

# Specifications



## Eaton 100420

Eaton Moeller® series SDAINL Star-delta contactor combination, 380 V 400 V: 22 kW, 24 V DC, DC operation

### General specifications

|                             |                                                       |
|-----------------------------|-------------------------------------------------------|
| <b>PRODUCT NAME</b>         | Eaton Moeller series star-delta contactor combination |
| <b>CATALOG NUMBER</b>       | 100420                                                |
| <b>MODEL CODE</b>           | SDAINLM45(RDC24)                                      |
| <b>EAN</b>                  | 4015081003976                                         |
| <b>PRODUCT LENGTH/DEPTH</b> | 138 mm                                                |
| <b>PRODUCT HEIGHT</b>       | 95 mm                                                 |
| <b>PRODUCT WIDTH</b>        | 158 mm                                                |
| <b>PRODUCT WEIGHT</b>       | 1.93 kg                                               |
| <b>CERTIFICATIONS</b>       | CE                                                    |
| <b>CATALOG NOTES</b>        | Contacts according to EN 50012                        |
| <b>GLOBAL CATALOG</b>       | 100420                                                |
| <b>PRODUCT TYPE</b>         | Star-delta contactor combination                      |

## Product specifications

|                                                                                         |                                                                                                                                  |
|-----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| <b>USED WITH</b>                                                                        | ETR4-51                                                                                                                          |
| <b>ELECTRICAL CONNECTION TYPE FOR AUXILIARY- AND CONTROL-CURRENT CIRCUIT</b>            | Screw connection                                                                                                                 |
| <b>NUMBER OF POLES</b>                                                                  | Three-pole                                                                                                                       |
| <b>10.10 TEMPERATURE RISE</b>                                                           | The panel builder is responsible for the temperature rise calculation. Eaton will provide heat dissipation data for the devices. |
| <b>10.11 SHORT-CIRCUIT RATING</b>                                                       | Is the panel builder's responsibility. The specifications for the switchgear must be observed.                                   |
| <b>10.12 ELECTROMAGNETIC COMPATIBILITY</b>                                              | Is the panel builder's responsibility. The specifications for the switchgear must be observed.                                   |
| <b>10.13 MECHANICAL FUNCTION</b>                                                        | The device meets the requirements, provided the information in the instruction leaflet (IL) is observed.                         |
| <b>10.2.2 CORROSION RESISTANCE</b>                                                      | Meets the product standard's requirements.                                                                                       |
| <b>10.2.3.1 VERIFICATION OF THERMAL STABILITY OF ENCLOSURES</b>                         | Meets the product standard's requirements.                                                                                       |
| <b>10.2.3.2 VERIFICATION OF RESISTANCE OF INSULATING MATERIALS TO NORMAL HEAT</b>       | Meets the product standard's requirements.                                                                                       |
| <b>10.2.3.3 RESIST. OF INSUL. MAT. TO ABNORMAL HEAT/FIRE BY INTERNAL ELECT. EFFECTS</b> | Meets the product standard's requirements.                                                                                       |
| <b>10.2.4 RESISTANCE TO ULTRA-VIOLET (UV) RADIATION</b>                                 | Meets the product standard's requirements.                                                                                       |
| <b>10.2.5 LIFTING</b>                                                                   | Does not apply, since the entire switchgear needs to be evaluated.                                                               |
| <b>10.2.6 MECHANICAL IMPACT</b>                                                         | Does not apply, since the entire switchgear needs to be evaluated.                                                               |
| <b>10.2.7 INSCRIPTIONS</b>                                                              | Meets the product                                                                                                                |

## Resources

|                               |                                                                                                                                                                                                    |
|-------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CATALOGS                      | <a href="#">eaton-product-overview-for-machinery-catalogue-ca08103003zen-en-us.pdf</a>                                                                                                             |
| DECLARATIONS OF CONFORMITY    | <a href="#">eaton-star-delta-contactor-combination-declaration-of-conformity-uk251246en.pdf</a><br><a href="#">eaton-star-delta-contactor-combination-declaration-of-conformity-eu250763en.pdf</a> |
| DRAWINGS                      | <a href="#">eaton-star-delta-starters-star-delta-sdainl-contactor-combination-dimensions-003.eps</a><br><a href="#">eaton-general-ie-ready-dilm-contactor-standards.eps</a>                        |
| ECAD MODEL                    | <a href="#">ETN.SDAINLM45(RDC24).edz</a>                                                                                                                                                           |
| INSTALLATION INSTRUCTIONS     | <a href="#">IL03407030Z</a> <a href="#">IL03407044Z</a>                                                                                                                                            |
| MCAD MODEL                    | <a href="#">eaton-iec-contactors-mcad-drawings-sdainl-bg2.dwg</a><br><a href="#">sdainl_bg2.stp</a>                                                                                                |
| SPECIFICATIONS AND DATASHEETS | <a href="#">Eaton Specification Sheet - 100420</a>                                                                                                                                                 |
| SYSTEM OVERVIEW               | <a href="#">eaton-star-delta-starters-star-delta-sdainl-contactor-combination-explosion-drawing.eps</a>                                                                                            |
| WIRING DIAGRAMS               | <a href="#">eaton-contactors-contact-sdainl-combination-wiring-diagram-002.eps</a>                                                                                                                 |

|                                                                 |                                                                       |
|-----------------------------------------------------------------|-----------------------------------------------------------------------|
|                                                                 | standard's requirements.                                              |
| <b>10.3 DEGREE OF PROTECTION OF ASSEMBLIES</b>                  | Does not apply, since the entire switchgear needs to be evaluated.    |
| <b>10.4 CLEARANCES AND CREEPAGE DISTANCES</b>                   | Meets the product standard's requirements.                            |
| <b>10.5 PROTECTION AGAINST ELECTRIC SHOCK</b>                   | Does not apply, since the entire switchgear needs to be evaluated.    |
| <b>10.6 INCORPORATION OF SWITCHING DEVICES AND COMPONENTS</b>   | Does not apply, since the entire switchgear needs to be evaluated.    |
| <b>10.7 INTERNAL ELECTRICAL CIRCUITS AND CONNECTIONS</b>        | Is the panel builder's responsibility.                                |
| <b>10.8 CONNECTIONS FOR EXTERNAL CONDUCTORS</b>                 | Is the panel builder's responsibility.                                |
| <b>10.9.2 POWER-FREQUENCY ELECTRIC STRENGTH</b>                 | Is the panel builder's responsibility.                                |
| <b>10.9.3 IMPULSE WITHSTAND VOLTAGE</b>                         | Is the panel builder's responsibility.                                |
| <b>10.9.4 TESTING OF ENCLOSURES MADE OF INSULATING MATERIAL</b> | Is the panel builder's responsibility.                                |
| <b>POLLUTION DEGREE</b>                                         | 3                                                                     |
| <b>UTILIZATION CATEGORY</b>                                     | AC-3: Normal AC induction motors: starting, switch off during running |
| <b>CONNECTION</b>                                               | Screw terminals                                                       |
| <b>AMBIENT OPERATING TEMPERATURE - MAX</b>                      | 60 °C                                                                 |
| <b>AMBIENT OPERATING TEMPERATURE - MIN</b>                      | -25 °C                                                                |
| <b>AMBIENT OPERATING TEMPERATURE (ENCLOSED) - MAX</b>           | 40 °C                                                                 |
| <b>AMBIENT OPERATING TEMPERATURE (ENCLOSED) - MIN</b>           | -25 °C                                                                |
| <b>AMBIENT STORAGE TEMPERATURE - MAX</b>                        | 80 °C                                                                 |
| <b>AMBIENT STORAGE TEMPERATURE - MIN</b>                        | -40 °C                                                                |
| <b>EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT PVID</b>       | 12.4 W                                                                |
| <b>HEAT DISSIPATION CAPACITY PDISS</b>                          | 0 W                                                                   |
| <b>HEAT DISSIPATION PER POLE, CURRENT-</b>                      | 4.1 W                                                                 |

|                                                                      |                                                      |
|----------------------------------------------------------------------|------------------------------------------------------|
| <b>DEPENDENT PVID</b>                                                |                                                      |
| <b>APPLICATION</b>                                                   | Star-delta motor starting for contactor combinations |
| <b>PRODUCT CATEGORY</b>                                              | Contactor combinations                               |
| <b>ELECTRICAL CONNECTION TYPE OF MAIN CIRCUIT</b>                    | Screw connection                                     |
| <b>VOLTAGE TYPE</b>                                                  | DC                                                   |
| <b>DEGREE OF PROTECTION</b>                                          | IP00<br>NEMA Other                                   |
| <b>NUMBER OF AUXILIARY CONTACTS (NORMALLY CLOSED CONTACTS)</b>       | 0                                                    |
| <b>NUMBER OF AUXILIARY CONTACTS (NORMALLY OPEN CONTACTS)</b>         | 3                                                    |
| <b>NUMBER OF CONTACTS (NORMALLY CLOSED) AS MAIN CONTACT</b>          | 0                                                    |
| <b>NUMBER OF MAIN CONTACTS (NORMALLY OPEN CONTACT)</b>               | 9                                                    |
| <b>OVERVOLTAGE CATEGORY</b>                                          | III                                                  |
| <b>DUTY FACTOR</b>                                                   | 100 %                                                |
| <b>CHANGEOVER TIME</b>                                               | 20 s, max.                                           |
| <b>INTERFERENCE IMMUNITY</b>                                         | According to EN 60947-1                              |
| <b>FUNCTIONS</b>                                                     | Star-delta contactor                                 |
| <b>RATED CONTROL SUPPLY VOLTAGE (US) AT DC - MAX</b>                 | 24 V                                                 |
| <b>RATED CONTROL SUPPLY VOLTAGE (US) AT DC - MIN</b>                 | 24 V                                                 |
| <b>RATED INSULATION VOLTAGE (UI)</b>                                 | 690 V                                                |
| <b>RATED OPERATIONAL CURRENT (IE) AT AC-1, 380 V, 400 V, 415 V</b>   | 45 A                                                 |
| <b>RATED OPERATIONAL CURRENT (IE) AT AC-3, 380 V, 400 V, 415 V</b>   | 45 A                                                 |
| <b>RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)</b> | 45 A                                                 |
| <b>RATED OPERATIONAL POWER AT AC-3, 380/400 V, 50 HZ</b>             | 22 kW                                                |
| <b>STATIC HEAT</b>                                                   | 3.7 W                                                |

|                                                            |                                       |
|------------------------------------------------------------|---------------------------------------|
| <b>DISSIPATION, NON-CURRENT-DEPENDENT PVS</b>              |                                       |
| <b>SUITABLE FOR</b>                                        | Also motors with efficiency class IE3 |
| <b>RATED OPERATIONAL POWER AT AC-3, 500 V, 50 HZ</b>       | 30 kW                                 |
| <b>RATED OPERATIONAL POWER AT AC-3, 690 V, 50 HZ</b>       | 22 kW                                 |
| <b>ACTUATING VOLTAGE</b>                                   | 24 V DC                               |
| <b>NUMBER OF AUXILIARY CONTACTS (CHANGE-OVER CONTACTS)</b> | 0                                     |
| <b>VOLTAGE TYPE OF OPERATING VOLTAGE</b>                   | AC                                    |
| <b>OPERATING VOLTAGE AT AC, 50 HZ - MIN</b>                | 24 V                                  |
| <b>OPERATING VOLTAGE AT AC, 50 HZ - MAX</b>                | 690 V                                 |
| <b>OPERATING VOLTAGE AT AC, 60 HZ - MIN</b>                | 24 V                                  |
| <b>OPERATING VOLTAGE AT AC, 60 HZ - MAX</b>                | 690 V                                 |

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|-----------------|
| PROJECT NAME:   |
| PROJECT NUMBER: |
| PREPARED BY:    |
| DATE:           |

