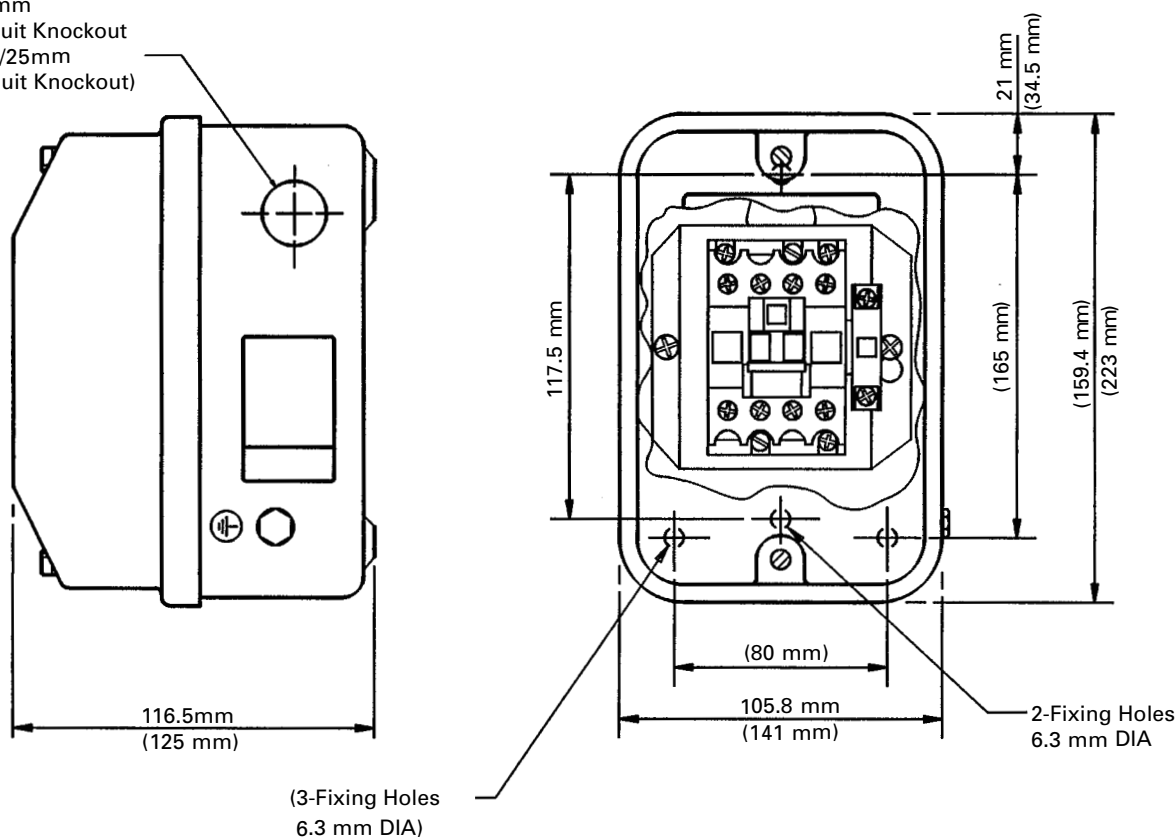


## Heating and lighting contactors

6-20mm  
Conduit Knockout  
(7-20/25mm  
Conduit Knockout)



Dimensions in brackets ( ) refer to **228ALDPR**, **228ALCSPN/R**, **428ALCFP/R**, **448ALCFP**, **428ALCDP/R**, **428ALCSPN/R**. All others refer to list numbers; **228ALCFP/R**, **248ALCFP** and **228ALCDP**.

## Additional side mounting auxiliary contacts for DOL, DOL reversing, Star Delta starters and Autoline

- 1 NO, 1NC lth 10A Ui 600v

| Description                    | Current rating (A) | Coil voltage | Starter list number | Maximum side mount auxiliaries | Eaton list number |
|--------------------------------|--------------------|--------------|---------------------|--------------------------------|-------------------|
| DOL Starter                    | 25                 | 220–240      | <b>28ADS2X</b>      | 2                              | <b>8TA8DN11</b>   |
| DOL Starter                    | 25                 | 380–415      | <b>48ADS2X</b>      | 2                              | <b>8TA8DN11</b>   |
| Starter with disconnect        | 18                 | 220–240      | <b>28ADSA1X</b>     | 2                              | <b>8TA8DN11</b>   |
| Starter with disconnect        | 18                 | 380–415      | <b>48ADSA1X</b>     | 2                              | <b>8TA8DN11</b>   |
| Starter with disconnect        | 25                 | 220–240      | <b>28ADSA2X</b>     | 1                              | <b>8TA8DN11</b>   |
| Starter with disconnect        | 25                 | 380–415      | <b>48ADSA2X</b>     | 1                              | <b>8TA8DN11</b>   |
| Reversing starter              | 18                 | 220–240      | <b>28ARD1X</b>      | 1 reverse, 1 forward           | <b>8TA8DN11</b>   |
| Reversing starter              | 18                 | 380–415      | <b>48ARD1X</b>      | 1 reverse, 1 forward           | <b>8TA8DN11</b>   |
| Reversing starter              | 25                 | 220–240      | <b>28ARD2X</b>      | 1 reverse, 1 forward           | <b>8TA8DN11</b>   |
| Reversing starter              | 25                 | 380–415      | <b>48ARD2X</b>      | 1 reverse, 1 forward           | <b>8TA8DN11</b>   |
| Star Delta starter             | 18                 | 220–240      | <b>28SDA2X18</b>    | 1 main, 1 star                 | <b>8TA8DN11</b>   |
| Star Delta starter             | 18                 | 380–415      | <b>48SDA2X18</b>    | 1 main, 1 star                 | <b>8TA8DN11</b>   |
| Star Delta starter             | 25                 | 220–240      | <b>28SDA3X25</b>    | 1 main, 1 star                 | <b>8TA8DN11</b>   |
| Star Delta starter             | 25                 | 380–415      | <b>48SDA3X25</b>    | 1 main, 1 star                 | <b>8TA8DN11</b>   |
| Autoline 4 pole                |                    | 230–240      | <b>228ALCFP</b>     | 2                              | <b>8TA8DN11</b>   |
| Autoline 4 pole with rectifier |                    | 230–240      | <b>228ALCFPR</b>    | 1                              | <b>8TA8DN11</b>   |

### Additional side mounting auxiliary contacts for DOL, DOL reversing, Star Delta starters and Autoline (contd)

| Description                                | Current rating (A) | Coil voltage | Starter list number | Maximum side mount auxiliaries | Eaton list number |
|--------------------------------------------|--------------------|--------------|---------------------|--------------------------------|-------------------|
| Autoline 4 pole                            |                    | 400–415      | <b>248ALCFP</b>     | 2                              | <b>8TA8DN11</b>   |
| Autoline 2 pole                            |                    | 230–240      | <b>228ALCDP</b>     | 2                              | <b>8TA8DN11</b>   |
| Autoline 2 pole with rectifier             |                    | 230–240      | <b>228ALCDPR</b>    | 1                              | <b>8TA8DN11</b>   |
| Autoline 1 pole and neutral                |                    | 230–240      | <b>228ALCSPN</b>    | 1                              | <b>8TA8DN11</b>   |
| Autoline 1 pole and neutral with rectifier |                    | 230–240      | <b>228ALCSPNR</b>   | 1                              | <b>8TA8DN11</b>   |
| Autoline 4 pole                            |                    | 230–240      | <b>428ALCFP</b>     | 2                              | <b>8TA8DN11</b>   |
| Autoline 4 pole with rectifier             |                    | 230–240      | <b>428ALCFPR</b>    | 1                              | <b>8TA8DN11</b>   |
| Autoline 4 pole                            |                    | 400–415      | <b>448ALCFP</b>     | 2                              | <b>8TA8DN11</b>   |
| Autoline 2 pole                            |                    | 230–240      | <b>428ALCDP</b>     | 2                              | <b>8TA8DN11</b>   |
| Autoline 2 pole with rectifier             |                    | 230–240      | <b>428ALCDPR</b>    | 1                              | <b>8TA8DN11</b>   |
| Autoline 1 pole and neutral                |                    | 230–240      | <b>428ALCSPN</b>    | 1                              | <b>8TA8DN11</b>   |
| Autoline 1 pole and neutral with rectifier |                    | 230–240      | <b>428ALCSPNR</b>   | 1                              | <b>8TA8DN11</b>   |

### Replacement front mounting auxiliary contacts for Star Delta

- 1 NO, 1NC lth 10A Ui 600v

For Star Delta

Front mounting auxiliary  
Eaton list  
number

|           |                 |
|-----------|-----------------|
| 28SDA2X18 | <b>8TA1DN11</b> |
| 28SDA2X25 | <b>8TA1DN11</b> |
| 28SDA2X32 | <b>8TA1DN11</b> |
| 48SDA2X18 | <b>8TA1DN11</b> |
| 48SDA2X25 | <b>8TA1DN11</b> |
| 48SDA2X32 | <b>8TA1DN11</b> |

### Tightening torques for Star Delta and DOL starters

| Starter type (Nm) | Maximum starter | Relay tightening torque (Nm) |       | Contactor tightening torque |       |     |
|-------------------|-----------------|------------------------------|-------|-----------------------------|-------|-----|
|                   |                 | rating (kW)                  | Power | Aux                         | Power | Aux |
| DOL               | 9               | 1.85                         | 1.2   | 1.7                         | 1.2   |     |
| DOL               | 11              | 1.85                         | 1.2   | 1.85                        | 1.85  |     |
| DOL               | 15              | 2.5                          | 1.2   | 2.5                         | 1.2   |     |
| Star delta        | 15              | 1.85                         | 1.2   | 1.7                         | 1.2   |     |
| Star delta        | 22              | 1.85                         | 1.2   | 1.85                        | 1.85  |     |
| Star delta        | 25              | 2.5                          | 1.2   | 2.5                         | 1.2   |     |

### Tightening torques for Autoline contactors

| Starter type | Contactor tightening torque (Nm)<br>Power |
|--------------|-------------------------------------------|
| 228ALCFP     | 1.7                                       |
| 248ALCFP     | 1.7                                       |
| 428ALCFP     | 2.5                                       |
| 448ALCFP     | 2.5                                       |
| 228ALCFPR    | 1.7                                       |
| 428ALCFPR    | 2.5                                       |
| 228ALCDP     | 3.0                                       |
| 428ALCDP     | 3.5                                       |
| 228ALCDPR    | 3.0                                       |
| 428ALCDPR    | 3.0                                       |
| 228ALCSPN    | 3.5                                       |
| 428ALCSPN    | 4.0                                       |
| 228ALCSPNR   | 4.0                                       |
| 428ALCSPNR   | 4.0                                       |