



Product designation Power contactor  
Product type designation B145

**Contact characteristics**

|                                                                                |                                                    |       |
|--------------------------------------------------------------------------------|----------------------------------------------------|-------|
| Number of poles                                                                | Nr.                                                | 4     |
| 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                                                  | 250   |
| Operational current $I_e$                                                      |                                                    |       |
|                                                                                | AC-1 ( $\leq 40^\circ\text{C}$ )                   | A 250 |
|                                                                                | AC-1 ( $\leq 55^\circ\text{C}$ )                   | A 235 |
|                                                                                | AC-1 ( $\leq 70^\circ\text{C}$ )                   | A 190 |
|                                                                                | AC-3 ( $\leq 440\text{V } \leq 55^\circ\text{C}$ ) | A 150 |
|                                                                                | AC-4 (400V)                                        | A 57  |
| Rated operational power AC-1 ( $T \leq 40^\circ\text{C}$ )                     |                                                    |       |
|                                                                                | 230V kW                                            | 91    |
|                                                                                | 400V kW                                            | 150   |
|                                                                                | 500V kW                                            | 196   |
|                                                                                | 690V kW                                            | 270   |
| IEC max current $I_e$ in DC1 with $L/R \leq 1\text{ms}$ with 1 poles in series |                                                    |       |
|                                                                                | 75V A                                              | 220   |
|                                                                                | 110V A                                             | 110   |
|                                                                                | 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                                              | 220   |
|                                                                                | 110V A                                             | 150   |
|                                                                                | 220V A                                             | 130   |
|                                                                                | 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                                              | 220   |
|                                                                                | 110V A                                             | 150   |
|                                                                                | 220V A                                             | 150   |
|                                                                                | 330V A                                             | 130   |
|                                                                                | 460V A                                             | —     |
| IEC max current $I_e$ in DC1 with $L/R \leq 1\text{ms}$ with 4 poles in series |                                                    |       |
|                                                                                | 75V A                                              | 220   |
|                                                                                | 110V A                                             | 150   |
|                                                                                | 220V A                                             | 150   |
|                                                                                | 330V A                                             | 150   |
|                                                                                | 460V A                                             | 130   |

IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 1 poles in series

|      |   |     |
|------|---|-----|
| 75V  | A | 160 |
| 110V | A | 80  |
| 220V | A | —   |
| 330V | A | —   |
| 460V | A | —   |

IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 2 poles in series

|      |   |     |
|------|---|-----|
| 75V  | A | 160 |
| 110V | A | 120 |
| 220V | A | 90  |
| 330V | A | —   |
| 460V | A | —   |

IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 3 poles in series

|      |   |     |
|------|---|-----|
| 75V  | A | 160 |
| 110V | A | 140 |
| 220V | A | 120 |
| 330V | A | 90  |
| 460V | A | —   |

IEC max current Ie in DC3-DC5 with L/R ≤ 15ms with 4 poles in series

|      |   |     |
|------|---|-----|
| 75V  | A | 160 |
| 110V | A | 140 |
| 220V | A | 140 |
| 330V | A | 140 |
| 460V | A | 90  |

Short-time allowable current for 10s (IEC/EN60947-1)

|   |      |
|---|------|
| A | 1300 |
|---|------|

Protection fuse

|          |   |     |
|----------|---|-----|
| gG (IEC) | A | 250 |
| aM (IEC) | A | 160 |

Making capacity (RMS value)

|   |      |
|---|------|
| A | 1500 |
|---|------|

Breaking capacity at voltage

|      |   |      |
|------|---|------|
| 440V | A | 1500 |
| 500V | A | 1400 |
| 690V | A | 1200 |

Resistance per pole (average value)

|    |     |
|----|-----|
| m? | 0.3 |
|----|-----|

Power dissipation per pole (average value)

|     |   |      |
|-----|---|------|
| Ith | W | 14.5 |
| AC3 | W | 6.8  |

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 | 4/0 |
|-----|-----|

Power terminal protection according to IEC/EN 60529

IP00

**Mechanical features**

## Operating position

|        | normal<br>allowable | Vertical plan<br>±30° |
|--------|---------------------|-----------------------|
| Fixing |                     | Screw                 |
| Weight | g                   | 6340                  |

## Conductor section

AWG/kcmil conductor section

max 4/0

## Operations

|                 |        |          |
|-----------------|--------|----------|
| Mechanical life | cycles | 10000000 |
| Electrical life | cycles | 1100000  |

## Safety related data

Performance level B10d according to EN/ISO 13489-1

|  |                 |        |          |
|--|-----------------|--------|----------|
|  | rated load      | cycles | 1100000  |
|  | mechanical load | cycles | 10000000 |

Mirror contacts according to IEC/EN 60947-4-1 yes

EMC compatibility yes

## AC coil operating

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

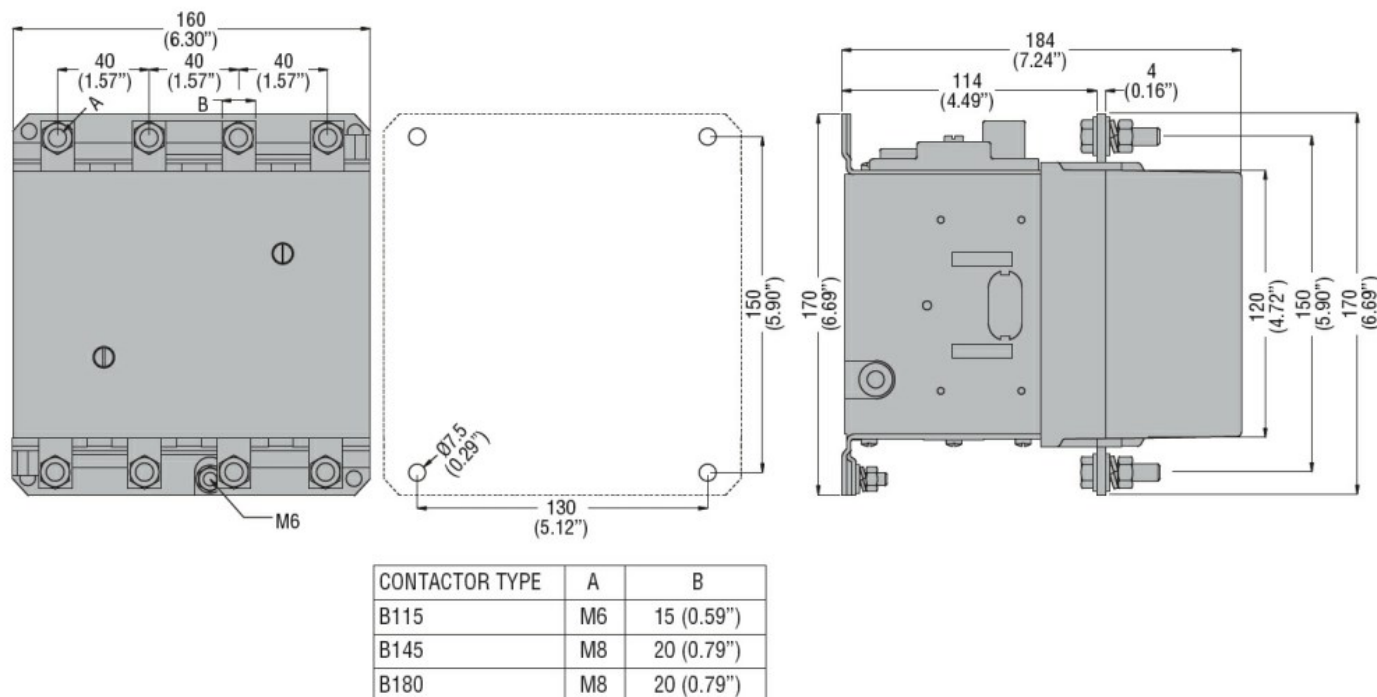
|   |    |
|---|----|
| W | 10 |
|---|----|

## DC coil operating

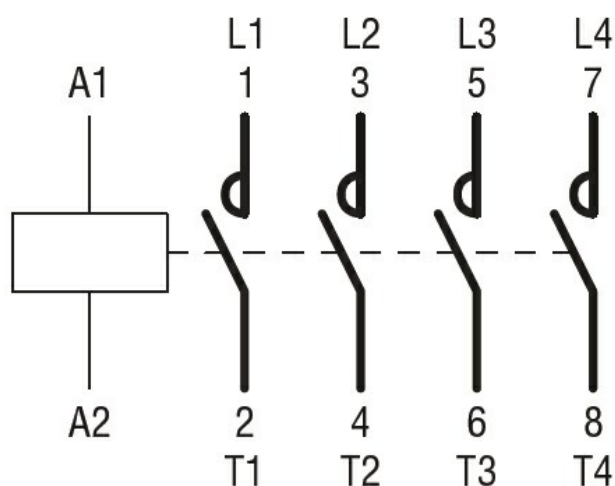
DC rated control voltage

|                                                  |            |                       |          |      |
|--------------------------------------------------|------------|-----------------------|----------|------|
|                                                  |            | 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 ≤20°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        | 124  |
|                                                  |            | at 600V               | A        | 125  |
| Yielded mechanical performance                   |            |                       |          |      |
| for three-phase AC motor                         |            | 200/208V              | HP       | 50   |
|                                                  |            | 220/230V              | HP       | 50   |
|                                                  |            | 460/480V              | HP       | 100  |
| General USE                                      |            |                       |          |      |
| Contactor                                        |            | AC current            | A        | 250  |
|                                                  |            |                       |          |      |
| Short-circuit protection fuse, 600V              |            |                       |          |      |
| Standard fault                                   |            | Short circuit current | kA       | 5    |
|                                                  |            | Fuse rating           | A        | 500  |
|                                                  |            | Fuse class            |          | RK5  |
| Ambient conditions                               |            |                       |          |      |
| Temperature                                      |            |                       |          |      |
| Operating temperature                            |            | min                   | °C       | -50  |
|                                                  |            | max                   | °C       | 70   |
| Storage temperature                              |            |                       |          |      |
|                                                  |            | min                   | °C       | -60  |

|                         |     |    |      |
|-------------------------|-----|----|------|
|                         | max | °C | 80   |
| Max altitude            |     | m  | 3000 |
| Resistance & Protection |     |    |      |
| Pollution degree        |     |    | 3    |
| Dimensions              |     |    |      |



## 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

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EAC

ETIM classification

ETIM 8.0

EC000066 -  
Power contactor,  
AC switching