



|  |   |      |     |
|--|---|------|-----|
| Product designation  | Power contactor                                   |      |     |
| Product type designation   | B180  |      |     |
| <b>Contact characteristics</b>   |   |      |     |
| Number of poles  | Nr.   | 3    |     |
| Rated insulation voltage $U_i$ IEC/EN  | V   | 1000 |     |
| Rated impulse withstand voltage $U_{imp}$                                      | kV  | 8    |     |
| Operational frequency  | min   | Hz   | 25  |
|  | max   | Hz   | 400 |
| IEC Conventional free air thermal current $I_{th}$                             | A   | 275  |     |
| Operational current $I_e$  | AC-1 ( $\leq 40^\circ\text{C}$ )                  | A    | 275 |
|  | AC-1 ( $\leq 55^\circ\text{C}$ )                  | A    | 250 |
|  | AC-1 ( $\leq 70^\circ\text{C}$ )                  | A    | 200 |
|  | AC-3 ( $\leq 440\text{V} \leq 55^\circ\text{C}$ ) | A    | 185 |
|  | AC-4 (400V)                                       | A    | 65  |
| Rated operational power AC-3 ( $T \leq 55^\circ\text{C}$ )                     | 400V  | kW   | 100 |
|  |   |      |     |
| Rated operational power AC-1 ( $T \leq 40^\circ\text{C}$ )                     | 230V  | kW   | 95  |
|  | 400V  | kW   | 160 |
|  | 500V  | kW   | 213 |
|  | 690V  | kW   | 298 |
| IEC max current $I_e$ in DC1 with $L/R \leq 1\text{ms}$ with 1 poles in series | 75V   | A    | 260 |
|  | 110V  | A    | 120 |
|  | 220V  | A    | –   |
|  | 330V  | A    | –   |
|  | 460V  | A    | –   |
| IEC max current $I_e$ in DC1 with $L/R \leq 1\text{ms}$ with 2 poles in series | 75V   | A    | 260 |
|  | 110V  | A    | 170 |
|  | 220V  | A    | 150 |
|  | 330V  | A    | –   |
|  | 460V  | A    | –   |
| IEC max current $I_e$ in DC1 with $L/R \leq 1\text{ms}$ with 3 poles in series | 75V   | A    | 260 |
|  | 110V  | A    | 170 |
|  | 220V  | A    | 170 |
|  | 330V  | A    | 150 |
|  | 460V  | A    | –   |
| IEC max current $I_e$ in DC1 with $L/R \leq 1\text{ms}$ with 4 poles in series | 75V   | A    | 260 |
|  | 110V  | A    | 170 |
|  | 220V  | A    | 170 |

|  |                 |           |      |
|--|-----------------|-----------|------|
|  | 330V            | A         | 170  |
|  | 460V            | A         | 150  |
| IEC max current I <sub>e</sub> in DC3-DC5 with L/R ≤ 15ms with 1 poles in series |                 |           |      |
|  | 75V             | A         | 180  |
|  | 110V            | A         | 90   |
|  | 220V            | A         | –    |
|  | 330V            | A         | –    |
|  | 460V            | A         | –    |
| IEC max current I <sub>e</sub> in DC3-DC5 with L/R ≤ 15ms with 2 poles in series |                 |           |      |
|  | 75V             | A         | 180  |
|  | 110V            | A         | 140  |
|  | 220V            | A         | 100  |
|  | 330V            | A         | –    |
|  | 460V            | A         | –    |
| IEC max current I <sub>e</sub> in DC3-DC5 with L/R ≤ 15ms with 3 poles in series |                 |           |      |
|  | 75V             | A         | 180  |
|  | 110V            | A         | 160  |
|  | 220V            | A         | 140  |
|  | 330V            | A         | 100  |
|  | 460V            | A         | –    |
| IEC max current I <sub>e</sub> in DC3-DC5 with L/R ≤ 15ms with 4 poles in series |                 |           |      |
|  | 75V             | A         | 180  |
|  | 110V            | A         | 160  |
|  | 220V            | A         | 160  |
|  | 330V            | A         | 160  |
|  | 460V            | A         | 100  |
| Short-time allowable current for 10s (IEC/EN60947-1)                             |                 | A         | 1500 |
| Protection fuse  |                 |           |      |
|  | gG (IEC)        | A         | 315  |
|  | aM (IEC)        | A         | 200  |
| Making capacity (RMS value)  |                 | A         | 1850 |
| Breaking capacity at voltage   |                 |           |      |
|  | 440V            | A         | 1850 |
|  | 500V            | A         | 1600 |
|  | 690V            | A         | 1480 |
| Resistance per pole (average value)  |                 | mΩ        | 0.3  |
| Power dissipation per pole (average value)                                       |                 |           |      |
|  | I <sub>th</sub> | W         | 20.3 |
|  | AC-3            | W         | 9.7  |
| Tightening torque for terminals  |                 |           |      |
|  | min             | Nm        | 18   |
|  | max             | Nm        | 18   |
|  | min             | lbin      | 13.3 |
|  | max             | lbin      | 13.3 |
| Tightening torque for coil terminal  |                 |           |      |
|  | min             | Nm        | 1    |
|  | max             | Nm        | 1    |
|  | min             | lbin      | 0.74 |
|  | max             | lbin      | 0.74 |
| Max number of wires simultaneously connectable                                   |                 | Nr.       | 2    |
| Conductor section  |                 |           |      |
|  | AWG/Kcmil       |           |      |
|  | max             | 300 kcmil |      |

|   |                                 |                    |           |                     |
|---|---------------------------------|--------------------|-----------|---------------------|
| Power terminal protection according to IEC/EN 60529 |                                 |                    |           | IP00                |
| <b>Mechanical features</b>                          |                                 |                    |           |                     |
| Operating position                                  | normal allowable                | Vertical plan ±30° |           |                     |
| Fixing  |                                 |                    |           | Screw               |
| Weight  | g                               |                    |           | 6060                |
| Conductor section                                   | AWG/kcmil conductor section     | max                | 300 kcmil |                     |
| <b>Operations</b>                                   |                                 |                    |           |                     |
| Mechanical life                                     | cycles                          |                    |           | 10000000            |
| Electrical life                                     | cycles                          |                    |           | 1000000             |
| <b>Safety related data</b>                          |                                 |                    |           |                     |
| Performance level B10d according to EN/ISO 13489-1  | rated load mechanical load      | cycles             | cycles    | 1000000<br>10000000 |
| Mirror contacts according to IEC/EN 60947-4-1       |                                 |                    |           | yes                 |
| EMC compatibility                                   |                                 |                    |           | yes                 |
| <b>AC coil operating</b>                            |                                 |                    |           |                     |
| Rated AC voltage at 50/60Hz, 60Hz                   | min                             | V                  | 110       |                     |
|   | max                             | V                  | 125       |                     |
| AC operating voltage                                | of 50/60Hz coil powered at 50Hz |                    |           |                     |
|   | pick-up                         |                    |           |                     |
|   | min                             | %Us                | 80        |                     |
|   | max                             | %Us                | 110       |                     |
|   | drop-out                        |                    |           |                     |
|   | min                             | %Us                | 20        |                     |
|   | max                             | %Us                | 60        |                     |
|   | of 50/60Hz coil powered at 60Hz |                    |           |                     |
|   | pick-up                         |                    |           |                     |
|   | min                             | %Us                | 80        |                     |
|   | max                             | %Us                | 110       |                     |
|   | drop-out                        |                    |           |                     |
|   | min                             | %Us                | 20        |                     |
|   | max                             | %Us                | 60        |                     |
|   | of 60Hz coil powered at 60Hz    |                    |           |                     |
|   | pick-up                         |                    |           |                     |
|   | min                             | %Us                | 80        |                     |
|   | max                             | %Us                | 110       |                     |
|   | drop-out                        |                    |           |                     |
|   | min                             | %Us                | 20        |                     |
|   | max                             | %Us                | 60        |                     |
| AC average coil consumption at 20°C                 | of 50/60Hz coil powered at 50Hz |                    |           |                     |
|   | in-rush                         | VA                 | 300       |                     |
|   | holding                         | VA                 | 10        |                     |
|   | of 50/60Hz coil powered at 60Hz |                    |           |                     |
|   | in-rush                         | VA                 | 300       |                     |
|   | holding                         | VA                 | 10        |                     |
| Dissipation at holding ≤20°C 50Hz                   |                                 |                    |           | W 10                |

**DC coil operating**

DC rated control voltage

|     |   |     |
|-----|---|-----|
| min | V | 110 |
| max | V | 125 |

DC operating voltage

pick-up

|     |     |     |
|-----|-----|-----|
| min | %Us | 80  |
| max | %Us | 110 |

drop-out

|     |     |    |
|-----|-----|----|
| min | %Us | 20 |
| max | %Us | 60 |

Average coil consumption  $\leq 20^{\circ}\text{C}$

|         |   |     |
|---------|---|-----|
| in-rush | W | 300 |
| holding | W | 10  |

**Max cycles frequency**

Mechanical operation

cycles/h 2400

**Operating times**

Average time for Us control

in AC

Closing NO

|     |    |     |
|-----|----|-----|
| min | ms | 60  |
| max | ms | 100 |

Opening NO

|     |    |    |
|-----|----|----|
| min | ms | 25 |
| max | ms | 60 |

in DC

Closing NO

|     |    |     |
|-----|----|-----|
| min | ms | 60  |
| max | ms | 100 |

Opening NO

|     |    |    |
|-----|----|----|
| min | ms | 25 |
| max | ms | 60 |

**UL technical data**

Full-load current (FLA) for three-phase AC motor

|         |   |     |
|---------|---|-----|
| at 480V | A | 180 |
| at 600V | A | 144 |

Yielded mechanical performance

for three-phase AC motor

|          |    |     |
|----------|----|-----|
| 200/208V | HP | 60  |
| 220/230V | HP | 75  |
| 575/600V | HP | 150 |

General USE

Contactor

AC current A 275

Short-circuit protection fuse, 600V

Standard fault

|                       |    |     |
|-----------------------|----|-----|
| Short circuit current | kA | 10  |
| Fuse rating           | A  | 500 |
| Fuse class            |    | RK5 |

**Ambient conditions**

Temperature

Operating temperature

|     |                    |     |
|-----|--------------------|-----|
| min | $^{\circ}\text{C}$ | -50 |
| max | $^{\circ}\text{C}$ | 70  |

Storage temperature

|     |    |     |
|-----|----|-----|
| min | °C | -60 |
| max | °C | 80  |

Max altitude

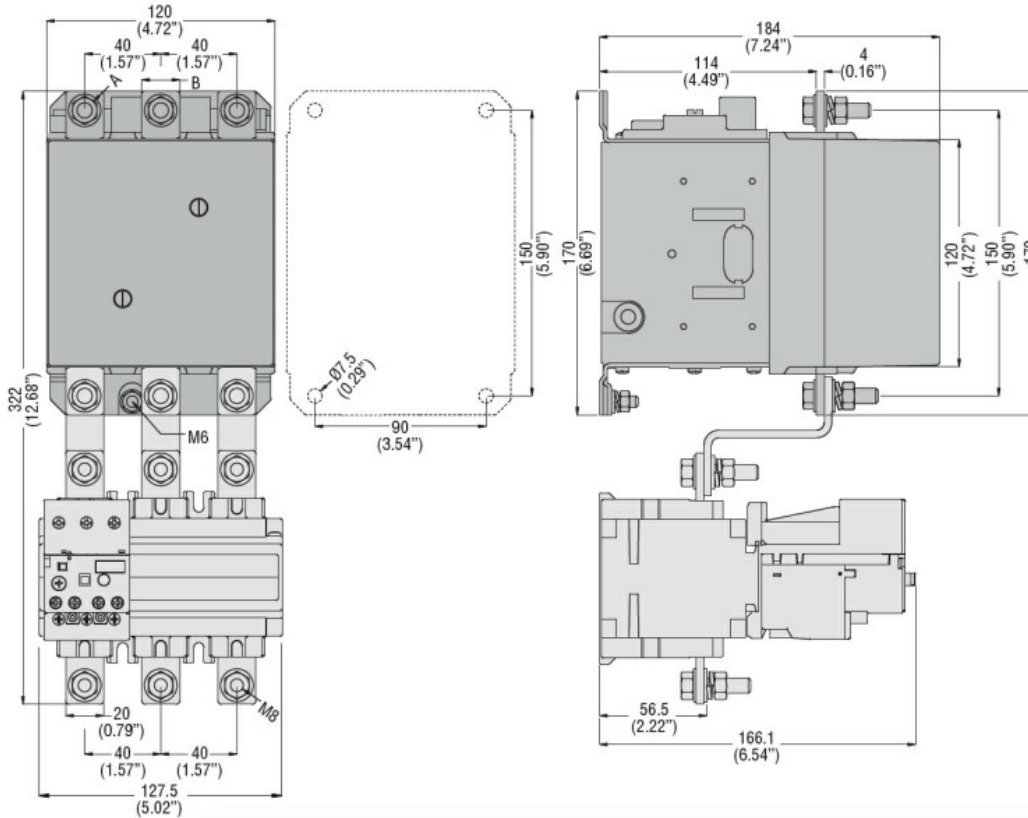
|   |      |
|---|------|
| m | 3000 |
|---|------|

Resistance & Protection

Pollution degree

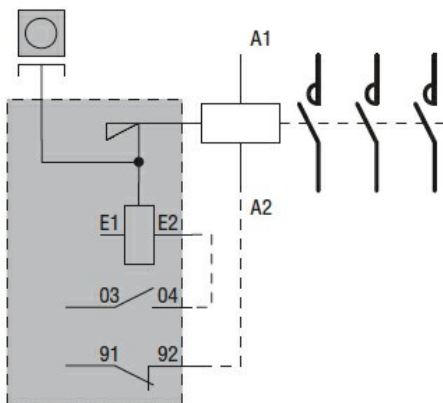
3

Dimensions



| CONTACTOR TYPE | A  | B          |
|----------------|----|------------|
| B115           | M6 | 15 (0.59") |
| B145           | M8 | 20 (0.79") |
| B180           | M8 | 20 (0.79") |

Wiring diagrams



Certifications and compliance

Compliance

- CSA C22.2 n° 60947-1
- CSA C22.2 n° 60947-4-1
- IEC/EN 60947-1
- IEC/EN 60947-4-1
- UL 60947-1
- UL 60947-4-1

---

Certificates

CCC

---

cULus

---

EAC

ETIM classification

ETIM 8.0

EC000066 -  
Power contactor,  
AC switching