

# IEC Power Devices

## IEC Control Relays Selection Guide

### C-2000

## Section 5

### AC Operated Standard Terminals

| Contact Configuration | Product Number |
|-----------------------|----------------|
| 4NO                   | RL4RA040T*     |
| 3NO-1NC               | RL4RA031T*     |
| 2NO-2NC               | RL4RA022T*     |
| 4NC                   | RL4RA004T*     |

### AC Operated with Ring Terminal Capacity

| Contact Configuration | Product Number |
|-----------------------|----------------|
| 4NO                   | RL4RA040R*     |
| 3NO-1NC               | RL4RA031R*     |
| 2NO-2NC               | RL4RA022R*     |
| 4NC                   | RL4RA004R*     |

To complete the product number, replace the asterisk (\*) with the appropriate digit from the Coil Selection table. Contact Rating: A600, P600.

### AC Coil Selection

| AC Voltage |         | * Coil Suffix |
|------------|---------|---------------|
| 60 Hz      | 50 Hz   |               |
| 24         | 24      | 1             |
| 48         | 42      | F             |
| 120        | 110     | J             |
| 208        | —       | L             |
| 277        | 220/230 | N             |
| 240        | —       | S             |
| 480        | 380/400 | U             |
| —          | 415     | W             |
| 600        | 500     | Y             |

### DC Operated Standard Terminals

| Contact Configuration | Product Number |
|-----------------------|----------------|
| 4NO                   | RL4RD040T#     |
| 3NO-1NC               | RL4RD031T#     |
| 2NO-2NC               | RL4RD022T#     |
| 4NC                   | RL4RD004T#     |

### DC Operated with Ring Terminal Capacity

| Contact Configuration | Product Number |
|-----------------------|----------------|
| 4NO                   | RL4RD040R#     |
| 3NO-1NC               | RL4RD031R#     |
| 2NO-2NC               | RL4RD022R#     |
| 4NC                   | RL4RD004R#     |

To complete the product number, replace the crosshatch (#) with the appropriate digit from the Coil Selection table. Contact Rating: A600, P600.

### DC Coil Selection

| DC Voltage | #Coil Suffix |
|------------|--------------|
| 12         | B            |
| 24         | D            |
| 48         | G            |
| 125        | K            |
| 250        | T            |

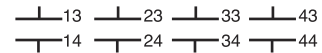
### Reference Publications

| Instructions |          |
|--------------|----------|
| GEH-6248     | RL Relay |

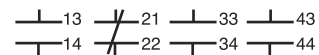


Control Relay

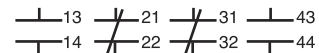
### Control Terminal Relay Markings



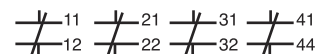
RL4R\_040\_



RL4R\_031\_



RL4R\_022\_



RL4R\_004\_



# IEC Power Devices

## IEC Control Relays Accessories

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### Front-Mount Auxiliary Contact Blocks

Front-mount auxiliary contact blocks clip onto front face of relay.  
Contact Rating: A600, Q600.

| For Use With      | Terminal Type | Contact Configuration | Product Number       |
|-------------------|---------------|-----------------------|----------------------|
| RL Control Relays | Standard      | 1NO                   | BCLF10               |
| RL Control Relays | Standard      | 1NC                   | BCLF01               |
| RL Control Relays | Standard      | 1NO                   | BCLF10G <sup>1</sup> |
| RL Control Relays | Standard      | 1NC                   | BCLF01G <sup>1</sup> |
| RL Control Relays | Ring          | 1NO                   | BCRF10               |
| RL Control Relays | Ring          | 1NC                   | BCRF01               |

<sup>1</sup>Overlapping contacts.

### Side-Mount Auxiliary Contact Blocks

Side-mount auxiliary contact blocks can be mounted on either left or right sides of relay. Positive displacement contacts are designed to prevent simultaneous closing of NO and NC contacts to avoid overlapping between opposing functions. Contact Rating: A600, Q600.

| For Use With       | Terminal Type | Type        | Contact Configuration | Product Number |
|--------------------|---------------|-------------|-----------------------|----------------|
| RL4 Control Relays | Standard      | Adder Block | 1NO-1NC               | BRLL11         |
| RL4 Control Relays | Standard      | Adder Block | 2NO                   | BRLL20         |

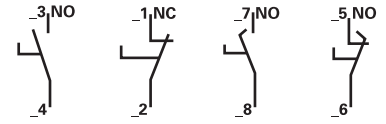
### Pneumatic Timer

Pneumatic timers are adjustable time-delayed auxiliary contacts. They come equipped with two time-delayed contacts: 1NO and 1NC, electrically isolated. Setting is scaled over a 350° rotation by means of a knurled knob with timing guide marks. To mount a pneumatic timer, simply clip it on front face of contactor. Contact Rating: A600, Q600.

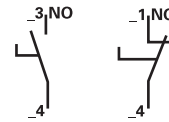
| For Use With       | Terminal Type | Type           | Time range | Contact Configuration | Product Number |
|--------------------|---------------|----------------|------------|-----------------------|----------------|
| RL4 Control Relays | Standard      | Time Delay On  | 1-30 sec   | 1NO-1NC               | BTLF30C        |
| RL4 Control Relays | Standard      | Time Delay On  | 1-60 sec   | 1NO-1NC               | BTLF60C        |
| RL4 Control Relays | Standard      | Time Delay Off | 1-30 sec   | 1NO-1NC               | BTLF30D        |
| RL4 Control Relays | Standard      | Time Delay Off | 1-60 sec   | 1NO-1NC               | BTLF60D        |
| RL4 Control Relays | Ring          | Time Delay On  | 1-30 sec   | 1NO-1NC               | BTRF30C        |
| RL4 Control Relays | Ring          | Time Delay On  | 1-60 sec   | 1NO-1NC               | BTRF60C        |
| RL4 Control Relays | Ring          | Time Delay Off | 1-30 sec   | 1NO-1NC               | BTRF30D        |
| RL4 Control Relays | Ring          | Time Delay Off | 1-60 sec   | 1NO-1NC               | BTRF60D        |



Front-Mounted Block



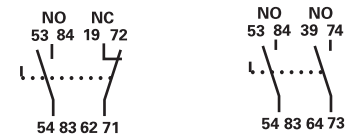
BCLF10/BCLF01/BCLF10G/BCLF01G



BCRF10/BCRF01



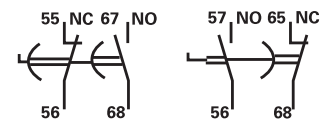
Side-Mounted Block



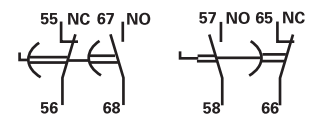
BRLL11/BRLL20



Pneumatic Timer



BTRF30C/BTRF60C/BTRF30D/BTRF60D



BTLF30C/BTLF60C BTLF30D/BTLF60D



# IEC Power Devices

## IEC Control Relays Accessories

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### Surge Suppressor

For suppression of disturbances in circuit voltage occurring upon opening of the relay. Mounts directly on the top of the coil.

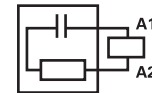


BSL\_\_\_Surge Suppressor

| For Use With       | Terminal Type     | Surge Suppressor Type | Voltage         | Product Number |
|--------------------|-------------------|-----------------------|-----------------|----------------|
| RL4 Control Relays | Standard and Ring | RC                    | 24-48 VAC       | BSLR2G         |
| RL4 Control Relays | Standard and Ring | RC                    | 50-127 VAC      | BSLR2K         |
| RL4 Control Relays | Standard and Ring | RC                    | 130-240 VAC     | BSLR2R         |
| RL4 Control Relays | Standard and Ring | Diode                 | 12-600 VDC      | BSLDZ          |
| RL4 Control Relays | Standard and Ring | Varistor              | 24-48 VAC, DC   | BSLV3G         |
| RL4 Control Relays | Standard and Ring | Varistor              | 50-127 VAC, DC  | BSLV3K         |
| RL4 Control Relays | Standard and Ring | Varistor              | 130-250 VAC, DC | BSLV3R         |
| RL4 Control Relays | Standard and Ring | Varistor              | 380-500 VAC, DC | BSLV3U         |

### Mechanical Latch Block

Mechanical latch block is used to convert a standard relay into a latched relay. Easy to mount, it clips onto front face of contactor. Contact Rating: A600, Q600.

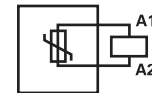


BSLR\_\_RC

| For Use With       | Terminal Type | Voltage Application | Coil Voltage Range | Product Number |
|--------------------|---------------|---------------------|--------------------|----------------|
| RL4 Control Relays | Standard      | 50/60 Hz and DC     | 24-32 Vdc          | RMLFD          |
| RL4 Control Relays | Standard      | 50/60 Hz and DC     | 42-48 Vdc          | RMLFG          |
| RL4 Control Relays | Standard      | 50/60 Hz and DC     | 110-125 Vdc        | RMLFJ          |
| RL4 Control Relays | Standard      | 50/60 Hz and DC     | 208-277 Vdc        | RMLFN          |
| RL4 Control Relays | Standard      | 50/60 Hz and DC     | 380-480 Vdc        | RMLFU          |
| RL4 Control Relays | Standard      | 50/60 Hz and DC     | 500-600 Vdc        | RMLFY          |



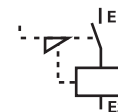
BSLDZ Diode



BLSV\_\_Varistor



RMLF\_Mechanical Latch Block



RMLF\_



# IEC Power Devices

## IEC Control Relays Accessories

### C-2000

#### Electronic Timer and Interface Modules

These modules add flexibility to C-2000 relays, providing time-delay functions, and interface for low voltage PLC applications or contactor-mounted manual-auto functions. Easily installed, these modules plug right into the contactor coil terminals. All modules include a status indicating LED and accept plug-in voltage surge suppressors.

#### Timers

Time-on delay and time-off delay modules for sequencing control of contactors. They deliver high repeatability,  $\pm 3\%$  in ambient temperatures from 32° to 104°F. A red LED provides indication during time-delay operation.

| For Use With           | Type      | Time-Delay Range | Product Number |
|------------------------|-----------|------------------|----------------|
| All RL4 Control Relays | On delay  | 0.1-2 s          | BETL02C        |
| All RL4 Control Relays | On delay  | 1.5-45 s         | BETL45C        |
| All RL4 Control Relays | Off delay | 0.1-2 s          | BETL02D        |
| All RL4 Control Relays | Off delay | 1.5-45 s         | BETL45D        |



BETL\_\_\_Timer

#### Interface Modules

Interface modules allow relay operation from 24 Volt or 48 Volt sources (such as a PLC output). Current consumption is 15 mA @ 24 Vdc and 25 mA @ 48 Vdc. A red LED provides indication when voltage is applied to E1-E2.

| For Use With           | Input Voltage | Type                              | Product Number |
|------------------------|---------------|-----------------------------------|----------------|
| All RL4 Control Relays | 24 VDC        | Relay                             | IMRD           |
| All RL4 Control Relays | 48 VDC        | Relay                             | IMRG           |
| All RL4 Control Relays | 24 VDC        | Relay with manual override switch | IMRFD          |
| All RL4 Control Relays | 48 VDC        | Relay with manual override switch | IMRFG          |
| All RL4 Control Relays | 5-30 VDC      | Solid State (optical isolation)   | IMSSD          |



IM\_ Interface Module

#### Auto-Manual-Stop Modules

Auto-Manual-Stop modules allow local and/or remote operation of the relay coil. The Auto-Manual switch selects the input connected to the coil circuit—A1 for automatic or remote operation, B1 for local operation. In both connections, the manual On-Off switch is in series and controls power to the coil. Auto-Manual can be switched only when the On-Off switch is in the Off position. A red LED provides indication when the coil is energized.

| For Use With           | Product Number |
|------------------------|----------------|
| All RL4 Control Relays | IMAMS          |



IMAMS Auto-Manual-Stop Module

#### Voltage Surge Suppressors

Voltage surge suppressors plug into timer, interface, or auto-stop-manual modules.

| Coil Voltage      | Surge Suppressor Type      | Product Number |
|-------------------|----------------------------|----------------|
| 24-48 VAC         | Resistive/Capacitive (R/C) | IMRC2G         |
| 50-127 VAC        | Resistive/Capacitive (R/C) | IMRC2K         |
| 130-240 VAC       | Resistive/Capacitive (R/C) | IMRC2R         |
| 24-48 VAC         | Resistive/Capacitive (R/C) | IMRC3G         |
| 50-127 VAC        | Resistive/Capacitive (R/C) | IMRC3K         |
| 130-240 VAC       | Resistive/Capacitive (R/C) | IMRC3R         |
| 24-250 VAC        | Diode                      | IMD1Z          |
| 24-48 VAC or DC   | Varistor                   | IMV3G          |
| 50-127 VAC or DC  | Varistor                   | IMV3K          |
| 130-240 VAC or DC | Varistor                   | IMV3R          |



IM\_\_\_Voltage Surge Suppressor



# IEC Power Devices

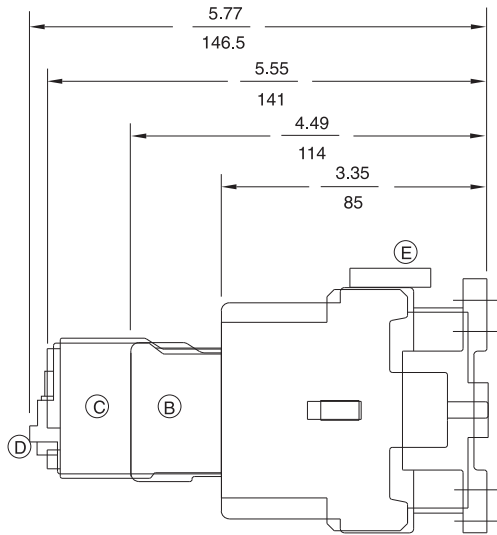
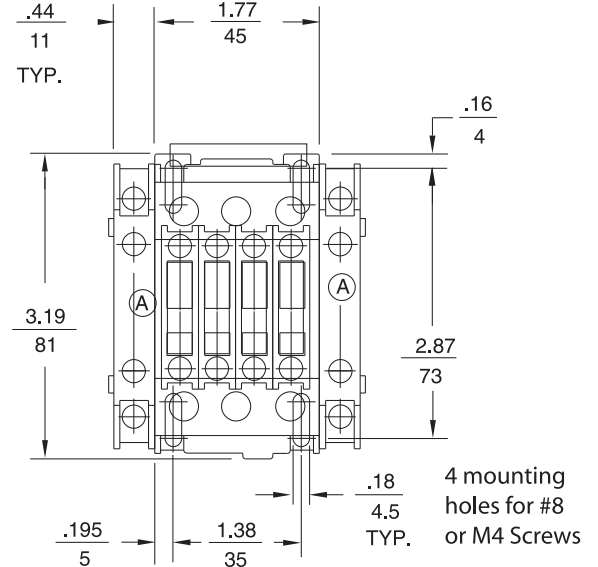
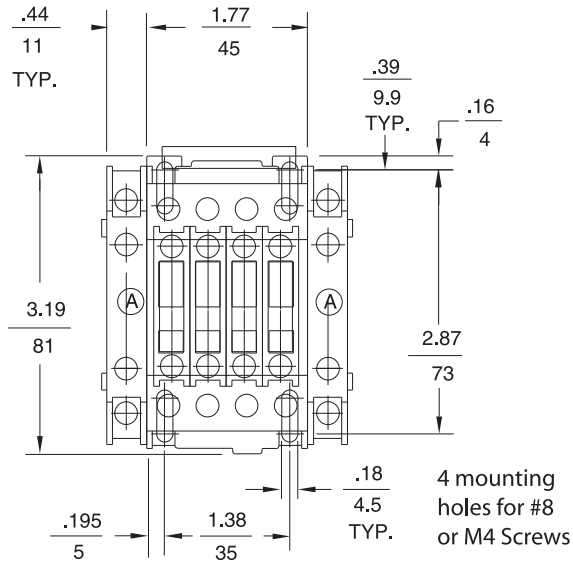
## IEC Contactors Dimensions

### C-2000

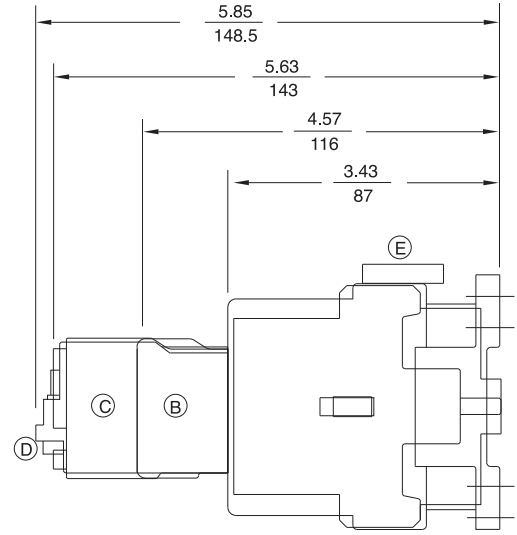
# Section 5

Outlines and Dimensions ( $\frac{\text{in}}{\text{mm}}$ ) For Estimating Only

#### Contactor Front View and AC Contactor Side View



CL00A310T, CL01A310T, CL02A310T and RL4 Relays



CL25A310T\*

#### Legend and Notes

- A Extra Auxiliary Contacts, Side Mounted (if used)
  - B Extra Auxiliary Contacts, Front Mounted (if used)
  - C Pneumatic Timer (if used)
  - D Mechanical Latch (if used)
  - E Transient Voltage Suppressor
- Add 1/2 inch for electrical clearance to enclosure.

