

# 100-E/104-E, 100S-E/104S-E Contactors

## Product Selection—100-E/104-E Contactors

- 55...560 kW @ 400V
- 75...900 Hp @ 460V
- AC-1 ratings up to 2650 A
- Compact Dimensions
- Electronic Coils
  - AC/DC
  - Wide voltage range
  - Low power pick-up and hold-in
  - Optional PLC interface
- Complete range of accessories
- Environmentally friendly



100-E116 Contactor



100-E860 Contactor

The Bulletin 100-E/104-E contactor family, along with a wide range of accessories, provides the most compact and flexible contactor system available.

### 3-Pole AC- and DC-operated Contactors

- Electronic Coils
- 3 Main Contacts
- Direct On-Line or Reversing

| Rated Operational Current $I_e$ [A] |             | Ratings for switching AC motors - AC-2, AC-3 |          |      |      |      |      |       |            |      |      |      |                                                                                       | Auxiliary Contacts                                                                    |                            | Direct On-Line Contactor   | Reversing Contactor |
|-------------------------------------|-------------|----------------------------------------------|----------|------|------|------|------|-------|------------|------|------|------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|----------------------------|----------------------------|---------------------|
| 60 °C                               | 40 °C       | kW (50 Hz)                                   |          |      |      |      |      |       | Hp (60 Hz) |      |      |      |  |  |                            |                            |                     |
| AC-3 (400V)                         | AC-1 (690V) | 220-240V                                     | 380-400V | 415V | 440V | 500V | 690V | 1000V | 200V       | 230V | 460V | 575V | N.O.                                                                                  | N.C.                                                                                  | Cat No.                    | Cat No.                    |                     |
| 116                                 | 160         | 37                                           | 55       | 55   | 75   | 75   | 63   | 55    | 30         | 40   | 75   | 100  | 1                                                                                     | 1                                                                                     | 100-E116⊗11 <sup>(1)</sup> | 104-E116⊗22 <sup>(1)</sup> |                     |
| 146                                 | 225         | 45                                           | 75       | 75   | 90   | 90   | 90   | 75    | 40         | 50   | 100  | 125  | 1                                                                                     | 1                                                                                     | 100-E146⊗11 <sup>(1)</sup> | 104-E146⊗22 <sup>(1)</sup> |                     |
| 190                                 | 275         | 55                                           | 90       | 90   | 110  | 110  | 132  | 110   | 50         | 60   | 125  | 150  | 1                                                                                     | 1                                                                                     | 100-E190⊗11                | 104-E190⊗22                |                     |
| 205                                 | 350         | 55                                           | 110      | 110  | 132  | 132  | 160  | 132   | 60         | 75   | 150  | 200  | 1                                                                                     | 1                                                                                     | 100-E205⊗11                | 104-E205⊗22                |                     |
| 265                                 | 400         | 75                                           | 132      | 132  | 160  | 160  | 200  | 160   | 75         | 100  | 200  | 250  | 1                                                                                     | 1                                                                                     | 100-E265⊗11                | 104-E265⊗22                |                     |
| 305                                 | 500         | 90                                           | 160      | 160  | 160  | 200  | 250  | 185   | 100        | 125  | 250  | 300  | 1                                                                                     | 1                                                                                     | 100-E305⊗11                | 104-E305⊗22                |                     |
| 370                                 | 600         | 110                                          | 200      | 200  | 200  | 250  | 315  | 200   | 125        | 150  | 300  | 350  | 1                                                                                     | 1                                                                                     | 100-E370⊗11                | 104-E370⊗22                |                     |
| 400                                 | 600         | 110                                          | 200      | 220  | 220  | 250  | 315  | 220   | 125        | 150  | 350  | 400  | 1                                                                                     | 1                                                                                     | 100-E400⊗11                | 104-E400⊗22                |                     |
| 460                                 | 700         | 132                                          | 250      | 250  | 250  | 315  | 355  | 280   | 150        | 200  | 400  | 500  | 1                                                                                     | 1                                                                                     | 100-E460⊗11                | 104-E460⊗22                |                     |
| 580                                 | 800         | 160                                          | 315      | 355  | 355  | 400  | 500  | 355   | 200        | 250  | 500  | 600  | 1                                                                                     | 1                                                                                     | 100-E580⊗11                | 104-E580⊗22                |                     |
| 750                                 | 1050        | 220                                          | 400      | 425  | 450  | 530  | 600  | 400   | 250        | 300  | 600  | 700  | 1                                                                                     | 1                                                                                     | 100-E750⊗11                | 104-E750⊗22                |                     |
| 860                                 | 1350        | 250                                          | 475      | 500  | 560  | 630  | 800  | 555   | —          | 400  | 800  | 1000 | 1                                                                                     | 1                                                                                     | 100-E860⊗11                | —                          |                     |
| 1060                                | 1650        | 315                                          | 560      | 630  | 710  | 710  | 1000 | 600   | —          | 450  | 900  | 1150 | 1                                                                                     | 1                                                                                     | 100-E1060⊗11               | —                          |                     |
| —                                   | 1260        | —                                            | —        | —    | —    | —    | —    | —     | —          | —    | —    | —    | 1                                                                                     | 1                                                                                     | 100-E1260⊗11               | —                          |                     |
| —                                   | 2050        | —                                            | —        | —    | —    | —    | —    | —     | —          | —    | —    | —    | 1                                                                                     | 1                                                                                     | 100-E2050⊗11               | —                          |                     |
| —                                   | 2650        | —                                            | —        | —    | —    | —    | —    | —     | —          | —    | —    | —    | 1                                                                                     | 1                                                                                     | 100-E2650⊗11               | —                          |                     |

(1) To order with built-in terminal lugs, add the letter "L" to the end of the catalog number (e.g. **100-E116⊗11L**)

⊗ Coil voltage code and PLC interface—see [page 74](#)

## Coil Voltage Codes

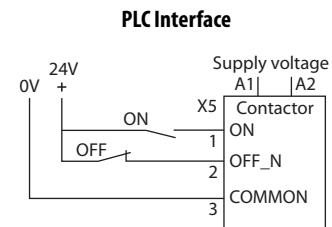
The Cat. No. as listed is incomplete. Select a coil voltage code from the table below to complete the Cat. No.

Example: 100-E116KJ11)

| Electronic Coils                   | V                       | 24-60V            | 48-130V | 100-250V | 250-500V |
|------------------------------------|-------------------------|-------------------|---------|----------|----------|
| 100-E116...100-E370                | AC/DC                   | KJ                | KY      | KD       | KN       |
| 100-E116...100-E370 <sup>(1)</sup> | AC/DC<br>with PLC Input | —                 | —       | ED       | EN       |
| 100-E400...100-E750                |                         | EJ <sup>(2)</sup> | EY      | ED       | EN       |
| 100-E860...100-1060                |                         | —                 | —       | ED       | —        |
| 100-E1260                          |                         | EJ <sup>(2)</sup> | EY      | ED       | EN       |
| 100-E2050...100-E2650              |                         | —                 | —       | ED       | —        |

(1) When ordering coil with PLC input, the PLC input must be used

(2) 24V...60V DC only



# Product Selection—100S-E Safety Contactors

## 3-Pole AC- and DC-operated Safety Contactors

- Electronic Coils
- 3 Main Contacts
- Direct On-Line
- Low-power auxiliary contact for feedback circuit
- Mirror contact performance



| Rated Operational Current $I_e$ [A] |             | Ratings for switching AC motors - AC-2, AC-3 |          |      |      |      |      |       |            |      |      |      | Auxiliary contacts per contactor                                                      |                                                                                       |                                                                                       | Direct On-Line Contactor     |
|-------------------------------------|-------------|----------------------------------------------|----------|------|------|------|------|-------|------------|------|------|------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|------------------------------|
| 60 °C                               | 40 °C       | kW (50 Hz)                                   |          |      |      |      |      |       | Hp (60 Hz) |      |      |      |  |  |  |                              |
| AC-3 (400V)                         | AC-1 (690V) | 220-240V                                     | 380-400V | 415V | 440V | 500V | 690V | 1000V | 200V       | 230V | 460V | 575V | N.O.                                                                                  | N.C.                                                                                  | N.C. <sup>(1)</sup>                                                                   | Cat No.                      |
| 116                                 | 160         | 37                                           | 55       | 55   | 75   | 75   | 55   | —     | 30         | 40   | 75   | 100  | 1                                                                                     | 1                                                                                     | 1                                                                                     | 100S-E116⊗12C <sup>(2)</sup> |
| 146                                 | 225         | 45                                           | 75       | 75   | 90   | 90   | 90   | 75    | 40         | 50   | 100  | 125  | 1                                                                                     | 1                                                                                     | 1                                                                                     | 100S-E146⊗12C <sup>(2)</sup> |
| 190                                 | 275         | 55                                           | 90       | 90   | 110  | 90   | 132  | 110   | 50         | 60   | 125  | 150  | 1                                                                                     | 1                                                                                     | 1                                                                                     | 100S-E190⊗12C                |
| 205                                 | 350         | 55                                           | 110      | 110  | 132  | 110  | 160  | 132   | 60         | 75   | 150  | 200  | 1                                                                                     | 1                                                                                     | 1                                                                                     | 100S-E205⊗12C                |
| 265                                 | 400         | 75                                           | 132      | 132  | 160  | 160  | 200  | 132   | 75         | 100  | 200  | 250  | 1                                                                                     | 1                                                                                     | 1                                                                                     | 100S-E265⊗12C                |
| 305                                 | 500         | 90                                           | 160      | 160  | 160  | 200  | 250  | 132   | 100        | 125  | 250  | 300  | 1                                                                                     | 1                                                                                     | 1                                                                                     | 100S-E305⊗12C                |
| 370                                 | 600         | 110                                          | 200      | 200  | 200  | 220  | 315  | 132   | 125        | 150  | 300  | 350  | 1                                                                                     | 1                                                                                     | 1                                                                                     | 100S-E370⊗12C                |
| 400                                 | 600         | 110                                          | 200      | 220  | 220  | 250  | 315  | 220   | 125        | 150  | 350  | 400  | 1                                                                                     | 1                                                                                     | 1                                                                                     | 100S-E400⊗12C                |
| 460                                 | 700         | 132                                          | 250      | 250  | 250  | 315  | 355  | 280   | 150        | 200  | 400  | 500  | 1                                                                                     | 1                                                                                     | 1                                                                                     | 100S-E460⊗12C                |
| 580                                 | 800         | 160                                          | 315      | 355  | 355  | 400  | 500  | 355   | 200        | 250  | 500  | 600  | 1                                                                                     | 1                                                                                     | 1                                                                                     | 100S-E580⊗12C                |
| 750                                 | 1050        | 220                                          | 400      | 425  | 450  | 530  | 600  | 400   | 250        | 300  | 600  | 700  | 1                                                                                     | 1                                                                                     | 1                                                                                     | 100S-E750⊗12C                |

(1) The N.C. contact meets IEC 60947-4-1 Annex F requirements for mirror contact performance.

(2) To order with built-in terminal lugs, add the letter "L" to the end of the catalog number (e.g. **100S-E116⊗12CL**)

⊗ Coil voltage code and PLC interface—see [page 75](#)

|                                                                                   | Description                                                                                                                                                   |                                             | Connection Diagrams                                                               | For Use With                                                   | Cat. No.   |
|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------|-----------------------------------------------------------------------------------|----------------------------------------------------------------|------------|
|  | Mechanical Interlocks <ul style="list-style-type: none"> <li>For interlocking of two contactors.</li> <li>Interlocking of different sizes possible</li> </ul> | Mechanical only, without auxiliary contacts |  | 100-E116...100-E146                                            | 100-EM1-00 |
|                                                                                   |                                                                                                                                                               |                                             |                                                                                   | 100-E190...100-E205                                            |            |
|                                                                                   |                                                                                                                                                               |                                             |                                                                                   | 100-E265...100-E370                                            |            |
|                                                                                   |                                                                                                                                                               |                                             |                                                                                   | 100-E116...100-E146 to 100-E190...100-E205                     | 100-EM4-00 |
|                                                                                   |                                                                                                                                                               |                                             |                                                                                   | 100-E190...100-E205 to 100-E265...100-E370                     | 100-EM5-00 |
|                                                                                   |                                                                                                                                                               |                                             |                                                                                   | 100-E400...100-E750, 100-E1260 <sup>(1)</sup>                  | 100-EM2-00 |
|                                                                                   |                                                                                                                                                               |                                             |                                                                                   | 100-E860...100-E1060, 100-E2050...100-E2650 <sup>(2)</sup>     | 100-EM3-00 |
|                                                                                   |                                                                                                                                                               |                                             |                                                                                   | Rod for vertical mounting 100-E400...E750 reversing contactors | 100-EVR750 |

(1) Mounting plate ordered separately

(2) Mounting plate included

|                                                                                   | Description                                                                                                                           | Wire Sizes             | For Use With               | Cat. No.     |
|-----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|------------------------|----------------------------|--------------|
|  | Terminal Lug Kit <ul style="list-style-type: none"> <li>Standard on 100-E116*L...100-E146*L contactors</li> <li>Set of two</li> </ul> | 2 x 6 AWG...3/0 AWG    | 100-E116...100-E146        | 100-ECL146   |
|  | Terminal Lugs <ul style="list-style-type: none"> <li>Set of three</li> </ul>                                                          | 6 AWG...300 MCM        | 100-E190...100-E205        | 100-ETL205   |
|                                                                                   |                                                                                                                                       | 4 AWG...400 MCM        | 100-E265...100-E370        | 100-ETL370   |
|                                                                                   |                                                                                                                                       | (2x) 4 AWG...500 MCM   | 100-E265...100-E370        | 100-ETL370B  |
|                                                                                   |                                                                                                                                       | (2x) 2/0 AWG...500 MCM | 100-E400...100-E460        | 100-ETL580   |
|                                                                                   |                                                                                                                                       | (3x) 2/0 AWG...500 MCM | 100-E580...E750, 100-E1260 | 100-ETL750   |
|                                                                                   |                                                                                                                                       | (4x) 4/0 AWG...500 MCM | 100-E860                   | 100-ETL860   |
|                                                                                   |                                                                                                                                       | (4x) 1/0 AWG...750 MCM | 100-E1060                  | 100-ETL1060  |
|                                                                                   |                                                                                                                                       | (6x) 1/0 AWG...750 MCM | 100-E1060                  | 100-ETL1060B |

|                                                                                     | Description                                                                                                                       | Wires with Compression Lugs | Contactor with Terminal Lugs | For Use With                   | Cat. No.                   |
|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|-----------------------------|------------------------------|--------------------------------|----------------------------|
|  | Terminal Shrouds <ul style="list-style-type: none"> <li>Not applicable when using 105-PW* or 170-PW* power wiring kits</li> </ul> | X                           |                              | 100-E116...100-E146            | 100-ETS146L                |
|                                                                                     |                                                                                                                                   |                             | X                            | 100-E190...100-E205            | 100-ETS205L                |
|                                                                                     |                                                                                                                                   | X                           |                              | 100-E190...100-E205            | 100-ETS205C                |
|                                                                                     |                                                                                                                                   |                             | X                            | 100-E265...100-E370            | 100-ETS370L <sup>(1)</sup> |
|                                                                                     |                                                                                                                                   | X                           |                              | 100-E265...100-E370            | 100-ETS370C                |
|                                                                                     |                                                                                                                                   |                             | X                            | 100-E400...100-E460            | 100-ETS460L                |
|                                                                                     |                                                                                                                                   | X                           |                              | 100-E400...100-E460            | 100-ETS460C                |
|                                                                                     |                                                                                                                                   |                             | X                            | 100-E580...100-E750            | 100-ETS750L                |
|                                                                                     |                                                                                                                                   | X                           |                              | 100-E580...100-E750, 100-E1260 | 100-ETS750C                |
|                                                                                     | IP20 terminal shield between contactor and 193-E overload relay on an assembled direct on-line starter                            |                             |                              | 100-E116...100-E146            | 100-ETC146                 |
|                                                                                     |                                                                                                                                   |                             |                              | 100-E190...100-E205            | 100-ETC205                 |
|                                                                                     | IP20 terminal shield between contactor and 193-E overload relay on an assembled reversing starter                                 |                             |                              | 100-E116...100-E146            | 100-ETCR146                |
|                                                                                     |                                                                                                                                   |                             |                              | 100-E190...100-E205            | 100-ETCR205                |

(1) Not applicable when using the 100-ETL370B lug kit.

|                                                                                     | Description                 | For Use With        | Cat. No.                 |
|-------------------------------------------------------------------------------------|-----------------------------|---------------------|--------------------------|
|  | Reversing Power Wiring Kits | 100-E116...100-E146 | 105-PW146                |
|                                                                                     |                             | 100-E190...100-E205 | 105-PW205 <sup>(1)</sup> |
|                                                                                     |                             | 100-E265...100-E370 | 105-PW370 <sup>(1)</sup> |
|                                                                                     |                             | 100-E400...100-E460 | 105-PW460 <sup>(2)</sup> |
|                                                                                     |                             | 100-E580...100-E750 | 105-PW750 <sup>(2)</sup> |

(1) Kits includes one set of terminal extensions. If 100-ETL\* terminal lugs are to be used on line and load side of reversing contactor, and second set of 100-ETX terminal extensions is required.

(2) If 100-ETL\* terminal lugs are to be used on line and load side of reversing contactor, two sets of 100-ETX terminal extensions are also required.