

D2 Series Relay



D2PR/D2PF Series

Product Description

The D2 Series is a compact line of relays with quick response time and long life. Available in DPDT, 4PDT and DPDT latching configurations.

Features

D2PR

- Ultra-high sensitivity relay with quick response
- High reliability, long life
- Panel, DIN rail and flange mounting
- Small size

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Standards and Certifications



When used with accompanying Eaton screw terminal socket

D2PF

- Flag indicator shows relay status in manual or powered condition
- Bipolar LED status lamp allows for reverse polarity applications
 - Shows coil ON or OFF status
 - Ideal in low light conditions
- Color-coded pushbutton identifies AC coils with red or DC coils with blue pushbuttons
 - Allows for manual operation of relay without the need for coil power
 - Ideal for field service personnel to test control circuits
- Lock-down door, when activated, holds pushbutton and contacts in the operate position
 - Excellent for analyzing circuit problems
- Finger-grip cover allows operator to remove relays from sockets more easily than conventional relays
- White plastic ID tag/write label used for identification of relays in multi-relay circuits

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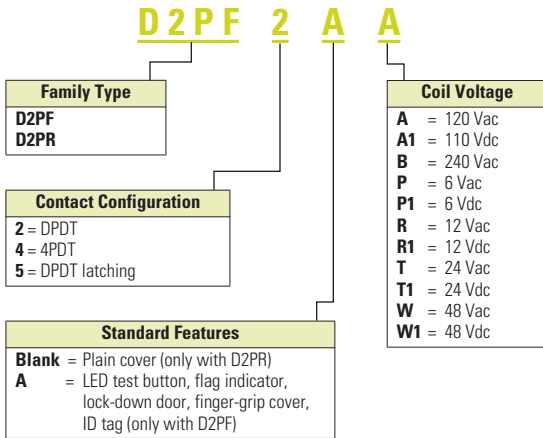
Control Relays and Timers

General Purpose Plug-In Relays

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Catalog Number Selection

D2PF/D2PR ①



Product Selection

D2PF/D2PR Relay/Socket Quick Reference

| Relay Type | Socket | Clip | Module Type | ID Tag | Jumper |
|--------------|----------|----------|-------------|---------|--------|
| D2PR2, D2PF2 | D2PAL | PWC-D24 | B | PWF-D2P | D2PJ1 |
| | | PQC-1782 | — | — | — |
| | D2PA6 | PQC-1342 | None | — | — |
| D2PR4, D2PF4 | D2PAP | PWC-D24 | B | PWF-D2P | D2PJ1 |
| | | PQC-1782 | — | — | — |
| | D2PA7 | PWC-D24 | B | — | — |
| | | PQC-1782 | B | — | — |
| D2PA6 | PQC-1342 | None | — | — | |
| D2PR5 | D2PA4 | PYC-A1 | None | — | — |

Note

① For deciphering catalog numbers. Do not use for ordering as not all combinations are readily available.

D2PF Series Relay



D2PF/D2PR Series

| Coil Voltage | Contact Configuration | Coil Resistance (Ohms) | Catalog Number |
|----------------------------|-----------------------|------------------------|-----------------|
| Full Featured Style | | | |
| 6 Vac | DPDT | 9.6 | D2PF2AP |
| 6 Vdc | DPDT | 40 | D2PF2AP1 |
| 12 Vac | DPDT | 46 | D2PF2AR |
| 12 Vdc | DPDT | 160 | D2PF2AR1 |
| 24 Vac | DPDT | 180 | D2PF2AT |
| 24 Vdc | DPDT | 650 | D2PF2AT1 |
| 48 Vdc | DPDT | 2600 | D2PF2AW1 |
| 110/125 Vdc | DPDT | 11,000 | D2PF2AA1 |
| 120 Vac | DPDT | 4430 | D2PF2AA |
| 220/240 Vac | DPDT | 15,720 | D2PF2AB |
| 12 Vac | 4PDT | 46 | D2PF4AR |
| 12 Vdc | 4PDT | 160 | D2PF4AR1 |
| 24 Vac | 4PDT | 180 | D2PF4AT |
| 24 Vdc | 4PDT | 650 | D2PF4AT1 |
| 48 Vdc | 4PDT | 2600 | D2PF4AW1 |
| 110/125 Vdc | 4PDT | 11,000 | D2PF4AA1 |
| 120 Vac | 4PDT | 4430 | D2PF4AA |
| 220/240 Vac | 4PDT | 15,720 | D2PF4AB |
| Plain Cover Style | | | |
| 6 Vdc | DPDT | 40 | D2PR2P1 |
| 12 Vdc | DPDT | 160 | D2PR2R1 |
| 24 Vac | DPDT | 180 | D2PR2T |
| 24 Vdc | DPDT | 650 | D2PR2T1 |
| 48 Vdc | DPDT | 2600 | D2PR2W1 |
| 110/125 Vdc | DPDT | 11,000 | D2PR2A1 |
| 120 Vac | DPDT | 4430 | D2PR2A |
| 220/240 Vac | DPDT | 15,720 | D2PR2B |
| 6 Vac | 4PDT | 9.6 | D2PR4P |
| 6 Vdc | 4PDT | 40 | D2PR4P1 |
| 12 Vac | 4PDT | 46 | D2PR4R |
| 12 Vdc | 4PDT | 160 | D2PR4R1 |
| 24 Vac | 4PDT | 180 | D2PR4T |
| 24 Vdc | 4PDT | 650 | D2PR4T1 |
| 110/125 Vdc | 4PDT | 11,000 | D2PR4A1 |
| 120 Vac | 4PDT | 4430 | D2PR4A |
| 220/240 Vac | 4PDT | 15,720 | D2PR4B |
| Latching Style | | | |
| 24 Vac | DPDT | 180 | D2PR5T |
| 24 Vdc | DPDT | 650 | D2PR5T1 |
| 110 Vac | DPDT | 11,000 | D2PR5A |

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Control Relays and Timers

General Purpose Plug-In Relays

Accessories

D2PF/D2PR Sockets and Accessories

| Type | Module Size | Nominal Voltage (Max. for Sockets) | Nominal Current | Mounting Style | Wire Size | Wire Connection | Standard Pack | Catalog Number |
|---------------------------|-------------|------------------------------------|-----------------|----------------|--|-----------------|---------------|-------------------|
| Socket | B | 300 | 12 | DIN rail/panel | 14/16 (2) AWG, 2.5/1.5 (2) mm ² | Elevator | 1 | D2PAL ① |
| | None | 300 | 10 | DIN rail/panel | 12/14 (2) AWG, 4/2.5 (2) mm ² | Screw clamping | 10 | D2PA6 |
| | B | 300 | 10 | DIN rail/panel | 14/16 (2) AWG, 2.5/1.5 (2) mm ² | Elevator | 1 | D2PAP ① |
| | B | 300 | 10 | DIN rail/panel | 12/14 (2) AWG, 4/2.5 (2) mm ² | Screw clamping | 10 | D2PA7 ① |
| | None | 300 | 10 | DIN rail/panel | 12/14 (2) AWG, 4/2.5 (2) mm ² | Screw clamping | 5 | D2PA4 |
| Flange mount adapter | — | — | — | Flange | — | — | 25 | PFC-D2D72 |
| Plastic ejector clip | — | — | — | — | — | — | 10 | PWC-D24 |
| Metal spring clip | — | — | — | — | — | — | 25 | PQC-1782 |
| | — | — | — | — | — | — | 25 | PQC-1342 |
| Hold-down spring | — | — | — | — | — | — | 100 | PYC-A1 |
| Protection diode | B | 6 to 250 Vdc | — | — | — | — | 20 | MOD-BD250 |
| LED indicator | B | 24 Vac/Vdc | — | — | — | — | 20 | MOD-BLG24 |
| | B | 120/240 Vac/Vdc | — | — | — | — | 20 | MOD-BLG240 |
| MOV suppressor | B | 120 Vac/Vdc | — | — | — | — | 20 | MOD-BMV120 |
| | B | 24 Vac/Vdc | — | — | — | — | 20 | MOD-BMV24 |
| | B | 240 Vac/Vdc | — | — | — | — | 20 | MOD-BMV240 |
| Coil bus jumpers | — | — | — | — | — | — | 10 | D2PJ1 |
| Plastic DIN rail end stop | — | — | — | — | — | — | 25 | PPF-P |

Note

① Protection category (finger safe), EN 60529: IP20.

Technical Data and Specifications

D2PF/D2PR Relay Specifications

| Description | D2PR2/D2PR4 | D2PR5 | D2PF |
|--|--------------------------------------|-----------------------|---|
| Contact Characteristics | | | |
| Contact rating | 10A | 5A | 10A |
| Terminal style | Plug-in | Plug-in | Plug-in |
| Contact materials | Silver alloy | Silver (gold flashed) | Silver alloy |
| Maximum switching voltage | 300V | 250 Vac/125 Vdc | 300V |
| Switching current at voltage—resistive | 10A at 120 Vac 50/60 Hz | 3A at 250 Vac | 10A at 277 Vac 50/60 Hz] |
| | 8A at 277 Vac 50/60 Hz | — | 8A at 120 Vac 50/60 Hz |
| | 8A at 28 Vdc | 5A at 30 Vdc | 8A at 28 Vdc |
| Switching current at voltage | 1/3 hp at 120 Vac 1 hp at 277 Vac | 1/8 hp at 250 Vac | 1/3 hp at 120 Vac 1 hp at 277 Vac |
| Pilot duty | B300 | — | B300 |
| Minimum switching requirement | 100 mA at 5 Vdc (0.5W) | 100 mA, 1 Vdc | 100 mA at 5 Vdc (0.5W) |
| Coil Characteristics | | | |
| Operating range | | | |
| % of nominal (AC) | 85 to 110% | 80 to 110% | 85 to 110% |
| % of nominal (DC) | 80 to 110% | 80 to 110% | 80 to 110% |
| Average consumption | 1.2 VA | — | 1.2 VA |
| | 0.9W | — | 0.9W |
| Dropout voltage threshold | 15% (AC) | 30% (AC) | 15% (AC) |
| | 10% (DC) | 10% (DC) | 10% (DC) |
| Performance | | | |
| Electrical life (UL 508) operations at rated current | 200,000 | 200,000 | 200,000 |
| Mechanical life operations unpowered | 10,000,000 | 100,000,000 | 10,000,000 |
| Response time | 20 ms | — | 20 ms |
| Dielectric strength | | | |
| Between coil and contact Vac (rms) | 1500 rms | — | 1500 rms |
| Between poles Vac (rms) | 1500 rms | — | 1500 rms |
| Environment | | | |
| Ambient air temperature around the device | | | |
| Operation | −40° to 131°F (−40° to 55°C) | — | −40° to 131°F (−40° to 55°C) |
| Storage | −40° to 185°F (−40° to 85°C) | — | −40° to 185°F (−40° to 85°C) |
| Vibration resistance—operational | 3 g-n at 10–55 Hz | — | 3 g-n at 10–55 Hz |
| Shock resistance | 10 g-n | — | 10 g-n |
| Degree of protection | IP40 | — | IP40 |
| Features | | | |
| Cover options | Plain cover | Plain cover | Full featured |
| Features | Mechanical flag indicator | Latching | Locking pushbutton/ Bipolar LED/ Removable ID tag/ Mechanical flag indicator |
| Product certifications | RoHS/UL/CE/CSA | UL/CE/CSA | RoHS/UL/CE/CSA |

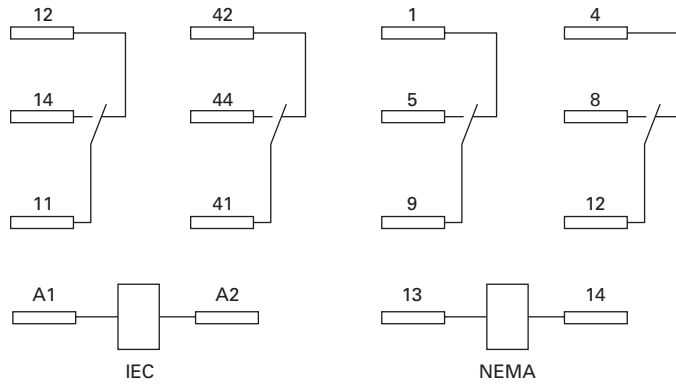
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Control Relays and Timers

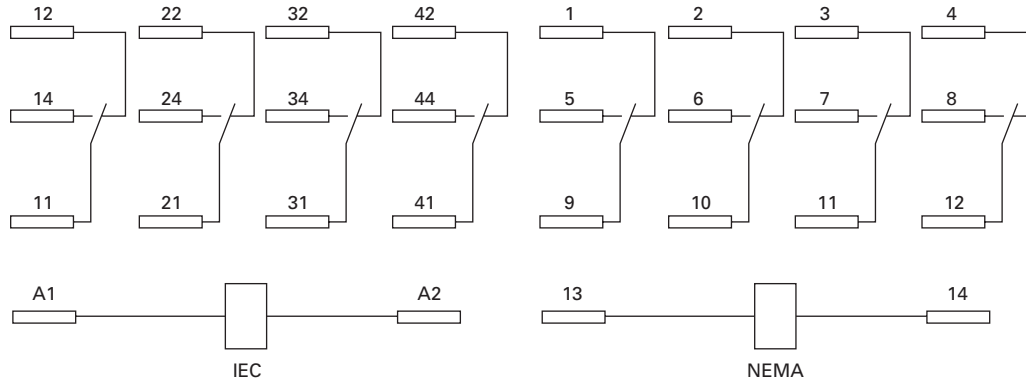
General Purpose Plug-In Relays

Wiring Diagrams

D2PF2/D2PR2



D2PF4/D2PR4

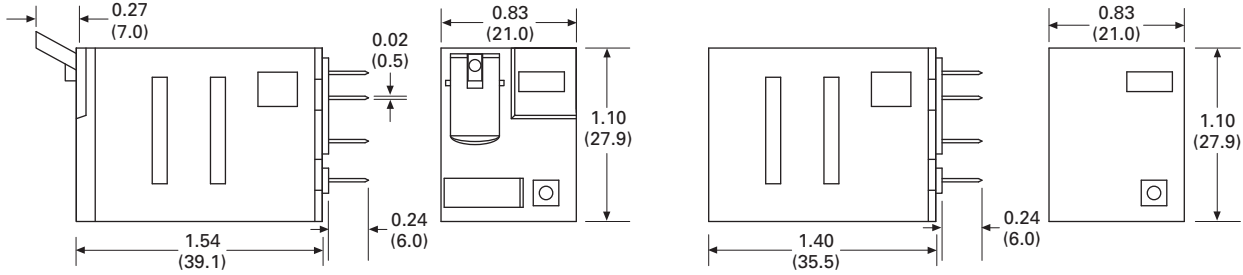


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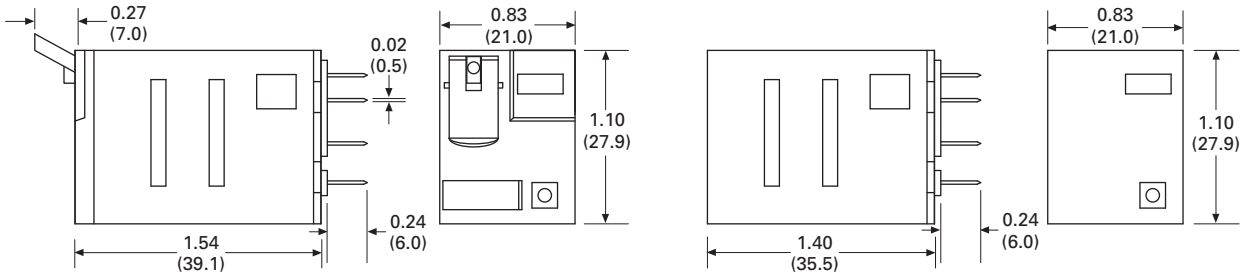
Dimensions

Approximate Dimensions in Inches (mm)

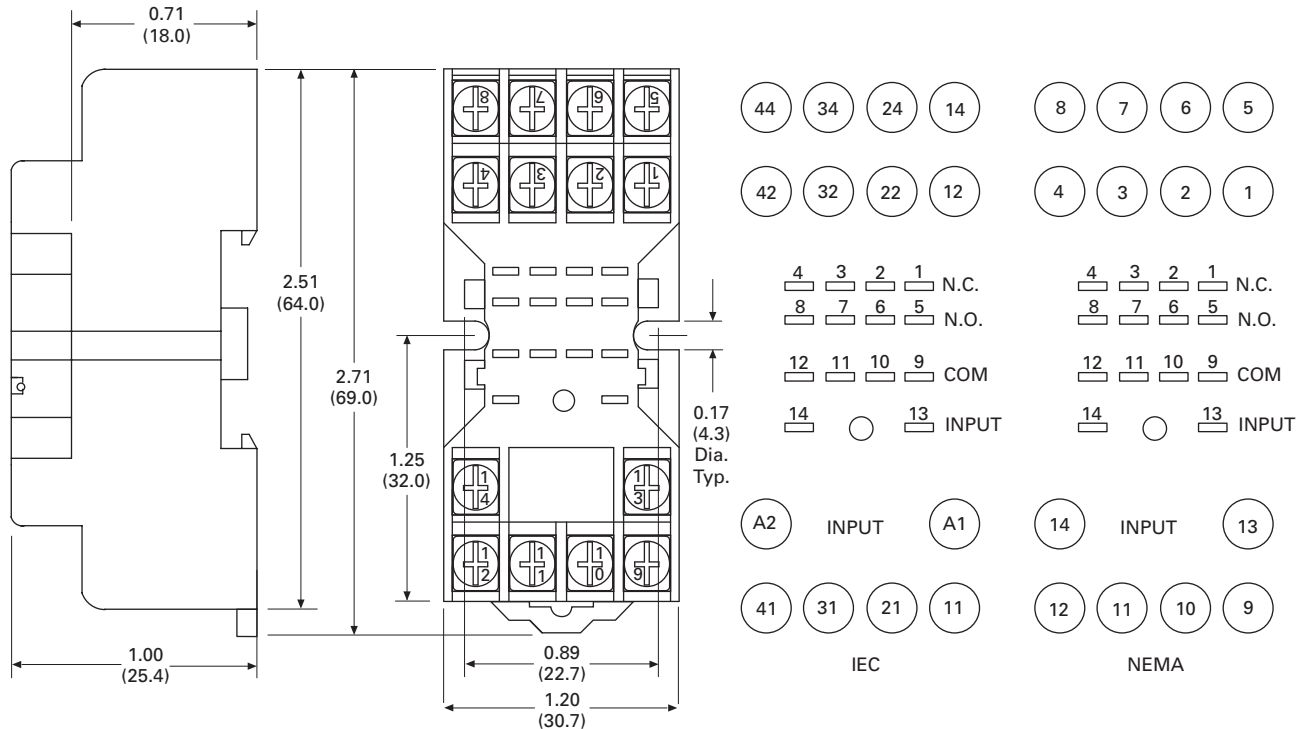
D2PF2/D2PR2



D2PF4/D2PR4



D2PA6

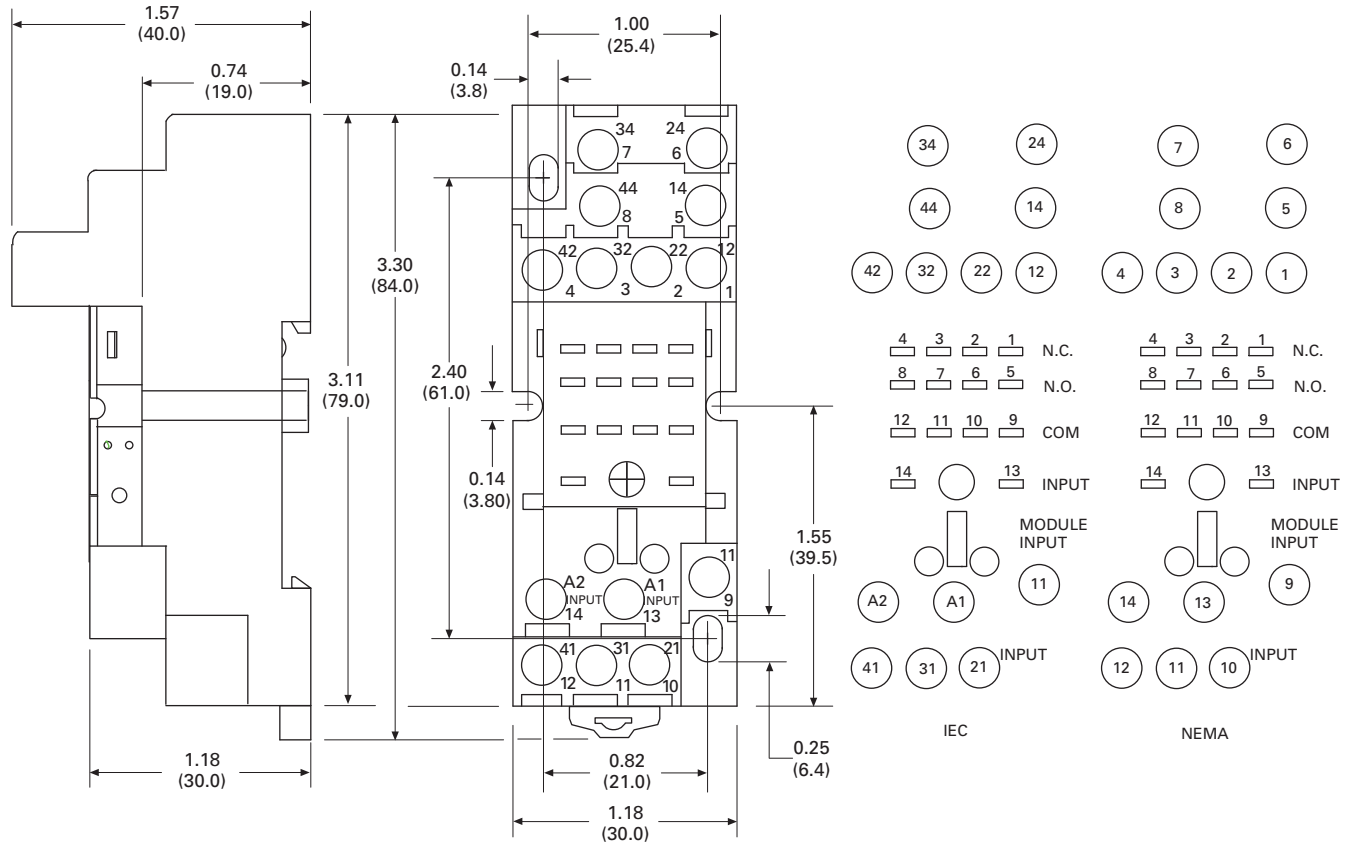


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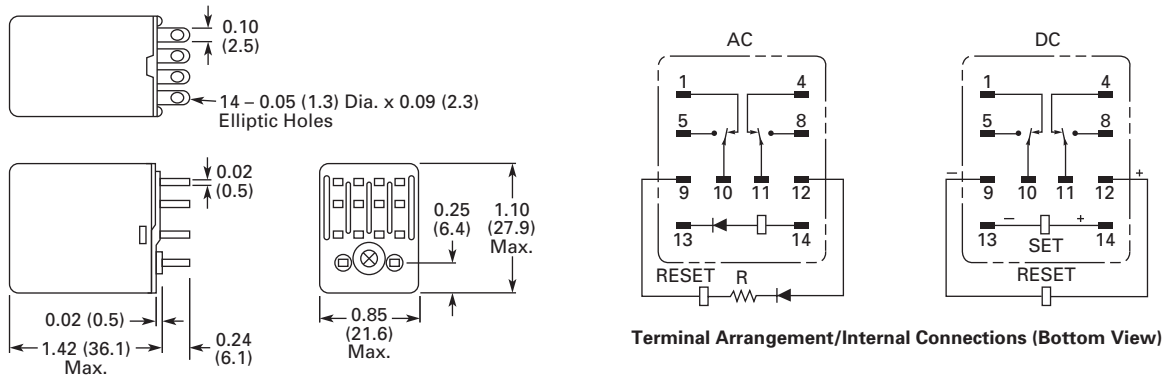
General Purpose Plug-In Relays

Approximate Dimensions in Inches (mm)

D2PA7

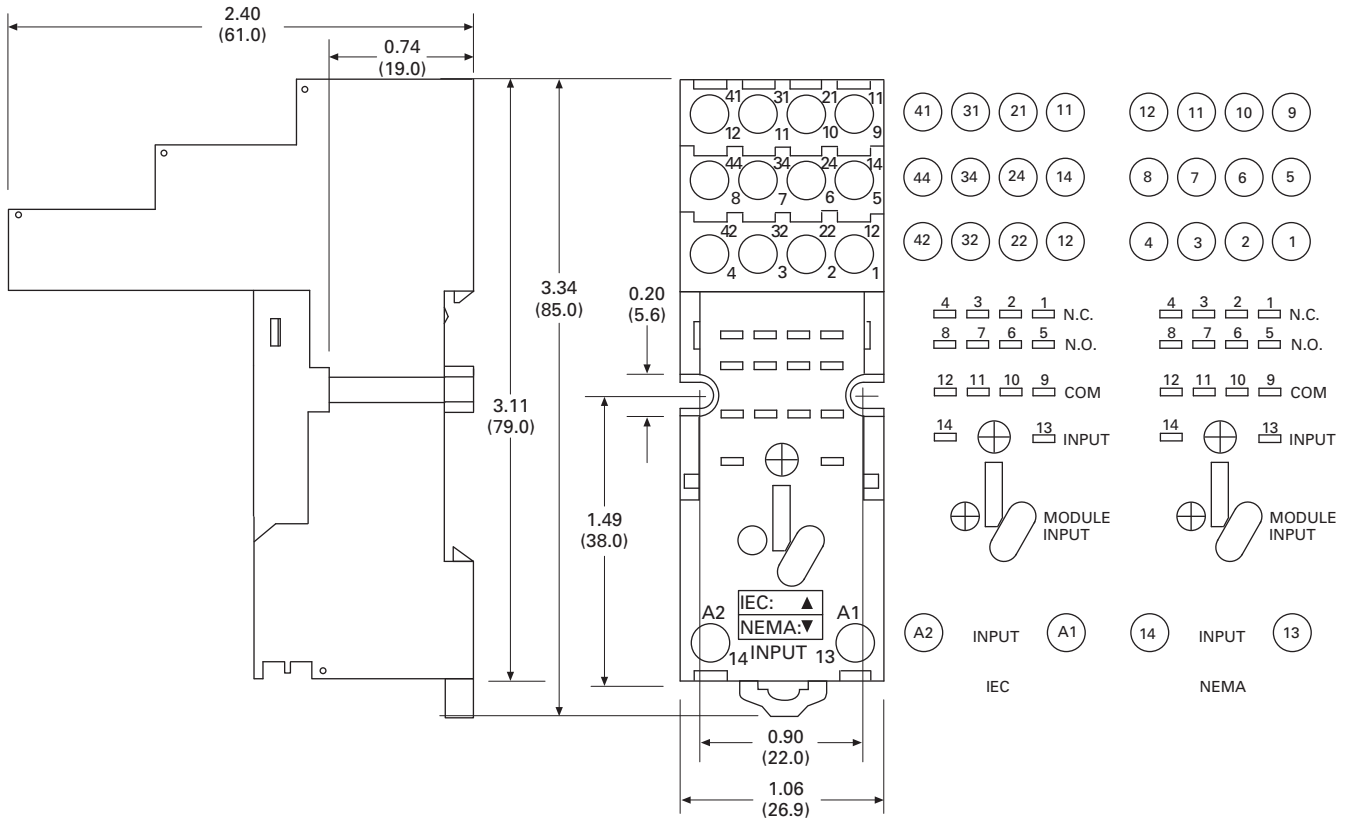


D2PR5



Approximate Dimensions in Inches (mm)

D2PAP

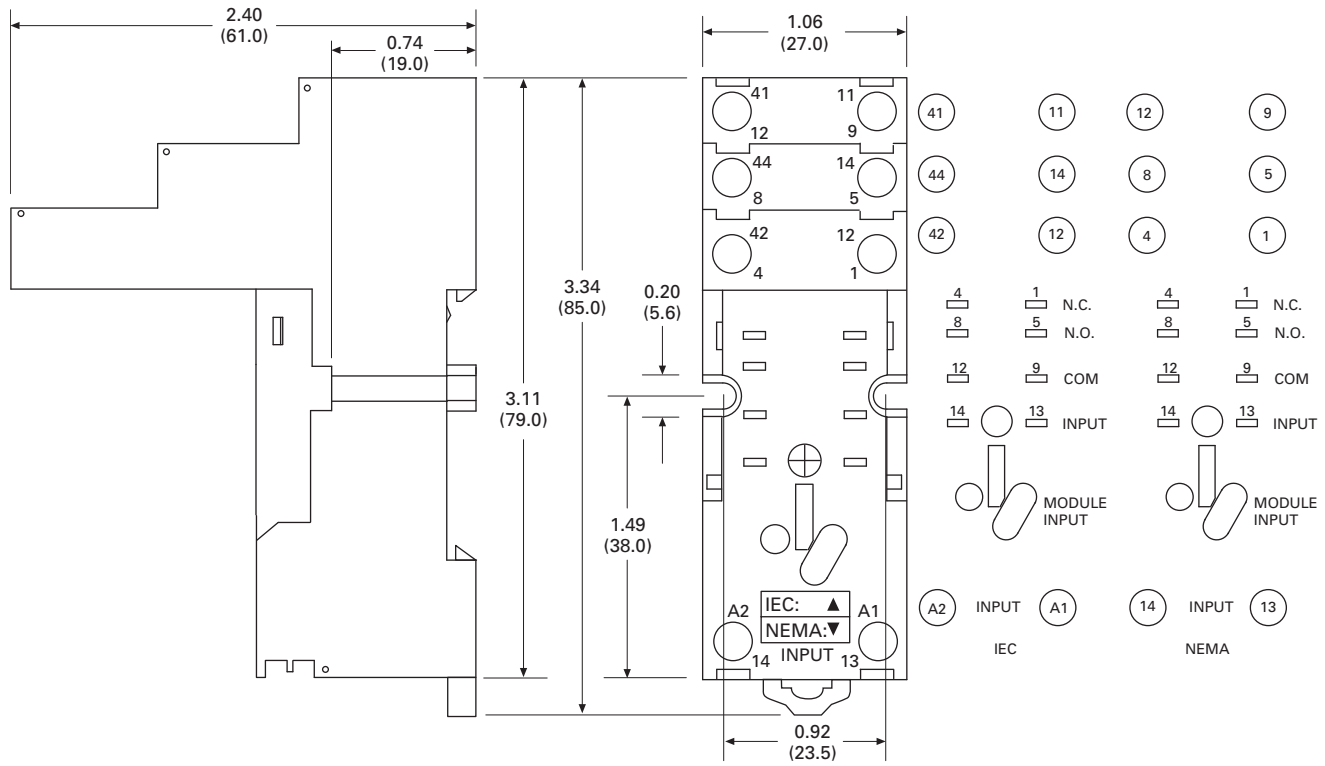


40.4 Control Relays and Timers

General Purpose Plug-In Relays

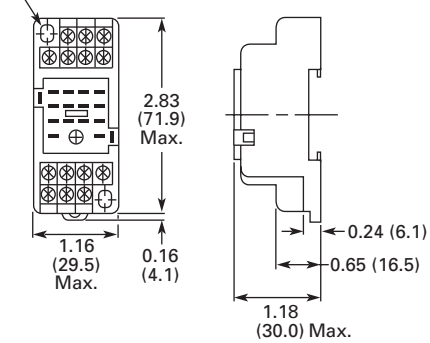
Approximate Dimensions in Inches (mm)

D2PAL

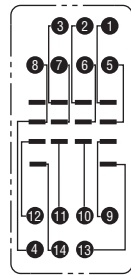


D2PA4 Socket for D2PR5 DPDT Latching Relays Only

Two 0.17 (4.3) x 0.20 (5.1) Mounting Holes



Terminal Arrangement (Top View)



Mounting Holes

Two 0.18 (4.6) Dia. or M4 (Two 0.16 (4.1) Dia. or M3)

