li> </ul> | 400 A<br>400 A<br>2.5 A<br>0.65 A<br>0.37 A |
| <ul style="list-style-type: none"> <li>• with 3 current paths in series at DC-3 at DC-5</li> </ul>  |   |

|   |             |
|---|-------------|
| — at 24 V rated value   | 400 A       |
| — at 110 V rated value  | 400 A       |
| — at 220 V rated value  | 400 A       |
| — at 440 V rated value  | 1.4 A       |
| — at 600 V rated value  | 0.75 A      |
| <b>Operating power</b>  |             |
| • at AC-1   |             |
| — at 230 V at 60 °C rated value   | 208 kW      |
| — at 400 V rated value  | 362 kW      |
| — at 400 V at 60 °C rated value   | 362 kW      |
| — at 690 V rated value  | 624 kW      |
| — at 690 V at 60 °C rated value   | 624 kW      |
| — at 1000 V at 60 °C rated value  | 329 kW      |
| • at AC-2 at 400 V rated value  | 250 kW      |
| • at AC-3   |             |
| — at 230 V rated value  | 160 kW      |
| — at 400 V rated value  | 250 kW      |
| — at 500 V rated value  | 315 kW      |
| — at 690 V rated value  | 400 kW      |
| — at 1000 V rated value   | 250 kW      |
| <b>Operating power for approx. 200000 operating cycles at AC-4</b>                            |             |
| • at 400 V rated value  | 98 kW       |
| • at 690 V rated value  | 148 kW      |
| <b>Thermal short-time current limited to 10 s</b>   | 4 000 A     |
| <b>Power loss [W] at AC-3 at 400 V for rated value of the operating current per conductor</b> | 55 W        |
| <b>No-load switching frequency</b>  |             |
| • at AC   | 2 000 1/h   |
| • at DC   | 2 000 1/h   |
| <b>Operating frequency</b>  |             |
| • at AC-1 maximum   | 500 1/h     |
| • at AC-2 maximum   | 170 1/h     |
| • at AC-3 maximum   | 420 1/h     |
| • at AC-4 maximum   | 130 1/h     |
| <b>Control circuit/ Control</b>   |             |
| <b>Type of voltage of the control supply voltage</b>  | AC/DC       |
| <b>Control supply voltage at AC</b>   |             |
| • at 50 Hz rated value  | 23 ... 26 V |
| • at 60 Hz rated value  | 23 ... 26 V |
| <b>Control supply voltage at DC</b>   |             |
| • rated value   | 23 ... 26 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>Operating range factor control supply voltage rated value of magnet coil at AC</b> |                  |
| • at 50 Hz  | 0.8 ... 1.1      |
| • at 60 Hz  | 0.8 ... 1.1      |
| <b>Design of the surge suppressor</b>   | with varistor    |
| <b>Apparent pick-up power of magnet coil at AC</b>                                    |                  |
| • at 50 Hz  | 830 V·A          |
| <b>Inductive power factor with closing power of the coil</b>                          |                  |
| • at 50 Hz  | 0.9              |
| <b>Apparent holding power of magnet coil at AC</b>                                    |                  |
| • at 50 Hz  | 9.2 V·A          |
| <b>Inductive power factor with the holding power of the coil</b>                      |                  |
| • at 50 Hz  | 0.9              |
| <b>Closing power of magnet coil at DC</b>   | 920 W            |
| <b>Holding power of magnet coil at DC</b>   | 10 W             |
| <b>Closing delay</b>  |                  |
| • at AC   | 45 ... 100 ms    |
| • at DC   | 45 ... 100 ms    |
| <b>Opening delay</b>  |                  |
| • at AC   | 60 ... 100 ms    |
| • at DC   | 60 ... 100 ms    |
| <b>Arcing time</b>  | 10 ... 15 ms     |
| <b>Control version of the switch operating mechanism</b>                              | Standard A1 - A2 |

#### Auxiliary circuit

|   |      |
|---|------|
| <b>Number of NC contacts for auxiliary contacts</b> |      |
| • instantaneous contact                             | 2    |
| <b>Number of NO contacts for auxiliary contacts</b> |      |
| • instantaneous contact                             | 2    |
| <b>Operating current at AC-12 maximum</b>           | 10 A |
| <b>Operating current at AC-15</b>                   |      |
| • at 230 V rated value                              | 6 A  |
| • at 400 V rated value                              | 3 A  |
| • at 500 V rated value                              | 2 A  |
| • at 690 V rated value                              | 1 A  |
| <b>Operating current at DC-12</b>                   |      |
| • at 24 V rated value                               | 10 A |
| • at 48 V rated value                               | 6 A  |

|   |  |
|---|--|
| <ul style="list-style-type: none"> <li>• at 60 V rated value</li> <li>• at 110 V rated value</li> <li>• at 125 V rated value</li> <li>• at 220 V rated value</li> <li>• at 600 V rated value</li> </ul>   | 6 A<br>3 A<br>2 A<br>1 A<br>0.15 A                   |
| <b>Operating current at DC-13</b>   |  |
| <ul style="list-style-type: none"> <li>• at 24 V rated value</li> <li>• at 48 V rated value</li> <li>• at 60 V rated value</li> <li>• at 110 V rated value</li> <li>• at 125 V rated value</li> <li>• at 220 V rated value</li> <li>• at 600 V rated value</li> </ul> | 10 A<br>2 A<br>2 A<br>1 A<br>0.9 A<br>0.3 A<br>0.1 A |
| <b>Contact reliability of auxiliary contacts</b>  | 1 faulty switching per 100 million (17 V, 1 mA)      |

### UL/CSA ratings

|  |                                      |
|--|--------------------------------------|
| <b>Full-load current (FLA) for three-phase AC motor</b>  |                                      |
| <ul style="list-style-type: none"> <li>• at 480 V rated value</li> <li>• at 600 V rated value</li> </ul>   | 477 A<br>472 A                       |
| <b>Yielded mechanical performance [hp]</b>   |                                      |
| <ul style="list-style-type: none"> <li>• for three-phase AC motor           <ul style="list-style-type: none"> <li>— at 200/208 V rated value</li> <li>— at 220/230 V rated value</li> <li>— at 460/480 V rated value</li> <li>— at 575/600 V rated value</li> </ul> </li> </ul> | 150 hp<br>200 hp<br>400 hp<br>500 hp |
| <b>Contact rating of auxiliary contacts according to UL</b>  | A600 / Q600                          |

### Short-circuit protection

|   |  |
|---|--|
| <b>Design of the fuse link</b>  |  |
| <ul style="list-style-type: none"> <li>• for short-circuit protection of the main circuit           <ul style="list-style-type: none"> <li>— with type of coordination 1 required</li> <li>— with type of assignment 2 required</li> </ul> </li> <li>• for short-circuit protection of the auxiliary switch required</li> </ul> | gG: 630 A (690 V, 100 kA)<br>gG: 500 A (690 V, 100 kA), aM: 500 A (690 V, 50 kA), BS88: 500 A (415 V, 50 kA)<br>gG: 10 A (500 V, 1 kA) |

### Installation/ mounting/ dimensions

|   |  |
|---|--|
| <b>Mounting position</b>  | with vertical mounting surface +/-90° rotatable, with vertical mounting surface +/- 22.5° tiltable to the front and back |
| <b>Mounting type</b>  | screw fixing   |
| <ul style="list-style-type: none"> <li>• Side-by-side mounting</li> </ul> | Yes  |
| <b>Height</b>   | 214 mm   |
| <b>Width</b>  | 160 mm   |
| <b>Depth</b>  | 225 mm   |

| Required spacing  |  |
|---|--|
| <ul style="list-style-type: none"> <li>• with side-by-side mounting <ul style="list-style-type: none"> <li>— forwards</li> <li>— upwards</li> <li>— downwards</li> <li>— at the side</li> </ul> </li> <li>• for grounded parts <ul style="list-style-type: none"> <li>— forwards</li> <li>— upwards</li> <li>— at the side</li> <li>— downwards</li> </ul> </li> <li>• for live parts <ul style="list-style-type: none"> <li>— forwards</li> <li>— upwards</li> <li>— downwards</li> <li>— at the side</li> </ul> </li> </ul> | <p>20 mm</p> <p>10 mm</p> <p>10 mm</p> <p>0 mm</p> <p>20 mm</p> <p>10 mm</p> <p>10 mm</p> <p>10 mm</p> <p>20 mm</p> <p>10 mm</p> <p>10 mm</p> <p>10 mm</p> |

### Connections/Terminals

|   |   |
|---|---|
| <b>Type of electrical connection</b> <ul style="list-style-type: none"> <li>• for main current circuit</li> <li>• for auxiliary and control current circuit</li> </ul>  | <p>Connection bar</p> <p>screw-type terminals</p>   |
| <b>Type of connectable conductor cross-sections</b> <ul style="list-style-type: none"> <li>• at AWG conductors for main contacts</li> </ul>   | <p>2/0 ... 500 kcmil</p>  |
| <b>Connectable conductor cross-section for main contacts</b> <ul style="list-style-type: none"> <li>• stranded</li> </ul>   | <p>70 ... 240 mm<sup>2</sup></p>  |
| <b>Connectable conductor cross-section for auxiliary contacts</b> <ul style="list-style-type: none"> <li>• single or multi-stranded</li> <li>• finely stranded with core end processing</li> </ul>  | <p>0.5 ... 4 mm<sup>2</sup></p> <p>0.5 ... 2.5 mm<sup>2</sup></p>   |
| <b>Type of connectable conductor cross-sections</b> <ul style="list-style-type: none"> <li>• for auxiliary contacts <ul style="list-style-type: none"> <li>— solid</li> <li>— single or multi-stranded</li> <li>— finely stranded with core end processing</li> </ul> </li> <li>• at AWG conductors for auxiliary contacts</li> </ul> | <p>2x (0.5 ... 1.5 mm<sup>2</sup>), 2x (0.75 ... 2.5 mm<sup>2</sup>), max. 2x (0.75 ... 4 mm<sup>2</sup>)</p> <p>2x (0,5 ... 1,5 mm<sup>2</sup>), 2x (0,75 ... 2,5 mm<sup>2</sup>), max. 2x (0,75 ... 4 mm<sup>2</sup>)</p> <p>2x (0.5 ... 1.5 mm<sup>2</sup>), 2x (0.75 ... 2.5 mm<sup>2</sup>)</p> <p>2x (20 ... 16), 2x (18 ... 14), 1x 12</p> |
| <b>AWG number as coded connectable conductor cross section</b> <ul style="list-style-type: none"> <li>• for auxiliary contacts</li> </ul>   | <p>18 ... 14</p>  |

### Safety related data

|   |                  |
|---|------------------|
| <b>B10 value</b> <ul style="list-style-type: none"> <li>• with high demand rate acc. to SN 31920</li> </ul> | <p>1 000 000</p> |
|---|------------------|

|   |  |
|---|--|
| <b>Product function</b>   |  |
| <ul style="list-style-type: none"> <li>• Mirror contact acc. to IEC 60947-4-1</li> <li>• positively driven operation acc. to IEC 60947-5-1</li> </ul> | <p>Yes</p> <p>No</p>   |
| <b>Protection against electrical shock</b>  | finger-safe when touched vertically from front acc. to IEC 60529 |

### Certificates/approvals

|                                 |  |                                  |
|---------------------------------|--|----------------------------------|
| <b>General Product Approval</b> | <b>Functional Safety/Safety of Machinery</b> | <b>Declaration of Conformity</b> |
|---------------------------------|--|----------------------------------|



[Type Examination Certificate](#)



|                          |                          |
|--------------------------|--------------------------|
| <b>Test Certificates</b> | <b>Marine / Shipping</b> |
|--------------------------|--------------------------|

[Special Test Certificate](#)

[Type Test Certificates/Test Report](#)

[Miscellaneous](#)



### other

[Confirmation](#)

[Miscellaneous](#)

### Further information

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

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

**Industry Mall (Online ordering system)**

<https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RT1076-6AB36>

**Cax online generator**

<http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en&mlfb=3RT1076-6AB36>

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

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1076-6AB36>

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

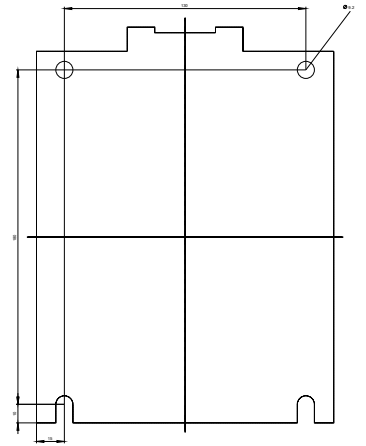
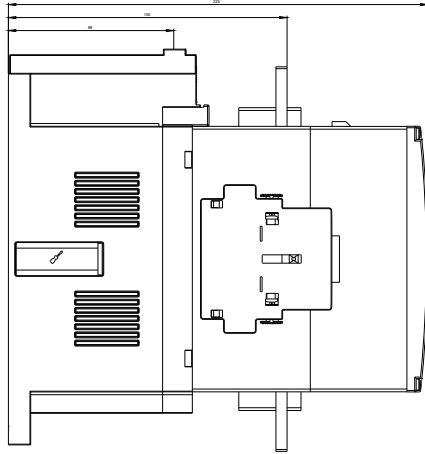
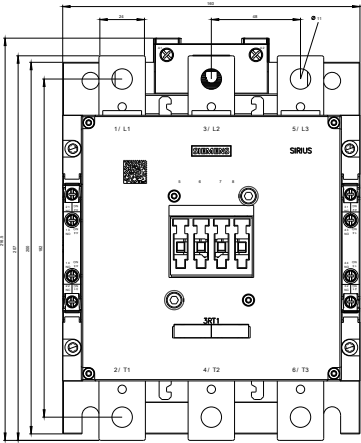
[http://www.automation.siemens.com/bilddb/cax\\_de.aspx?mlfb=3RT1076-6AB36&lang=en](http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RT1076-6AB36&lang=en)

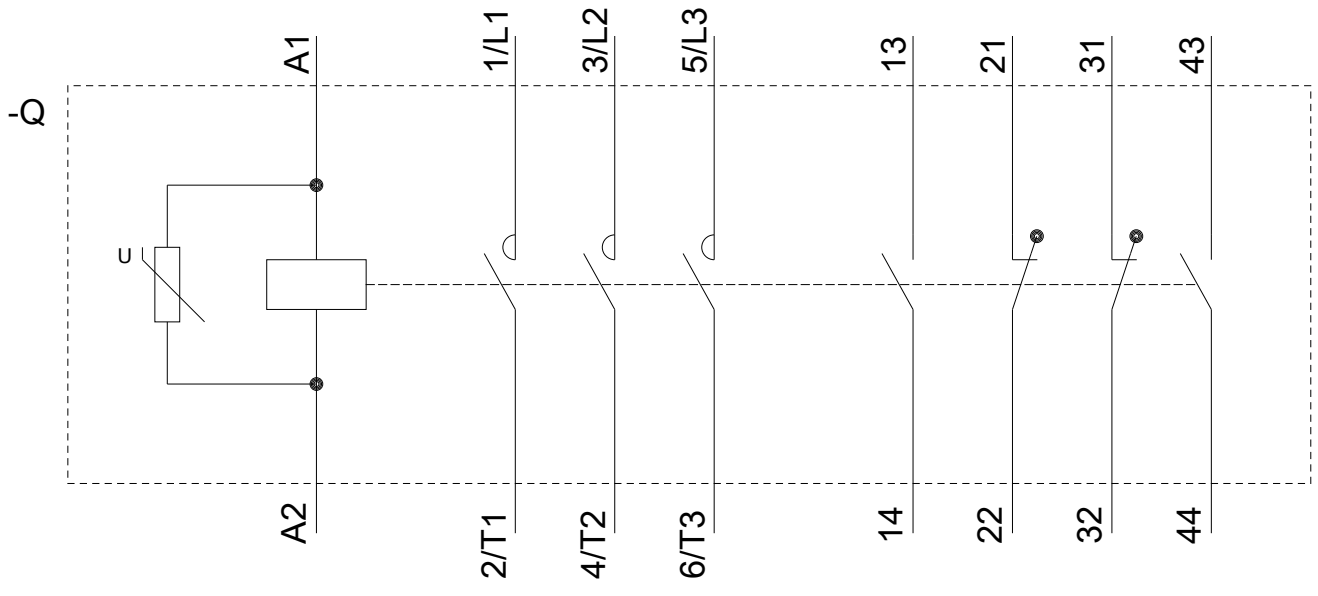
**Characteristic: Tripping characteristics, I<sup>2</sup>t, Let-through current**

<https://support.industry.siemens.com/cs/ww/en/ps/3RT1076-6AB36/char>

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

<http://www.automation.siemens.com/bilddb/index.aspx?view=Search&mlfb=3RT1076-6AB36&objecttype=14&gridview=view1>





last modified:

01/20/2019