

D2PF Series

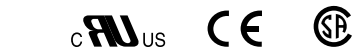


D2PF Series Relay

Features

- Flag indicator shows relay status in manual or powered condition
- Bi-polar LED status lamp allows for reverse polarity applications
 - Shows coil ON or OFF status
 - Ideal in low light conditions
- Colour 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 I.D. tag/write label used for identification of relays in multi-relay circuits

Standards and Certifications



When used with accompanying Cutler-Hammer® screw terminal socket.

Technical Data and Specifications

Table 3-18. D2PF Coil Resistance

| Coil Voltage | Ohms | mA ① |
|--------------|------|-------|
| | | 50 Hz |
| 6V AC | 9.6 | 200 |
| 6V DC | 40 | 150 |
| 12V AC | 46 | 100 |
| 12V DC | 160 | 75 |

| | | |
|---------|-------|----|
| 24V AC | 180 | 50 |
| 24V DC | 650 | 37 |
| 48V DC | 2600 | 18 |
| 110V DC | 11000 | 10 |
| 120V AC | 4430 | 10 |
| 240V AC | 15700 | 5 |

① At 60 Hz for AC Coils.

Table 3-19. D2PF2 and D2PF4 Relay Specifications

| | D2PF2 | D2PF4 |
|--|-----------------------------|-----------------------------|
| | Resistive Load (p.f. = 1.0) | Inductive Load (p.f. = 1.0) |

Coil

| | |
|----------------------------------------|-------------------------------|
| Pickup Voltage (Max.) | 85% AC; 80% DC (% of nominal) |
| Drop Out Voltage (Min.) | 10% AC; 10% DC (% of nominal) |
| Maximum Voltage | 110% of nominal |
| Insulation System per UL Standard 1446 | Class B 266°F (130°C) |

Contacts

| | | |
|----------------------------|----------------------------------------------------------|--------------------------------------|
| Rated Load | 120V AC – 10A 277V AC, 28V DC – 8A (UL), 10A (CSA) | 120V AC – 3A 277V AC, 28V DC – 3A |
| Maximum hp Ratings | 1/3 hp, 120V AC 1 hp, 277V AC | 1/10 hp, 120V AC 1/10 hp, 277V AC |
| Contact Material | Silver Tin Oxide (Gold Flashed) | Fine Silver, Gold Diffused |
| Pilot Duty | B300 | |
| Utilization Category (IEC) | AC-15 | |
| Min. Permissible Load | 100mA @ 5V DC or 0.5W | |
| Contact Resistance | 100 Milliohms Max. @ 6V, 1A | |

Dielectric Strength

| | |
|-----------------------|----------------------------|
| Coil to Contacts | 1500V RMS |
| Across Open Contacts | 1000V RMS |
| Contacts to Frame | 1500V RMS |
| Insulation Resistance | 100 Megohms Min. @ 500V DC |

Temperature

| | |
|-----------|---------------------------|
| Operating | -40 – 158°F (-40 – 70°C) |
| Storage | -40 – 221°F (-40 – 105°C) |

Life Expectancy

| | |
|------------------------------------|-----------------------|
| Electrical at Rated Resistive Load | 200,000 Operations |
| Mechanical at No Load | 10 Million Operations |

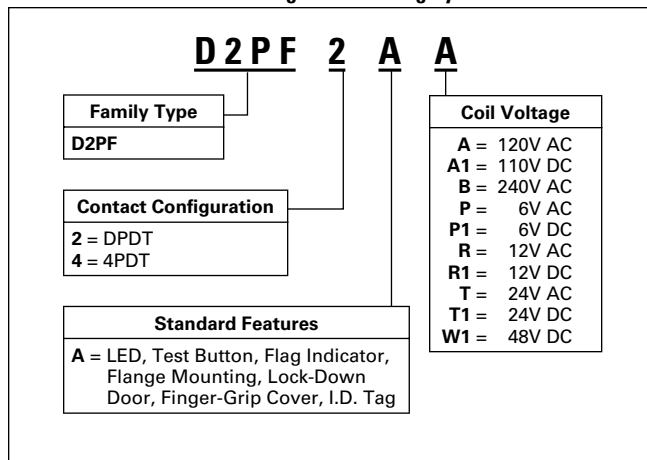
Weight

| | | |
|--------------------|------------------|------------------|
| Approximate Weight | 0.079 lbs. (36G) | 0.081 lbs. (37G) |
|--------------------|------------------|------------------|

D2PF Series — Full Featured

Catalogue Number Structure

Table 3-20. D2PF Series Catalogue Numbering System ①



① For deciphering Catalogue Numbers. Do not use for ordering as not all combinations are readily available.

Table 3-21. D2PF Relay/Socket Quick Reference

| Relay Type | Socket | Socket Type | Hold Down Clip |
|------------|--------|-----------------------------|----------------------|
| D2PF2 | D2PA6 | Screw Terminal | PQC-1342 |
| | D2PA7 | Screw Terminal, Finger-Safe | Included with Socket |
| D2PF4 | D2PA6 | Screw Terminal | PQC-1342 |
| | D2PA7 | Screw Terminal, Finger-Safe | Included with Socket |

Table 3-22. D2PF Socket Specifications

| Catalogue Number | Electrical Ratings | Mounting Torque | Hook-up Wire Range |
|------------------|--------------------|-----------------------------------|--------------------------------|
| D2PA6 | 10A, 300V | 7 – 8 in-lbs. (0.79 – 0.90 Nm) | AWG 14 to 28 Solid or Stranded |
| D2PA7 | 10A, 300V | 7 – 8 in-lbs. (0.79 – 0.90 Nm) | AWG 14 to 20 Solid or Stranded |

Product Selection

Table 3-23. D2PF Product Selection

| | Std. Pack | Catalogue Number |
|------------------------------------------------|-----------|---------------------|
| DPDT | | |
| 6V AC 6V DC | | D2PF2AP D2PF2AP1 |
| 12V AC 12V DC | | D2PF2AR D2PF2AR1 |
| 24V AC 24V DC | | D2PF2AT D2PF2AT1 |
| 48V DC | | D2PF2AW1 |
| 110V DC | | D2PF2AA1 |
| 120V AC | | D2PF2AA |
| 240V AC | | D2PF2AB |
| 4PDT | | |
| 6V AC | | D2PF4AP |
| 12V AC 12V DC | | D2PF4AR D2PF4AR1 |
| 24V AC 24V DC | | D2PF4AT D2PF4AT1 |
| 48V DC | | D2PF4AW1 |
| 110V DC | | D2PF4AA1 |
| 120V AC | | D2PF4AA |
| 240V AC | | D2PF4AB |
| Sockets and Accessories | | |
| 4-Pole DIN or Panel Mount Socket | 10 | D2PA6 |
| Hold Down Clip | 10 | PQC-1342 |
| 4-Pole DIN or Panel Mount Socket — Finger-Safe | 10 | D2PA7 |
| DIN Rail End Stop ② | 200 | PPF-M |

② Additional end stop options available in CA08102001E on Page 55-74.

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D2PF Series — Full Featured

Dimensions

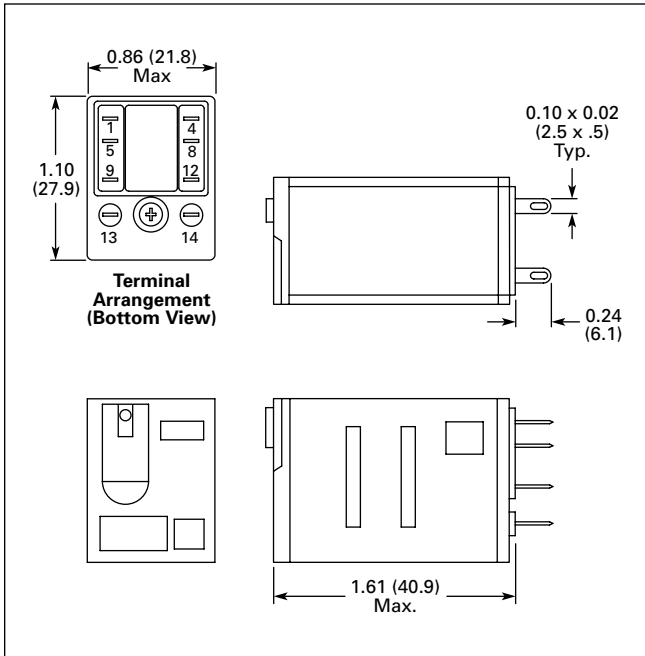


Figure 3-18. D2PF2 — Approximate Dimensions in Inches (mm)

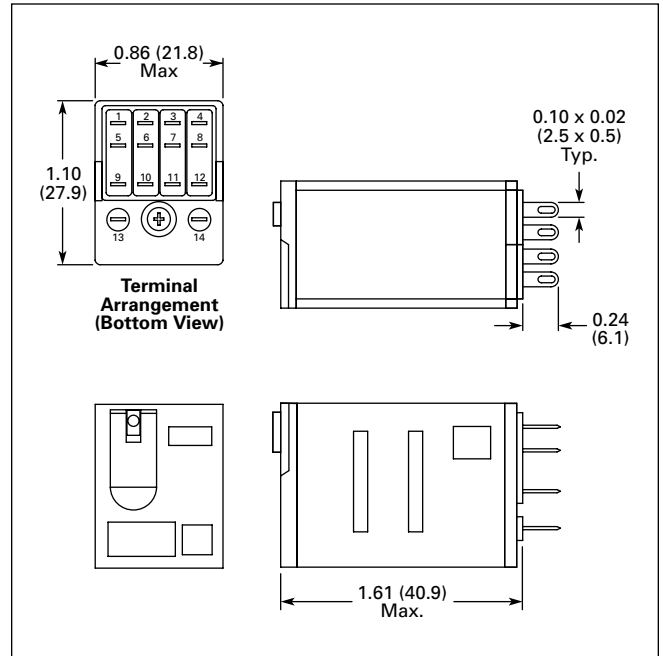


Figure 3-19. D2PF4 — Approximate Dimensions in Inches (mm)

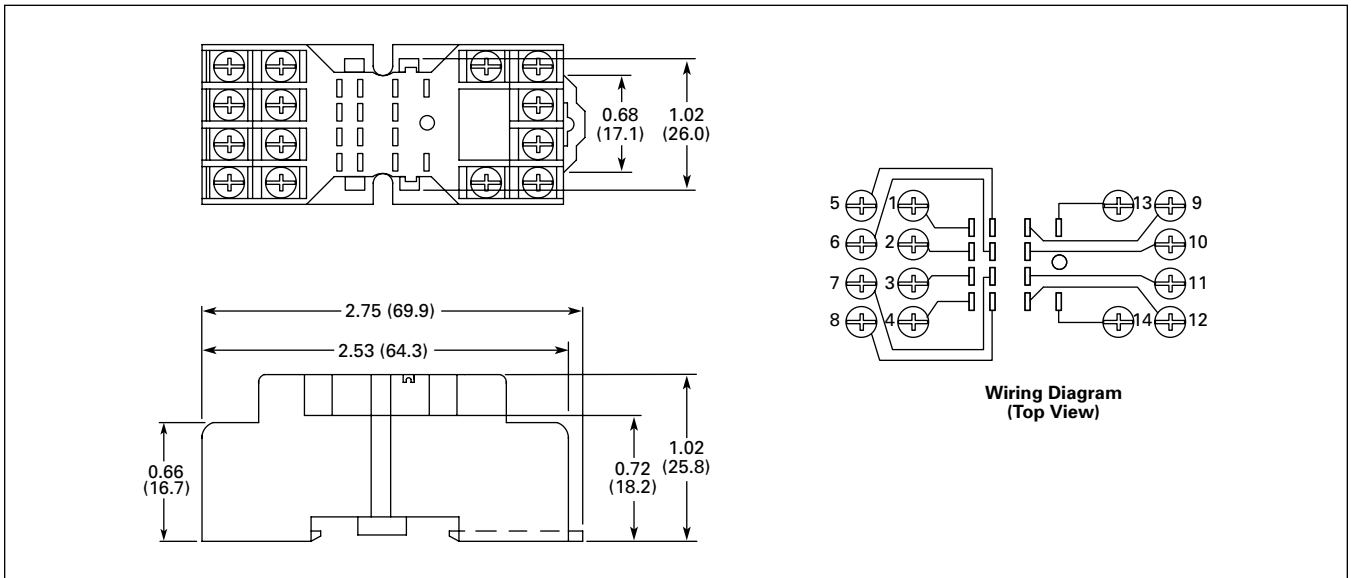


Figure 3-20. D2PA6 — Approximate Dimensions in Inches (mm)

D2PF Series — Full Featured

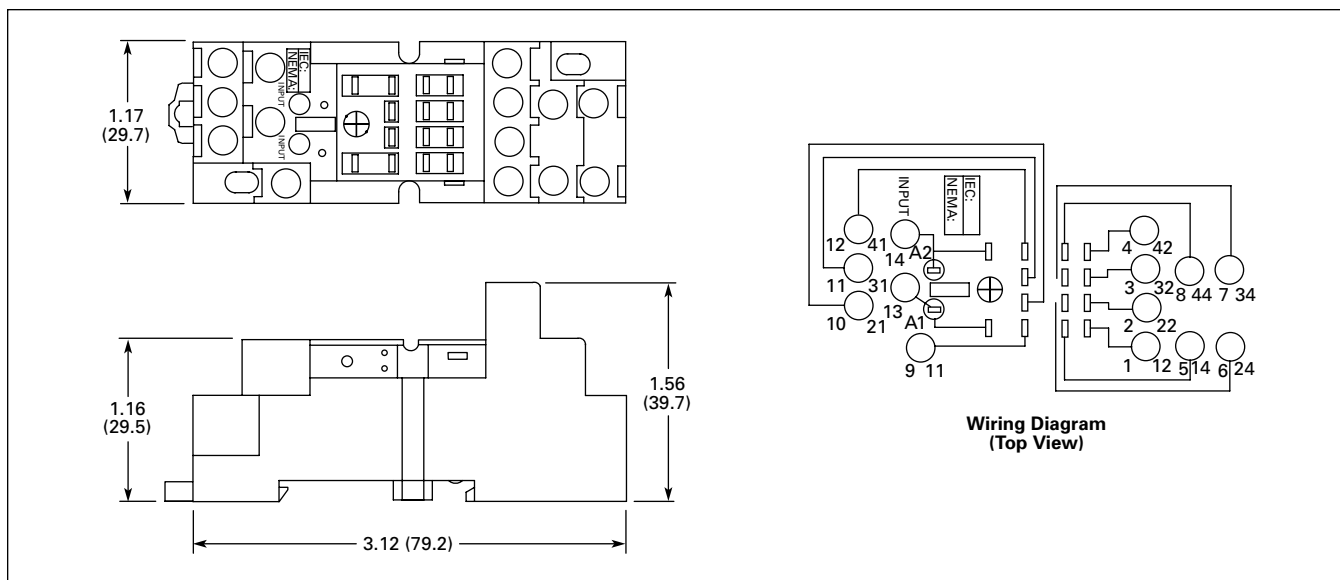


Figure 3-21. D2PA7 — Approximate Dimensions in Inches (mm)

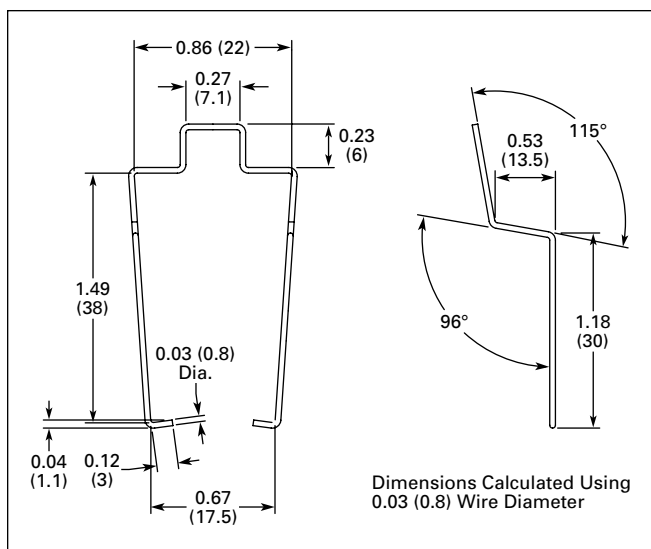


Figure 3-22. PQC-1342 — Approximate Dimensions in Inches (mm)

D2PR Series — Standard

D2PR Series



D2PR Series Relay

Features

- Ultra-high sensitivity relay with quick response
- Designed small, 2-pole type break 5A load and 4-pole type, 3A load
- High reliability, long life
- Panel, DIN rail and flange mounting
- Small size

Standards and Certifications

- UL File # E37317, E65657
- CS File # LR217017, LR217069
- CE

Technical Data and Specifications

Table 3-24. D2PR Coil Resistance

| Coil Voltage | Ohms | mA | |
|--------------|-------|-------|-------|
| | | 50 Hz | 60 Hz |
| 6V AC | 11 | 234 | 200 |
| 12V AC | 41 | 86.5 | 74 |
| 24V AC | 180 | 48 | 41 |
| 48V AC | 788 | 21 | 18 |
| 120V AC | 4430 | 12.9 | 11 |
| 240V AC | 15700 | 7 | 6 |
| 6V DC | 40 | 150 | |
| 12V DC | 160 | 75 | |
| 24V DC | 650 | 36.9 | |
| 48V DC | 2600 | 18.5 | |
| 110V DC | 11000 | 10 | |

Table 3-25. D2PR Socket Specifications

| Catalogue Number | Electrical Ratings | Mounting Torque | Hook-Up Wire Range |
|------------------|--------------------|-------------------|--------------------------------|
| D2PA4 | 7A, 250V | .785 Nm – 1.18 Nm | AWG 14 Max. |
| D2PA6 | 10A, 300V | 7 – 8 in-lbs | AWG 14 to 28 Solid or Stranded |

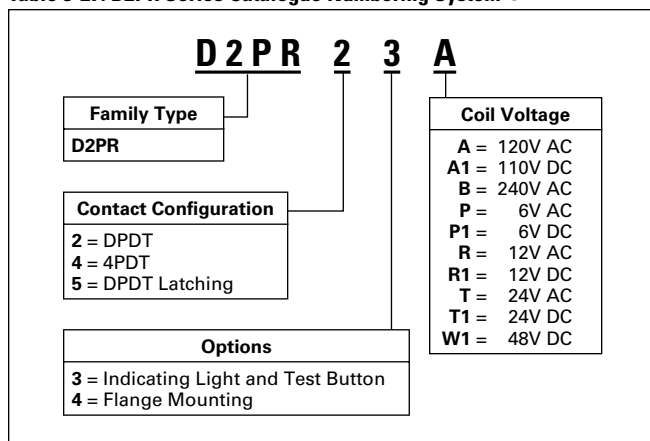
Table 3-26. D2PR Relay Specifications

| | Resistive Load (p.f. = 1) | Inductive Load (p.f. = 0.4, L/R = 7 ms) |
|----------------------------------------------|------------------------------|--------------------------------------------|
| D2PR2 | | |
| Rated Load | 240V AC 5A 30V DC 5A | 240V AC 2A 30V DC 2A |
| Carry Current | 5A | 5A |
| Max. Operating Voltage | 250V AC/125V DC | 250V AC/125V DC |
| Max. Operating Current | 5A | 5A |
| Contact Material | Silver Cadmium Oxide | Silver Cadmium Oxide |
| Max. Switching Capacity | 1100 VA 120W | 440 VA 48W |
| Min. Permissible Load | 100 mA, 5V DC | 100 mA, 5V DC |
| Pickup Voltage (max.) | 80% AC, 75% DC | 80% AC, 75% DC |
| Drop Out Voltage (min.) | 30% AC, 10% DC | 30% AC, 10% DC |
| Voltage (max.) | 110% | 110% |
| Mechanical Life (min.) | 10,000,000 operations | 10,000,000 operations |
| Electrical Life @ All Contact Ratings (min.) | 200,000 operations | 200,000 operations |
| Maximum hp Ratings | 1/6 hp (120V AC) | 1/6 hp (120/240V AC) |
| D2PR4 | | |
| Rated Load | 240V AC 3A 30V DC 3A | 240V AC 0.8A 30V DC 1.5A |
| Carry Current | 3A | 3A |
| Max. Operating Voltage | 250V AC/125V DC | 250V AC/125V DC |
| Max. Operating Current | 3A | 3A |
| Contact Material | Ag (Au Flashed) | Ag (Au Flashed) |
| Max. Switching Capacity | 660 VA 72W | 176 VA 36W |
| Min. Permissible Load | 1 mA, 1V DC | 1 mA, 1V DC |
| Pickup Voltage (max.) | 80% | 80% |
| Drop Out Voltage (min.) | 30% AC, 10% DC | 30% AC, 10% DC |
| Voltage (max.) | 110% | 110% |
| Mechanical Life (min.) | 10,000,000 operations | 10,000,000 operations |
| Electrical Life @ All Contact Ratings (min.) | 200,000 operations | 200,000 operations |
| Maximum hp Ratings | 1/10 hp (120/240V AC) | 1/10 hp (120/240V AC) |
| D2PR5 | | |
| Rated Load | 250V AC 5A 30V DC 5A | 250V AC 2A 30V DC 2A |
| Carry Current | 3A | 3A |
| Max. Operating Voltage | 250V AC/125V DC | 250V AC/125V DC |
| Max. Operating Current | 3A | 3A |
| Contact Material | Ag (Au flashed) | Ag (Au flashed) |
| Max. Switching Capacity | 660 VA 72W | 176 VA 36W |
| Min. Permissible Load | 100 mA, 1V DC | 100 mA, 1V DC |
| Pickup Voltage (max.) | 80% | 80% |
| Drop Out Voltage (min.) | 30% AC, 10% DC | 30% AC, 10% DC |
| Set/Reset Voltage (max.) | 80% | 80% |
| Voltage (max.) | 110% | 110% |
| Mechanical Life (min.) | 100 million operations | 100 million operations |
| Electrical Life @ All Contact Ratings (min.) | 200,000 operations | 200,000 operations |
| Maximum hp Ratings | 1/8 hp (265V AC) | 1/8 hp (265V AC) |

D2PR Series — Standard

Catalogue Number Structure

Table 3-27. D2PR Series Catalogue Numbering System ①



① For deciphering Catalog Numbers. Do not use for ordering as not all combinations are readily available.

Table 3-28. D2PR Relay/Socket Quick Reference

| Relay Type | Socket | Hold Down Spring/Clip |
|------------|--------|-----------------------|
| D2PR2 | D2PA6 | PMC-A1 |
| D2PR4 | D2PA6 | PMC-A1 |
| D2PR5 | D2PA4 | PYC-A1 |

Product Selection

Table 3-29. D2PR Product Selection ②

| | Std. Pack | Catalogue Number |
|---------------------------------------------------------------------------------|-----------|----------------------------------|
| Standard DPDT | | |
| Coil Voltage: 24V AC 110V AC 240V AC | | D2PR2T D2PR2A D2PR2B |
| 12V DC 24V DC | | D2PR2R1 D2PR2T1 |
| DPDT with Indicating Light and Test Button | | |
| 24V AC 110V AC | | D2PR23T D2PR23A |
| 24V DC | | D2PR23T1 |
| DPDT Flange Mount | | |
| 110V AC | | D2PR24A |
| Standard 4PDT | | |
| Coil Voltage: 24V AC 110V AC | | D2PR4T D2PR4A |
| 12V DC 24V DC 110V DC | | D2PR4R1 D2PR4T1 D2PR4A1 |
| 4PDT with Indicating Light and Test Button | | |
| 24V AC 110V AC | | D2PR43T D2PR43A |
| 12V DC 24V DC 110V DC | | D2PR43R1 D2PR43T1 D2PR43A1 |
| 4PDT Flange Mount | | |
| 110V AC | | D2PR44A |
| DPDT Latching | | |
| 110V AC | | D2PR5A |
| 24V DC | | D2PR5T1 |
| DIN Rail or Panel Mount Socket and Accessories | | |
| 4-Pole Socket | 10 | D2PA6 |
| Spring Clip | 100 | PMC-A1 |
| DIN Rail End Stop | 100 | PPF-M |
| DIN Rail or Panel Mount Socket and Accessories for D2PR5 Latching Relays | | |
| 4-Pole Socket | 10 | D2PA4 |
| Hold-Down Spring | 100 | PYC-A1 |
| DIN Rail End Stop ③ | 100 | PPF-M |

② Additional coil voltages available — consult Contact Customer Support Centre 1-800-268-3578.

③ Additional end stop options available in CA08102001E on Page 55-74.

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D2PR Series — Standard

Dimensions

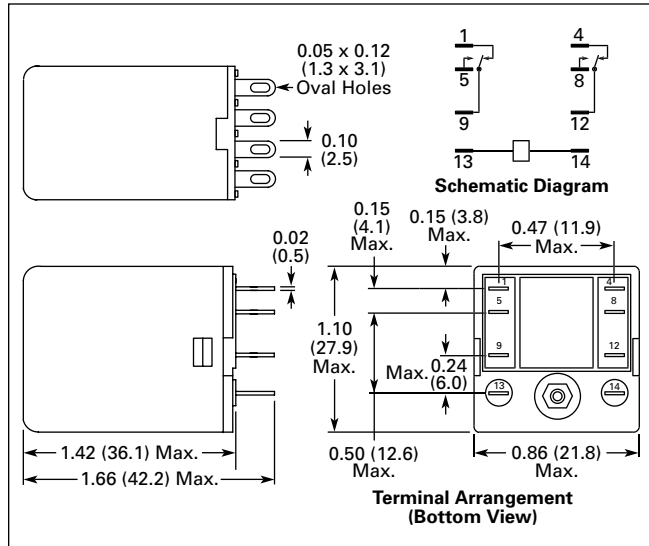


Figure 3-23. D2PR2 — Approximate Dimensions in Inches (mm)

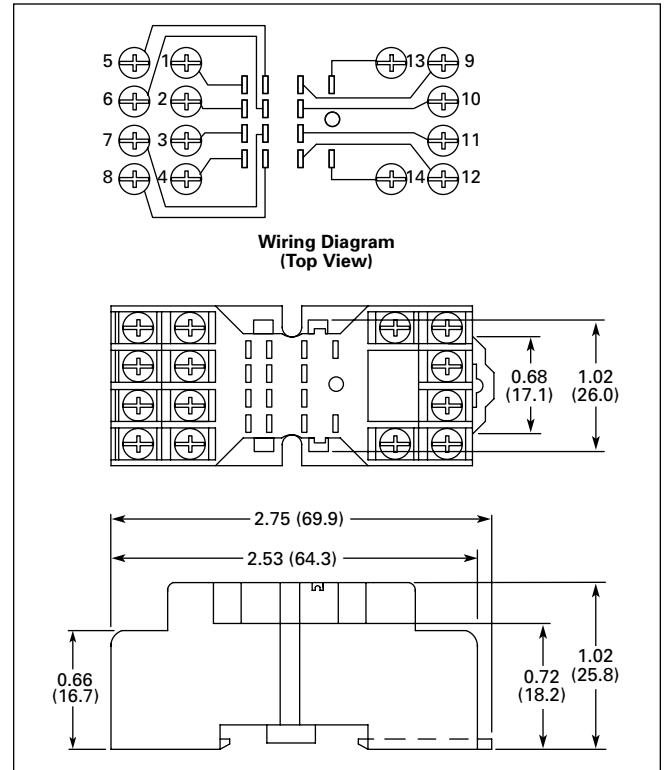


Figure 3-25. D2PA6 — Approximate Dimensions in Inches (mm)

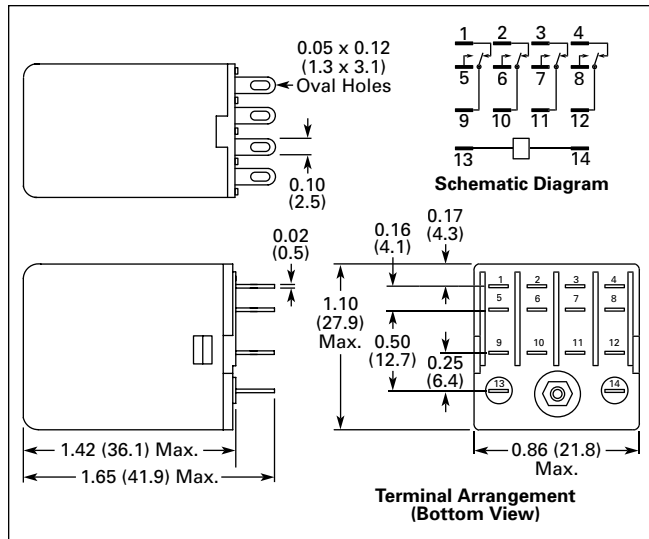


Figure 3-24. D2PR4/D2PR44 — Approximate Dimensions in Inches (mm)

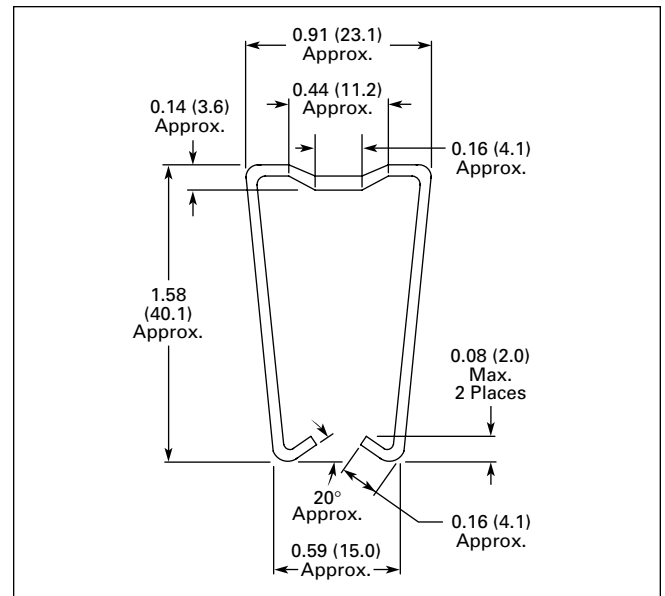


Figure 3-26. PMC-A1 Spring Clip for D2PA6

D2PR Series — Standard

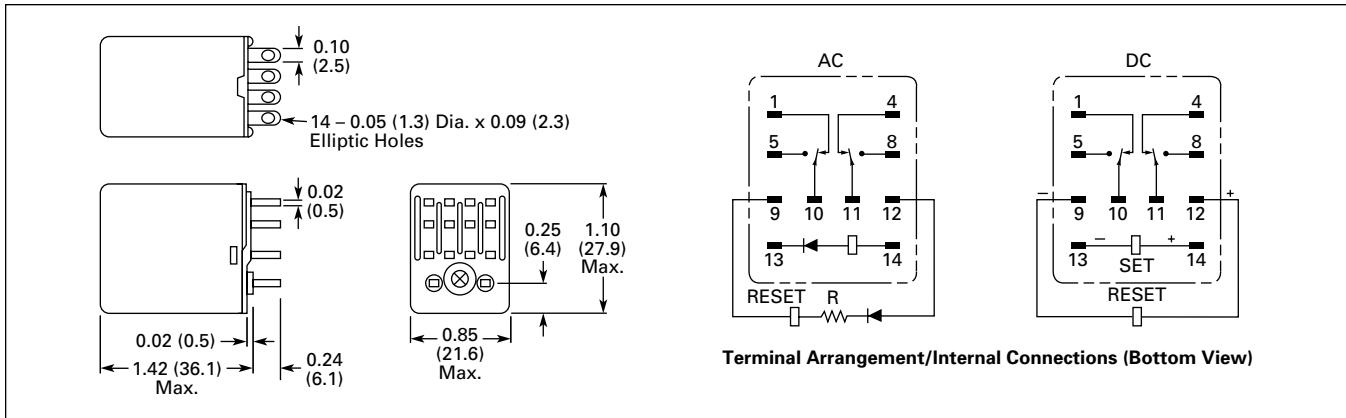


Figure 3-27. D2PR5 — Approximate Dimensions in Inches (mm)

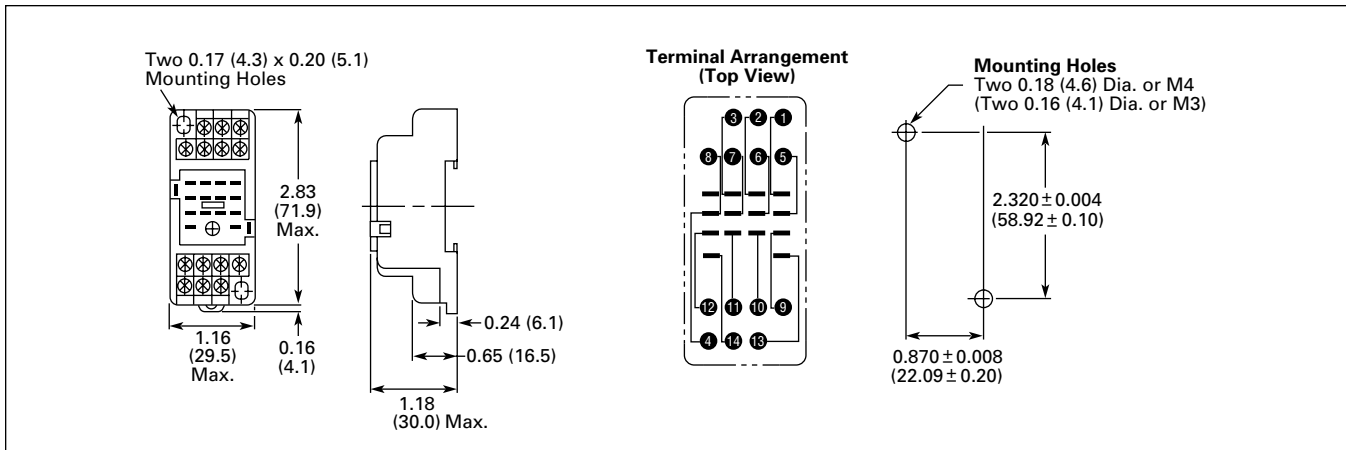


Figure 3-28. D2PA4 Socket for D2PR5 DPDT Latching Relays Only — Approximate Dimensions in Inches (mm)

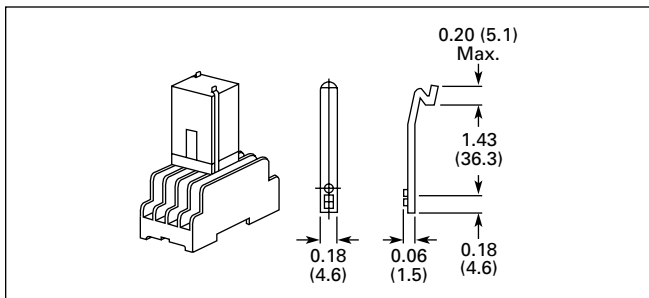


Figure 3-29. PYC-A1 Hold down Clip for D2PA4 Socket — Approximate Dimensions in Inches (mm)

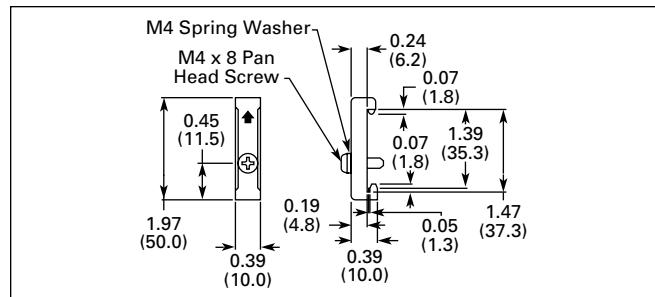


Figure 3-30. PFP-M DIN Rail End Stop — Approximate Dimensions in Inches (mm)

D3PR/D3PF Series



D3 Series Relay

Features




D3PR


- Compact relay capable of breaking relatively large load currents
- The contact operation can be easily checked by push-to-test button
- Panel and DIN rail mounting
- 8- or 11-pin octal plug-in

D3PF

- Flag indicator shows relay status in manual or powered condition
- LED status lamp shows coil “ON” or “OFF” status — ideal for use in low light applications
- Push-to-test button allows for manual operation of relay without the need for coil power
- Lock-down door holds pushbutton and contacts in the operate position when activated
- Finger-grip cover allows operator to remove relays from sockets easily
- I.D. tag/write label to identify relays in multiple-relay circuits
- Bi-polar LED allows for reverse polarity applications

Standards and Certifications




 (CSA approval not applicable to D3PR5 Relays)


 When used with accompanying Cutler-Hammer® screw terminal socket (for D3PF only).

Technical Data and Specifications

Table 3-30. Coil Resistance for D3PR Series

| Coil Voltage | Ohms | | mA | | | |
|--------------|-----------|---------------------------|----------------|-------|------------|-------|
| | D3PR2/PR3 | D3PR5 – DC (Each Coil) | D3PR2/PR3 – AC | | D3PR5 – AC | |
| | | | 50 Hz | 60 Hz | 50 Hz | 60 Hz |
| 6V AC | 4.2 | — | 550 | 458 | — | — |
| 12V AC | 18 | — | 275 | 229 | — | — |
| 24V AC | 72 | 52 | 137 | 114 | 13 | 11 |
| 120V AC | 2200 | 1200 | 28 | 23 | 3.5 | 2.8 |
| 240V AC | 7200 | 3200 | 13 | 11 | 1.7 | 1.6 |
| 6V DC | 32 | — | 187 | | — | |
| 12V DC | 120 | 88 | 100 | | 136 | |
| 24V DC | 470 | 350 | 50 | | 69 | |
| 48V DC | 1900 | — | 25 | | — | |
| 110V DC | 10000 | 4000 | 11 | | 27 | |

Table 3-31. Coil Resistance for D3PF Series

| Coil Voltage | Ohms | mA | |
|--------------|--------|-------|-------|
| | | 50 Hz | 60 Hz |
| 24V AC | 72 | 398.0 | 340 |
| 120V AC | 1,700 | 76.0 | 65 |
| 240V AC | 7,200 | 28.0 | 24 |
| 12V DC | 120 | 100.0 | — |
| 24V DC | 470 | 49.9 | — |
| 110V DC | 10,000 | 13.2 | — |

D3PR/DP3F Series — Standard and Full Featured

Table 3-32. Relay Specifications

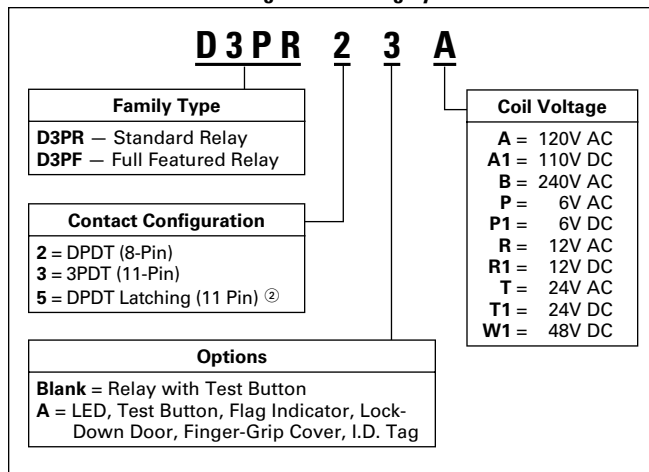
| | D3PR2/D3PR3 | D3PR2/D3PR3 | D3PF2/D3PF3 | D3PR5 | D3PR5 |
|-------------------------------------------------|------------------------------------------------------------------|------------------------------------------------------------------|-----------------------------------------------------|------------------------------------------------------------------|------------------------------------------------------------------|
| | Resistive Load (p.f. = 1) | Inductive Load (p.f. = 0.4, L/R = 7 ms) | Resistive Load (p.f. = 1.0) | Resistive Load (p.f. = 1) | Inductive Load (p.f. = 0.4, L/R = 7 ms) |
| Rated Load | 240V AC 10A 120V AC 12A 28V DC 10A | 240V AC 7A 120V AC 7A 28V DC 7A | 240V AC 12A 120V AC 12A 28V DC 12A | 240V AC 10A 120V AC 12A 30V DC 10A | 240V AC 7A 120V AC 7A 30V DC 7A |
| Carry Current | 10A | 10A | 12 Amps | 10A | 10A |
| Max. Operating Voltage | 240V AC/DC | 240V AC/DC | 110% of nominal | 240V AC/DC | 240V AC/DC |
| Contact Resistance | 50 milli Ω's Max. @ 10 Amps 120V AC or 24V DC | 50 milli Ω's Max. @ 10 Amps 120V AC or 24V DC | 50 milli Ω's Max. @ 10 Amps 120V AC or 24V DC | 50 milli Ω's Max. @ 10 Amps 120V AC or 24V DC | 50 milli Ω's Max. @ 10 Amps 120V AC or 24V DC |
| Dielectric Strength | 1500V | 1500V | 1500V | 1500V | 1500V |
| Approx. Weight | 3.5 oz (99.2g) | 3.5 oz (99.2g) | 3.1 oz (88g) | 3.5 oz (99.2g) | 3.5 oz (99.2g) |
| Temperature — Operating | -49 – 131°F (-45 – 55°C) AC -49 – 158°F (-45 – 70°C) DC | -49 – 131°F (-45 – 55°C) AC -49 – 158°F (-45 – 70°C) DC | -22 – 122°F (-30 – 50°C) | -49 – 131°F (-45 – 55°C) AC -49 – 158°F (-45 – 70°C) DC | -49 – 131°F (-45 – 55°C) AC -49 – 158°F (-45 – 70°C) DC |
| Storage | -40 – 221°F (-40 – 105°C) | -40 – 221°F (-40 – 105°C) | -22 – 212°F (-30 – 100°C) | -40 – 221°F (-40 – 105°C) | -40 – 221°F (-40 – 105°C) |
| Contact Material | AgCdO (Au Flashed) | AgCdO (Au Flashed) | AgCdO (Au Flashed) | AgCdO (Au Flashed) | AgCdO (Au Flashed) |
| Max. Switching Capacity | 2500 VA 280W | 1750 VA 196W | 12 Amps | 1100 VA 72W | 440 VA 60W |
| Min. Permissible Load | 100 mA @ 12V | 100 mA @ 12V | 100 mA | 100 mA @ 12V | 100 mA @ 12V |
| Pickup Voltage (max.) | 80% | 80% | 85% AC; 80% DC | — | — |
| Drop Out Voltage (min.) | 10% | 10% | 30% AC 10% DC | — | — |
| Set/Reset Voltage (max.) | — | — | — | 80% | 80% |
| Voltage (max.) | 110% | 110% | 110% | 110% | 110% |
| Mechanical Life (min.) | 10,000,000 | 10,000,000 | 5 million (No Load) | 10,000,000 | 10,000,000 |
| Electrical Life @ All Contact Ratings (min.) | 100,000 | 100,000 | 200,000 operations at Rated Res. Load | 100,000 | 100,000 |
| Maximum hp Ratings | 1/3 hp (120V AC) 1/2 hp (240V AC) | 1/3 hp (120V AC) 1/2 hp (240V AC) | 1/3 hp, 120V AC 1/2 hp, 240V AC | 1/3 hp (120V AC) 1/2 hp (240V AC) | 1/3 hp (120V AC) 1/2 hp (240V AC) |

Table 3-33. Socket Specifications

| Catalogue Number | Electrical Ratings | Mounting Torque | Hook-Up Wire Range |
|------------------|------------------------|-----------------|-----------------------------------|
| D3PA2 | 10A, 600V 15A, 300V | 8 – 10 in-lbs | AWG 12 to 22 Solid or Stranded |
| D3PA3-A2 | 5A, 600V 15A, 300V | 8 – 10 in-lbs | AWG 12 to 22 Solid or Stranded |
| D3PA6 | 5A, 600V 16A, 300V | 8 – 10 in-lbs | AWG 12 to 20 Solid or Stranded |
| D3PA7 | 5A, 600V 16A, 300V | 8 – 10 in-lbs | AWG 12 to 20 Solid or Stranded |
| D3PA4 | 10A, 260V | N/A | AWG 14 Max. |
| D3PA5 | 10A, 260V | N/A | AWG 14 Max. |

Catalogue Number Structure

Table 3-34. D3 Series Catalogue Numbering System ①



① For deciphering Catalogue Numbers. Do not use for ordering as not all combinations are readily available.

② D3PR only.

Table 3-35. Relay/Socket Quick Reference

| Relay Type | Socket Type | Socket | Hold Down Spring/Clip |
|------------|-----------------------------------------|----------|-----------------------|
| D3PR2 | 8 Pin Octal | D3PA2 | PQC-1344 |
| | | D3PA4 | Not Available |
| | | D3PA6 | PQC-1332 |
| D3PF2 | 8 Pin Octal — Finger-safe terminals | D3PA2 | PQC-1344 |
| | | D3PA6 | PQC-1332 |
| D3PR3 | 11 Pin Octal | D3PA3-A2 | PQC-1351 |
| | | D3PA5 | Not Available |
| | | D3PA7 | PQC-1332 |
| D3PF3 | 11 Pin Octal — Finger-safe terminals | D3PA3-A2 | PQC-1351 |
| | | D3PA7 | PQC-1332 |
| D3PR5 | 11 Pin Octal | D3PA3-A2 | PQC-1351 |
| | | D3PA5 | Not Available |
| | | D3PA7 | PQC-1332 |

Product Selection

Table 3-36. D3 Product Selection ③

| | Std. Pack | Catalogue Number |
|---------------------------------------|-----------|------------------|
| Standard DPDT with Test Button | | |
| Coil Voltage: | | |
| 12V AC | 1 | D3PR2R |
| 24V AC | 1 | D3PR2T |
| 120V AC | 1 | D3PR2A |
| 240V AC | 1 | D3PR2B |
| 12V DC | 1 | D3PR2R1 |
| 24V DC | 1 | D3PR2T1 |
| 110V DC | 1 | D3PR2A1 |
| DPDT Full Featured Relay | | |
| 24V AC | 1 | D3PF2AT |
| 120V AC | 1 | D3PF2AA |
| 240V AC | 1 | D3PF2AB |
| 12V DC | 1 | D3PF2AR1 |
| 24V DC | 1 | D3PF2AT1 |
| 110V DC | 1 | D3PF2AA1 |
| Standard 3PDT with Test Button | | |
| Coil Voltage: | | |
| 24V AC | 1 | D3PR3T |
| 120V AC | 1 | D3PR3A |
| 240V AC | 1 | D3PR3B |
| 12V DC | 1 | D3PR3R1 |
| 24V DC | 1 | D3PR3T1 |
| 110V DC | 1 | D3PR3A1 |
| 3PDT Full Featured Relay | | |
| 24V AC | 1 | D3PF3AT |
| 120V AC | 1 | D3PF3AA |
| 240V AC | 1 | D3PF3AB |
| 24V DC | 1 | D3PF3AT1 |
| 110V DC | 1 | D3PF3AA1 |
| DPDT Latching ⑤ | | |
| 24V AC | 1 | D3PR5T |
| 120V AC | 1 | D3PR5A |
| DIN Rail Sockets | | |
| 2-Pole (8-Pin) | 10 | D3PA2 |
| 2-Pole (8-Pin) Finger-Safe ⑥ | 1 | D3PA6 |
| 3-Pole (11-Pin) | 10 | D3PA3 |
| 3-Pole (11-Pin) Finger-Safe ⑥ | 1 | D3PA7 |
| Panel Mount Sockets | | |
| 2-Pole | 10 | D3PA4 |
| 3-Pole | 10 | D3PA5 |
| Accessories | | |
| Hold Down Clip | 10 | PQC-1344 |
| Hold Down Clip | 25 | PQC-1332 |
| Hold Down Clip | 10 | PQC-1351 |
| Hold Down Clip | 100 | PWC-1325 |
| Coil Buss Jumper for D3PA6 & D3PA7 | 25 | D3PJ1 |
| DIN Rail End Stop ④ | 100 | PPF-M |

③ Additional coil voltages available — consult Contact Customer Support Centre 1-800-268-3578.

④ Dimensions on **Page 31**.

⑤ CSA approval is not applicable to D3PR5 Latching Relays.

⑥ IP20 Rated.

D3PR/DP3F Series — Standard and Full Featured

Dimensions

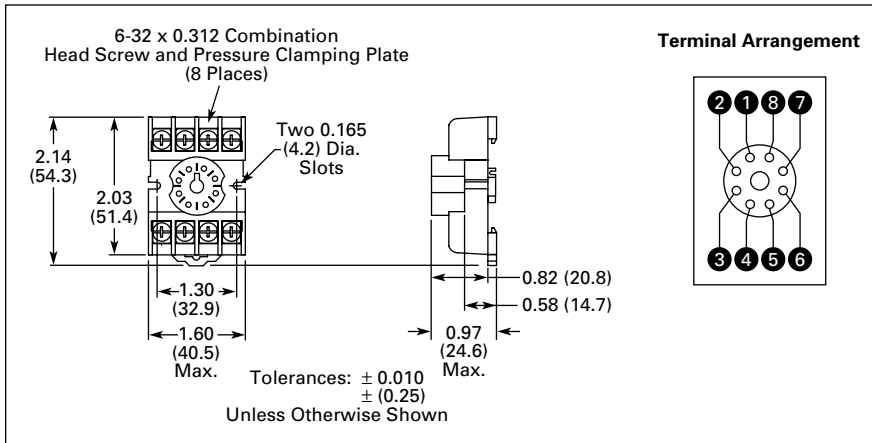


Figure 3-31. D3PA2 — Approximate Dimensions in Inches (mm)

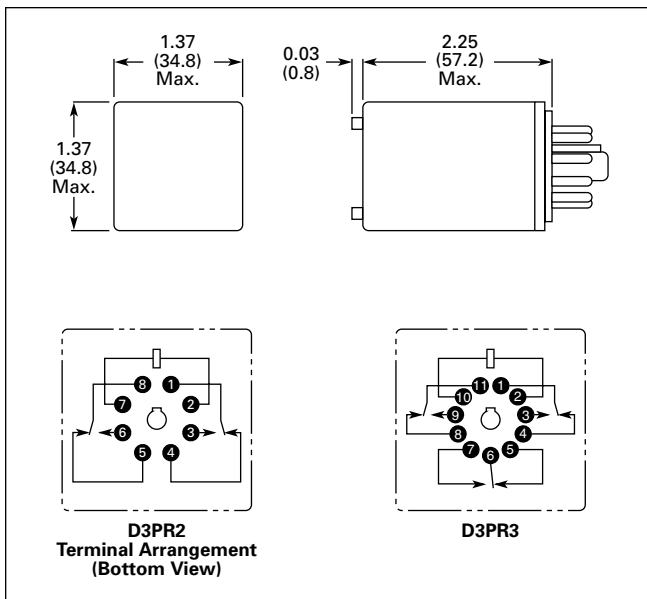


Figure 3-32. D3PR2/D3PR3 — Approximate Dimensions in Inches (mm)

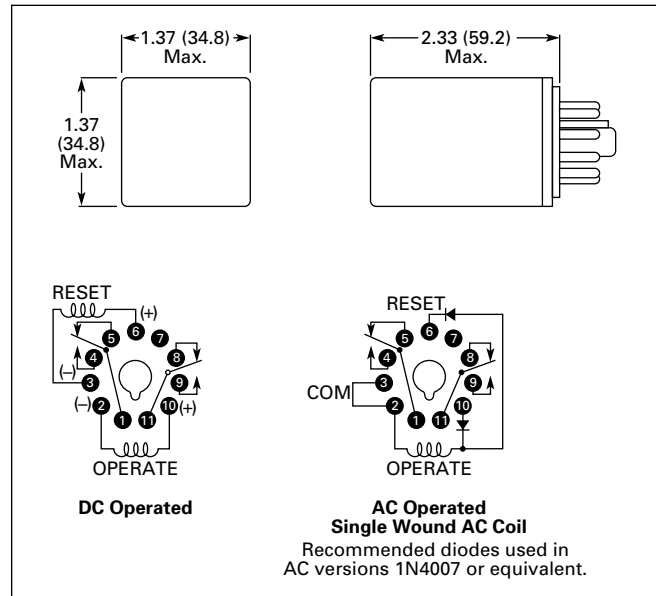


Figure 3-33. D3PR5 — Approximate Dimensions in Inches (mm)

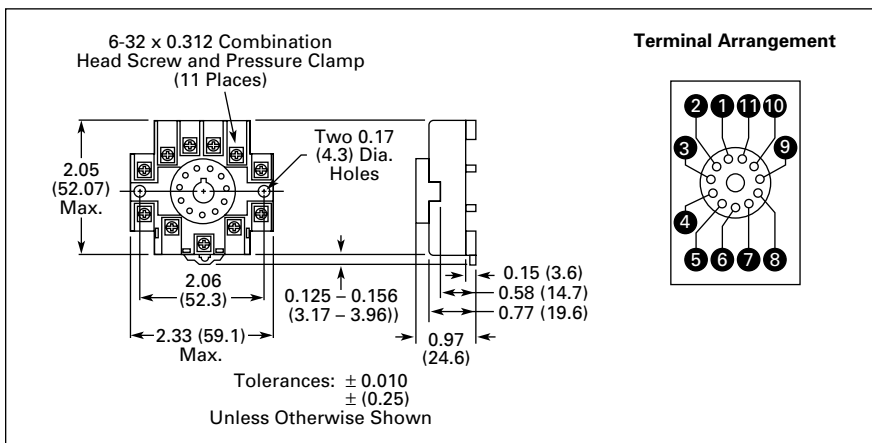


Figure 3-34. D3PA3-A2 — Approximate Dimensions in Inches (mm)

April 2009

D3PR/DP3F Series — Standard and Full Featured



D3PJ1

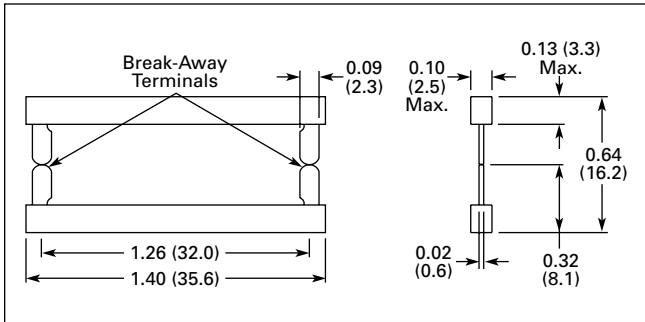


Figure 3-35. D3PJ1 — Approximate Dimensions in Inches (mm)

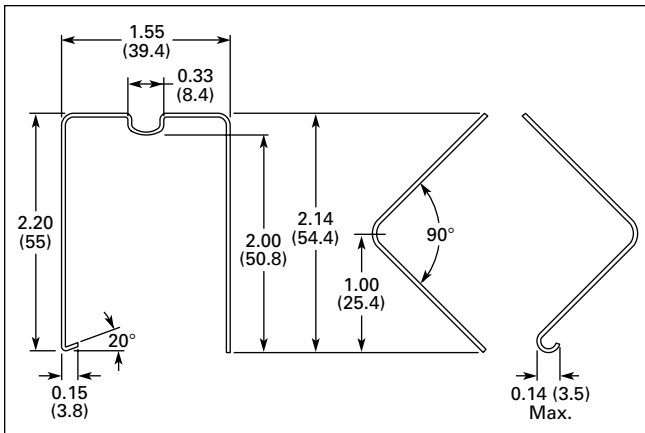


Figure 3-36. PQC-1332 — Approximate Dimensions in Inches (mm)

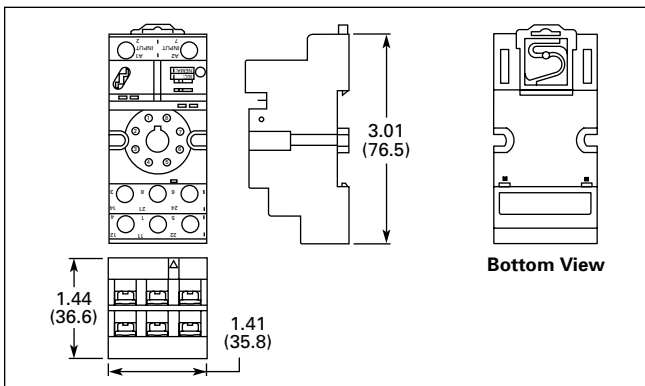


Figure 3-37. D3PA6 — Approximate Dimensions in Inches (mm)

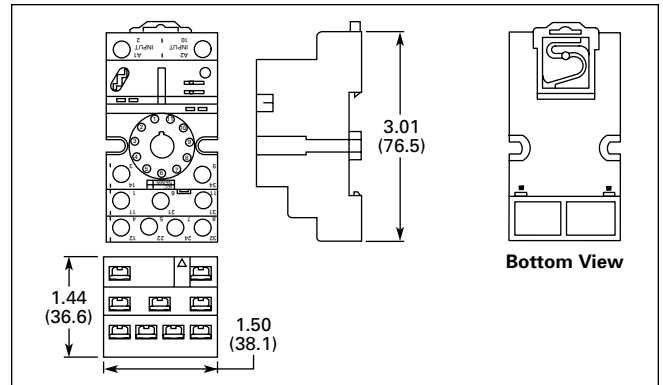


Figure 3-38. D3PA7 — Approximate Dimensions in Inches (mm)

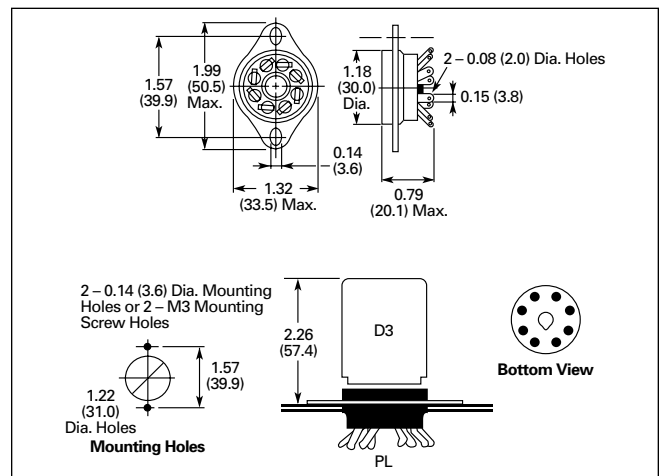


Figure 3-39. D3PA4 — Approximate Dimensions in Inches (mm)

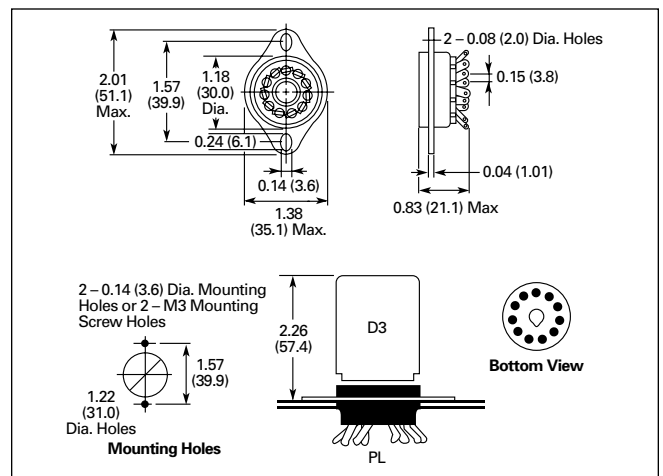


Figure 3-40. D3PA5 — Approximate Dimensions in Inches (mm)

D3PR/DP3F Series — Standard and Full Featured

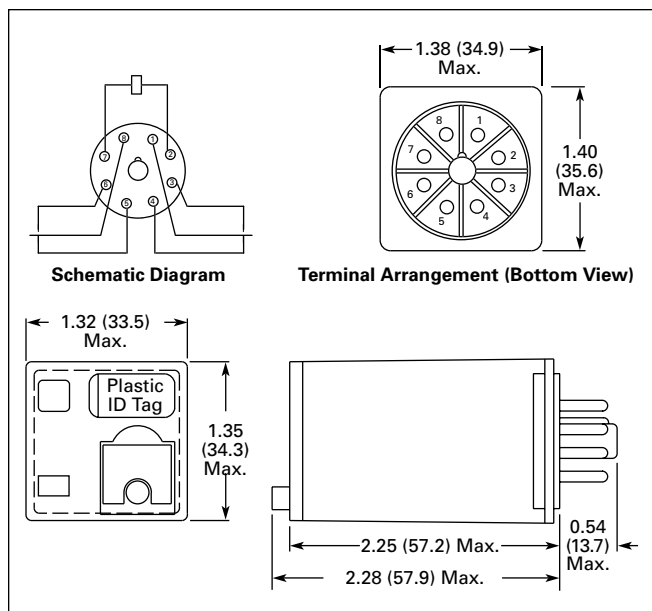


Figure 3-41. D3PF2 — Approximate Dimensions in Inches (mm)

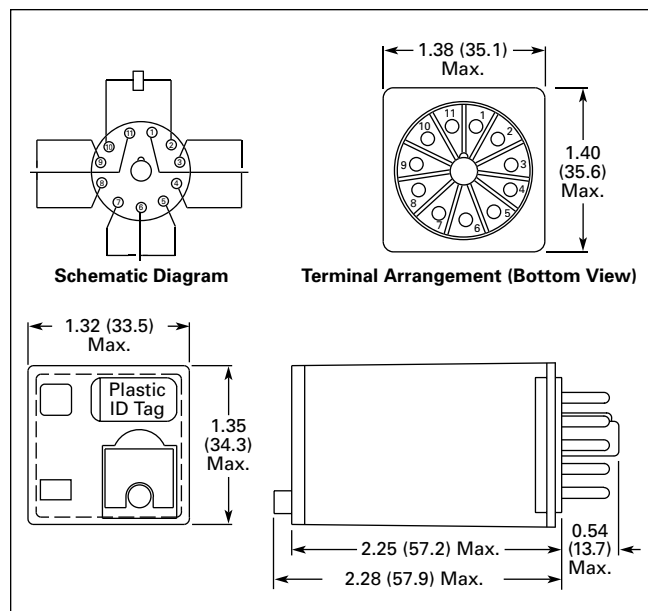


Figure 3-42. D3PF3 — Approximate Dimensions in Inches (mm)

D4 Series



D4 Series Relay

Features

- Slim-styled power relay
- Socket has built-in hold-down clip
- Panel or DIN rail mounting

Standards and Certifications

RU File # E1491, E65657

SP File # LR701519



Technical Data and Specifications

Table 3-37. Coil Resistance

| Coil Voltage | Ohms | mA |
|--------------|-------|------------|
| | | @ 60 Hz AC |
| 6V AC | 16 | 150 |
| 12V AC | 65 | 75 |
| 24V AC | 260 | 37.5 |
| 48V AC | 1130 | 18 |
| 110/120V AC | 6500 | 7.5 |
| 220/240V AC | 30000 | 3.8 |
| 6V DC | 68 | 88.2 |
| 12V DC | 275 | 43.6 |
| 24V DC | 1100 | 21.8 |
| 48V DC | 4170 | 11.5 |
| 100/110V DC | 22900 | 4.8 |

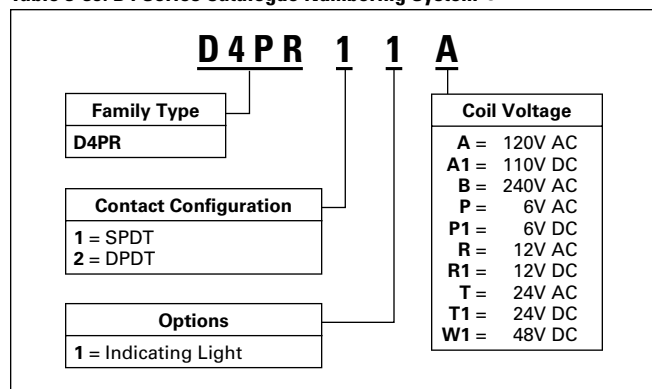
Table 3-38. Specifications

| | D4PR1 | | D4PR2 | |
|-------------------------------------------------|----------------------------------------------------------|----------------------------------------------------------|----------------------------------------------------------|----------------------------------------------------------|
| | Resistive Load (p.f. = 1) | Inductive Load (p.f. = 0.4, L/R = 7 ms) | Resistive Load (p.f. = 1) | Inductive Load (p.f. = 0.4, L/R = 7 ms) |
| Rated Load | 250V AC 10A 30V DC 10A | 250V AC 7.5A 30V DC 5A | 240V AC 5A 30V DC 5A | 250V AC 2A 30V DC 3A |
| Carry Current | 10A | 10A | 5A | 5A |
| Max. Operating Voltage | 380V AC/125V DC | 380V AC/125V DC | 380V AC/125V DC | 380V AC/125V DC |
| Max. Operating Current | 10A | 10A | 5A | 5A |
| Contact Material | AgCdO | AgCdO | AgCdO | AgCdO |
| Max. Switching Capacity | 2500 VA 300W | 1875 VA 150W | 1250 VA 150W | 500 VA 90W |
| Min. Permissible Load | 100 mA, 5V DC | 100 mA, 5V DC | 10 mA, 5V DC | 10 mA, 5V DC |
| Pickup Voltage (max.) | 80% AC/70% DC | 80% AC/70% DC | 80% AC/70% DC | 80% AC/70% DC |
| Drop Out Voltage (min.) | 30% AC/15% DC | 30% AC/15% DC | 30% AC/15% DC | 30% AC/15% DC |
| Voltage (max.) | 110% | 110% | 110% | 110% |
| Mechanical Life (min.) | 10,000,000 AC/20,000,000 DC | 10,000,000 AC/20,000,000 DC | 10,000,000 AC/20,000,000 DC | 10,000,000 AC/20,000,000 DC |
| Electrical Life @ All Contact Ratings (min.) | 100,000 | 100,000 | 100,000 | 100,000 |
| Maximum hp Ratings | 1/3 hp (125V AC) 1/2 hp (250V AC) 1/2 hp (277V AC) | 1/3 hp (125V AC) 1/2 hp (250V AC) 1/2 hp (277V AC) | 1/6 hp (120V AC) 1/3 hp (240V AC) 1/3 hp (265V AC) | 1/6 hp (120V AC) 1/3 hp (240V AC) 1/3 hp (265V AC) |

D4 Series — Standard

Catalogue Number Structure

Table 3-39. D4 Series Catalogue Numbering System ①



① For deciphering Catalogue Numbers. Do not use for ordering as not all combinations are readily available.

Table 3-40. Relay/Socket Quick Reference

| Relay Type | Socket | Hold Down Clip |
|------------|--------|----------------|
| D4PR1 | D4PA1 | ② |
| D4PR2 | D4PA2 | ② |

② Socket has built-in hold down spring.

Product Selection

Table 3-41. D4 Product Selection ③

| | Std. Pack | Catalogue Number |
|-----------------------------------|-----------|------------------|
| Standard SPDT | | |
| Coil Voltage: | | |
| 24V AC | | D4PR1T |
| 120V AC | | D4PR1A |
| 24V DC | | D4PR1T1 |
| SPDT with Indicating Light | | |
| 24V AC | | D4PR11T |
| 120V AC | | D4PR11A |
| 24V DC | | D4PR11T1 |
| Standard DPDT | | |
| 24V AC | | D4PR2T |
| 120V AC | | D4PR2A |
| 12V DC | | D4PR2R1 |
| 24V DC | | D4PR2T1 |
| DPDT with Indicating Light | | |
| 120V AC | | D4PR21A |
| 24V DC | | D4PR21T1 |
| DIN Rail Sockets | | |
| 1-Pole | 10 | D4PA1 |
| 2-Pole | 10 | D4PA2 |
| Accessories | | |
| DIN Rail End Stop | 100 | FPF-M |

③ Additional coil voltages available — consult Contact Customer Support Centre 1-800-268-3578.

Dimensions

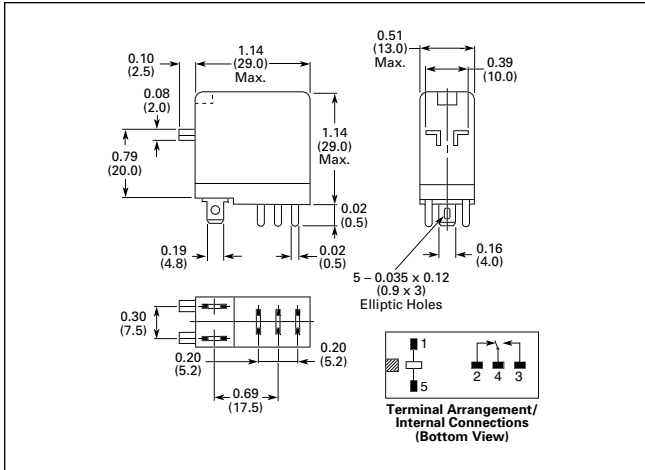


Figure 3-43. D4PR1 — Approximate Dimensions in Inches (mm)

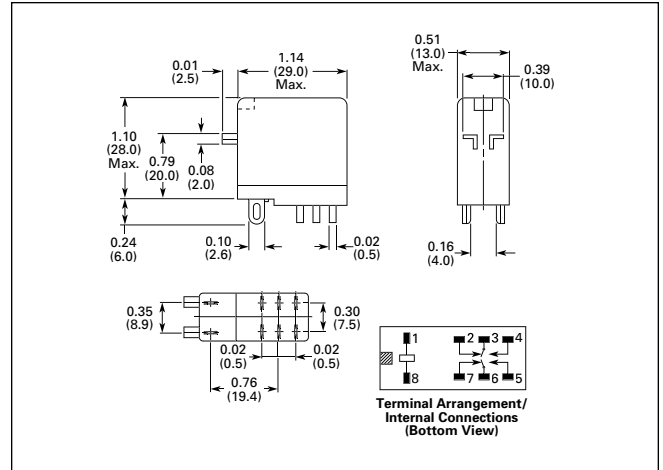


Figure 3-44. D4PR2 — Approximate Dimensions in Inches (mm)

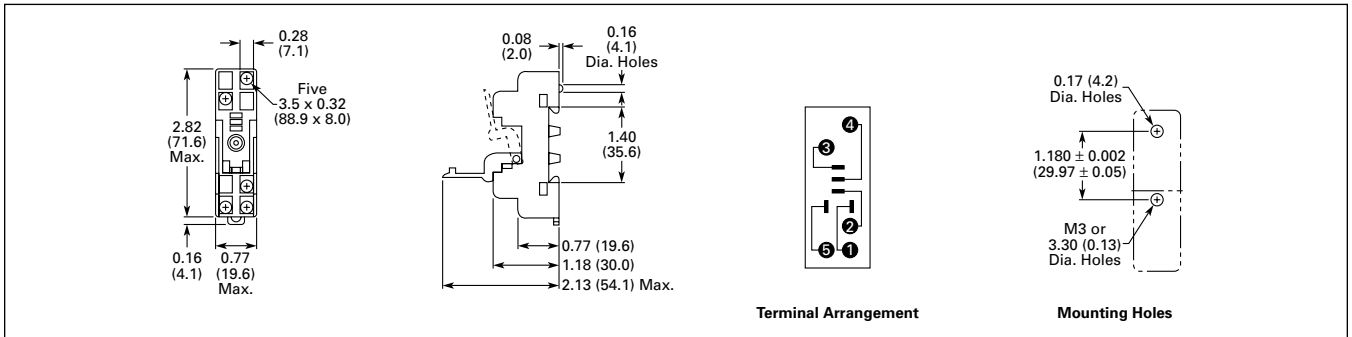


Figure 3-45. D4PA1 — Approximate Dimensions in Inches (mm)

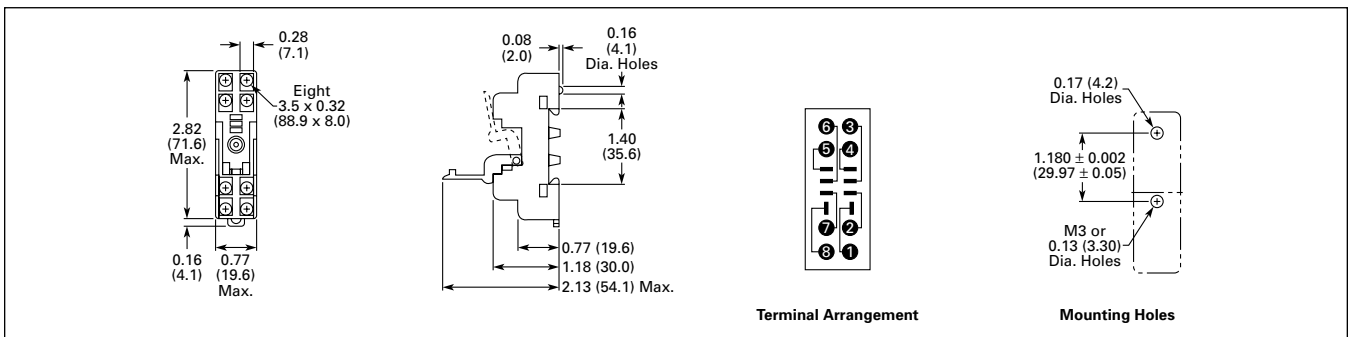


Figure 3-46. D4PA2 — Approximate Dimensions in Inches (mm)

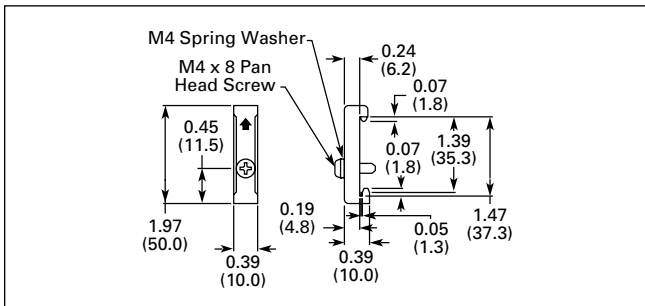


Figure 3-47. PFP-M DIN Rail End Stop — Approximate Dimensions in Inches (mm)

D5PR/D5PF Series



D5 Series Relay

Features

D5PR

- Industrial rated 300V, 15A relay in 2-pole and 3-pole configurations
- Compact design can be panel or DIN rail mounted

D5PF

- Flag indicator shows relay status in manual or powered condition
- LED status lamp shows coil "ON" or "OFF" status — ideal for use in low light applications
- Push-to-test button allows for manual operation of relay without the need for coil power
- Lock-down door holds pushbutton and contacts in the operate position when activated
- Finger-grip cover allows operator to remove relays from sockets easily
- I.D. tag/write label to identify relays in multiple-relay circuits
- Bi-polar LED allows for reverse polarity applications

3 Standards and Certifications



When used with accompanying Cutler-Hammer® screw terminal socket (D5PF only).

Technical Data and Specifications

Table 3-42. Coil Resistance for D5PR Series

| Coil Voltage | Ohms | | mA | |
|--------------|-------|-------|-------|-------|
| | D5PR2 | D5PR3 | D5PR2 | D5PR3 |
| 6V AC | 6 | 4.2 | 330 | 458 |
| 12V AC | 24 | 18 | 160 | 229 |
| 24V AC | 85 | 72 | 80 | 114 |
| 48V AC | 330 | 290 | 40 | 57 |
| 120V AC | 2250 | 700 | 16.6 | 23 |
| 240V AC | 9100 | 7200 | 8.3 | 11 |
| 6V DC | 32 | | 187 | |
| 12V DC | 120 | | 100 | |
| 24V DC | 470 | | 50 | |
| 48V DC | 1900 | | 25 | |
| 110V DC | 10000 | | 11 | |

Table 3-43. Coil Resistance for D5PF Series

| Coil Voltage | Ohms | mA | |
|--------------|--------|-------|-------|
| | | 50 Hz | 60 Hz |
| 24V AC | 72 | 398.0 | 340 |
| 120V AC | 1,700 | 76.0 | 65 |
| 240V AC | 7,200 | 28.0 | 24 |
| 12V DC | 120 | 100.0 | — |
| 24V DC | 470 | 49.9 | — |
| 110V DC | 10,000 | 13.2 | — |

Table 3-44. Socket Specifications

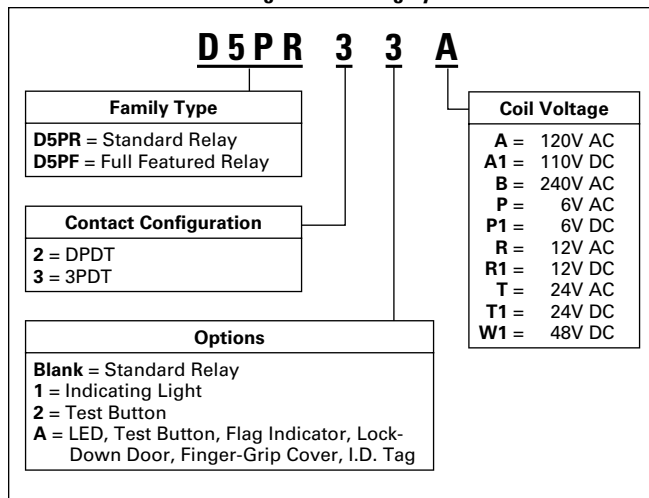
| Catalogue Number | Electrical Ratings | Mounting Torque | Hook-Up Wire Range |
|------------------|--------------------|-----------------|-----------------------------------|
| D5PA2 | 15A, 300V | 8 – 10 in-lbs | AWG 12 to 22 Solid or Stranded |
| D5PA3L D5PA3S | 15A, 300V | — | Up to AWG 16 Solid or Stranded |

Table 3-45. Relay Specifications

| | D5PR (AC) | D5PR (DC) | D5PF2/D5PF3 Resistive Load (p.f. = 1.0) |
|---------------------------------------|-------------------------------------------------------|-------------------------------------------------------------------------|-------------------------------------------------------|
| Rated Load (p.f. = 0.8) | 120V AC 15A or 1/3 Hp 240V AC 15A or 1/2 Hp | 28V DC, 13A, (1-Pole) 28V DC, 12A, (2-Pole) 28V DC, 11A, (3-Pole) | 240V AC 12A 120V AC 12A 28V DC 12A |
| Carry Current | 15A | 15A | 12A |
| Max. Operating Voltage | 600V AC (3A max.) | 125V DC (0.5A max.) | 110% of nominal |
| Max. Operating Current | 15A | 15A | 15A |
| Dielectric Strength | 2000V | 2000V | 1500V |
| Approx. Weight | 3.1 oz (88g) | 3.1 oz (88g) | 3.1 oz (88g) |
| Temperature — Operating Storage | -22 – 122°F (-30 – 50°C) -22 – 212°F (-30 – 100°C) | -22 – 149°F (-30 – 65°C) -22 – 212°F (-30 – 100°C) | -22 – 122°F (-30 – 50°C) -22 – 212°F (-30 – 100°C) |
| Contact Resistance | 50 milli Ω's Max. @ Rated Current | 50 milli Ω's Max. @ Rated Current | 50 milli Ω's Max. @ Rated Current |
| Contact Material | AgCdO (Au Flashed) | AgCdO (Au Flashed) | AgCdO (Au Flashed) |
| Pickup Voltage | 85% of Nominal | 80% of Nominal | 85% AC 80% DC |
| Dropout Voltage (min.) | 10% | 10% | 30% AC 10% DC |
| Voltage (max.) | 110% | 110% | 110% |
| Mechanical Life (min.) | 5,000,000 | 5,000,000 | 5 million (No Load) |
| Electrical Life (min.) | 100,000 | 100,000 | 200,000 operations at Rated Res. Load |
| Max. hp Ratings | 1/3 hp, 120V AC 1/2 hp, 240V AC | 1/3 hp, 120V AC 1/2 hp, 240V AC | 1/3 hp, 120V AC 1/2 hp, 240V AC |

Catalogue Number Structure

Table 3-46. D5 Series Catalogue Numbering System ①



① For deciphering Catalogue Numbers. Do not use for ordering as not all combinations are readily available.

Table 3-47. Relay/Socket Quick Reference

| Relay Type | Socket Type | Socket | Hold Down Spring |
|-------------|---------------|------------------|------------------|
| D5PR2 | 11 Pin Screw | D5PA2 | D5PB2 |
| | 11 Pin Solder | D5PA3S or D5PA3L | D5PB2 |
| D5PR3 | 11 Pin Screw | D5PA2 | D5PB2 |
| | 11 Pin Solder | D5PA3S or D5PA3L | D5PB2 |
| D5PF2/D5PF3 | 11 Pin Screw | D5PA2 | PQC-1351 |
| | 11 Pin Solder | D5PA3S or D5PA3L | PWC-1325 |

Product Selection

Table 3-48. D5 Product Selection ②

| | Std. Pack | Catalogue Number |
|-----------------------------------------------------------------------|-----------|------------------|
| DPDT | | |
| Coil Voltage: | | |
| 24V AC | — | D5PR2T |
| 120V AC | — | D5PR2A |
| 240V AC | — | D5PR2B |
| 12V DC | — | D5PR2R1 |
| 24V DC | — | D5PR2T1 |
| 110V DC | — | D5PR2A1 |
| DPDT with Indicating Light | | |
| 120V AC | — | D5PR21A |
| DPDT with Test Button | | |
| 120V AC | — | D5PR22A |
| 3PDT | | |
| 24V AC | — | D5PR3T |
| 120V AC | — | D5PR3A |
| 240V AC | — | D5PR3B |
| 12V DC | — | D5PR3R1 |
| 24V DC | — | D5PR3T1 |
| 110V DC | — | D5PR3A1 |
| 3PDT with Indicating Light | | |
| 120V AC | — | D5PR31A |
| 24V DC | — | D5PR31T1 |
| 3PDT with Test Button | | |
| 120V AC | — | D5PR32A |
| DPDT — 11 Pin Screw | | |
| 24V AC | — | D5PF2AT |
| 120V AC | — | D5PF2AA |
| 240V AC | — | D5PF2AB |
| 12V DC | — | D5PF2AR1 |
| 24V DC | — | D5PF2AT1 |
| 110V DC | — | D5PF2AA1 |
| 3PDT — 11 Pin Solder | | |
| 24V AC | — | D5PF3AT |
| 120V AC | — | D5PF3AA |
| 240V AC | — | D5PF3AB |
| 12V DC | — | D5PF3AR1 |
| 24V DC | — | D5PF3AT1 |
| 110V DC | — | D5PF3AA1 |
| DIN Rail or Panel Mounting | | |
| Screw Terminal Socket | 10 | D5PA2 |
| Hold Down Spring | 100 | D5PB2 |
| Hold Down Clip | 100 | PWC-1325 |
| | 100 | PQC-1351 |
| End Clamp with Mounting Screw — use with track below, one at each end | 100 | PPF-M |
| 35 mm x 7.5 mm Aluminum DIN Mounting Track (2 meter lengths) | 20 | XBANS3575PL |
| Panel Mount Socket — Square Base | | |
| Long 0.130" Solder | 10 | D5PA3L |
| Standard 0.130" Solder | 10 | D5PA3S |

② Additional coil voltages may be available — consult Contact Customer Support Centre 1-800-268-3578.

D5PR/D5PF Series — Standard and Full Featured

Dimensions

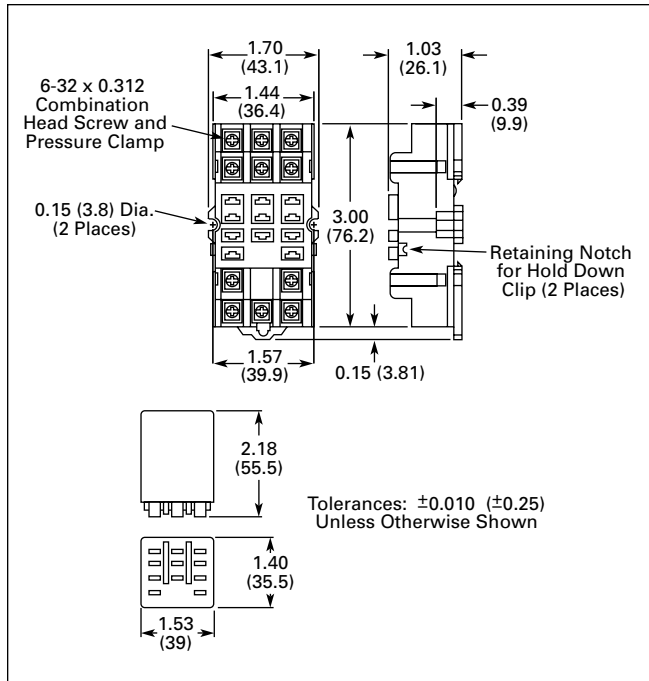


Figure 3-48. D5PA2 — Approximate Dimensions in Inches (mm)

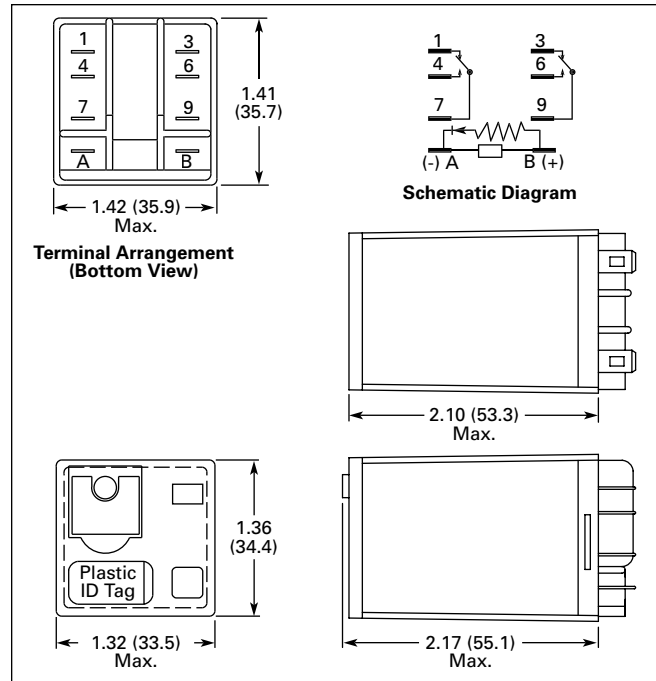


Figure 3-50. D5PF2 — Approximate Dimensions in Inches (mm)

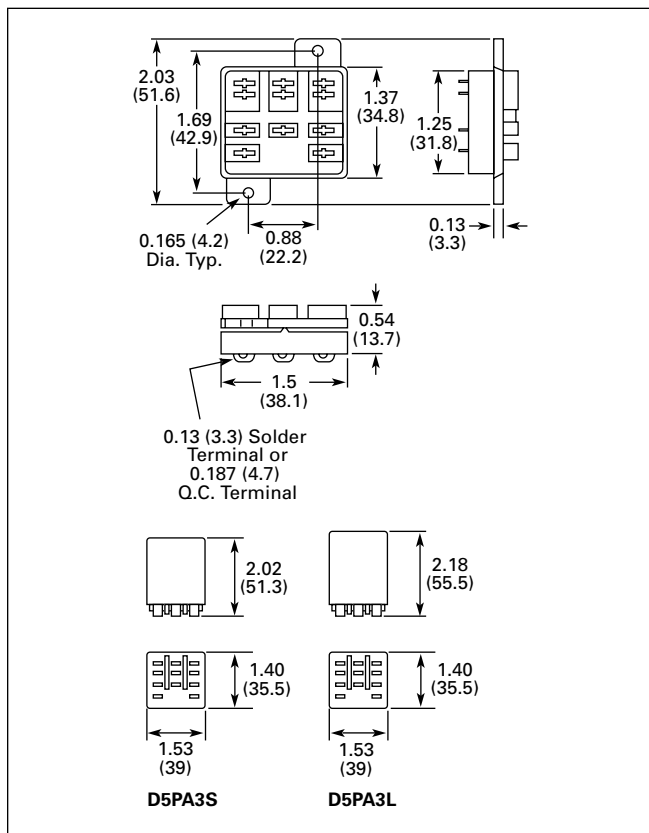


Figure 3-49. D5PA3L and D5PA3S — Approximate Dimensions in Inches (mm)

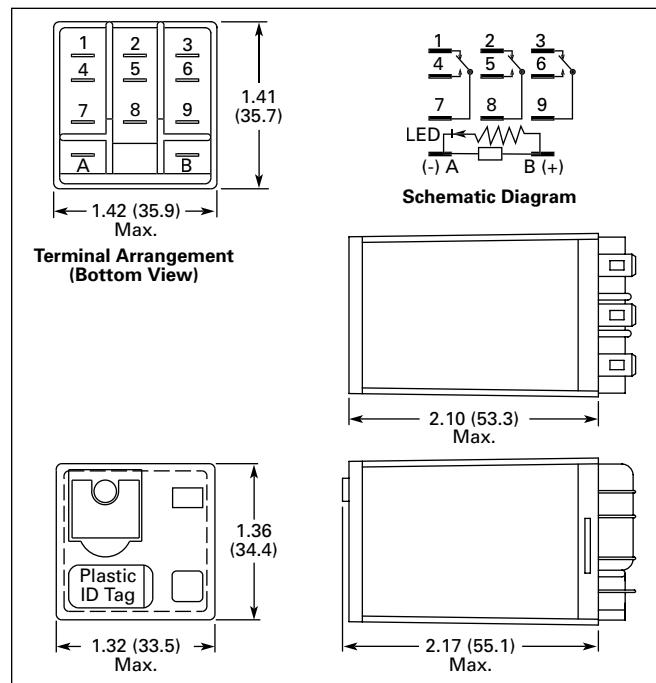


Figure 3-51. D5PF3 — Approximate Dimensions in Inches (mm)

Terminal Arrangements

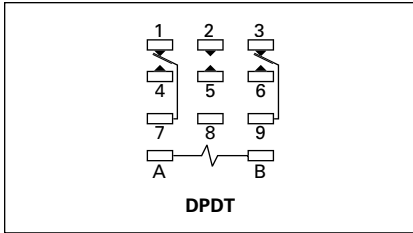


Figure 3-52. D5PR2 (Bottom View)

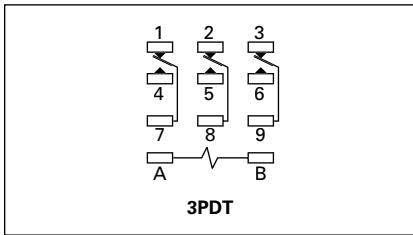
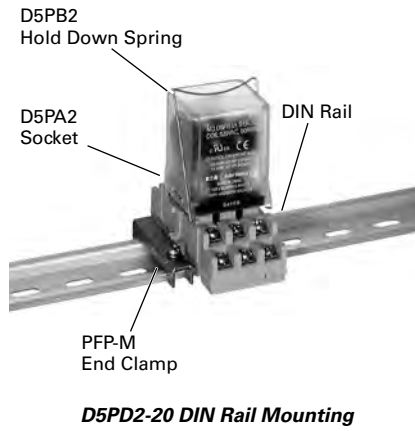


Figure 3-53. D5PR3 (Bottom View)






D7PR Series — Standard

D7PR Series

Features

- Arc barrier equipped relay with high dielectric strength
- Panel, DIN rail and flange mounting

Standards and Certifications

-  File # E37317, E65657
 File # LR217017, LR217069




D7 Series Relay

Technical Data and Specifications

Table 3-49. D7PR Coil Resistance

| Coil Voltage | Ohms | | | | Milliamps | | | | | | | |
|--------------|-------|-------|-------|-------|-----------|-------|-------|-------|-------|-------|-------|-------|
| | D7PR1 | D7PR2 | D7PR3 | D7PR4 | D7PR1 | D7PR1 | D7PR2 | D7PR2 | D7PR3 | D7PR3 | D7PR4 | D7PR4 |
| | | | | | 50 Hz | 60 Hz | 50 Hz | 60 Hz | 50 Hz | 60 Hz | 50 Hz | 60 Hz |
| 6V AC | 11 | 11 | 6.5 | 5 | 222.3 | 190 | 234 | 200 | 326 | 278 | 393 | 336 |
| 12V AC | 41 | 41 | 25.5 | 20 | 111.2 | 95 | 95.9 | 82 | 148 | 126 | 202 | 173 |
| 24V AC | 180 | 180 | 102 | 80 | 58.5 | 50 | 48 | 41 | 77 | 66 | 91 | 78 |
| 48V AC | 788 | 788 | 735 | 735 | 21 | 18 | 21 | 18 | 21.5 | 18.4 | 24 | 20 |
| 120V AC | 4430 | 4430 | 2700 | 2000 | 12.9 | 11 | 12.9 | 11 | 14.7 | 12.6 | 17.3 | 14.8 |
| 240V AC | 15700 | 15700 | 10000 | 8000 | 5.9 | 5 | 7 | 6 | 9.7 | 8.3 | 11.4 | 9.7 |
| 6V DC | 47 | 40 | 25 | 24 | — | 127.7 | — | 150 | — | 240 | — | 250 |
| 12V DC | 188 | 160 | 100 | 96 | — | 63.8 | — | 75 | — | 120 | — | 125 |
| 24V DC | 750 | 650 | 400 | 360 | — | 32 | — | 36.9 | — | 60 | — | 67 |
| 48V DC | 2600 | 2600 | 1600 | 1600 | — | 18.5 | — | 18.5 | — | 18.5 | — | 18.5 |
| 110V DC | 13800 | 11000 | 8400 | 6800 | — | 8 | — | 10 | — | 13 | — | 16.2 |

Table 3-50. D7PR Relay Specifications

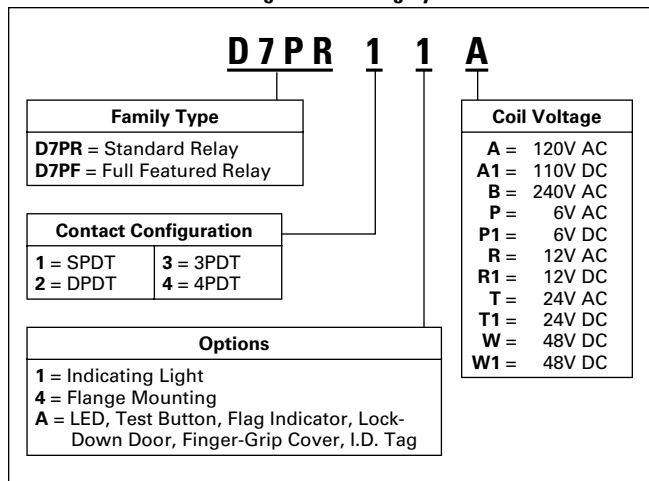
| | D7PR1 | | D7PR2/D7PR3/D7PR4 | |
|-------------------------------------------------|---------------------------------|--------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|
| | Resistive Load (p.f. = 1) | Inductive Load (p.f. = 0.4, L/R = 7 ms) | Resistive Load (p.f. = 1) | Inductive Load (p.f. = 0.4, L/R = 7 ms) |
| Rated Load | 120/240V AC 15A 30V DC 15A | 120/240V AC 10A 30V DC 7A | 120/240V AC 10A (D7PR2 only) 30V DC 10A (D7PR2 only) 250V AC 10A (D7PR3/D7PR4 only) 120V AC 15A (D7PR2 only) 28V DC 10A (D7PR3/D7PR4 only) | 120/240V AC 7.5A 30V DC 5A |
| Carry Current | 15A | 15A | 10A | 10A |
| Max. Operating Voltage | 250V AC/125V DC | 250V AC/125V DC | 250V AC/125V DC | 250V AC/125V DC |
| Max. Operating Current | 15A | 15A | 10A | 10A |
| Contact Material | AgCdO | AgCdO | AgCdO | AgCdO |
| Max. Switching Capacity | 1700 VA 360W | 1100 VA 170W | 1100 VA 240W | 830 VA 120W |
| Min. Permissible Load | 100 mA, 5V DC | 100 mA, 5V DC | 100 mA, 5V DC | 100 mA, 5V DC |
| Pickup Voltage (max.) | 80% | 80% | 80% | 80% |
| Drop Out Voltage (min.) | 30% AC, 10% DC | 30% AC, 10% DC | 30% AC, 10% DC | 30% AC, 10% DC |
| Voltage (max.) | 110% | 110% | 110% | 110% |
| Mechanical Life (min.) | 10,000,000 AC 100,000,000 DC | 10,000,000 AC 100,000,000 DC | 10,000,000 AC 100,000,000 DC | 10,000,000 AC 100,000,000 DC |
| Electrical Life @ All Contact Ratings (min.) | 200,000 | 200,000 | 200,000 | 200,000 |
| Maximum hp Rating | 1/3 hp (120V AC) | 1/2 hp (240V AC) | 1/3 hp (120V AC) (D7PR2 only) | 1/2 hp (240V AC) (D7PR2 only) |

Table 3-51. D7PR Socket Specifications

| Catalogue Number | Electrical Ratings | Mounting Torque | Hook-Up Wire Range |
|------------------|--------------------|-------------------|--------------------------------|
| D7PA2 | 15A, 250V | .785 Nm – 1.18 Nm | AWG 14 Max. |
| D7PA3 | 10A, 300V | 7 – 8 in-lbs | AWG 12 to 22 Solid or Stranded |
| D7PA4 | 10A, 300V | 7 – 8 in-lbs | AWG 12 to 22 Solid or Stranded |
| D7PA5 | 15A, 250V | N/A | AWG 14 Max. |

Catalogue Number Structure

Table 3-52. D7 Series Catalogue Numbering System ①



① For deciphering Catalogue Numbers. Do not use for ordering as not all combinations are readily available.

Table 3-53. Relay/Socket Quick Reference

| Relay Type | Socket | Hold Down Spring |
|-------------|-------------|------------------|
| D7PR1 | D7PA2/D7PA5 | PMC-A1 |
| D7PR2 | D7PA2/D7PA5 | PMC-A1 |
| D7PR3 | D7PA3 | PYC-B2 |
| D7PR4 | D7PA4 | PYC-B2 |
| D7PF1/D7PF2 | D7PA9/D7PA5 | PQC-1342 |
| D7PF1/D7PF2 | D7PAA | PQC-1349 |
| D7PF3 | D7PA3 | N/A |
| D7PF4 | D7PA4 | N/A |
| D7PF3 | D7PAB | PQC-1350 |
| D7PF4 | D7PAD | PQC-1351 |

Product Selection

Table 3-54. D7 Product Selection ②

| | Catalogue Number |
|--------------------------------------------------|--------------------------------------------------------|
| Standard SPDT | |
| Coil Voltage: 24V AC 120V AC 240V AC | D7PR1T D7PR1A D7PR1B |
| 6V DC 12V DC 24V DC | D7PR1P1 D7PR1R1 D7PR1T1 |
| SPDT with Indicating Light | |
| 24V AC 120V AC | D7PR11T D7PR11A |
| 24V DC | D7PR11T1 |
| SPDT Flange Mount | |
| 120V AC | D7PR14A |
| SPDT Full Featured Relay | |
| 120V AC 110V DC 12V DC 24V AC 24V DC | D7PF1AA D7PF1AA1 D7PF1AR1 D7PF1AT D7PF1AT1 |

Table 3-54. D7 Product Selection, continued ②

| | Std. Pack | Catalogue Number |
|------------------------------------------------------------------------------------------------------------------|----------------------------------|------------------------------------------------------------------------------|
| Standard DPDT | | |
| 24V AC 120V AC 240V AC | | D7PR2T D7PR2A D7PR2B |
| 12V DC 24V DC 48V DC 110V DC | | D7PR2R1 D7PR2T1 D7PR2W1 D7PR2A1 |
| DPDT Full Featured Relay | | |
| Coil Voltage: 120V AC 110V DC 240V AC 12V DC 24V AC 24V DC | | D7PF2AA D7PF2AA1 D7PF2AB D7PF2AR1 D7PF2AT D7PF2AT1 |
| DPDT Flange Mount | | |
| 24V AC 120V AC | | D7PR24T D7PR24A |
| Standard 3PDT | | |
| 120V AC | | D7PR3A |
| 12V DC 24V DC | | D7PR3R1 D7PR3T1 |
| 3PDT with Indicating Light | | |
| 120V AC | | D7PR31A |
| 12V DC 24V DC | | D7PR31R1 D7PR31T1 |
| 3PDT Flange Mount | | |
| 120V AC | | D7PR34A |
| 3PDT Full Featured Relay | | |
| 120V AC 110V DC 240V AC 12V DC 24V AC 24V DC | | D7PF3AA D7PF3AA1 D7PF3AB D7PF3AR1 D7PF3AT D7PF3AT1 |
| Standard 4PDT | | |
| Coil Voltage: 24V AC 120V AC | | D7PR4T D7PR4A |
| 24V DC 110V DC | | D7PR4T1 D7PR4A1 |
| 4PDT Full Featured | | |
| Coil Voltage: 120V AC 240V AC 12V AC 12V DC 24V AC 24V DC 48V DC | | D7PF4AA D7PF4AB D7PF4AR D7PF4AR1 D7PF4AT D7PF4AT1 D7PF4AW1 |
| 4PDT Flange Mount | | |
| 120V AC 24V DC | | D7PR44A D7PR44T1 |
| DIN Rail Mount Sockets | | |
| 1- and 2-Pole 1- and 2-Pole Finger-Safe ③ 3-Pole 3-Pole Finger-Safe ③ 4-Pole 4-Pole Finger-Safe ③ | 10 10 10 10 10 10 | D7PA2 D7PAA D7PA3 D7PAB D7PA4 D7PAD |
| Panel Mount Sockets | | |
| 1- and 2-Pole | 10 | D7PA5 |
| Accessories | | |
| Spring Clip DIN Rail End Stop Hold Down Spring | 100 100 100 | PMC-A1 PPF-M PYC-B2 |

② Additional coil voltages available — consult Contact Customer Support Centre 1-800-268-3578.

③ IP20 rated. Table 3-54.

D7PR Series — Standard

Dimensions

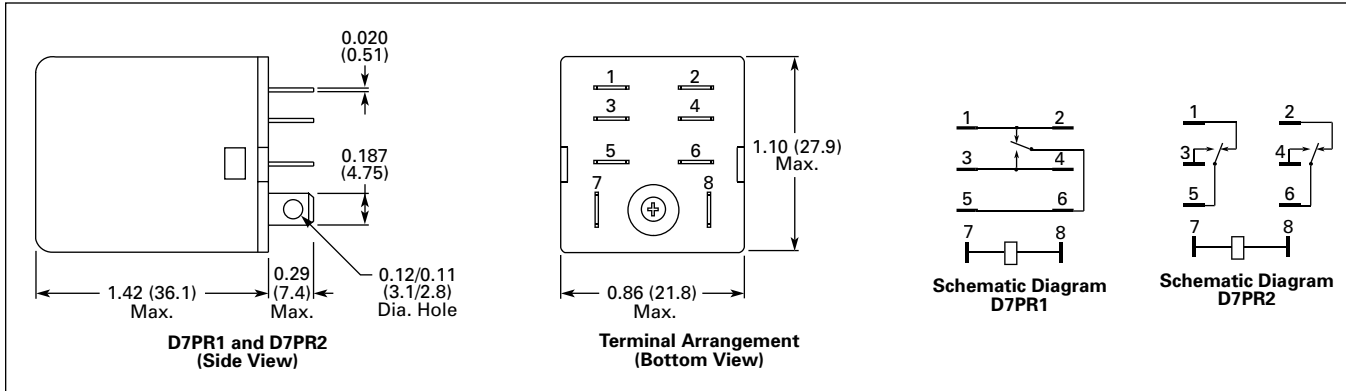


Figure 3-54. D7PR1 and D7PR2 — Approximate Dimensions in Inches (mm)

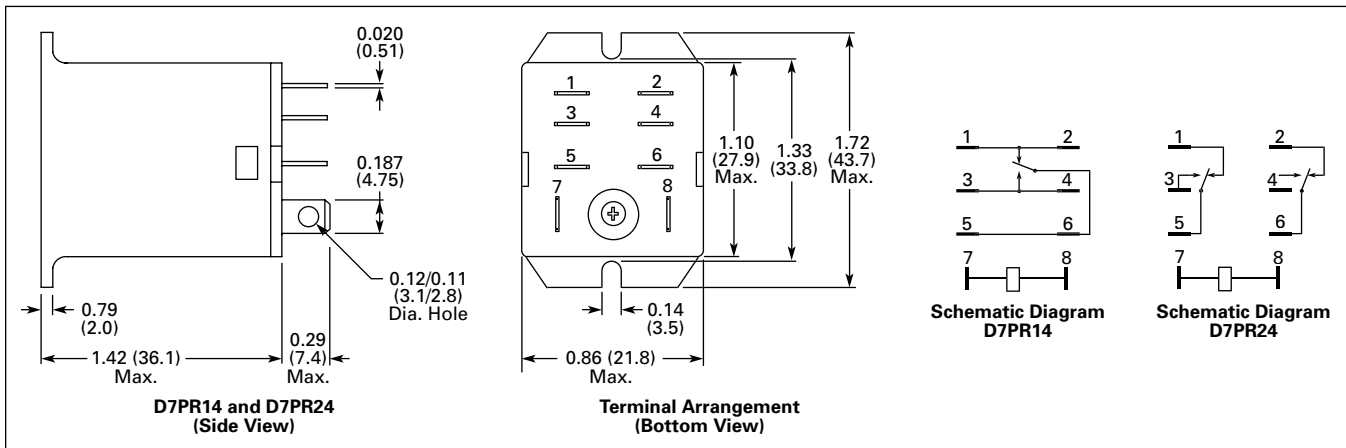


Figure 3-55. D7PR14 and D7PR24 — Approximate Dimensions in Inches (mm)

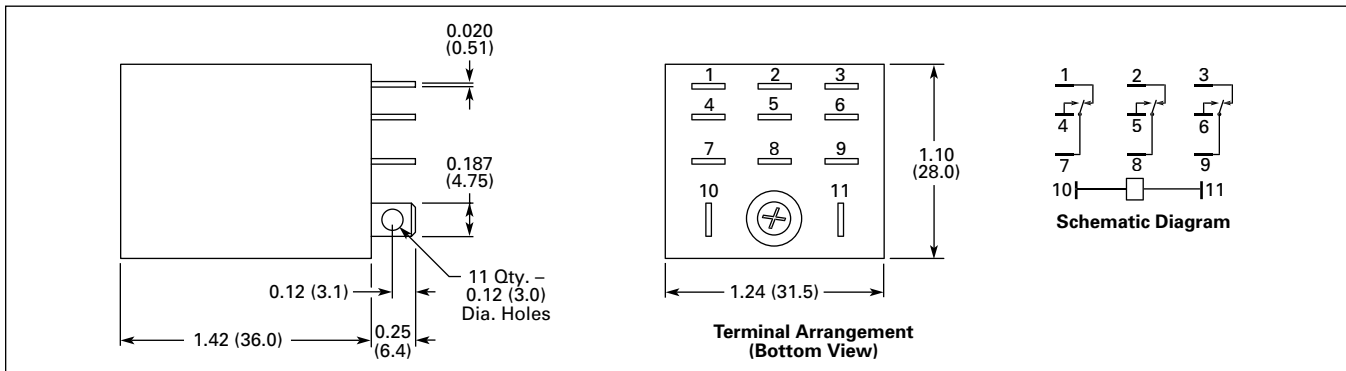


Figure 3-56. D7PR3 — Approximate Dimensions in Inches (mm)

April 2009

D7PR Series — Standard

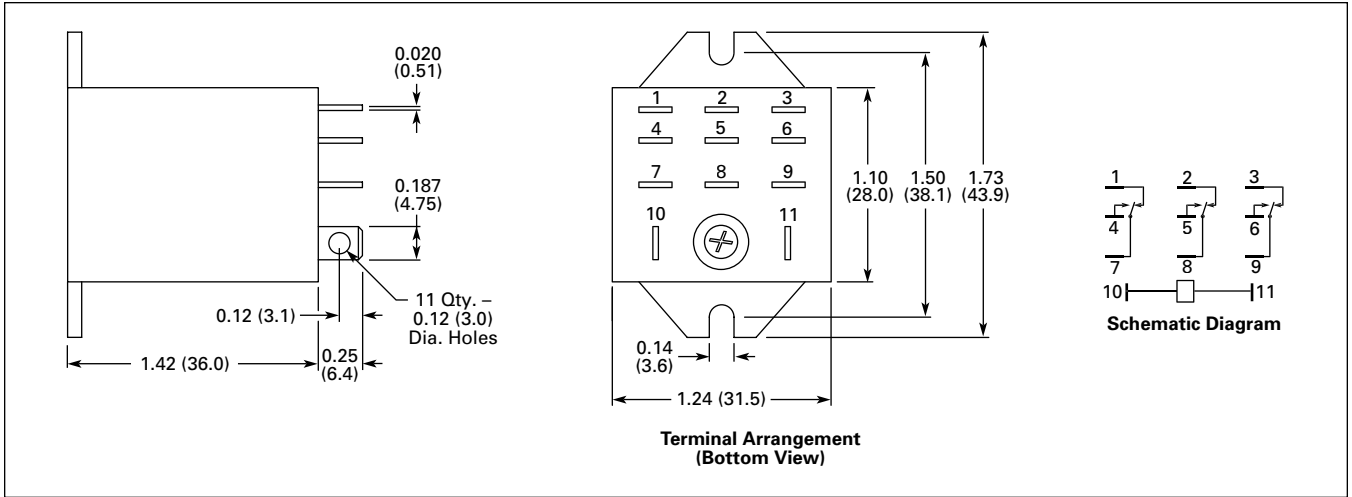


Figure 3-57. D7PR34 — Approximate Dimensions in Inches (mm)

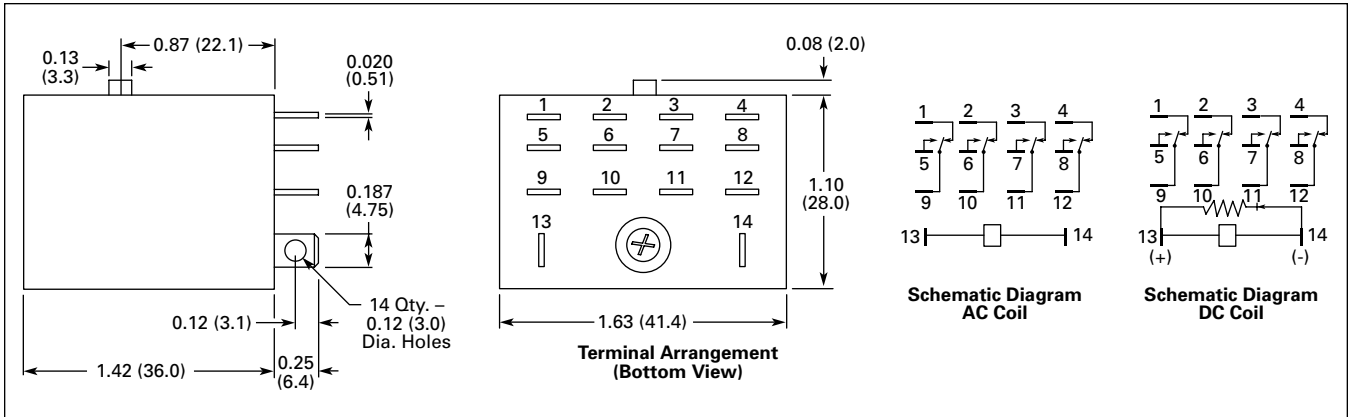


Figure 3-58. D7PR43 — Approximate Dimensions in Inches (mm)

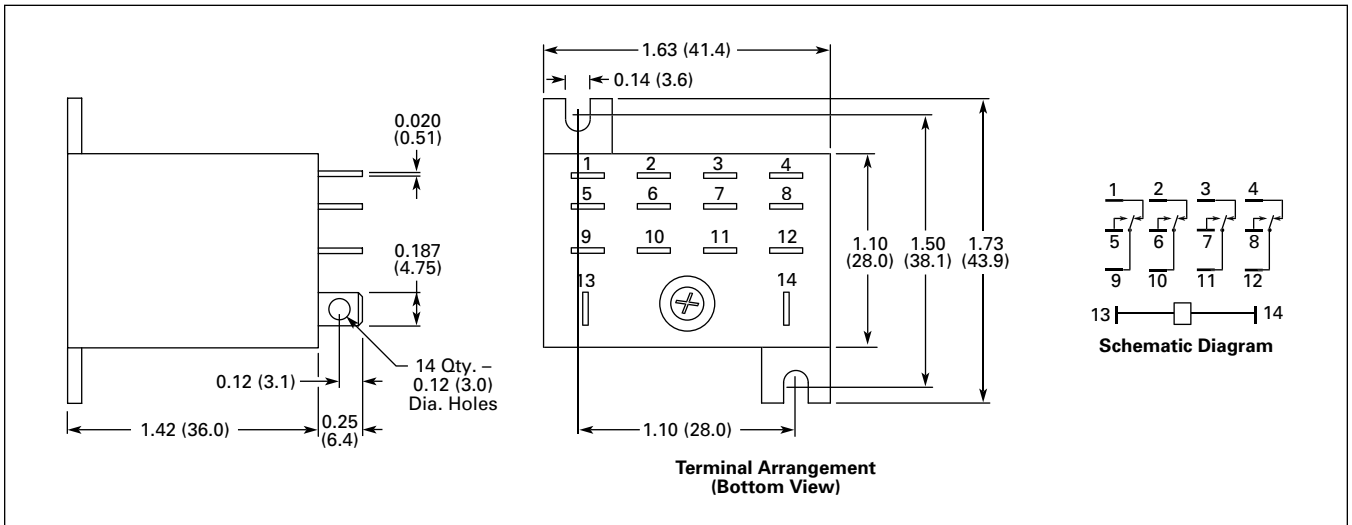


Figure 3-59. D7PR44 — Approximate Dimensions in Inches (mm)

D7PR Series — Standard

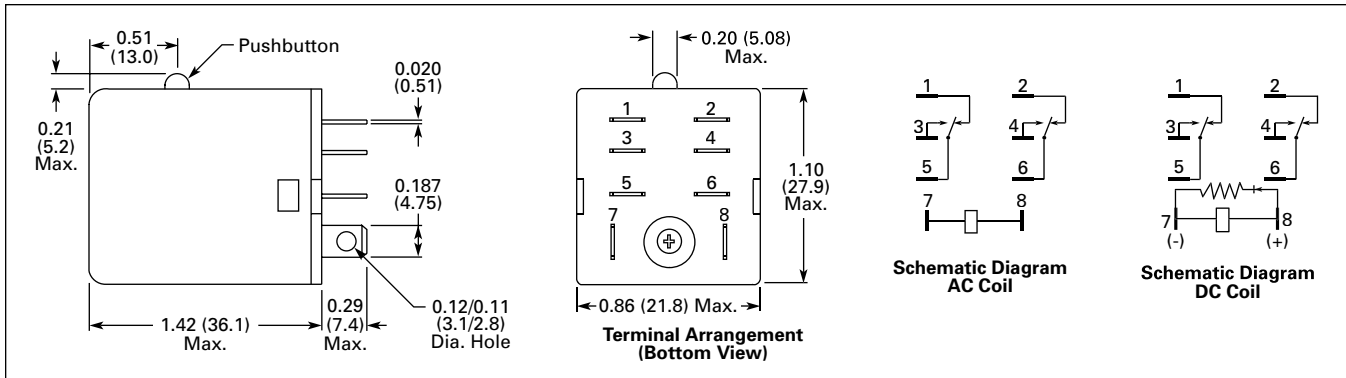


Figure 3-60. D7PR23 — Approximate Dimensions in Inches (mm)

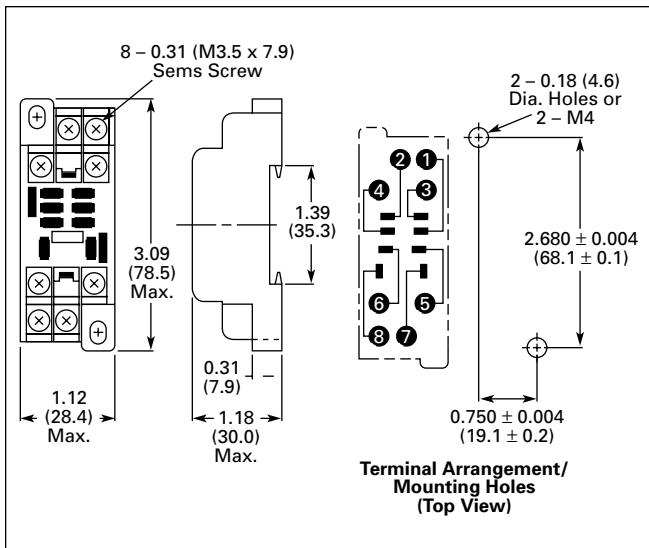


Figure 3-61. D7PA2 — Approximate Dimensions in Inches (mm)

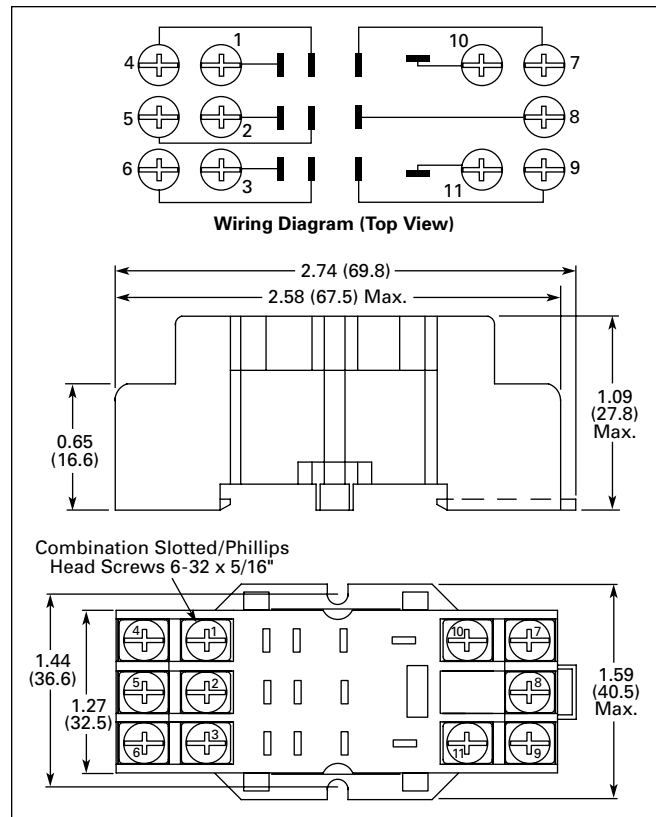


Figure 3-62. D7PA3 — Approximate Dimensions in Inches (mm)

April 2009

D7PR Series — Standard

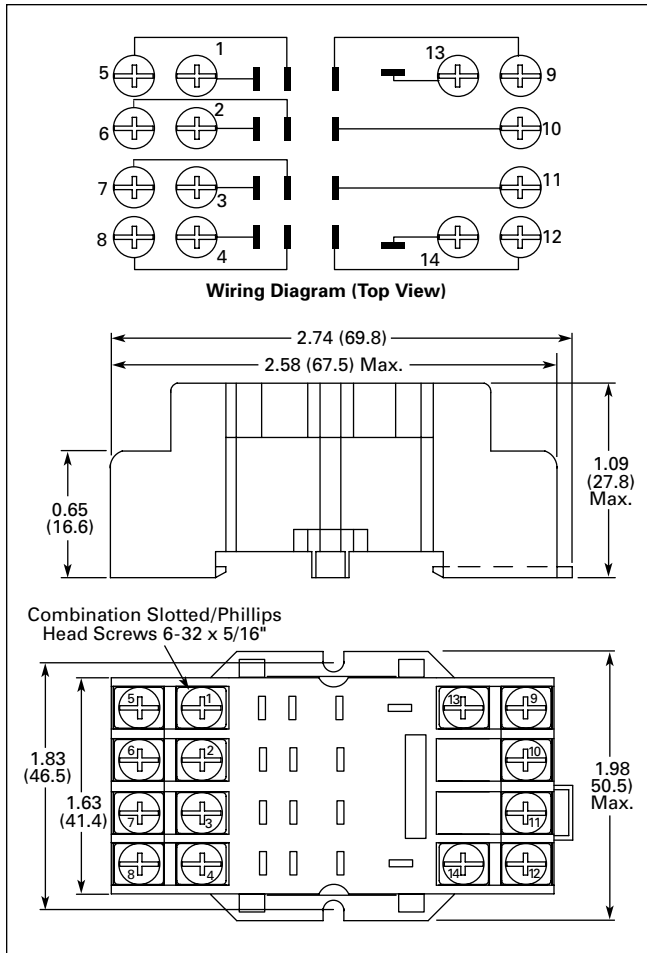


Figure 3-63. D7PA4 — Approximate Dimensions in Inches (mm)

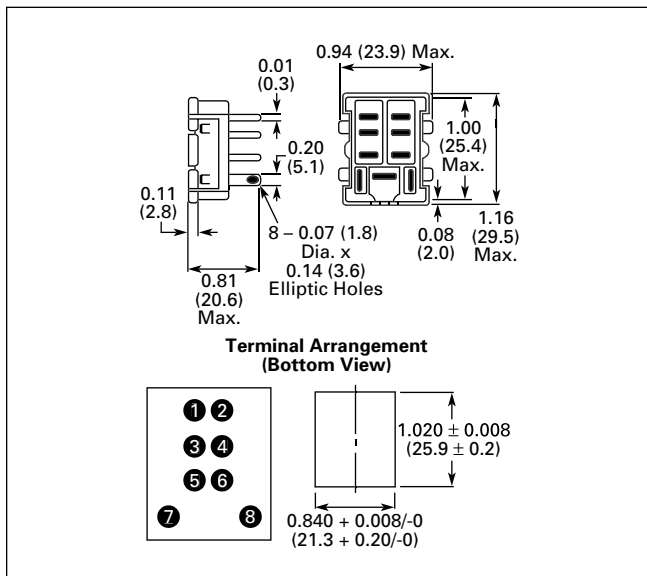


Figure 3-64. D7PA5 — Approximate Dimensions in Inches (mm)

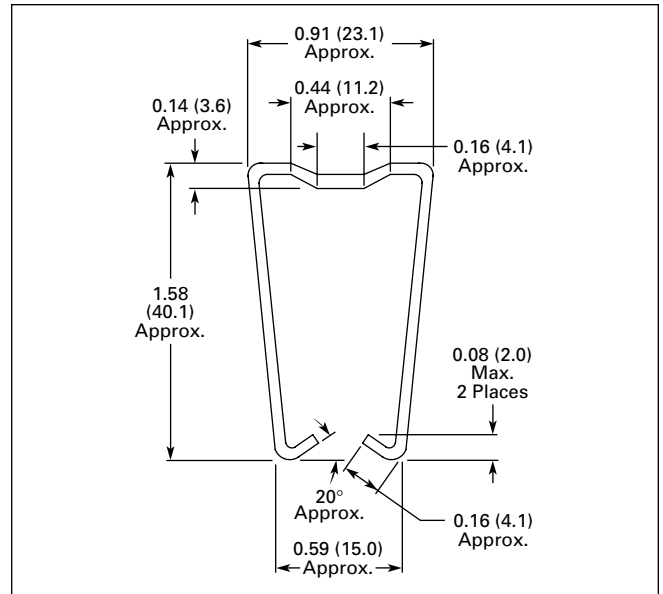


Figure 3-65. PMC-A1 Hold Down Clip — Approximate Dimensions in Inches (mm)

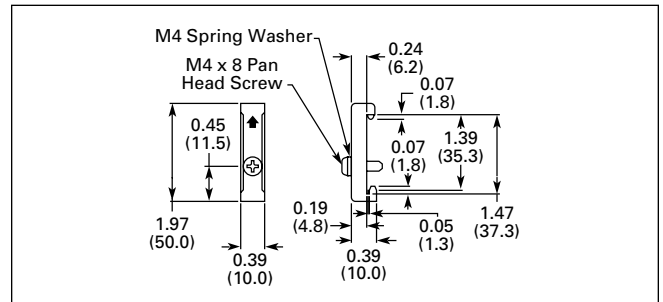


Figure 3-66. PFP-M DIN Rail End Stop — Approximate Dimensions in Inches (mm)

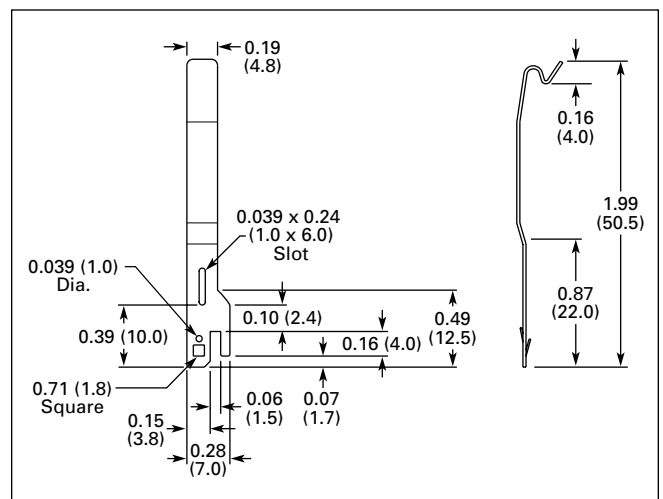


Figure 3-67. PYC-B2 Hold Down Spring — Approximate Dimensions in Inches (mm)

D7PF Series — Full Featured

D7PF Series



D7PF Series Relay

Features

- Flag indicator shows relay status in manual or powered condition
- Bi-polar LED status lamp allows for reverse polarity applications
 - Shows coil ON or OFF status
 - Ideal in low light conditions
- Colour 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 I.D. tag/write label used for identification of relays in multi-relay circuits

Standards and Certifications



Technical Data and Specifications

Table 3-55. D7PF Coil Resistance

| Coil Voltage | Ohms | | | | Amps ^① | | | |
|--------------|-------|-------|-------|-------|-------------------|-------|-------|-------|
| | D7PF1 | D7PF2 | D7PF3 | D7PF4 | D7PF1 | D7PF2 | D7PF3 | D7PF4 |
| 6V AC | 9.5 | 9.5 | 6 | 5.4 | 0.167 | 0.168 | 0.27 | 0.255 |
| 12V AC | 46 | 46 | 25.3 | 21.2 | 0.081 | 0.082 | 0.148 | 0.164 |
| 24V AC | 180 | 180 | 103 | 84.5 | 0.042 | 0.041 | 0.08 | 0.09 |
| 48V AC | 770 | 770 | 460 | 338 | 0.018 | 0.018 | 0.035 | 0.044 |
| 120V AC | 3830 | 3830 | 2770 | 2200 | 0.012 | 0.012 | 0.016 | 0.018 |
| 240V AC | 15700 | 15700 | 12100 | 9120 | 0.004 | 0.004 | 0.006 | 0.008 |
| 6V DC | 40 | 40 | 25 | 24 | 0.15 | 0.15 | 0.24 | 0.25 |
| 12V DC | 160 | 160 | 100 | 96 | 0.075 | 0.075 | 0.120 | 0.125 |
| 24V DC | 650 | 650 | 400 | 388 | 0.037 | 0.037 | 0.060 | 0.062 |
| 48V DC | 2600 | 2600 | 1600 | 1550 | 0.018 | 0.018 | 0.030 | 0.031 |
| 110V DC | 11000 | 11000 | 8600 | 7340 | 0.010 | 0.010 | 0.013 | 0.015 |

^① At 60 Hz for AC Coils.

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D7PF Series — Full Featured

Table 3-56. D7PF Relay Specifications

| | D7PF1 Resistive Load (p.f. = 1.0) | D7PF2 Resistive Load (p.f. = 1.0) | D7PF3 Resistive Load (p.f. = 1.0) | D7PF4 Resistive Load (p.f. = 1.0) |
|--|-----------------------------------------|-----------------------------------------|-----------------------------------------|-----------------------------------------|
|--|-----------------------------------------|-----------------------------------------|-----------------------------------------|-----------------------------------------|

Coil

| | | | | |
|----------------------------------------|-------------------------------|--|--|--|
| Pickup Voltage (Max.) | 85% AC; 80% DC (% of nominal) | | | |
| Drop Out Voltage (Min.) | 10% AC; 10% DC (% of nominal) | | | |
| Maximum Voltage | 110% of nominal | | | |
| Insulation System per UL Standard 1446 | Class B 266°F (130°C) | | | |

Contacts

| | | | | |
|----------------------------|--------------------------------------------|-------------------------------------------------------------|-------------------------------------------------------------|-------------------------------------------------------------|
| Rated Load | 277V AC, 28V DC – 20A 220V DC – 0.5A | 120V AC – 15A 277V AC, 28V DC – 12A 220V DC – 0.5A | 120V AC, 28V DC – 15A 277V AC – 12A 220V DC – 0.5A | 120V AC, 28V DC – 15A 277V AC – 12A 220V DC – 0.5A |
| Maximum hp Ratings | 1/2 hp, 120V AC 1 hp, 250V AC | | 1/2 hp, 120V AC 3/4 hp, 250V AC | |
| Contact Material | Silver Alloy, Gold Flashed | | | |
| Pilot Duty | B300 | | | |
| Utilization Category (IEC) | AC-15 | | | |
| Min. Permissible Load | 100mA @ 5V DC or 0.5W | | | |
| Contact Resistance | 100 Milliohms Max @ 6V, 1A | | | |

Dielectric Strength

| | | | | |
|-----------------------|----------------------------|-----------|-----------|-----------|
| Coil to Contacts | 2500V RMS | | | |
| Across Open Contacts | 1500V RMS | 1000V RMS | 1000V RMS | 1000V RMS |
| Pole to Pole | — | 2500V RMS | 2500V RMS | 2500V RMS |
| Insulation Resistance | 100 Megohms Min. @ 500V DC | | | |

Temperature

| | |
|-----------|----------------------------|
| Operating | -40 – 158°F (-40 to 70°C) |
| Storage | -40 – 221°F (-40 to 105°C) |

Life Expectancy

| | | | | |
|------------------------------------|-----------------------|--------------------|--------------------|--------------------|
| Electrical at Rated Resistive Load | 100,000 Operations | 200,000 Operations | 150,000 Operations | 150,000 Operations |
| Mechanical at No Load | 10 Million Operations | | | |

Weight

| | | | | |
|--------------------|------------------|------------------|------------------|------------------|
| Approximate Weight | 0.079 lbs. (36g) | 0.079 lbs. (36g) | 0.132 lbs. (60g) | 0.176 lbs. (80g) |
|--------------------|------------------|------------------|------------------|------------------|

Table 3-57. D7PF Socket Specifications

| Catalogue Number | Electrical Ratings | Mounting Torque | Hook-Up Wire Range |
|------------------|--------------------|-----------------|--------------------------------|
| D7PA3 | 10A, 300V | 7 – 8 in-lbs | AWG 12 to 22 Solid or Stranded |
| D7PA4 | 10A, 300V | 7 – 8 in-lbs | AWG 12 to 22 Solid or Stranded |
| D7PA5 | 15A, 250V | N/A | AWG 14 Max. |
| D7PAA | 16A, 300V | 8 – 10 in-lbs | 20 – 12 AWG |
| D7PAB | 16A, 300V | 8 – 10 in-lbs | 20 – 12 AWG |
| D7PAO | 16A, 300V | 8 – 10 in-lbs | 20 – 12 AWG |
| D7PA9 | 10A, 300V | 7 – 8 in-lbs | 20 – 12 AWG |

D7PF Series — Full Featured

Dimensions

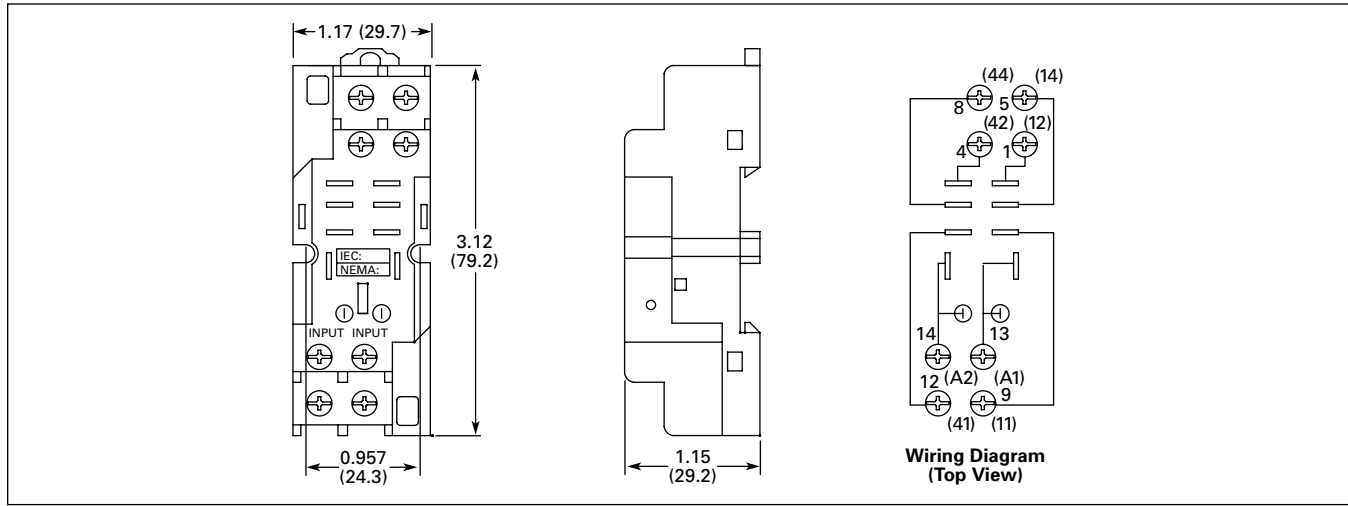


Figure 3-68. D7PAA — Approximate Dimensions in Inches (mm)

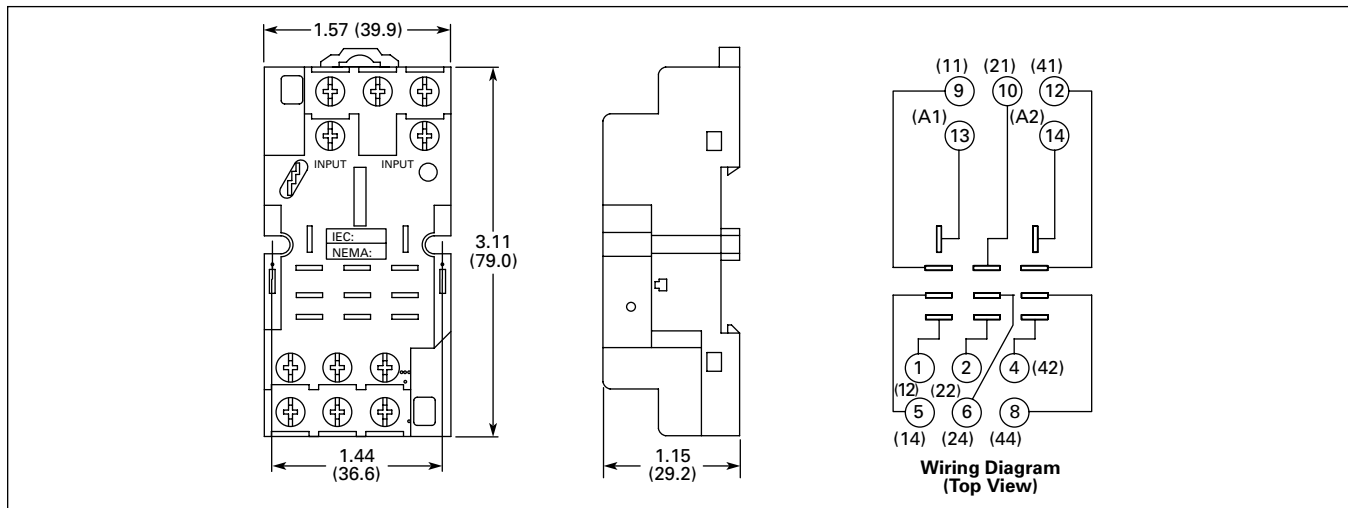


Figure 3-69. D7PAB — Approximate Dimensions in Inches (mm)

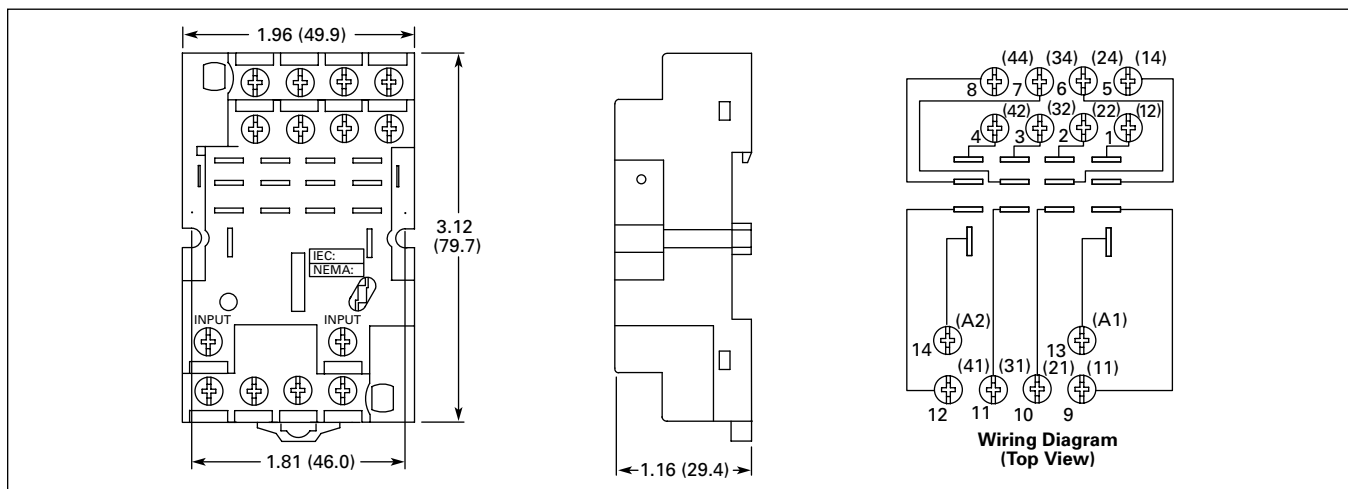


Figure 3-70. D7PAD — Approximate Dimensions in Inches (mm)

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D7PF Series — Full Featured

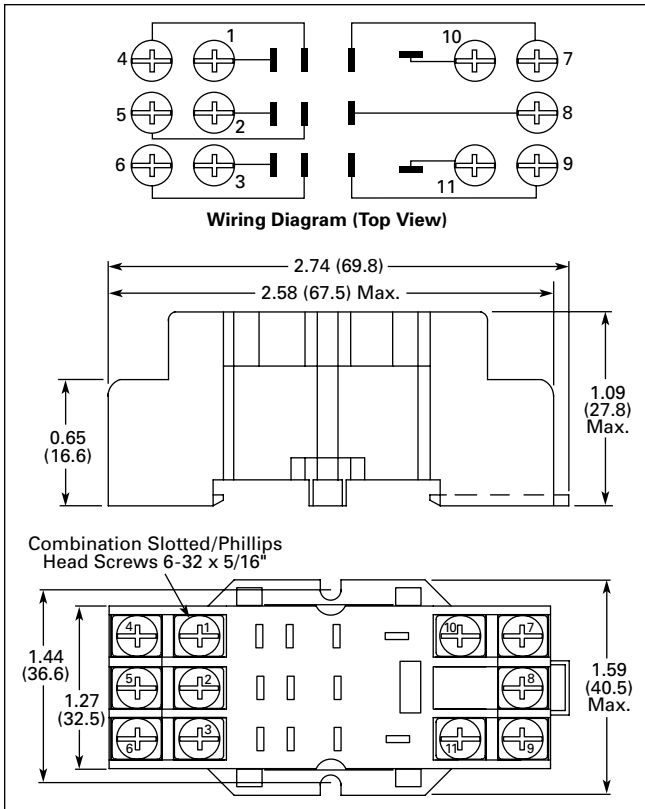


Figure 3-71. D7PA3 Standard Mount — Approximate Dimensions in Inches (mm)

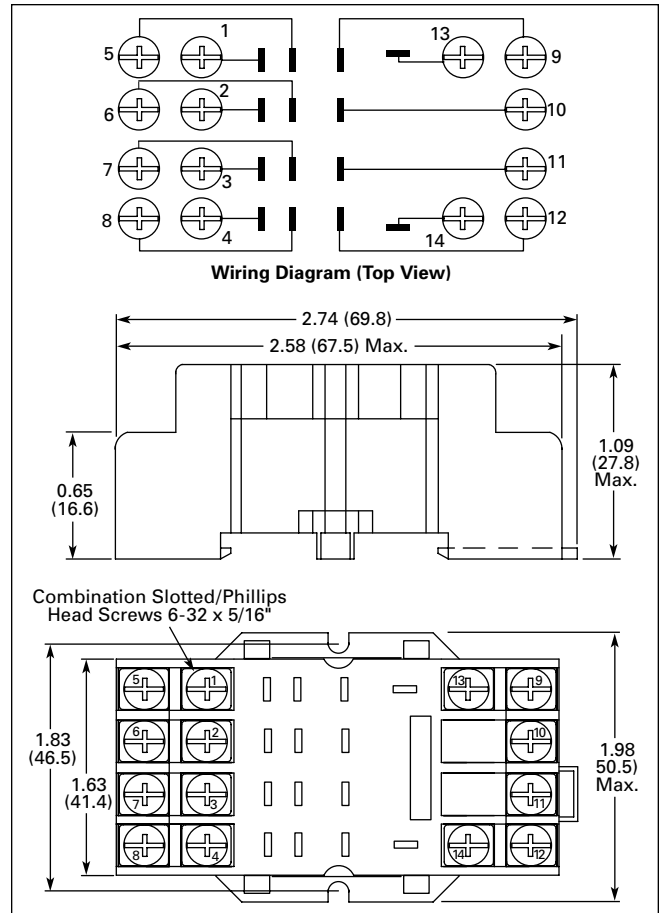


Figure 3-73. D7PA4 Panel Mount — Approximate Dimensions in Inches (mm)

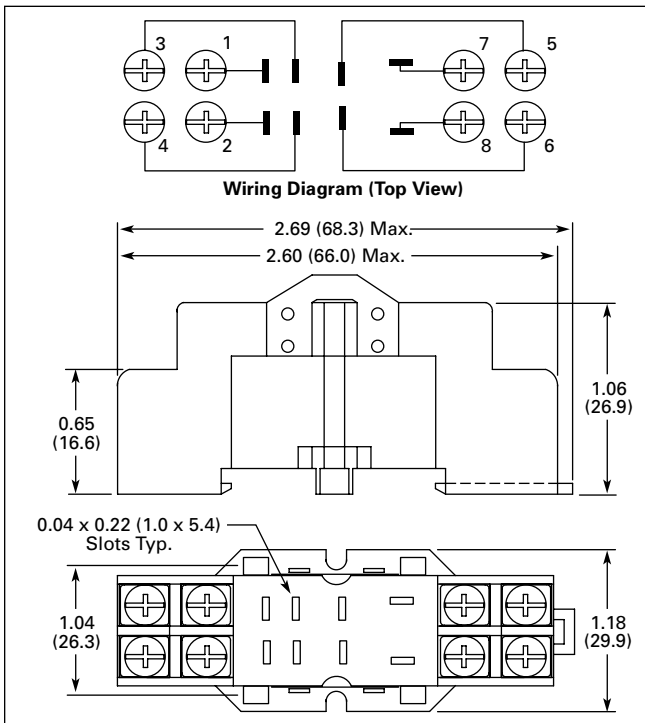


Figure 3-72. D7PA9 Standard Mount — Approximate Dimensions in Inches (mm)

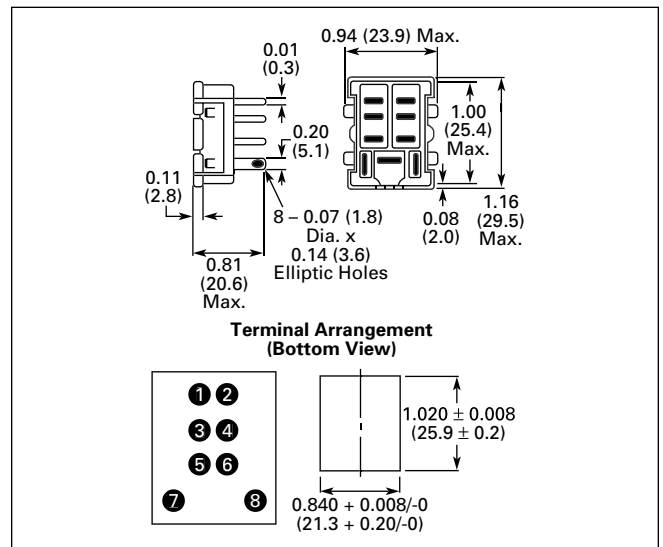


Figure 3-74. D7PA5 Panel Mount — Approximate Dimensions in Inches (mm)

D7PF Series — Full Featured

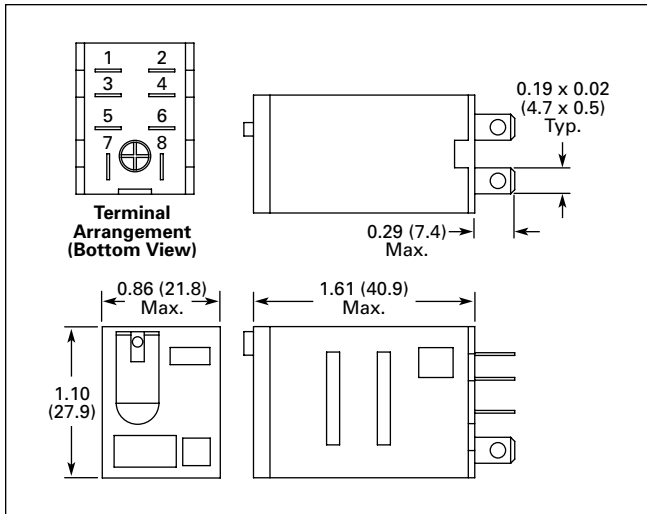


Figure 3-75. D7PF1 — Approximate Dimensions in Inches (mm)

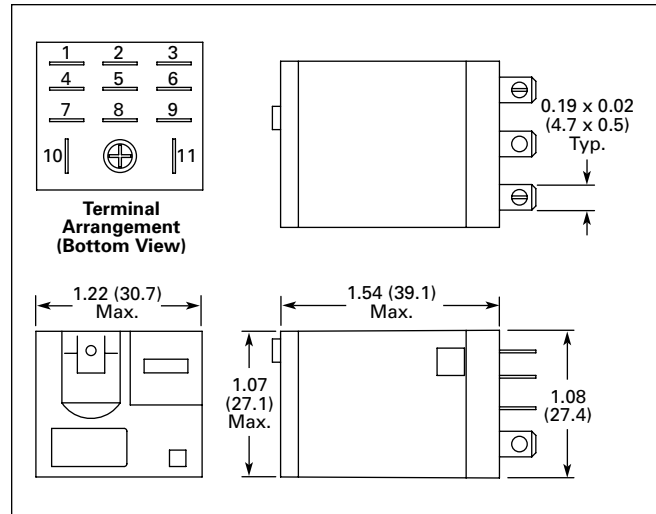


Figure 3-77. D7PF3 — Approximate Dimensions in Inches (mm)

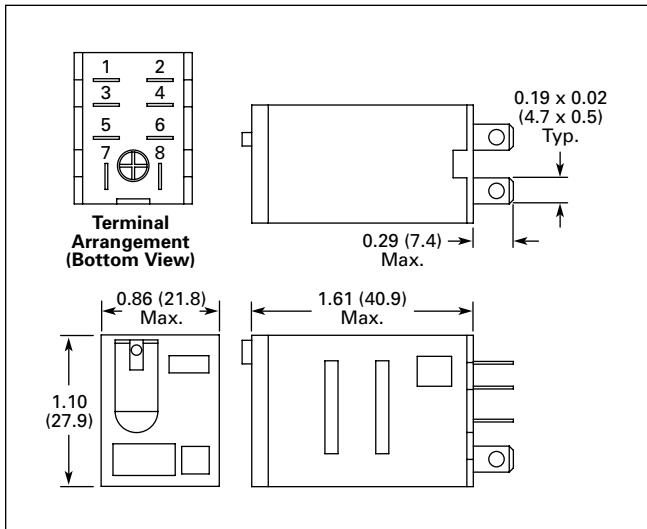


Figure 3-76. D7PF2 — Approximate Dimensions in Inches (mm)

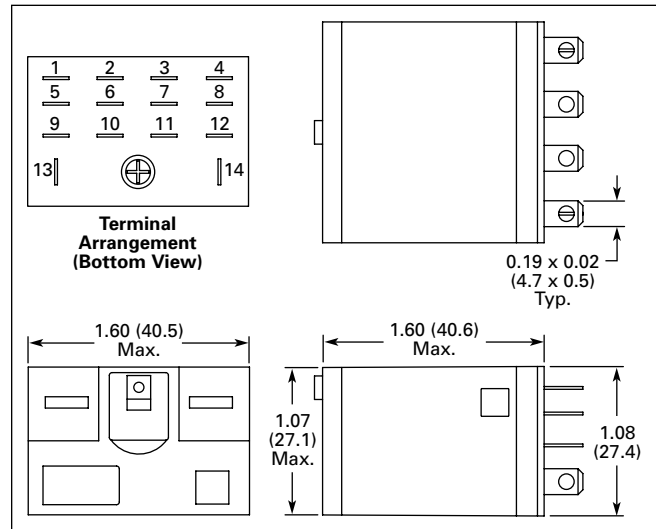


Figure 3-78. D7PF4 — Approximate Dimensions in Inches (mm)

D8 Series — Standard

D8 Series



D8 Series Relay

Features

- Allows switching of 25A and 30A loads
- A high-capacity, high-withstand voltage relay compatible with momentary voltage drops
- No contact chattering for momentary voltage drops up to 50% of rated voltage
- UL Class B construction standard
- Wide-range AC-activated coil that handles 100 to 120V AC at either 50 or 60 Hz
- Panel, DIN rail and flange mounting

Standards and Certifications

- File # E1491
- File # LR701520
-

Technical Data and Specifications

Table 3-58. Coil Resistance

| Coil Voltage | Ohms | mA |
|--------------|-------|------|
| 24V AC | 303 | 71 |
| 110/120V AC | 5260 | 20.4 |
| 220/240V AC | 21000 | 10.2 |
| 12V DC | 75 | 158 |
| 24V DC | 303 | 79 |

Table 3-59. Specifications

| | D8PR6 | | D8PR7 |
|----------------------------------------------|----------------------------------------------|----------------------------------------------|----------------------------------------------|
| Rated Load | 220V AC 30A | 220V AC 25A | 220V AC 25A |
| Carry Current | 30A | 30A | 25A |
| Max. Operating Voltage | 250V AC | 250V AC | 250V AC |
| Max. Switching Current | 30A | 30A | 25A |
| Contact Material | AgCdO | AgCdO | AgCdO |
| Max. Switching Capacity | 6600 VA | 6600 VA | 5500 VA |
| Min. Permissible Load | 100 mA @ 5V DC | 100 mA @ 5V DC | 100 mA @ 5V DC |
| Mechanical Life (min.) | 5,000,000 Operations | 5,000,000 Operations | 5,000,000 Operations |
| Electrical Life @ All Contact Ratings (min.) | 100,000 Operations | 100,000 Operations | 100,000 Operations |
| Maximum hp Ratings | 1-1/2 hp (120V AC) 3 hp (240/265/277V AC) | 1-1/2 hp (120V AC) 3 hp (240/265/277V AC) | 1-1/2 hp (120V AC) 3 hp (240/265/277V AC) |

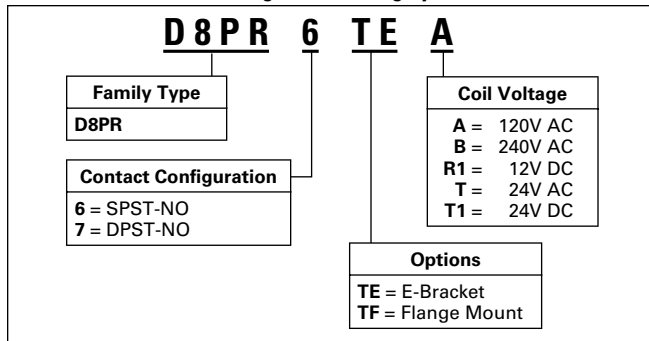
Table 3-60. Coil Data

| Coil Voltage | Must Operate | Must Release | Maximum Voltage |
|---------------------|--------------|--------------|-----------------|
| 24V DC/V AC, 12V DC | 75% maximum | 15% minimum | 110% |
| 120V AC | 75V | 18V | 132V |
| 240V AC | 150V | 36V | 264V |

D8 Series — Standard

Catalogue Number Structure

Table 3-61. D8 Series Catalogue Numbering System ①



① For deciphering Catalogue Numbers. Do not use for ordering as not all combinations are readily available.

Table 3-62. Relay/Socket Quick Reference

| Relay Type | Mounting Bracket | Adapter Track/Panel Mount | Front Connecting Sockets Track/Panel Mount |
|------------|------------------|---------------------------|--------------------------------------------|
| D8PR6TE | D8PA5 | D8PA1 | D8PA2 |
| D8PR7TE | D8PA5 | D8PA1 | D8PA2 |

Product Selection

Table 3-63. D8 Product Selection ②

| | Std. Pack | Catalogue Number |
|--------------------------|-----------|------------------|
| SPST E-Bracket | | |
| Coil Voltage: 24V AC | | D8PR6TET |
| 24V DC | | D8PR6TET1 |
| SPST Flange Mount | | |
| 120V AC | | D8PR6TFA |
| 24V DC | | D8PR6TFT1 |
| DPST E-Bracket | | |
| Coil Voltage: 120V AC | | D8PR7TEA |
| DPST Flange Mount | | |
| 120V AC | | D8PR7TFA |
| 24V DC | | D8PR7TFT1 |
| Sockets | | |
| DIN Rail Adapter | 10 | D8PA1 |
| Screw Terminal Adapter | 10 | D8PA2 |
| Bracket Adapter | 10 | D8PA5 |
| Accessory | | |
| DIN Rail End Stop | 100 | PPF-M |

② Additional coil voltages available — consult Contact Customer Support Centre 1-800-268-3578.

Dimensions

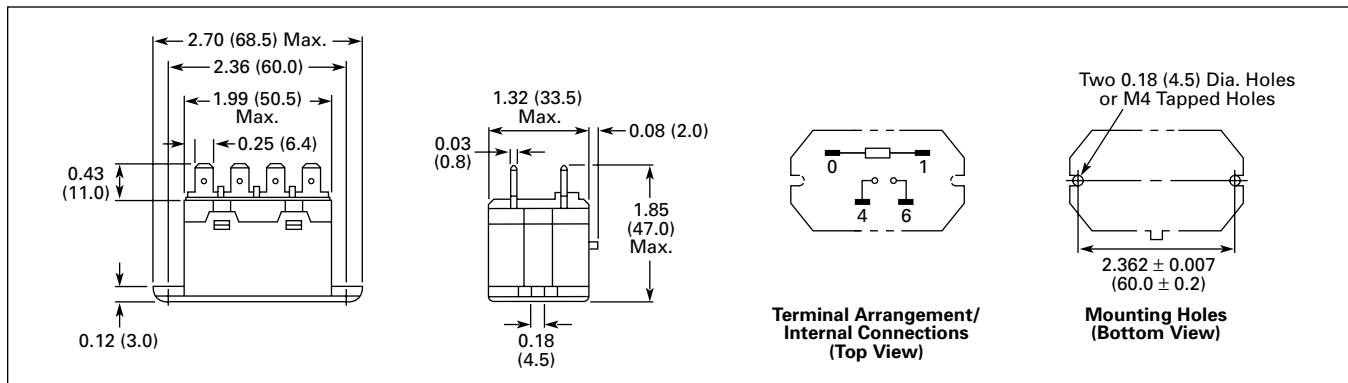


Figure 3-79. D8PR6TF — Approximate Dimensions in Inches (mm)

3

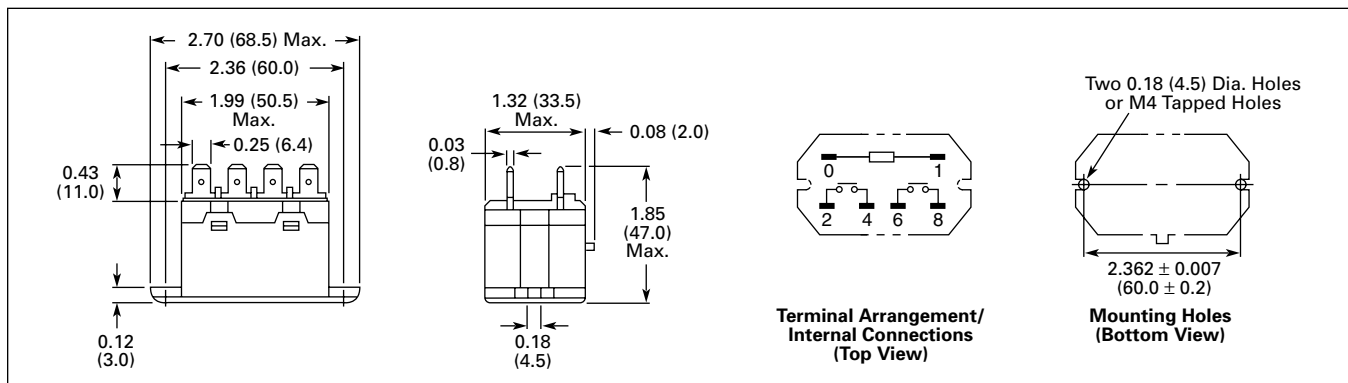


Figure 3-80. D8PR7TF — Approximate Dimensions in Inches (mm)

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D8 Series — Standard

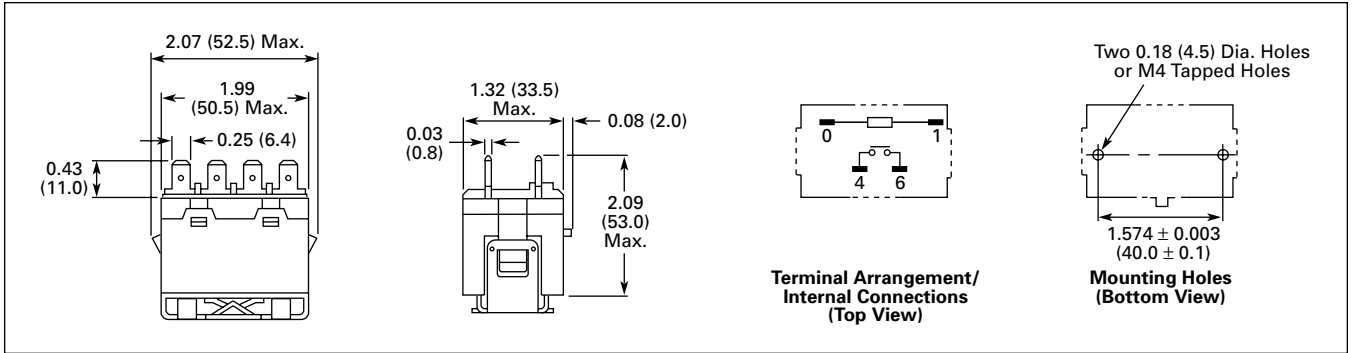


Figure 3-81. D8PR6TE with D8PA5 Bracket Attached — Approximate Dimensions in Inches (mm)

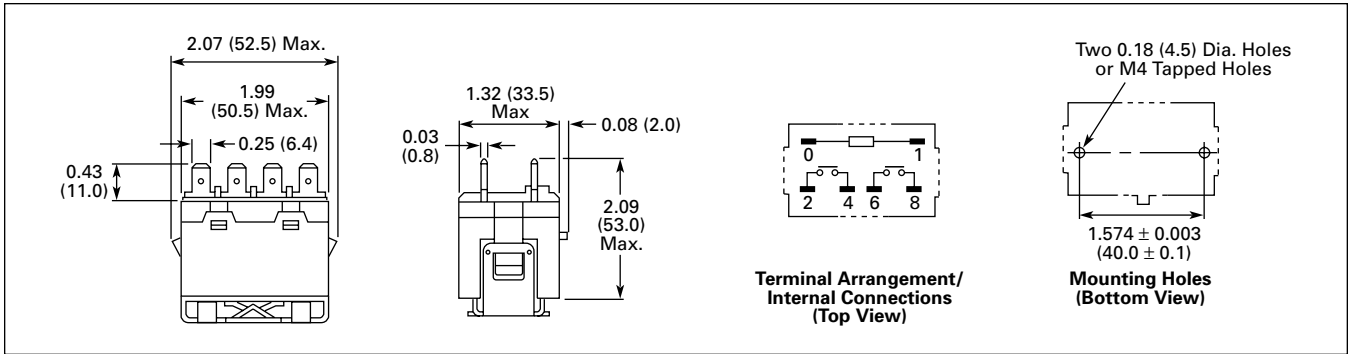


Figure 3-82. D8PR7TE with D8PA5 Bracket Attached — Approximate Dimensions in Inches (mm)

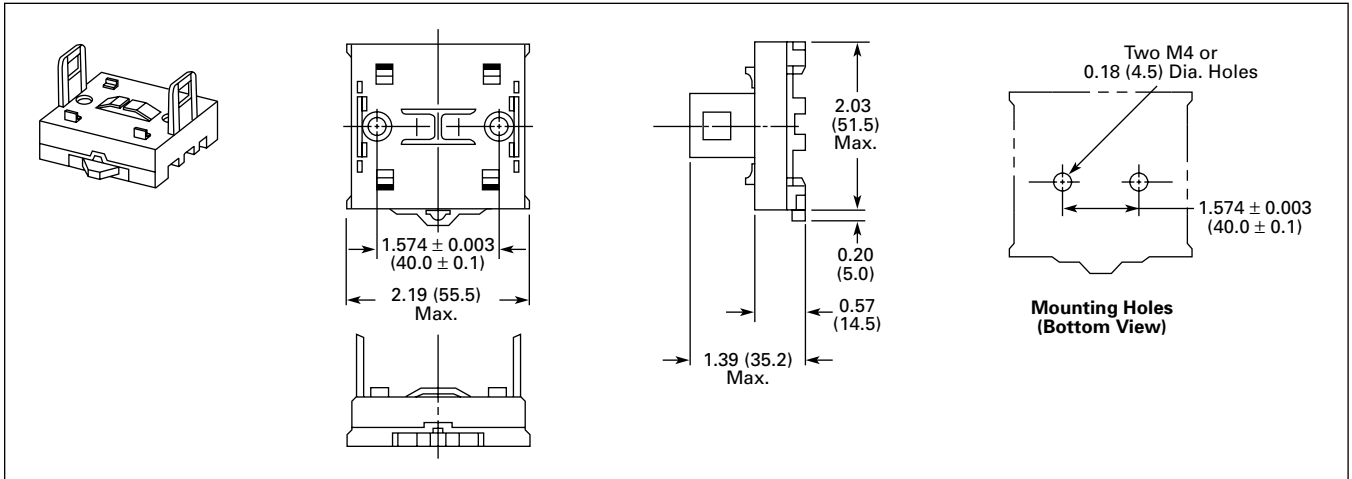


Figure 3-83. D8PA1 — Approximate Dimensions in Inches (mm)

Note: Minimum spacing around relay = 0.20 inches (5 mm).

D8 Series — Standard

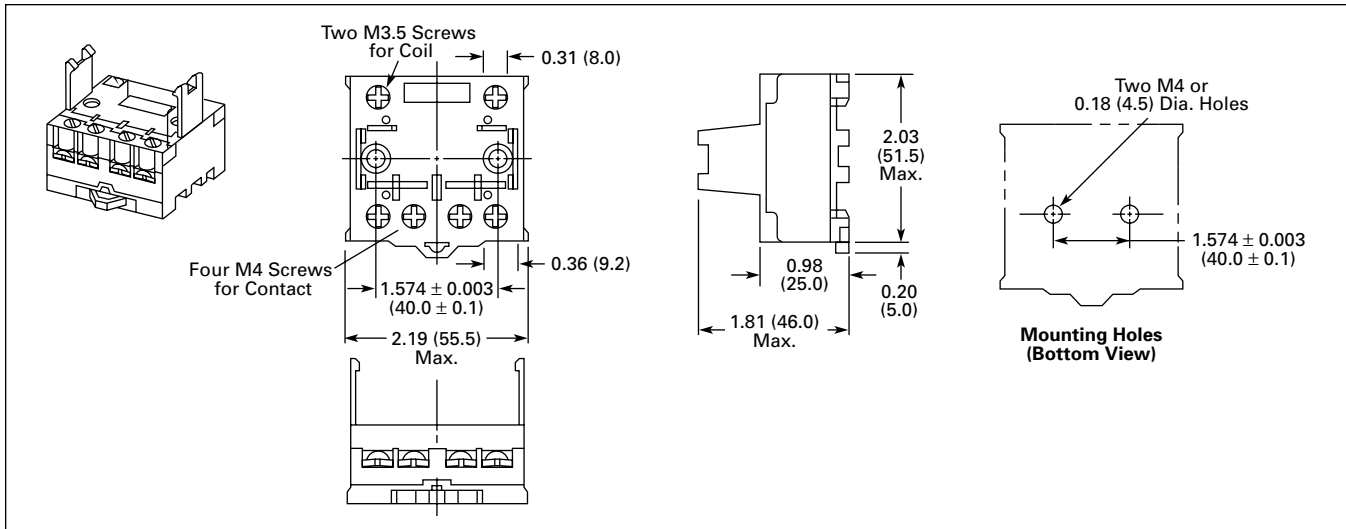


Figure 3-84. D8PA2 — Approximate Dimensions in Inches (mm)

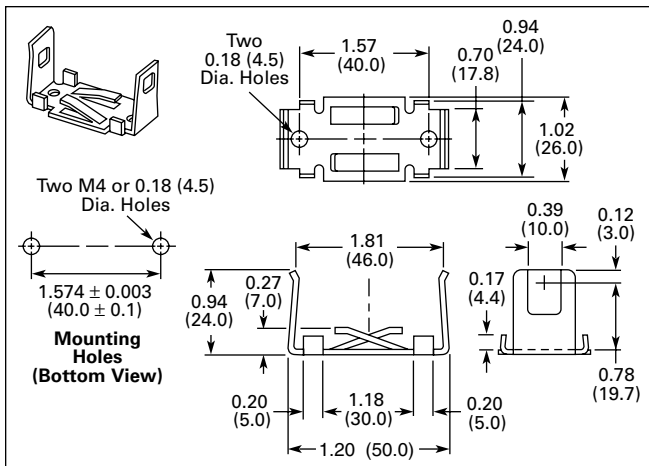


Figure 3-85. D8PA5 — Approximate Dimensions in Inches (mm)

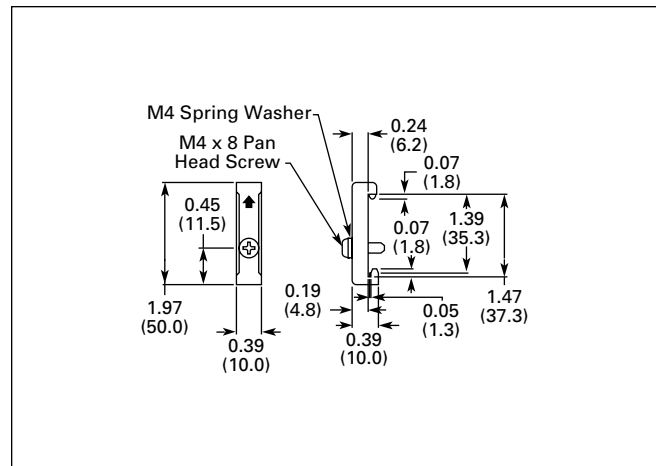


Figure 3-86. PFP-M DIN Rail End Stop — Approximate Dimensions in Inches (mm)

D9 Series





D9 Series Relay

Features

- Ideal for 3-phase motor control applications
- No contact chattering for momentary voltage drops up to 50% of rated voltage
- Push-to-test button is a standard feature to check contact operation
- Mounting bracket is supplied with relay

Standards and Certifications

 File # E1491

 File # LR701520

Technical Data and Specifications

Table 3-64. Coil Resistance

| Coil Voltage | Ohms | mA |
|--------------|------|------|
| 24V AC | — | 75 |
| 120V AC | — | 21.6 |
| 240V AC | — | 10.8 |
| 12V DC | 72 | 167 |
| 24V DC | 288 | 83 |
| 110V DC | 6050 | 18 |

Table 3-65. Specifications

| | D9PR | |
|-------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| | NO Contacts Resistive Load (p.f. = 1) | NC Contacts Resistive Load (p.f. = 1) |
| Rated Load | 220V AC 25A 30V DC 25A | 220V AC 8A 30V DC 8A |
| Carry Current | 25A | 8A |
| Max. Operating Voltage | 250V AC/125V DC | 250V AC/125V DC |
| Max. Switching Current | 25A | 8A |
| Max. Switching Capacity | 5500 VA 750W | 1760 VA 240W |
| Min. Permissible Load | 100 mA @ 24V DC | 100 mA @ 24V DC |
| Mechanical Life (min.) | 1,000,000 operations | 1,000,000 operations |
| Electrical Life @ All Contact Ratings (min.) | 100,000 operations | 100,000 operations |
| Maximum hp Ratings | 1-1/2 hp (120V AC) 3 hp (240/265/277V AC) 3-Phase 3 hp (240/265/277V AC) 30,000 cycles 3-Phase 5 hp (240/265/277V AC) 30,000 cycles | 1-1/2 hp (120V AC) 3 hp (240/265/277V AC) 3-Phase 3 hp (240/265/277V AC) 30,000 cycles 3-Phase 5 hp (240/265/277V AC) 30,000 cycles |

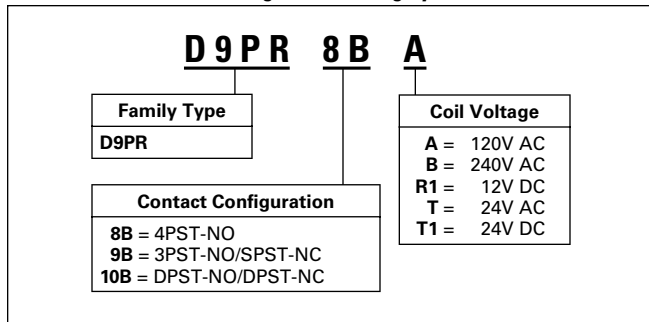
Table 3-66. Coil Data

| Coil Voltage | Must Operate | Must Release | Maximum Voltage |
|------------------------------|--------------|--------------|-----------------|
| 24V DC/V AC, 12V DC, 110V DC | 75% maximum | 10% minimum | 110% |
| 120V AC | 75V | 18V | 132V |
| 240V AC | 150V | 36V | 264V |

D9 Series — Standard

Catalogue Number Structure

Table 3-67. D9 Series Catalogue Numbering System ①



① For deciphering Catalogue Numbers. Do not use for ordering as not all combinations are readily available.

Product Selection

Table 3-68. D9 Product Selection ②

| | Catalogue Number |
|------------------------------------|------------------|
| 4PST-NO Power Relay | |
| Coil Voltage: | |
| 24V AC | D9PR8BT |
| 120V AC | D9PR8BA |
| 240V AC | D9PR8BB |
| 24V DC | D9PR8BT1 |
| 3PST-NO/SPST-NC Power Relay | |
| 120V AC | D9PR9BA |
| DPST-NO/DPST-NC Power Relay | |
| Coil Voltage: | |
| 24V AC | D9PR10BT |
| 120V AC | D9PR10BA |
| 24V DC | D9PR10BT1 |

② Additional coil voltages available — consult Contact Customer Support Centre 1-800-268-3578.

Dimensions

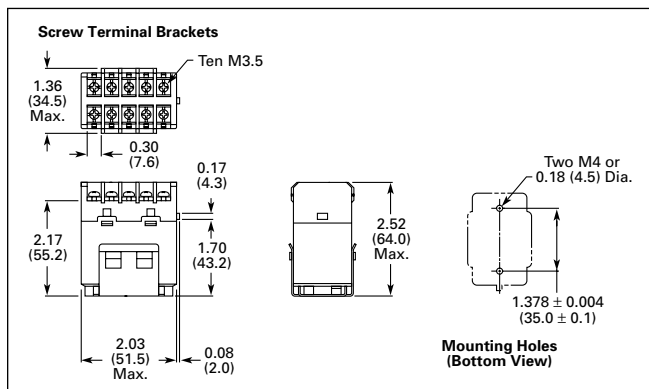


Figure 3-77. D9PR — Approximate Dimensions in Inches (mm)

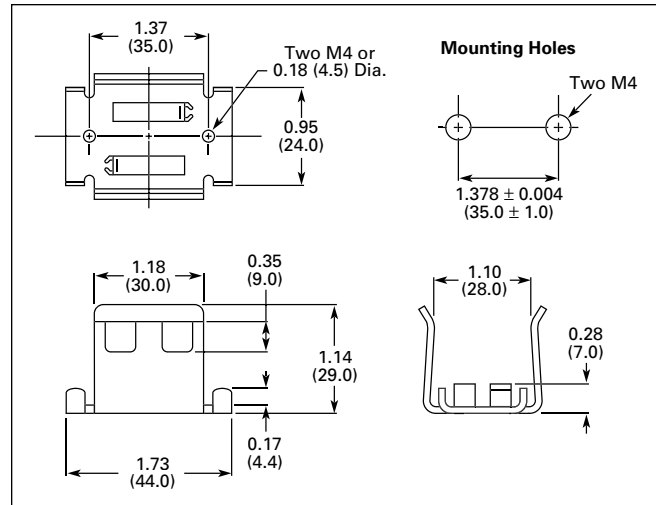


Figure 3-88. Mounting Bracket — Approximate Dimensions in Inches (mm)

Terminal Arrangements

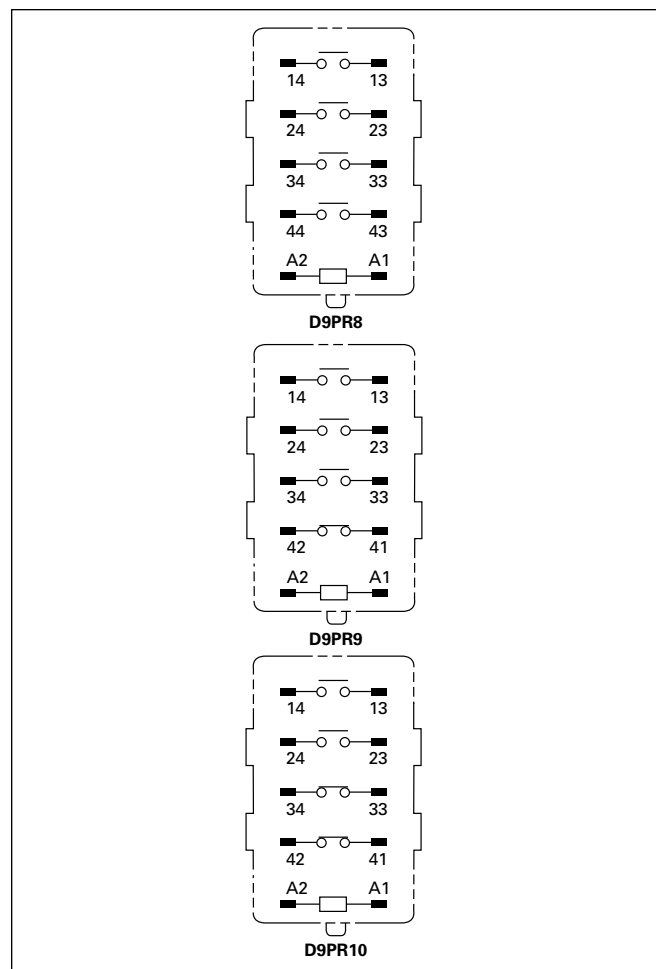


Figure 3-89. Terminal Arrangements

D2PF Series

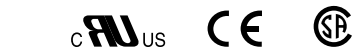


D2PF Series Relay

Features

- Flag indicator shows relay status in manual or powered condition
- Bi-polar LED status lamp allows for reverse polarity applications
 - Shows coil ON or OFF status
 - Ideal in low light conditions
- Colour 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 I.D. tag/write label used for identification of relays in multi-relay circuits

Standards and Certifications



When used with accompanying Cutler-Hammer® screw terminal socket.

Technical Data and Specifications

Table 3-18. D2PF Coil Resistance

| Coil Voltage | Ohms | mA ① |
|--------------|------|-------|
| | | 50 Hz |
| 6V AC | 9.6 | 200 |
| 6V DC | 40 | 150 |
| 12V AC | 46 | 100 |
| 12V DC | 160 | 75 |

| | | |
|---------|-------|----|
| 24V AC | 180 | 50 |
| 24V DC | 650 | 37 |
| 48V DC | 2600 | 18 |
| 110V DC | 11000 | 10 |
| 120V AC | 4430 | 10 |
| 240V AC | 15700 | 5 |

① At 60 Hz for AC Coils.

Table 3-19. D2PF2 and D2PF4 Relay Specifications

| | D2PF2 | D2PF4 |
|--|-----------------------------|-----------------------------|
| | Resistive Load (p.f. = 1.0) | Inductive Load (p.f. = 1.0) |

Coil

| | |
|----------------------------------------|-------------------------------|
| Pickup Voltage (Max.) | 85% AC; 80% DC (% of nominal) |
| Drop Out Voltage (Min.) | 10% AC; 10% DC (% of nominal) |
| Maximum Voltage | 110% of nominal |
| Insulation System per UL Standard 1446 | Class B 266°F (130°C) |

Contacts

| | | |
|----------------------------|----------------------------------------------------------|--------------------------------------|
| Rated Load | 120V AC – 10A 277V AC, 28V DC – 8A (UL), 10A (CSA) | 120V AC – 3A 277V AC, 28V DC – 3A |
| Maximum hp Ratings | 1/3 hp, 120V AC 1 hp, 277V AC | 1/10 hp, 120V AC 1/10 hp, 277V AC |
| Contact Material | Silver Tin Oxide (Gold Flashed) | Fine Silver, Gold Diffused |
| Pilot Duty | B300 | |
| Utilization Category (IEC) | AC-15 | |
| Min. Permissible Load | 100mA @ 5V DC or 0.5W | |
| Contact Resistance | 100 Milliohms Max. @ 6V, 1A | |

Dielectric Strength

| | |
|-----------------------|----------------------------|
| Coil to Contacts | 1500V RMS |
| Across Open Contacts | 1000V RMS |
| Contacts to Frame | 1500V RMS |
| Insulation Resistance | 100 Megohms Min. @ 500V DC |

Temperature

| | |
|-----------|---------------------------|
| Operating | -40 – 158°F (-40 – 70°C) |
| Storage | -40 – 221°F (-40 – 105°C) |

Life Expectancy

| | |
|------------------------------------|-----------------------|
| Electrical at Rated Resistive Load | 200,000 Operations |
| Mechanical at No Load | 10 Million Operations |

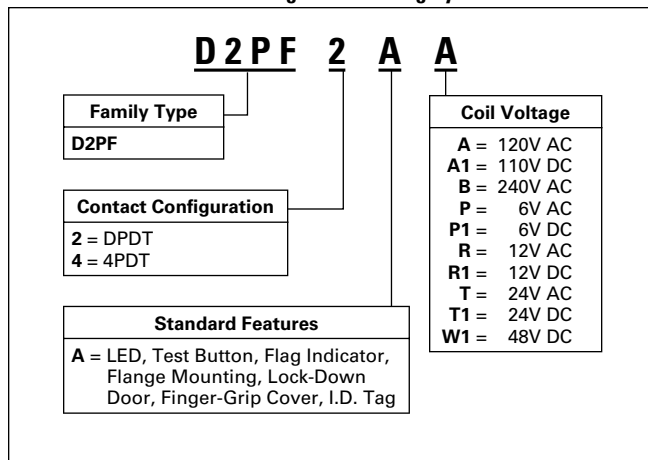
Weight

| | | |
|--------------------|------------------|------------------|
| Approximate Weight | 0.079 lbs. (36G) | 0.081 lbs. (37G) |
|--------------------|------------------|------------------|

D2PF Series — Full Featured

Catalogue Number Structure

Table 3-20. D2PF Series Catalogue Numbering System ①



① For deciphering Catalogue Numbers. Do not use for ordering as not all combinations are readily available.

Table 3-21. D2PF Relay/Socket Quick Reference

| Relay Type | Socket | Socket Type | Hold Down Clip |
|------------|--------|-----------------------------|----------------------|
| D2PF2 | D2PA6 | Screw Terminal | PQC-1342 |
| | D2PA7 | Screw Terminal, Finger-Safe | Included with Socket |
| D2PF4 | D2PA6 | Screw Terminal | PQC-1342 |
| | D2PA7 | Screw Terminal, Finger-Safe | Included with Socket |

Table 3-22. D2PF Socket Specifications

| Catalogue Number | Electrical Ratings | Mounting Torque | Hook-up Wire Range |
|------------------|--------------------|--------------------------------|--------------------------------|
| D2PA6 | 10A, 300V | 7 – 8 in-lbs. (0.79 – 0.90 Nm) | AWG 14 to 28 Solid or Stranded |
| D2PA7 | 10A, 300V | 7 – 8 in-lbs. (0.79 – 0.90 Nm) | AWG 14 to 20 Solid or Stranded |

Product Selection

Table 3-23. D2PF Product Selection

| | Std. Pack | Catalogue Number |
|------------------------------------------------|-----------|---------------------|
| DPDT | | |
| 6V AC 6V DC | | D2PF2AP D2PF2AP1 |
| 12V AC 12V DC | | D2PF2AR D2PF2AR1 |
| 24V AC 24V DC | | D2PF2AT D2PF2AT1 |
| 48V DC | | D2PF2AW1 |
| 110V DC | | D2PF2AA1 |
| 120V AC | | D2PF2AA |
| 240V AC | | D2PF2AB |
| 4PDT | | |
| 6V AC | | D2PF4AP |
| 12V AC 12V DC | | D2PF4AR D2PF4AR1 |
| 24V AC 24V DC | | D2PF4AT D2PF4AT1 |
| 48V DC | | D2PF4AW1 |
| 110V DC | | D2PF4AA1 |
| 120V AC | | D2PF4AA |
| 240V AC | | D2PF4AB |
| Sockets and Accessories | | |
| 4-Pole DIN or Panel Mount Socket | 10 | D2PA6 |
| Hold Down Clip | 10 | PQC-1342 |
| 4-Pole DIN or Panel Mount Socket — Finger-Safe | 10 | D2PA7 |
| DIN Rail End Stop ② | 200 | PPF-M |

② Additional end stop options available in CA08102001E on Page 55-74.

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D2PF Series — Full Featured

Dimensions

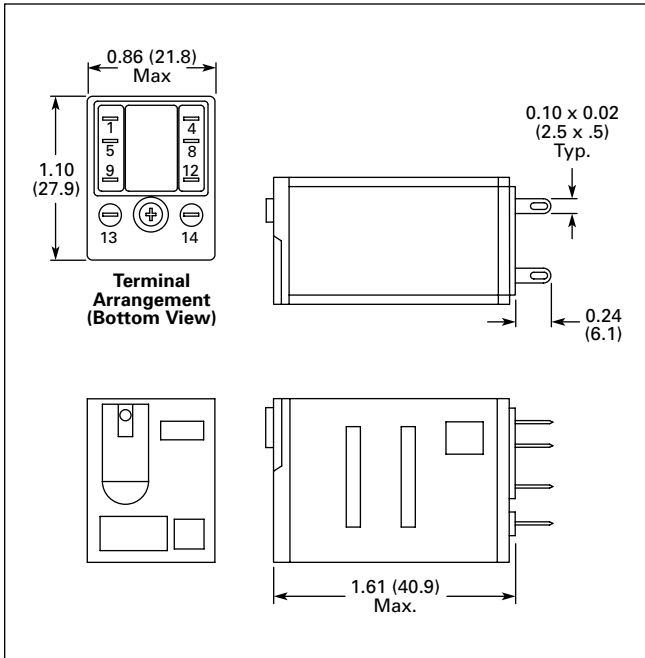


Figure 3-18. D2PF2 — Approximate Dimensions in Inches (mm)

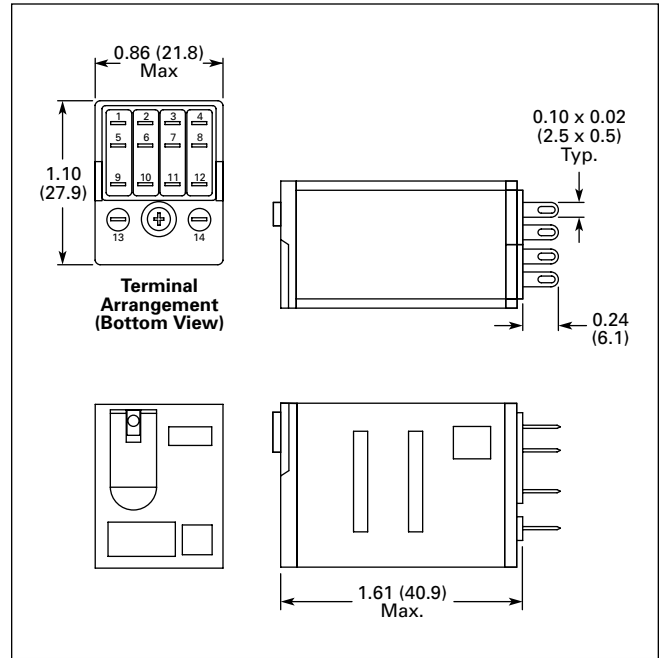


Figure 3-19. D2PF4 — Approximate Dimensions in Inches (mm)

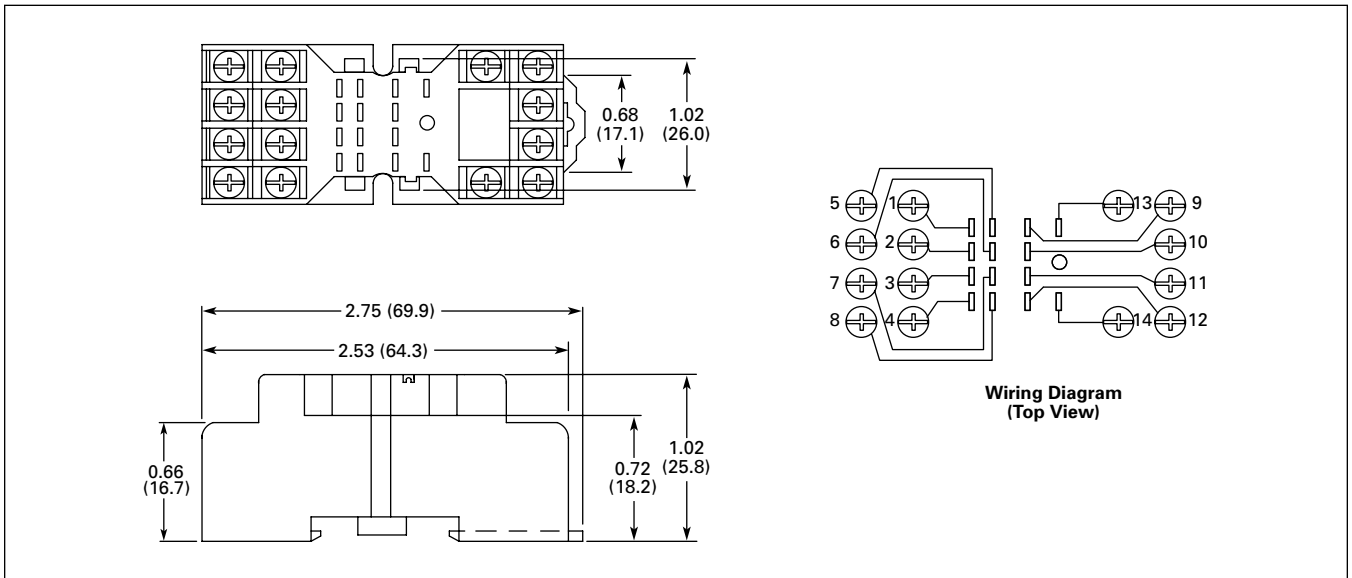


Figure 3-20. D2PA6 — Approximate Dimensions in Inches (mm)

D2PF Series — Full Featured

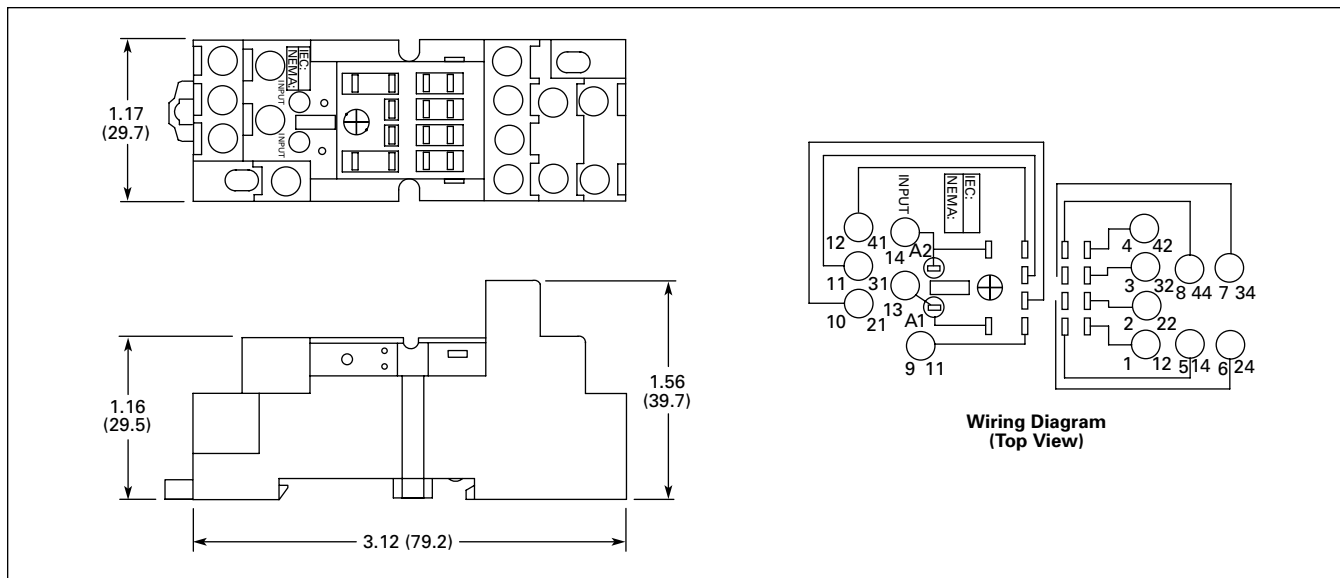


Figure 3-21. D2PA7 — Approximate Dimensions in Inches (mm)

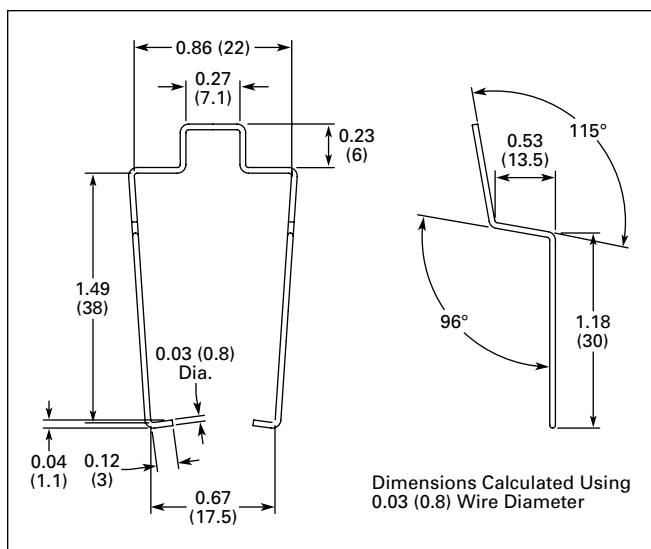


Figure 3-22. PQC-1342 — Approximate Dimensions in Inches (mm)

D2PR Series — Standard

D2PR Series



D2PR Series Relay

Features

- Ultra-high sensitivity relay with quick response
- Designed small, 2-pole type break 5A load and 4-pole type, 3A load
- High reliability, long life
- Panel, DIN rail and flange mounting
- Small size

Standards and Certifications

- File # E37317, E65657
- File # LR217017, LR217069
-

Technical Data and Specifications

Table 3-24. D2PR Coil Resistance

| Coil Voltage | Ohms | mA | |
|--------------|-------|-------|-------|
| | | 50 Hz | 60 Hz |
| 6V AC | 11 | 234 | 200 |
| 12V AC | 41 | 86.5 | 74 |
| 24V AC | 180 | 48 | 41 |
| 48V AC | 788 | 21 | 18 |
| 120V AC | 4430 | 12.9 | 11 |
| 240V AC | 15700 | 7 | 6 |
| 6V DC | 40 | 150 | |
| 12V DC | 160 | 75 | |
| 24V DC | 650 | 36.9 | |
| 48V DC | 2600 | 18.5 | |
| 110V DC | 11000 | 10 | |

Table 3-25. D2PR Socket Specifications

| Catalogue Number | Electrical Ratings | Mounting Torque | Hook-Up Wire Range |
|------------------|--------------------|-------------------|--------------------------------|
| D2PA4 | 7A, 250V | .785 Nm – 1.18 Nm | AWG 14 Max. |
| D2PA6 | 10A, 300V | 7 – 8 in-lbs | AWG 14 to 28 Solid or Stranded |

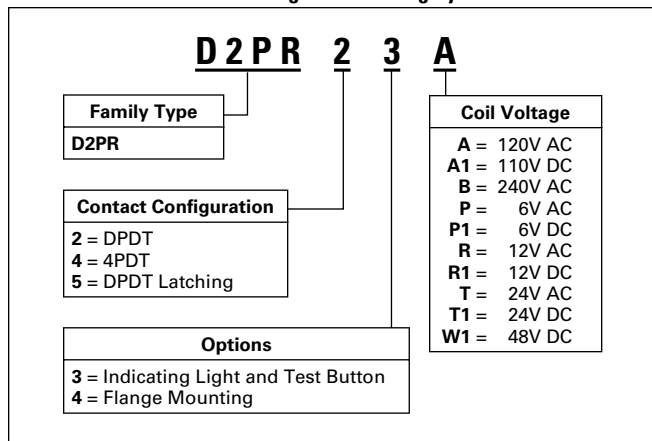
Table 3-26. D2PR Relay Specifications

| | Resistive Load (p.f. = 1) | Inductive Load (p.f. = 0.4, L/R = 7 ms) |
|----------------------------------------------|------------------------------|--------------------------------------------|
| D2PR2 | | |
| Rated Load | 240V AC 5A 30V DC 5A | 240V AC 2A 30V DC 2A |
| Carry Current | 5A | 5A |
| Max. Operating Voltage | 250V AC/125V DC | 250V AC/125V DC |
| Max. Operating Current | 5A | 5A |
| Contact Material | Silver Cadmium Oxide | Silver Cadmium Oxide |
| Max. Switching Capacity | 1100 VA 120W | 440 VA 48W |
| Min. Permissible Load | 100 mA, 5V DC | 100 mA, 5V DC |
| Pickup Voltage (max.) | 80% AC, 75% DC | 80% AC, 75% DC |
| Drop Out Voltage (min.) | 30% AC, 10% DC | 30% AC, 10% DC |
| Voltage (max.) | 110% | 110% |
| Mechanical Life (min.) | 10,000,000 operations | 10,000,000 operations |
| Electrical Life @ All Contact Ratings (min.) | 200,000 operations | 200,000 operations |
| Maximum hp Ratings | 1/6 hp (120V AC) | 1/6 hp (120/240V AC) |
| D2PR4 | | |
| Rated Load | 240V AC 3A 30V DC 3A | 240V AC 0.8A 30V DC 1.5A |
| Carry Current | 3A | 3A |
| Max. Operating Voltage | 250V AC/125V DC | 250V AC/125V DC |
| Max. Operating Current | 3A | 3A |
| Contact Material | Ag (Au Flashed) | Ag (Au Flashed) |
| Max. Switching Capacity | 660 VA 72W | 176 VA 36W |
| Min. Permissible Load | 1 mA, 1V DC | 1 mA, 1V DC |
| Pickup Voltage (max.) | 80% | 80% |
| Drop Out Voltage (min.) | 30% AC, 10% DC | 30% AC, 10% DC |
| Voltage (max.) | 110% | 110% |
| Mechanical Life (min.) | 10,000,000 operations | 10,000,000 operations |
| Electrical Life @ All Contact Ratings (min.) | 200,000 operations | 200,000 operations |
| Maximum hp Ratings | 1/10 hp (120/240V AC) | 1/10 hp (120/240V AC) |
| D2PR5 | | |
| Rated Load | 250V AC 5A 30V DC 5A | 250V AC 2A 30V DC 2A |
| Carry Current | 3A | 3A |
| Max. Operating Voltage | 250V AC/125V DC | 250V AC/125V DC |
| Max. Operating Current | 3A | 3A |
| Contact Material | Ag (Au flashed) | Ag (Au flashed) |
| Max. Switching Capacity | 660 VA 72W | 176 VA 36W |
| Min. Permissible Load | 100 mA, 1V DC | 100 mA, 1V DC |
| Pickup Voltage (max.) | 80% | 80% |
| Drop Out Voltage (min.) | 30% AC, 10% DC | 30% AC, 10% DC |
| Set/Reset Voltage (max.) | 80% | 80% |
| Voltage (max.) | 110% | 110% |
| Mechanical Life (min.) | 100 million operations | 100 million operations |
| Electrical Life @ All Contact Ratings (min.) | 200,000 operations | 200,000 operations |
| Maximum hp Ratings | 1/8 hp (265V AC) | 1/8 hp (265V AC) |

D2PR Series — Standard

Catalogue Number Structure

Table 3-27. D2PR Series Catalogue Numbering System ①



① For deciphering Catalog Numbers. Do not use for ordering as not all combinations are readily available.

Table 3-28. D2PR Relay/Socket Quick Reference

| Relay Type | Socket | Hold Down Spring/Clip |
|------------|--------|-----------------------|
| D2PR2 | D2PA6 | PMC-A1 |
| D2PR4 | D2PA6 | PMC-A1 |
| D2PR5 | D2PA4 | PYC-A1 |

Product Selection

Table 3-29. D2PR Product Selection ②

| | Std. Pack | Catalogue Number |
|---------------------------------------------------------------------------------|-----------|----------------------------------|
| Standard DPDT | | |
| Coil Voltage: 24V AC 110V AC 240V AC | | D2PR2T D2PR2A D2PR2B |
| 12V DC 24V DC | | D2PR2R1 D2PR2T1 |
| DPDT with Indicating Light and Test Button | | |
| 24V AC 110V AC | | D2PR23T D2PR23A |
| 24V DC | | D2PR23T1 |
| DPDT Flange Mount | | |
| 110V AC | | D2PR24A |
| Standard 4PDT | | |
| Coil Voltage: 24V AC 110V AC | | D2PR4T D2PR4A |
| 12V DC 24V DC 110V DC | | D2PR4R1 D2PR4T1 D2PR4A1 |
| 4PDT with Indicating Light and Test Button | | |
| 24V AC 110V AC | | D2PR43T D2PR43A |
| 12V DC 24V DC 110V DC | | D2PR43R1 D2PR43T1 D2PR43A1 |
| 4PDT Flange Mount | | |
| 110V AC | | D2PR44A |
| DPDT Latching | | |
| 110V AC | | D2PR5A |
| 24V DC | | D2PR5T1 |
| DIN Rail or Panel Mount Socket and Accessories | | |
| 4-Pole Socket | 10 | D2PA6 |
| Spring Clip | 100 | PMC-A1 |
| DIN Rail End Stop | 100 | PPF-M |
| DIN Rail or Panel Mount Socket and Accessories for D2PR5 Latching Relays | | |
| 4-Pole Socket | 10 | D2PA4 |
| Hold-Down Spring | 100 | PYC-A1 |
| DIN Rail End Stop ③ | 100 | PPF-M |

② Additional coil voltages available — consult Contact Customer Support Centre 1-800-268-3578.

③ Additional end stop options available in CA08102001E on Page 55-74.

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D2PR Series — Standard

Dimensions

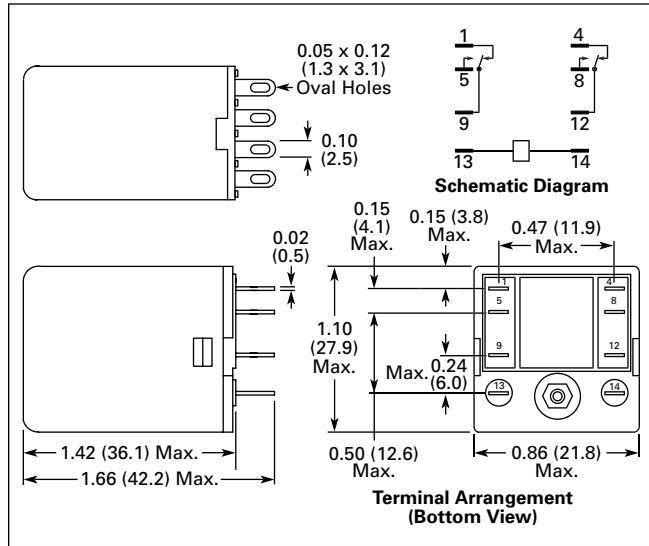


Figure 3-23. D2PR2 — Approximate Dimensions in Inches (mm)

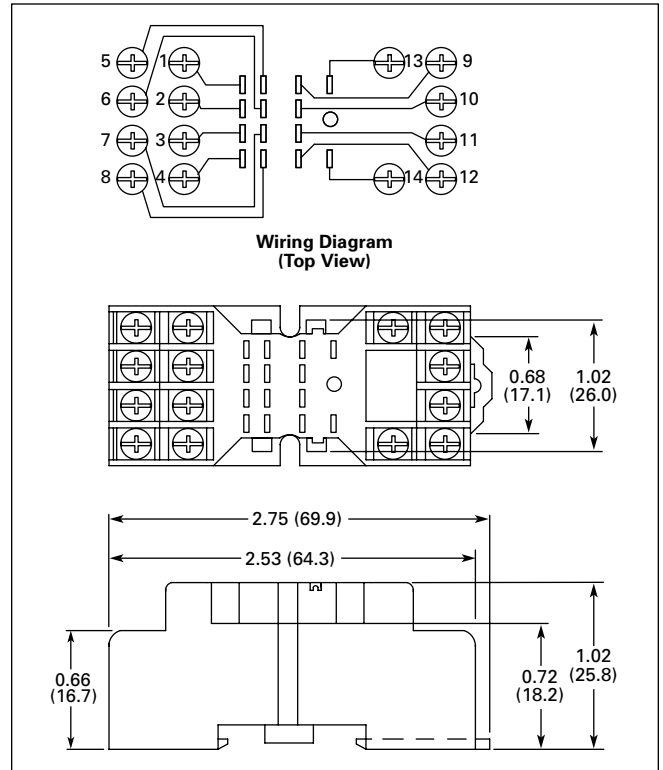


Figure 3-25. D2PA6 — Approximate Dimensions in Inches (mm)

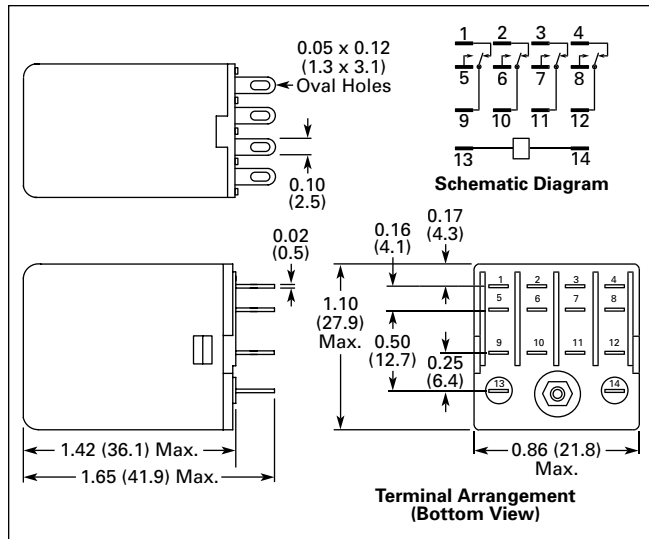


Figure 3-24. D2PR4/D2PR44 — Approximate Dimensions in Inches (mm)

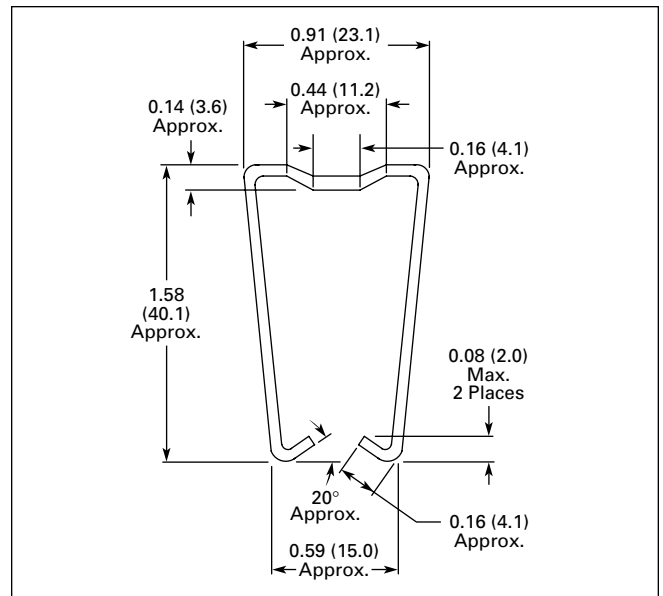


Figure 3-26. PMC-A1 Spring Clip for D2PA6

D2PR Series — Standard

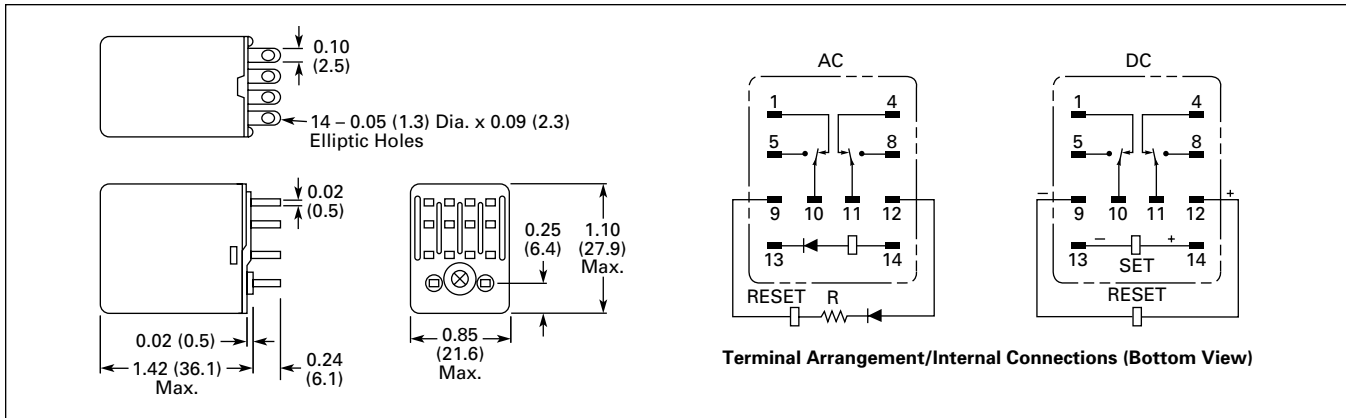


Figure 3-27. D2PR5 — Approximate Dimensions in Inches (mm)

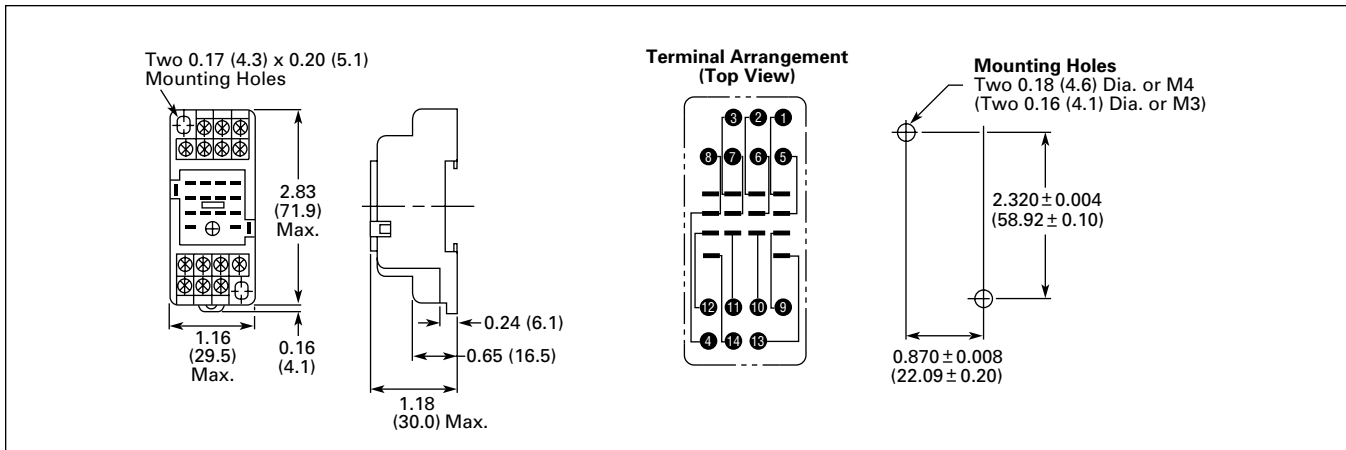


Figure 3-28. D2PA4 Socket for D2PR5 DPDT Latching Relays Only — Approximate Dimensions in Inches (mm)

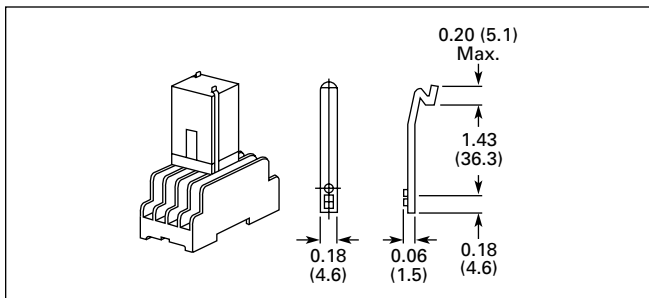


Figure 3-29. PYC-A1 Hold down Clip for D2PA4 Socket — Approximate Dimensions in Inches (mm)

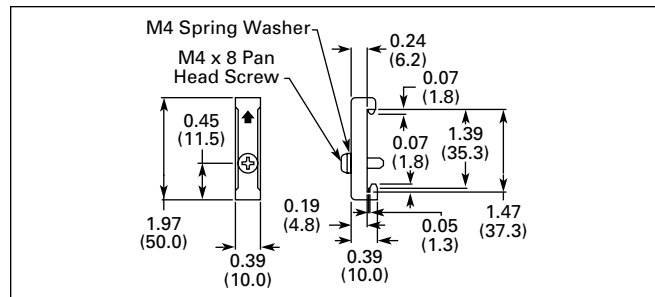


Figure 3-30. PFP-M DIN Rail End Stop — Approximate Dimensions in Inches (mm)

D3PR/D3PF Series



D3 Series Relay

Features




D3PR


- Compact relay capable of breaking relatively large load currents
- The contact operation can be easily checked by push-to-test button
- Panel and DIN rail mounting
- 8- or 11-pin octal plug-in

D3PF

- Flag indicator shows relay status in manual or powered condition
- LED status lamp shows coil “ON” or “OFF” status — ideal for use in low light applications
- Push-to-test button allows for manual operation of relay without the need for coil power
- Lock-down door holds pushbutton and contacts in the operate position when activated
- Finger-grip cover allows operator to remove relays from sockets easily
- I.D. tag/write label to identify relays in multiple-relay circuits
- Bi-polar LED allows for reverse polarity applications

Standards and Certifications




 (CSA approval not applicable to D3PR5 Relays)


 When used with accompanying Cutler-Hammer® screw terminal socket (for D3PF only).

Technical Data and Specifications

Table 3-30. Coil Resistance for D3PR Series

| Coil Voltage | Ohms | | mA | | | |
|--------------|-----------|---------------------------|----------------|-------|------------|-------|
| | D3PR2/PR3 | D3PR5 – DC (Each Coil) | D3PR2/PR3 – AC | | D3PR5 – AC | |
| | | | 50 Hz | 60 Hz | 50 Hz | 60 Hz |
| 6V AC | 4.2 | — | 550 | 458 | — | — |
| 12V AC | 18 | — | 275 | 229 | — | — |
| 24V AC | 72 | 52 | 137 | 114 | 13 | 11 |
| 120V AC | 2200 | 1200 | 28 | 23 | 3.5 | 2.8 |
| 240V AC | 7200 | 3200 | 13 | 11 | 1.7 | 1.6 |
| 6V DC | 32 | — | 187 | | — | |
| 12V DC | 120 | 88 | 100 | | 136 | |
| 24V DC | 470 | 350 | 50 | | 69 | |
| 48V DC | 1900 | — | 25 | | — | |
| 110V DC | 10000 | 4000 | 11 | | 27 | |

Table 3-31. Coil Resistance for D3PF Series

| Coil Voltage | Ohms | mA | |
|--------------|--------|-------|-------|
| | | 50 Hz | 60 Hz |
| 24V AC | 72 | 398.0 | 340 |
| 120V AC | 1,700 | 76.0 | 65 |
| 240V AC | 7,200 | 28.0 | 24 |
| 12V DC | 120 | 100.0 | — |
| 24V DC | 470 | 49.9 | — |
| 110V DC | 10,000 | 13.2 | — |

D3PR/DP3F Series — Standard and Full Featured

Table 3-32. Relay Specifications

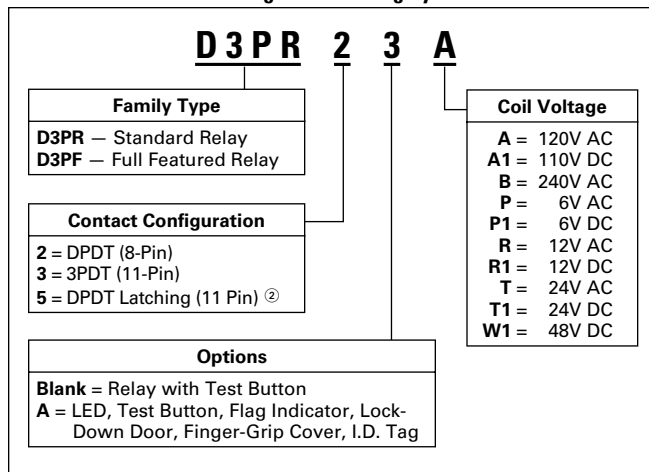
| | D3PR2/D3PR3 | D3PR2/D3PR3 | D3PF2/D3PF3 | D3PR5 | D3PR5 |
|-------------------------------------------------|------------------------------------------------------------------|------------------------------------------------------------------|-----------------------------------------------------|------------------------------------------------------------------|------------------------------------------------------------------|
| | Resistive Load (p.f. = 1) | Inductive Load (p.f. = 0.4, L/R = 7 ms) | Resistive Load (p.f. = 1.0) | Resistive Load (p.f. = 1) | Inductive Load (p.f. = 0.4, L/R = 7 ms) |
| Rated Load | 240V AC 10A 120V AC 12A 28V DC 10A | 240V AC 7A 120V AC 7A 28V DC 7A | 240V AC 12A 120V AC 12A 28V DC 12A | 240V AC 10A 120V AC 12A 30V DC 10A | 240V AC 7A 120V AC 7A 30V DC 7A |
| Carry Current | 10A | 10A | 12 Amps | 10A | 10A |
| Max. Operating Voltage | 240V AC/DC | 240V AC/DC | 110% of nominal | 240V AC/DC | 240V AC/DC |
| Contact Resistance | 50 milli Ω's Max. @ 10 Amps 120V AC or 24V DC | 50 milli Ω's Max. @ 10 Amps 120V AC or 24V DC | 50 milli Ω's Max. @ 10 Amps 120V AC or 24V DC | 50 milli Ω's Max. @ 10 Amps 120V AC or 24V DC | 50 milli Ω's Max. @ 10 Amps 120V AC or 24V DC |
| Dielectric Strength | 1500V | 1500V | 1500V | 1500V | 1500V |
| Approx. Weight | 3.5 oz (99.2g) | 3.5 oz (99.2g) | 3.1 oz (88g) | 3.5 oz (99.2g) | 3.5 oz (99.2g) |
| Temperature — Operating | -49 – 131°F (-45 – 55°C) AC -49 – 158°F (-45 – 70°C) DC | -49 – 131°F (-45 – 55°C) AC -49 – 158°F (-45 – 70°C) DC | -22 – 122°F (-30 – 50°C) | -49 – 131°F (-45 – 55°C) AC -49 – 158°F (-45 – 70°C) DC | -49 – 131°F (-45 – 55°C) AC -49 – 158°F (-45 – 70°C) DC |
| Storage | -40 – 221°F (-40 – 105°C) | -40 – 221°F (-40 – 105°C) | -22 – 212°F (-30 – 100°C) | -40 – 221°F (-40 – 105°C) | -40 – 221°F (-40 – 105°C) |
| Contact Material | AgCdO (Au Flashed) | AgCdO (Au Flashed) | AgCdO (Au Flashed) | AgCdO (Au Flashed) | AgCdO (Au Flashed) |
| Max. Switching Capacity | 2500 VA 280W | 1750 VA 196W | 12 Amps | 1100 VA 72W | 440 VA 60W |
| Min. Permissible Load | 100 mA @ 12V | 100 mA @ 12V | 100 mA | 100 mA @ 12V | 100 mA @ 12V |
| Pickup Voltage (max.) | 80% | 80% | 85% AC; 80% DC | — | — |
| Drop Out Voltage (min.) | 10% | 10% | 30% AC 10% DC | — | — |
| Set/Reset Voltage (max.) | — | — | — | 80% | 80% |
| Voltage (max.) | 110% | 110% | 110% | 110% | 110% |
| Mechanical Life (min.) | 10,000,000 | 10,000,000 | 5 million (No Load) | 10,000,000 | 10,000,000 |
| Electrical Life @ All Contact Ratings (min.) | 100,000 | 100,000 | 200,000 operations at Rated Res. Load | 100,000 | 100,000 |
| Maximum hp Ratings | 1/3 hp (120V AC) 1/2 hp (240V AC) | 1/3 hp (120V AC) 1/2 hp (240V AC) | 1/3 hp, 120V AC 1/2 hp, 240V AC | 1/3 hp (120V AC) 1/2 hp (240V AC) | 1/3 hp (120V AC) 1/2 hp (240V AC) |

Table 3-33. Socket Specifications

| Catalogue Number | Electrical Ratings | Mounting Torque | Hook-Up Wire Range |
|------------------|------------------------|-----------------|-----------------------------------|
| D3PA2 | 10A, 600V 15A, 300V | 8 – 10 in-lbs | AWG 12 to 22 Solid or Stranded |
| D3PA3-A2 | 5A, 600V 15A, 300V | 8 – 10 in-lbs | AWG 12 to 22 Solid or Stranded |
| D3PA6 | 5A, 600V 16A, 300V | 8 – 10 in-lbs | AWG 12 to 20 Solid or Stranded |
| D3PA7 | 5A, 600V 16A, 300V | 8 – 10 in-lbs | AWG 12 to 20 Solid or Stranded |
| D3PA4 | 10A, 260V | N/A | AWG 14 Max. |
| D3PA5 | 10A, 260V | N/A | AWG 14 Max. |

Catalogue Number Structure

Table 3-34. D3 Series Catalogue Numbering System ①



① For deciphering Catalogue Numbers. Do not use for ordering as not all combinations are readily available.

② D3PR only.

Table 3-35. Relay/Socket Quick Reference

| Relay Type | Socket Type | Socket | Hold Down Spring/Clip |
|------------|--------------------------------------|----------------------------|---------------------------------------|
| D3PR2 | 8 Pin Octal | D3PA2 D3PA4 D3PA6 | PQC-1344 Not Available PQC-1332 |
| D3PF2 | 8 Pin Octal | D3PA2 | PQC-1344 |
| | 8 Pin Octal — Finger-safe terminals | D3PA6 | PQC-1332 |
| D3PR3 | 11 Pin Octal | D3PA3-A2 D3PA5 D3PA7 | PQC-1351 Not Available PQC-1332 |
| D3PF3 | 11 Pin Octal | D3PA3-A2 | PQC-1351 |
| | 11 Pin Octal — Finger-safe terminals | D3PA7 | PQC-1332 |
| D3PR5 | 11 Pin Octal | D3PA3-A2 D3PA5 D3PA7 | PQC-1351 Not Available PQC-1332 |

Product Selection

Table 3-36. D3 Product Selection ③

| | Std. Pack | Catalogue Number |
|---------------------------------------|-----------|------------------|
| Standard DPDT with Test Button | | |
| Coil Voltage: | | |
| 12V AC | 1 | D3PR2R |
| 24V AC | 1 | D3PR2T |
| 120V AC | 1 | D3PR2A |
| 240V AC | 1 | D3PR2B |
| 12V DC | 1 | D3PR2R1 |
| 24V DC | 1 | D3PR2T1 |
| 110V DC | 1 | D3PR2A1 |
| DPDT Full Featured Relay | | |
| 24V AC | 1 | D3PF2AT |
| 120V AC | 1 | D3PF2AA |
| 240V AC | 1 | D3PF2AB |
| 12V DC | 1 | D3PF2AR1 |
| 24V DC | 1 | D3PF2AT1 |
| 110V DC | 1 | D3PF2AA1 |
| Standard 3PDT with Test Button | | |
| Coil Voltage: | | |
| 24V AC | 1 | D3PR3T |
| 120V AC | 1 | D3PR3A |
| 240V AC | 1 | D3PR3B |
| 12V DC | 1 | D3PR3R1 |
| 24V DC | 1 | D3PR3T1 |
| 110V DC | 1 | D3PR3A1 |
| 3PDT Full Featured Relay | | |
| 24V AC | 1 | D3PF3AT |
| 120V AC | 1 | D3PF3AA |
| 240V AC | 1 | D3PF3AB |
| 24V DC | 1 | D3PF3AT1 |
| 110V DC | 1 | D3PF3AA1 |
| DPDT Latching ⑤ | | |
| 24V AC | 1 | D3PR5T |
| 120V AC | 1 | D3PR5A |
| DIN Rail Sockets | | |
| 2-Pole (8-Pin) | 10 | D3PA2 |
| 2-Pole (8-Pin) Finger-Safe ⑥ | 1 | D3PA6 |
| 3-Pole (11-Pin) | 10 | D3PA3 |
| 3-Pole (11-Pin) Finger-Safe ⑥ | 1 | D3PA7 |
| Panel Mount Sockets | | |
| 2-Pole | 10 | D3PA4 |
| 3-Pole | 10 | D3PA5 |
| Accessories | | |
| Hold Down Clip | 10 | PQC-1344 |
| Hold Down Clip | 25 | PQC-1332 |
| Hold Down Clip | 10 | PQC-1351 |
| Hold Down Clip | 100 | PWC-1325 |
| Coil Buss Jumper for D3PA6 & D3PA7 | 25 | D3PJ1 |
| DIN Rail End Stop ④ | 100 | PPF-M |

③ Additional coil voltages available — consult Contact Customer Support Centre 1-800-268-3578.

④ Dimensions on **Page 31**.

⑤ CSA approval is not applicable to D3PR5 Latching Relays.

⑥ IP20 Rated.

D3PR/DP3F Series — Standard and Full Featured

Dimensions

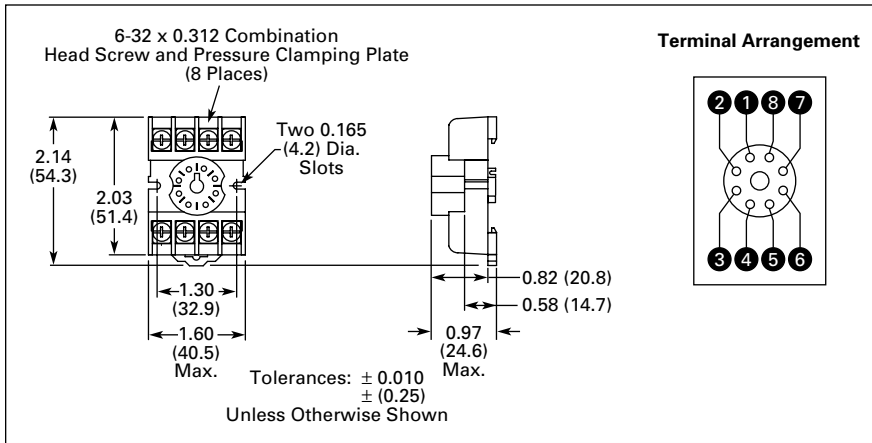


Figure 3-31. D3PA2 — Approximate Dimensions in Inches (mm)

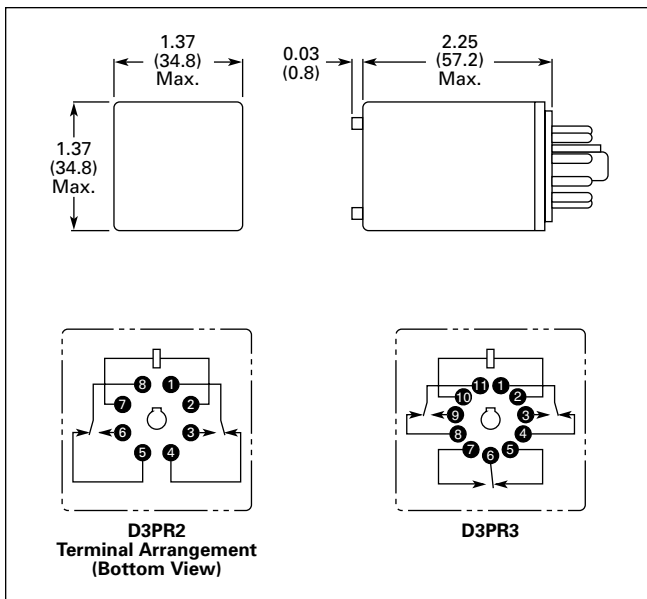


Figure 3-32. D3PR2/D3PR3 — Approximate Dimensions in Inches (mm)

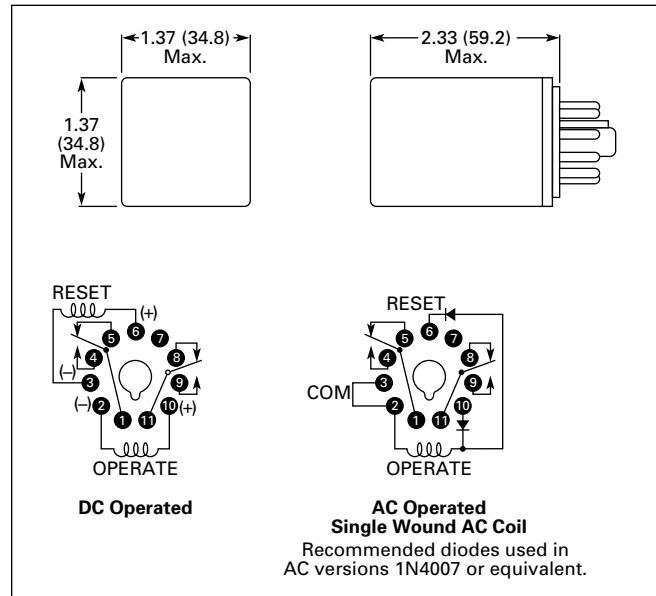


Figure 3-33. D3PR5 — Approximate Dimensions in Inches (mm)

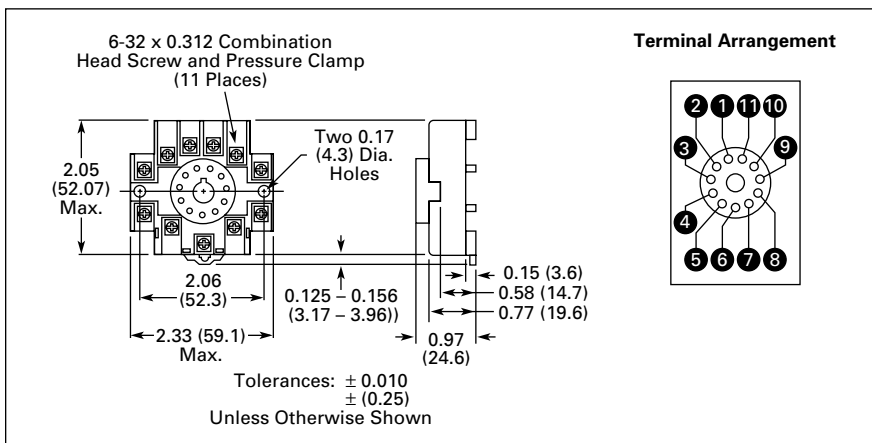


Figure 3-34. D3PA3-A2 — Approximate Dimensions in Inches (mm)

April 2009

D3PR/DP3F Series — Standard and Full Featured



D3PJ1

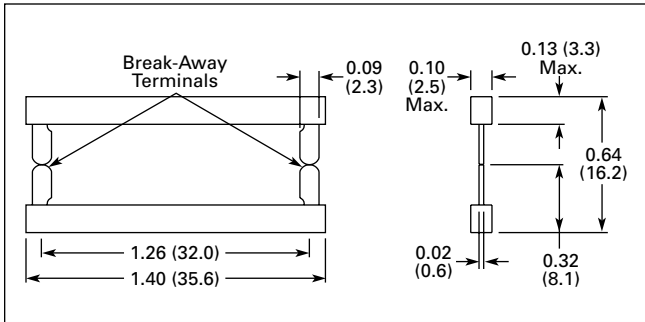


Figure 3-35. D3PJ1 — Approximate Dimensions in Inches (mm)

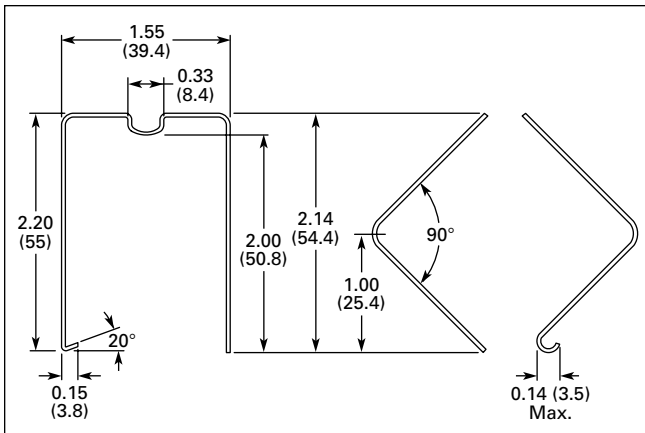


Figure 3-36. PQC-1332 — Approximate Dimensions in Inches (mm)

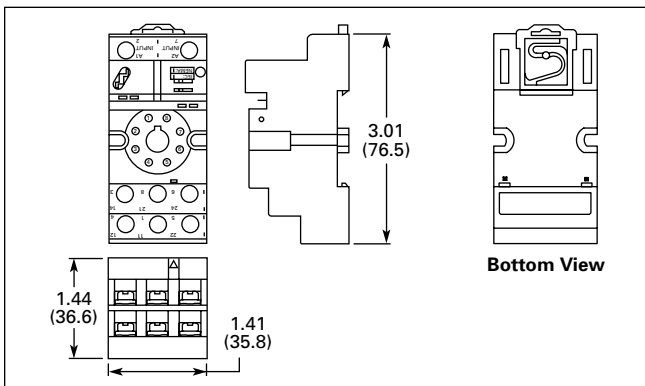


Figure 3-37. D3PA6 — Approximate Dimensions in Inches (mm)

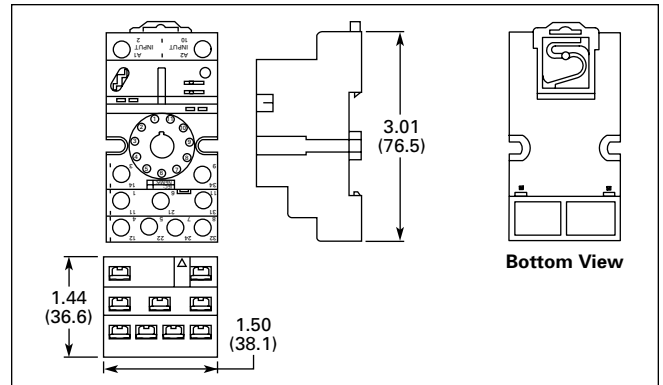


Figure 3-38. D3PA7 — Approximate Dimensions in Inches (mm)

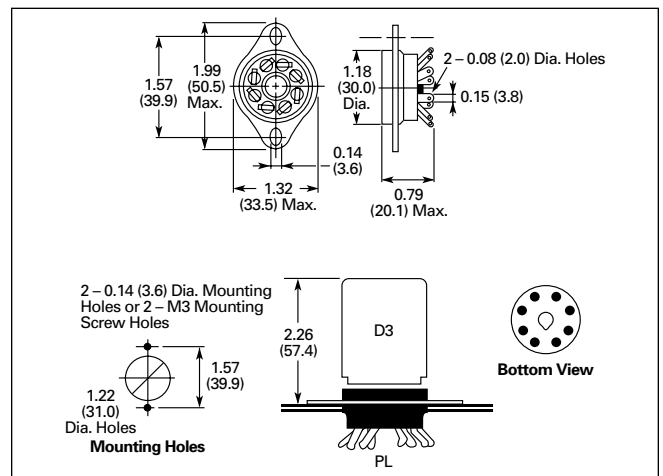


Figure 3-39. D3PA4 — Approximate Dimensions in Inches (mm)

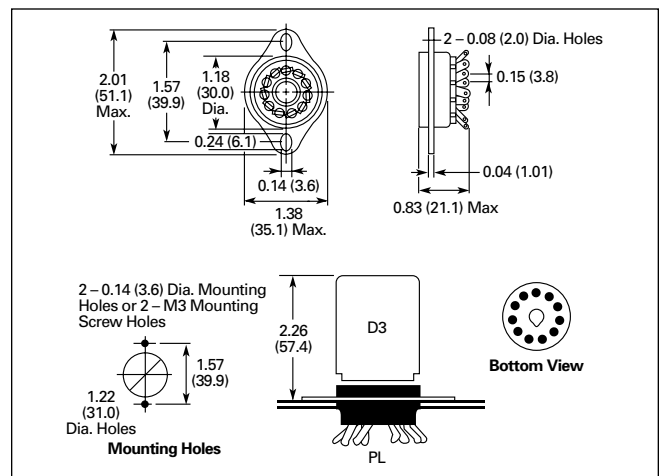


Figure 3-40. D3PA5 — Approximate Dimensions in Inches (mm)

D3PR/DP3F Series — Standard and Full Featured

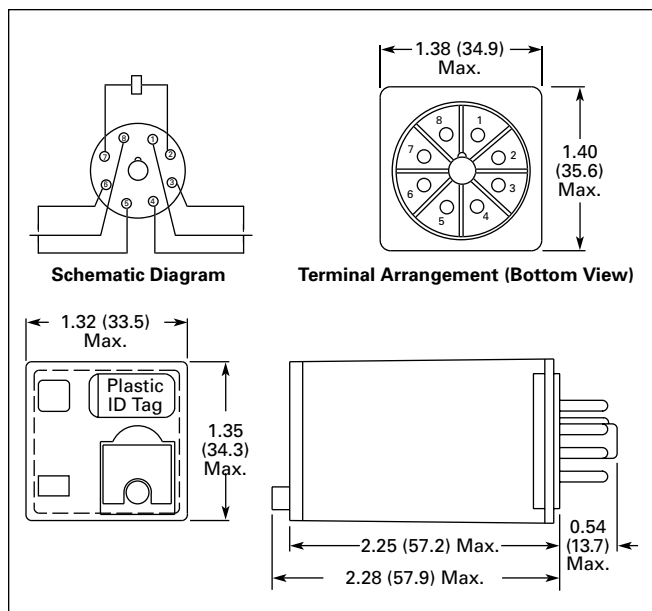


Figure 3-41. D3PF2 — Approximate Dimensions in Inches (mm)

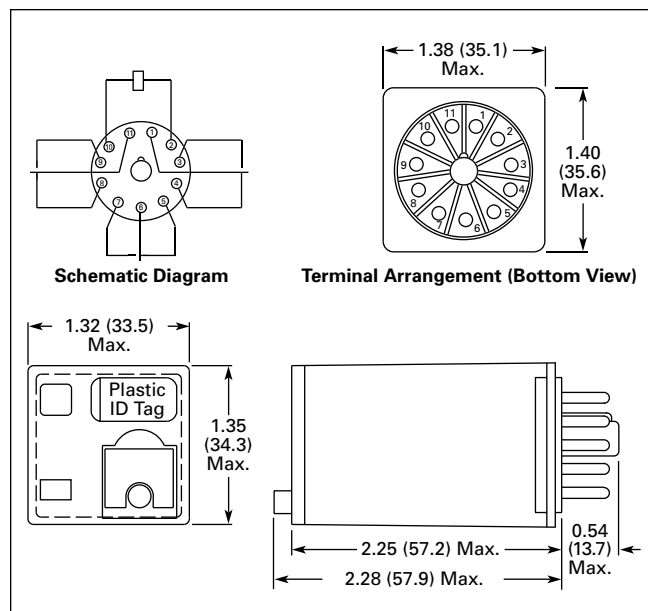


Figure 3-42. D3PF3 — Approximate Dimensions in Inches (mm)

D4 Series



D4 Series Relay

Features

- Slim-styled power relay
- Socket has built-in hold-down clip
- Panel or DIN rail mounting

Standards and Certifications

RU File # E1491, E65657

SP File # LR701519



Technical Data and Specifications

Table 3-37. Coil Resistance

| Coil Voltage | Ohms | mA |
|--------------|-------|------------|
| | | @ 60 Hz AC |
| 6V AC | 16 | 150 |
| 12V AC | 65 | 75 |
| 24V AC | 260 | 37.5 |
| 48V AC | 1130 | 18 |
| 110/120V AC | 6500 | 7.5 |
| 220/240V AC | 30000 | 3.8 |
| 6V DC | 68 | 88.2 |
| 12V DC | 275 | 43.6 |
| 24V DC | 1100 | 21.8 |
| 48V DC | 4170 | 11.5 |
| 100/110V DC | 22900 | 4.8 |

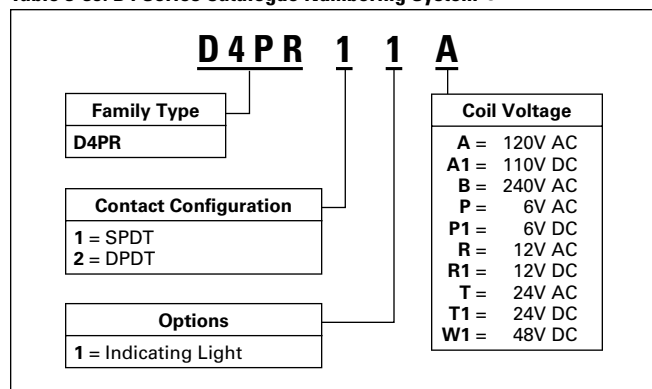
Table 3-38. Specifications

| | D4PR1 | | D4PR2 | |
|-------------------------------------------------|----------------------------------------------------------|----------------------------------------------------------|----------------------------------------------------------|----------------------------------------------------------|
| | Resistive Load (p.f. = 1) | Inductive Load (p.f. = 0.4, L/R = 7 ms) | Resistive Load (p.f. = 1) | Inductive Load (p.f. = 0.4, L/R = 7 ms) |
| Rated Load | 250V AC 10A 30V DC 10A | 250V AC 7.5A 30V DC 5A | 240V AC 5A 30V DC 5A | 250V AC 2A 30V DC 3A |
| Carry Current | 10A | 10A | 5A | 5A |
| Max. Operating Voltage | 380V AC/125V DC | 380V AC/125V DC | 380V AC/125V DC | 380V AC/125V DC |
| Max. Operating Current | 10A | 10A | 5A | 5A |
| Contact Material | AgCdO | AgCdO | AgCdO | AgCdO |
| Max. Switching Capacity | 2500 VA 300W | 1875 VA 150W | 1250 VA 150W | 500 VA 90W |
| Min. Permissible Load | 100 mA, 5V DC | 100 mA, 5V DC | 10 mA, 5V DC | 10 mA, 5V DC |
| Pickup Voltage (max.) | 80% AC/70% DC | 80% AC/70% DC | 80% AC/70% DC | 80% AC/70% DC |
| Drop Out Voltage (min.) | 30% AC/15% DC | 30% AC/15% DC | 30% AC/15% DC | 30% AC/15% DC |
| Voltage (max.) | 110% | 110% | 110% | 110% |
| Mechanical Life (min.) | 10,000,000 AC/20,000,000 DC | 10,000,000 AC/20,000,000 DC | 10,000,000 AC/20,000,000 DC | 10,000,000 AC/20,000,000 DC |
| Electrical Life @ All Contact Ratings (min.) | 100,000 | 100,000 | 100,000 | 100,000 |
| Maximum hp Ratings | 1/3 hp (125V AC) 1/2 hp (250V AC) 1/2 hp (277V AC) | 1/3 hp (125V AC) 1/2 hp (250V AC) 1/2 hp (277V AC) | 1/6 hp (120V AC) 1/3 hp (240V AC) 1/3 hp (265V AC) | 1/6 hp (120V AC) 1/3 hp (240V AC) 1/3 hp (265V AC) |

D4 Series — Standard

Catalogue Number Structure

Table 3-39. D4 Series Catalogue Numbering System ①



① For deciphering Catalogue Numbers. Do not use for ordering as not all combinations are readily available.

Table 3-40. Relay/Socket Quick Reference

| Relay Type | Socket | Hold Down Clip |
|------------|--------|----------------|
| D4PR1 | D4PA1 | ② |
| D4PR2 | D4PA2 | ② |

② Socket has built-in hold down spring.

Product Selection

Table 3-41. D4 Product Selection ③

| | Std. Pack | Catalogue Number |
|-----------------------------------|-----------|------------------|
| Standard SPDT | | |
| Coil Voltage: | | |
| 24V AC | | D4PR1T |
| 120V AC | | D4PR1A |
| 24V DC | | D4PR1T1 |
| SPDT with Indicating Light | | |
| 24V AC | | D4PR11T |
| 120V AC | | D4PR11A |
| 24V DC | | D4PR11T1 |
| Standard DPDT | | |
| 24V AC | | D4PR2T |
| 120V AC | | D4PR2A |
| 12V DC | | D4PR2R1 |
| 24V DC | | D4PR2T1 |
| DPDT with Indicating Light | | |
| 120V AC | | D4PR21A |
| 24V DC | | D4PR21T1 |
| DIN Rail Sockets | | |
| 1-Pole | 10 | D4PA1 |
| 2-Pole | 10 | D4PA2 |
| Accessories | | |
| DIN Rail End Stop | 100 | PPF-M |

③ Additional coil voltages available — consult Contact Customer Support Centre 1-800-268-3578.

Dimensions

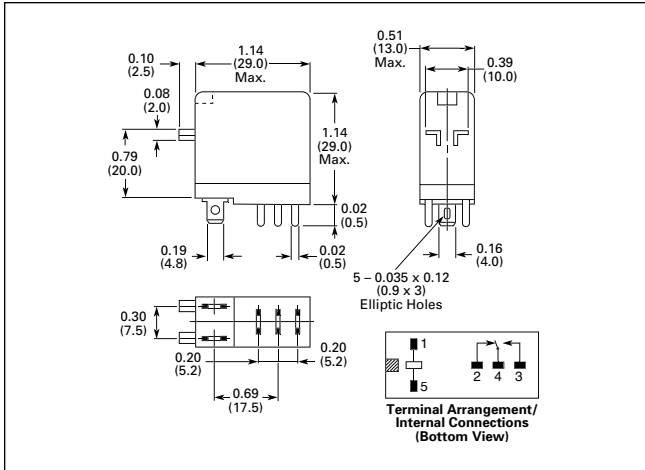


Figure 3-43. D4PR1 — Approximate Dimensions in Inches (mm)

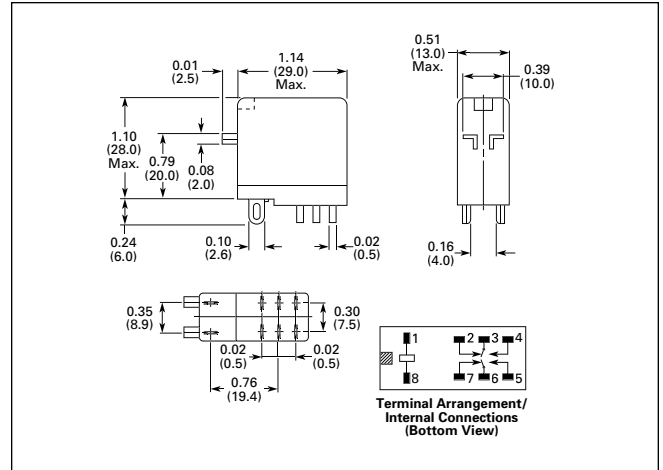


Figure 3-44. D4PR2 — Approximate Dimensions in Inches (mm)

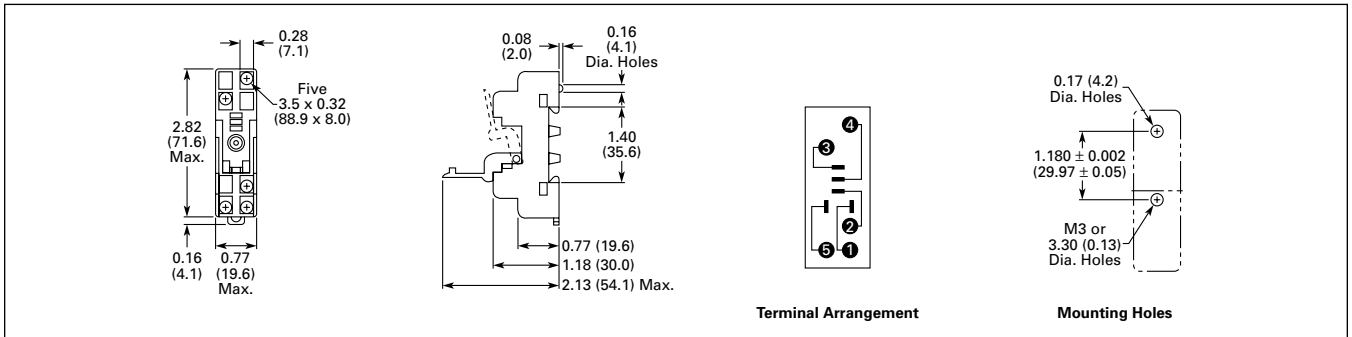


Figure 3-45. D4PA1 — Approximate Dimensions in Inches (mm)

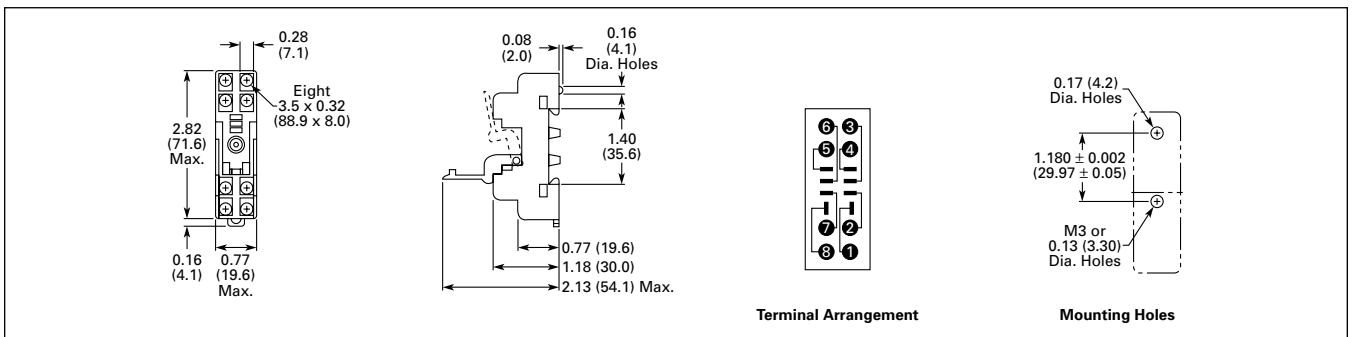


Figure 3-46. D4PA2 — Approximate Dimensions in Inches (mm)

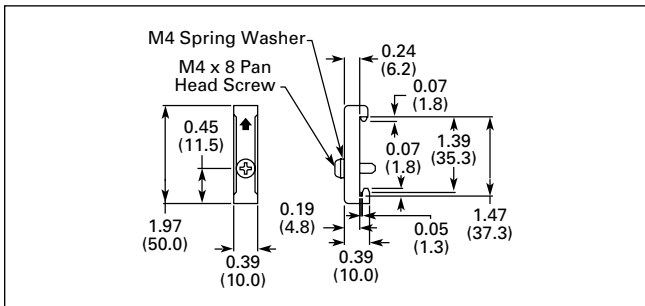


Figure 3-47. PFP-M DIN Rail End Stop — Approximate Dimensions in Inches (mm)

D5PR/D5PF Series



D5 Series Relay

Features

D5PR

- Industrial rated 300V, 15A relay in 2-pole and 3-pole configurations
- Compact design can be panel or DIN rail mounted

D5PF

- Flag indicator shows relay status in manual or powered condition
- LED status lamp shows coil "ON" or "OFF" status — ideal for use in low light applications
- Push-to-test button allows for manual operation of relay without the need for coil power
- Lock-down door holds pushbutton and contacts in the operate position when activated
- Finger-grip cover allows operator to remove relays from sockets easily
- I.D. tag/write label to identify relays in multiple-relay circuits
- Bi-polar LED allows for reverse polarity applications

3 Standards and Certifications



When used with accompanying Cutler-Hammer® screw terminal socket (D5PF only).

Technical Data and Specifications

Table 3-42. Coil Resistance for D5PR Series

| Coil Voltage | Ohms | | mA | |
|--------------|-------|-------|-------|-------|
| | D5PR2 | D5PR3 | D5PR2 | D5PR3 |
| 6V AC | 6 | 4.2 | 330 | 458 |
| 12V AC | 24 | 18 | 160 | 229 |
| 24V AC | 85 | 72 | 80 | 114 |
| 48V AC | 330 | 290 | 40 | 57 |
| 120V AC | 2250 | 700 | 16.6 | 23 |
| 240V AC | 9100 | 7200 | 8.3 | 11 |
| 6V DC | 32 | | 187 | |
| 12V DC | 120 | | 100 | |
| 24V DC | 470 | | 50 | |
| 48V DC | 1900 | | 25 | |
| 110V DC | 10000 | | 11 | |

Table 3-43. Coil Resistance for D5PF Series

| Coil Voltage | Ohms | mA | |
|--------------|--------|-------|-------|
| | | 50 Hz | 60 Hz |
| 24V AC | 72 | 398.0 | 340 |
| 120V AC | 1,700 | 76.0 | 65 |
| 240V AC | 7,200 | 28.0 | 24 |
| 12V DC | 120 | 100.0 | — |
| 24V DC | 470 | 49.9 | — |
| 110V DC | 10,000 | 13.2 | — |

Table 3-44. Socket Specifications

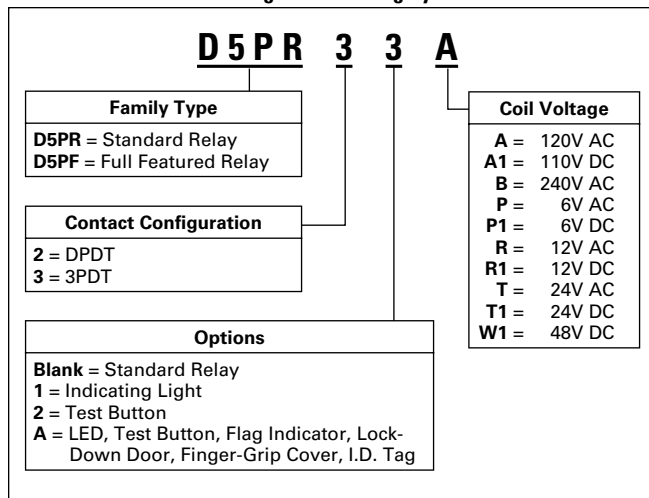
| Catalogue Number | Electrical Ratings | Mounting Torque | Hook-Up Wire Range |
|------------------|--------------------|-----------------|-----------------------------------|
| D5PA2 | 15A, 300V | 8 – 10 in-lbs | AWG 12 to 22 Solid or Stranded |
| D5PA3L D5PA3S | 15A, 300V | — | Up to AWG 16 Solid or Stranded |

Table 3-45. Relay Specifications

| | D5PR (AC) | D5PR (DC) | D5PF2/D5PF3 Resistive Load (p.f. = 1.0) |
|---------------------------------------|-------------------------------------------------------|-------------------------------------------------------------------------|-------------------------------------------------------|
| Rated Load (p.f. = 0.8) | 120V AC 15A or 1/3 Hp 240V AC 15A or 1/2 Hp | 28V DC, 13A, (1-Pole) 28V DC, 12A, (2-Pole) 28V DC, 11A, (3-Pole) | 240V AC 12A 120V AC 12A 28V DC 12A |
| Carry Current | 15A | 15A | 12A |
| Max. Operating Voltage | 600V AC (3A max.) | 125V DC (0.5A max.) | 110% of nominal |
| Max. Operating Current | 15A | 15A | 15A |
| Dielectric Strength | 2000V | 2000V | 1500V |
| Approx. Weight | 3.1 oz (88g) | 3.1 oz (88g) | 3.1 oz (88g) |
| Temperature — Operating Storage | -22 – 122°F (-30 – 50°C) -22 – 212°F (-30 – 100°C) | -22 – 149°F (-30 – 65°C) -22 – 212°F (-30 – 100°C) | -22 – 122°F (-30 – 50°C) -22 – 212°F (-30 – 100°C) |
| Contact Resistance | 50 milli Ω's Max. @ Rated Current | 50 milli Ω's Max. @ Rated Current | 50 milli Ω's Max. @ Rated Current |
| Contact Material | AgCdO (Au Flashed) | AgCdO (Au Flashed) | AgCdO (Au Flashed) |
| Pickup Voltage | 85% of Nominal | 80% of Nominal | 85% AC 80% DC |
| Dropout Voltage (min.) | 10% | 10% | 30% AC 10% DC |
| Voltage (max.) | 110% | 110% | 110% |
| Mechanical Life (min.) | 5,000,000 | 5,000,000 | 5 million (No Load) |
| Electrical Life (min.) | 100,000 | 100,000 | 200,000 operations at Rated Res. Load |
| Max. hp Ratings | 1/3 hp, 120V AC 1/2 hp, 240V AC | 1/3 hp, 120V AC 1/2 hp, 240V AC | 1/3 hp, 120V AC 1/2 hp, 240V AC |

Catalogue Number Structure

Table 3-46. D5 Series Catalogue Numbering System ①



① For deciphering Catalogue Numbers. Do not use for ordering as not all combinations are readily available.

Table 3-47. Relay/Socket Quick Reference

| Relay Type | Socket Type | Socket | Hold Down Spring |
|-------------|---------------|------------------|------------------|
| D5PR2 | 11 Pin Screw | D5PA2 | D5PB2 |
| | 11 Pin Solder | D5PA3S or D5PA3L | D5PB2 |
| D5PR3 | 11 Pin Screw | D5PA2 | D5PB2 |
| | 11 Pin Solder | D5PA3S or D5PA3L | D5PB2 |
| D5PF2/D5PF3 | 11 Pin Screw | D5PA2 | PQC-1351 |
| | 11 Pin Solder | D5PA3S or D5PA3L | PWC-1325 |

Product Selection

Table 3-48. D5 Product Selection ②

| | Std. Pack | Catalogue Number |
|-----------------------------------------------------------------------|-----------|------------------|
| DPDT | | |
| Coil Voltage: | | |
| 24V AC | — | D5PR2T |
| 120V AC | — | D5PR2A |
| 240V AC | — | D5PR2B |
| 12V DC | — | D5PR2R1 |
| 24V DC | — | D5PR2T1 |
| 110V DC | — | D5PR2A1 |
| DPDT with Indicating Light | | |
| 120V AC | — | D5PR21A |
| DPDT with Test Button | | |
| 120V AC | — | D5PR22A |
| 3PDT | | |
| 24V AC | — | D5PR3T |
| 120V AC | — | D5PR3A |
| 240V AC | — | D5PR3B |
| 12V DC | — | D5PR3R1 |
| 24V DC | — | D5PR3T1 |
| 110V DC | — | D5PR3A1 |
| 3PDT with Indicating Light | | |
| 120V AC | — | D5PR31A |
| 24V DC | — | D5PR31T1 |
| 3PDT with Test Button | | |
| 120V AC | — | D5PR32A |
| DPDT — 11 Pin Screw | | |
| 24V AC | — | D5PF2AT |
| 120V AC | — | D5PF2AA |
| 240V AC | — | D5PF2AB |
| 12V DC | — | D5PF2AR1 |
| 24V DC | — | D5PF2AT1 |
| 110V DC | — | D5PF2AA1 |
| 3PDT — 11 Pin Solder | | |
| 24V AC | — | D5PF3AT |
| 120V AC | — | D5PF3AA |
| 240V AC | — | D5PF3AB |
| 12V DC | — | D5PF3AR1 |
| 24V DC | — | D5PF3AT1 |
| 110V DC | — | D5PF3AA1 |
| DIN Rail or Panel Mounting | | |
| Screw Terminal Socket | 10 | D5PA2 |
| Hold Down Spring | 100 | D5PB2 |
| Hold Down Clip | 100 | PWC-1325 |
| | 100 | PQC-1351 |
| End Clamp with Mounting Screw — use with track below, one at each end | 100 | PPF-M |
| 35 mm x 7.5 mm Aluminum DIN Mounting Track (2 meter lengths) | 20 | XBANS3575PL |
| Panel Mount Socket — Square Base | | |
| Long 0.130" Solder | 10 | D5PA3L |
| Standard 0.130" Solder | 10 | D5PA3S |

② Additional coil voltages may be available — consult Contact Customer Support Centre 1-800-268-3578.

D5PR/D5PF Series — Standard and Full Featured

Dimensions

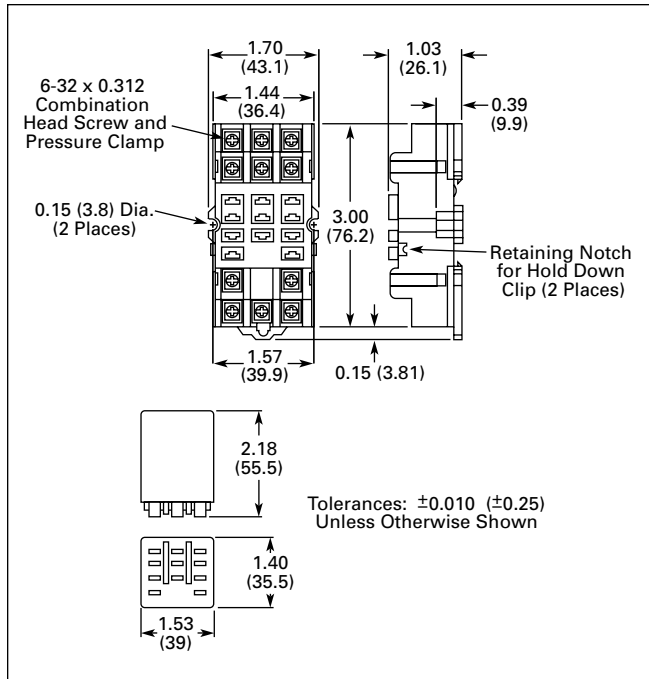


Figure 3-48. D5PA2 — Approximate Dimensions in Inches (mm)

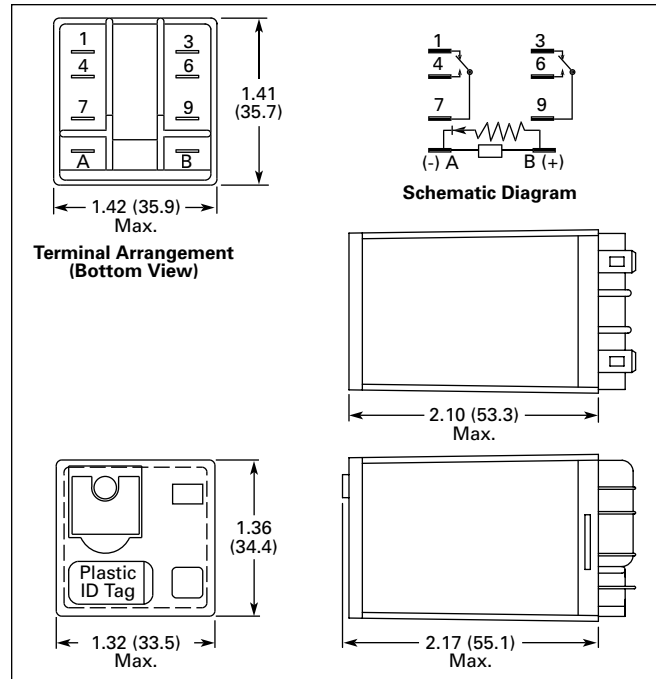


Figure 3-50. D5PF2 — Approximate Dimensions in Inches (mm)

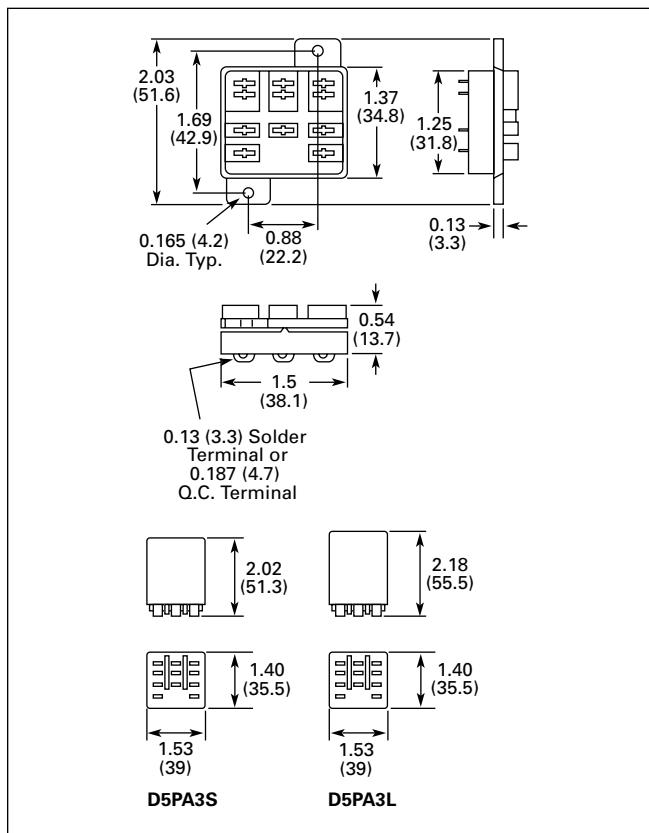


Figure 3-49. D5PA3L and D5PA3S — Approximate Dimensions in Inches (mm)

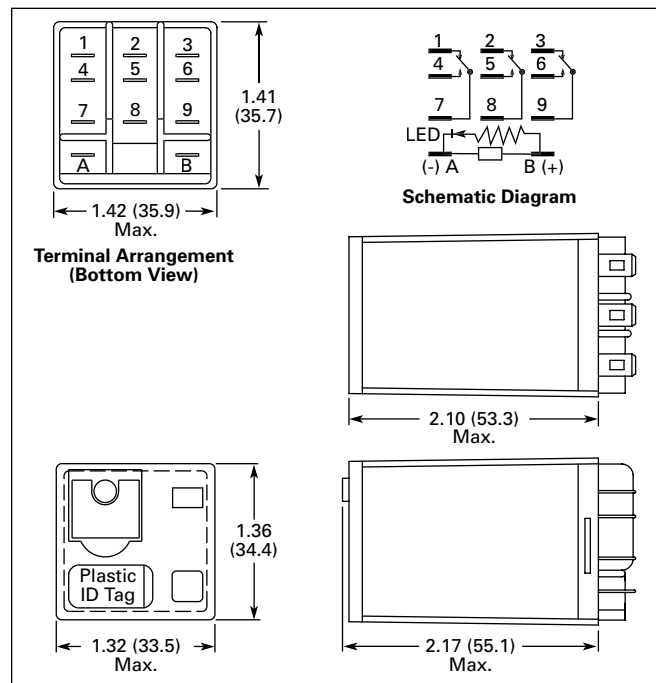


Figure 3-51. D5PF3 — Approximate Dimensions in Inches (mm)

3

Terminal Arrangements

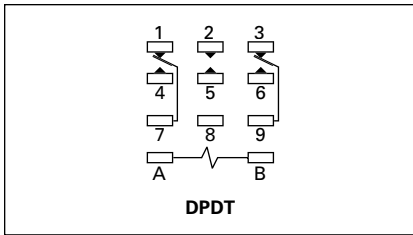


Figure 3-52. D5PR2 (Bottom View)

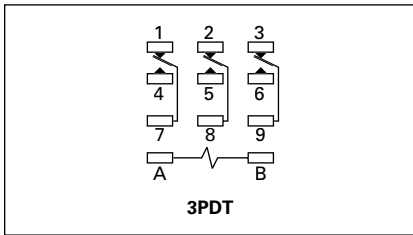
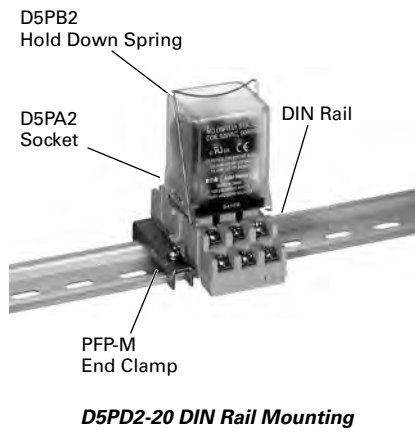


Figure 3-53. D5PR3 (Bottom View)



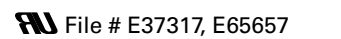
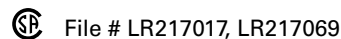

D7PR Series — Standard

D7PR Series

Features

- Arc barrier equipped relay with high dielectric strength
- Panel, DIN rail and flange mounting

Standards and Certifications

-  File # E37317, E65657
 File # LR217017, LR217069




D7 Series Relay

Technical Data and Specifications

Table 3-49. D7PR Coil Resistance

| Coil Voltage | Ohms | | | | Milliamps | | | | | | | |
|--------------|-------|-------|-------|-------|-----------|-------|-------|-------|-------|-------|-------|-------|
| | D7PR1 | D7PR2 | D7PR3 | D7PR4 | D7PR1 | D7PR1 | D7PR2 | D7PR2 | D7PR3 | D7PR3 | D7PR4 | D7PR4 |
| | | | | | 50 Hz | 60 Hz | 50 Hz | 60 Hz | 50 Hz | 60 Hz | 50 Hz | 60 Hz |
| 6V AC | 11 | 11 | 6.5 | 5 | 222.3 | 190 | 234 | 200 | 326 | 278 | 393 | 336 |
| 12V AC | 41 | 41 | 25.5 | 20 | 111.2 | 95 | 95.9 | 82 | 148 | 126 | 202 | 173 |
| 24V AC | 180 | 180 | 102 | 80 | 58.5 | 50 | 48 | 41 | 77 | 66 | 91 | 78 |
| 48V AC | 788 | 788 | 735 | 735 | 21 | 18 | 21 | 18 | 21.5 | 18.4 | 24 | 20 |
| 120V AC | 4430 | 4430 | 2700 | 2000 | 12.9 | 11 | 12.9 | 11 | 14.7 | 12.6 | 17.3 | 14.8 |
| 240V AC | 15700 | 15700 | 10000 | 8000 | 5.9 | 5 | 7 | 6 | 9.7 | 8.3 | 11.4 | 9.7 |
| 6V DC | 47 | 40 | 25 | 24 | — | 127.7 | — | 150 | — | 240 | — | 250 |
| 12V DC | 188 | 160 | 100 | 96 | — | 63.8 | — | 75 | — | 120 | — | 125 |
| 24V DC | 750 | 650 | 400 | 360 | — | 32 | — | 36.9 | — | 60 | — | 67 |
| 48V DC | 2600 | 2600 | 1600 | 1600 | — | 18.5 | — | 18.5 | — | 18.5 | — | 18.5 |
| 110V DC | 13800 | 11000 | 8400 | 6800 | — | 8 | — | 10 | — | 13 | — | 16.2 |

Table 3-50. D7PR Relay Specifications

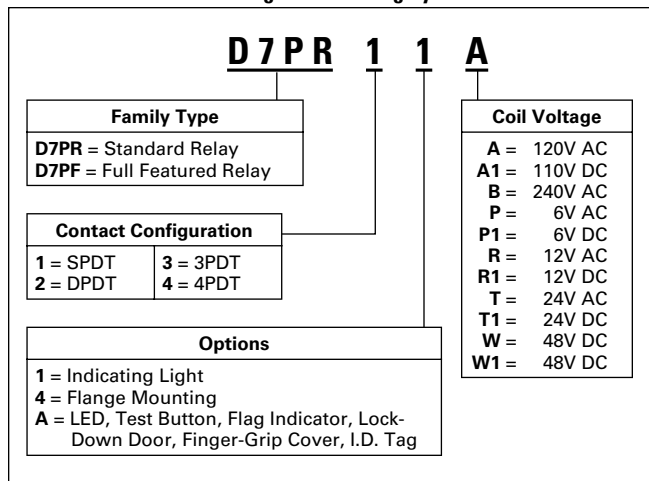
| | D7PR1 | | D7PR2/D7PR3/D7PR4 | |
|-------------------------------------------------|---------------------------------|--------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|
| | Resistive Load (p.f. = 1) | Inductive Load (p.f. = 0.4, L/R = 7 ms) | Resistive Load (p.f. = 1) | Inductive Load (p.f. = 0.4, L/R = 7 ms) |
| Rated Load | 120/240V AC 15A 30V DC 15A | 120/240V AC 10A 30V DC 7A | 120/240V AC 10A (D7PR2 only) 30V DC 10A (D7PR2 only) 250V AC 10A (D7PR3/D7PR4 only) 120V AC 15A (D7PR2 only) 28V DC 10A (D7PR3/D7PR4 only) | 120/240V AC 7.5A 30V DC 5A |
| Carry Current | 15A | 15A | 10A | 10A |
| Max. Operating Voltage | 250V AC/125V DC | 250V AC/125V DC | 250V AC/125V DC | 250V AC/125V DC |
| Max. Operating Current | 15A | 15A | 10A | 10A |
| Contact Material | AgCdO | AgCdO | AgCdO | AgCdO |
| Max. Switching Capacity | 1700 VA 360W | 1100 VA 170W | 1100 VA 240W | 830 VA 120W |
| Min. Permissible Load | 100 mA, 5V DC | 100 mA, 5V DC | 100 mA, 5V DC | 100 mA, 5V DC |
| Pickup Voltage (max.) | 80% | 80% | 80% | 80% |
| Drop Out Voltage (min.) | 30% AC, 10% DC | 30% AC, 10% DC | 30% AC, 10% DC | 30% AC, 10% DC |
| Voltage (max.) | 110% | 110% | 110% | 110% |
| Mechanical Life (min.) | 10,000,000 AC 100,000,000 DC | 10,000,000 AC 100,000,000 DC | 10,000,000 AC 100,000,000 DC | 10,000,000 AC 100,000,000 DC |
| Electrical Life @ All Contact Ratings (min.) | 200,000 | 200,000 | 200,000 | 200,000 |
| Maximum hp Rating | 1/3 hp (120V AC) | 1/2 hp (240V AC) | 1/3 hp (120V AC) (D7PR2 only) | 1/2 hp (240V AC) (D7PR2 only) |

Table 3-51. D7PR Socket Specifications

| Catalogue Number | Electrical Ratings | Mounting Torque | Hook-Up Wire Range |
|------------------|--------------------|-------------------|--------------------------------|
| D7PA2 | 15A, 250V | .785 Nm – 1.18 Nm | AWG 14 Max. |
| D7PA3 | 10A, 300V | 7 – 8 in-lbs | AWG 12 to 22 Solid or Stranded |
| D7PA4 | 10A, 300V | 7 – 8 in-lbs | AWG 12 to 22 Solid or Stranded |
| D7PA5 | 15A, 250V | N/A | AWG 14 Max. |

Catalogue Number Structure

Table 3-52. D7 Series Catalogue Numbering System ①



① For deciphering Catalogue Numbers. Do not use for ordering as not all combinations are readily available.

Table 3-53. Relay/Socket Quick Reference

| Relay Type | Socket | Hold Down Spring |
|-------------|-------------|------------------|
| D7PR1 | D7PA2/D7PA5 | PMC-A1 |
| D7PR2 | D7PA2/D7PA5 | PMC-A1 |
| D7PR3 | D7PA3 | PYC-B2 |
| D7PR4 | D7PA4 | PYC-B2 |
| D7PF1/D7PF2 | D7PA9/D7PA5 | PQC-1342 |
| D7PF1/D7PF2 | D7PAA | PQC-1349 |
| D7PF3 | D7PA3 | N/A |
| D7PF4 | D7PA4 | N/A |
| D7PF3 | D7PAB | PQC-1350 |
| D7PF4 | D7PAD | PQC-1351 |

Product Selection

Table 3-54. D7 Product Selection ②

| | Catalogue Number |
|--------------------------------------------------|--------------------------------------------------------|
| Standard SPDT | |
| Coil Voltage: 24V AC 120V AC 240V AC | D7PR1T D7PR1A D7PR1B |
| 6V DC 12V DC 24V DC | D7PR1P1 D7PR1R1 D7PR1T1 |
| SPDT with Indicating Light | |
| 24V AC 120V AC | D7PR11T D7PR11A |
| 24V DC | D7PR11T1 |
| SPDT Flange Mount | |
| 120V AC | D7PR14A |
| SPDT Full Featured Relay | |
| 120V AC 110V DC 12V DC 24V AC 24V DC | D7PF1AA D7PF1AA1 D7PF1AR1 D7PF1AT D7PF1AT1 |

Table 3-54. D7 Product Selection, continued ②

| | Std. Pack | Catalogue Number |
|------------------------------------------------------------------------------------------------------------------|----------------------------------|------------------------------------------------------------------------------|
| Standard DPDT | | |
| 24V AC 120V AC 240V AC | | D7PR2T D7PR2A D7PR2B |
| 12V DC 24V DC 48V DC 110V DC | | D7PR2R1 D7PR2T1 D7PR2W1 D7PR2A1 |
| DPDT Full Featured Relay | | |
| Coil Voltage: 120V AC 110V DC 240V AC 12V DC 24V AC 24V DC | | D7PF2AA D7PF2AA1 D7PF2AB D7PF2AR1 D7PF2AT D7PF2AT1 |
| DPDT Flange Mount | | |
| 24V AC 120V AC | | D7PR24T D7PR24A |
| Standard 3PDT | | |
| 120V AC | | D7PR3A |
| 12V DC 24V DC | | D7PR3R1 D7PR3T1 |
| 3PDT with Indicating Light | | |
| 120V AC | | D7PR31A |
| 12V DC 24V DC | | D7PR31R1 D7PR31T1 |
| 3PDT Flange Mount | | |
| 120V AC | | D7PR34A |
| 3PDT Full Featured Relay | | |
| 120V AC 110V DC 240V AC 12V DC 24V AC 24V DC | | D7PF3AA D7PF3AA1 D7PF3AB D7PF3AR1 D7PF3AT D7PF3AT1 |
| Standard 4PDT | | |
| Coil Voltage: 24V AC 120V AC | | D7PR4T D7PR4A |
| 24V DC 110V DC | | D7PR4T1 D7PR4A1 |
| 4PDT Full Featured | | |
| Coil Voltage: 120V AC 240V AC 12V AC 12V DC 24V AC 24V DC 48V DC | | D7PF4AA D7PF4AB D7PF4AR D7PF4AR1 D7PF4AT D7PF4AT1 D7PF4AW1 |
| 4PDT Flange Mount | | |
| 120V AC 24V DC | | D7PR44A D7PR44T1 |
| DIN Rail Mount Sockets | | |
| 1- and 2-Pole 1- and 2-Pole Finger-Safe ③ 3-Pole 3-Pole Finger-Safe ③ 4-Pole 4-Pole Finger-Safe ③ | 10 10 10 10 10 10 | D7PA2 D7PAA D7PA3 D7PAB D7PA4 D7PAD |
| Panel Mount Sockets | | |
| 1- and 2-Pole | 10 | D7PA5 |
| Accessories | | |
| Spring Clip DIN Rail End Stop Hold Down Spring | 100 100 100 | PMC-A1 PFP-M PYC-B2 |

② Additional coil voltages available — consult Contact Customer Support Centre 1-800-268-3578.

③ IP20 rated. Table 3-54.

D7PR Series — Standard

Dimensions

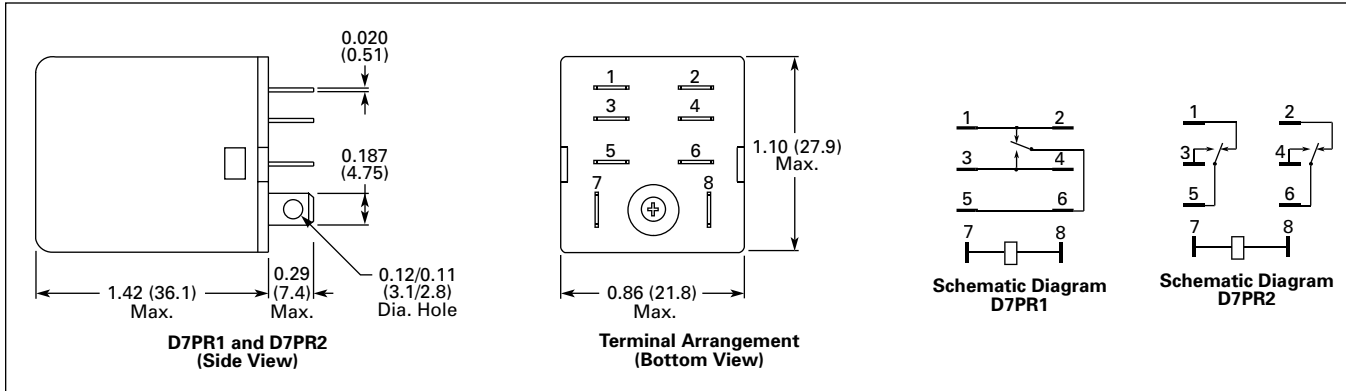


Figure 3-54. D7PR1 and D7PR2 — Approximate Dimensions in Inches (mm)

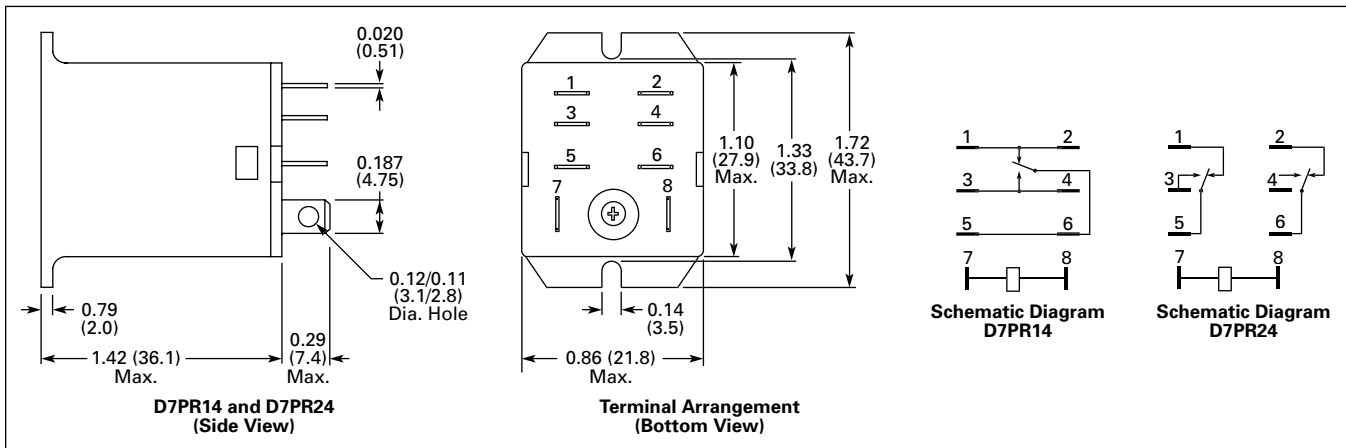


Figure 3-55. D7PR14 and D7PR24 — Approximate Dimensions in Inches (mm)

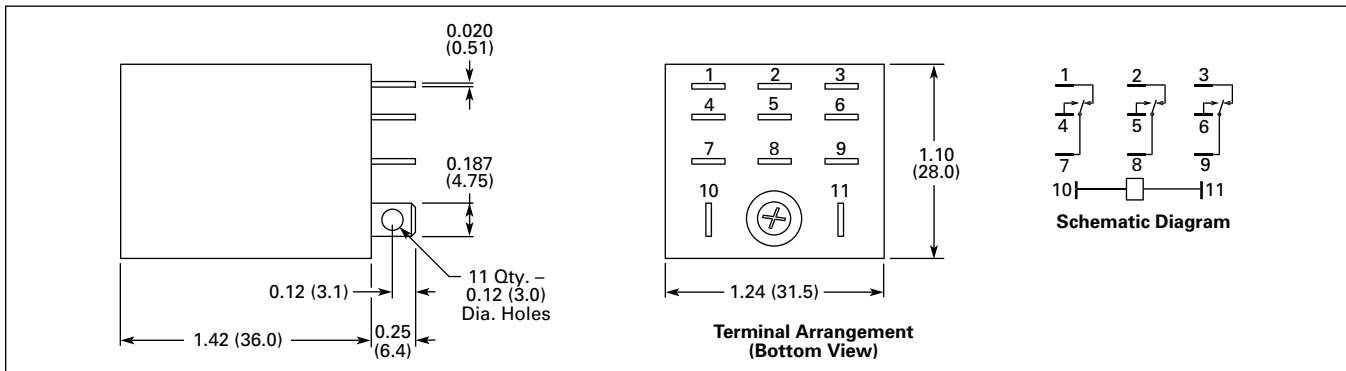


Figure 3-56. D7PR3 — Approximate Dimensions in Inches (mm)

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D7PR Series — Standard

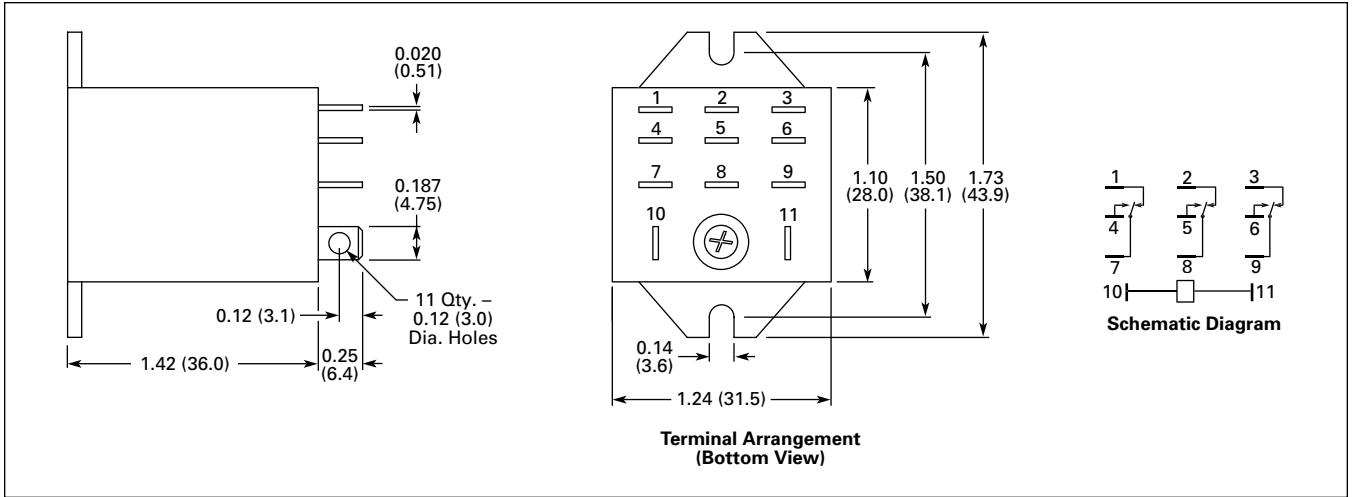


Figure 3-57. D7PR34 — Approximate Dimensions in Inches (mm)

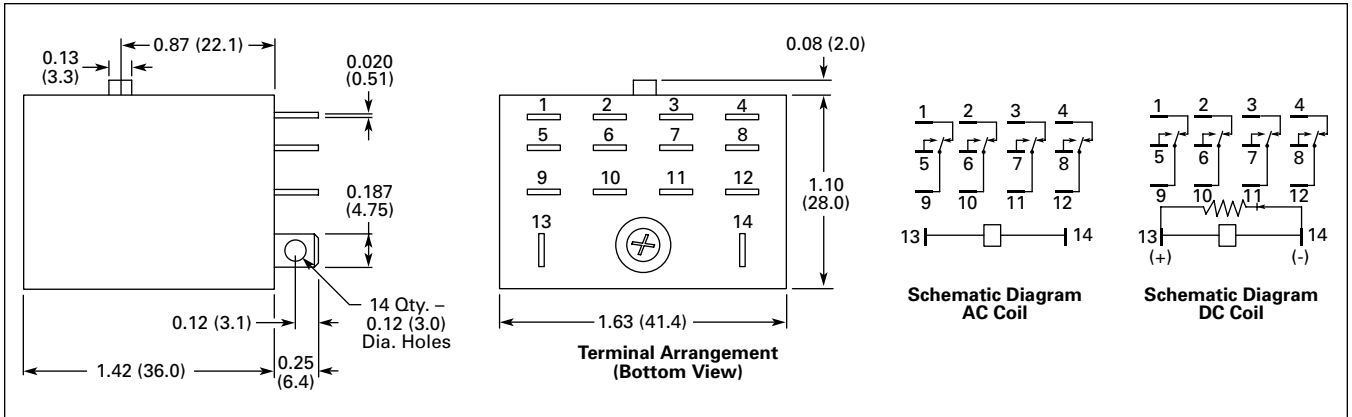


Figure 3-58. D7PR43 — Approximate Dimensions in Inches (mm)

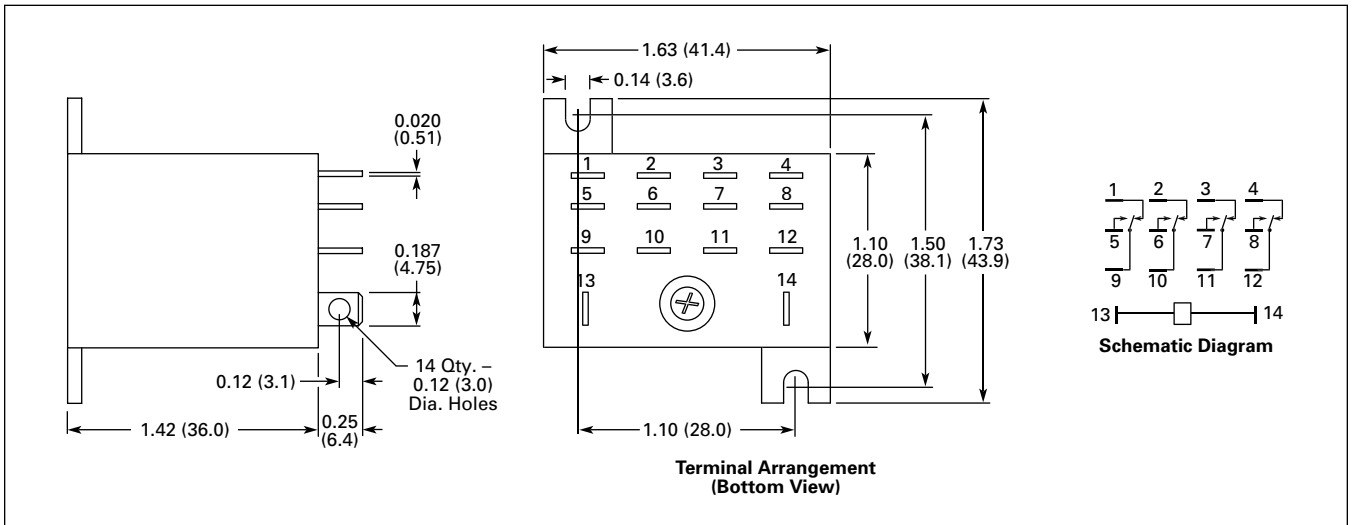


Figure 3-59. D7PR44 — Approximate Dimensions in Inches (mm)

D7PR Series — Standard

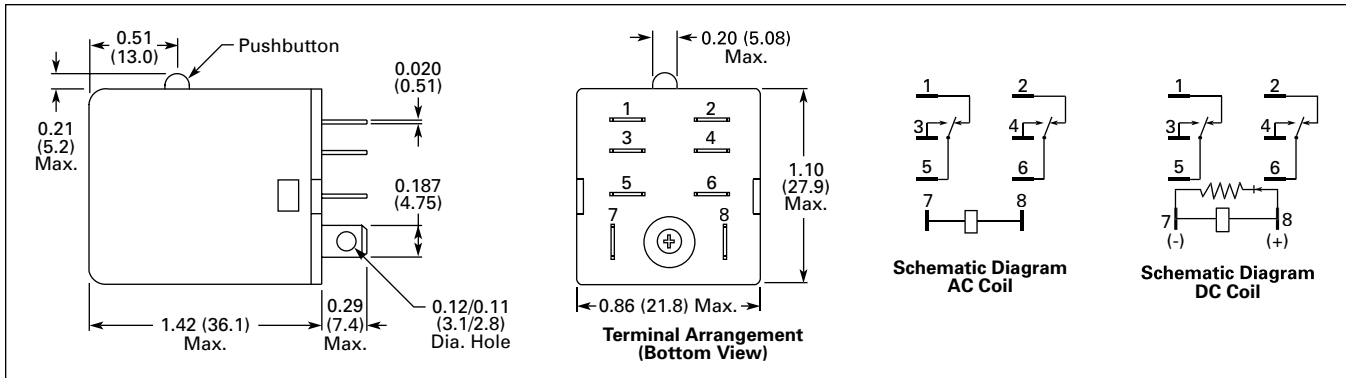


Figure 3-60. D7PR23 — Approximate Dimensions in Inches (mm)

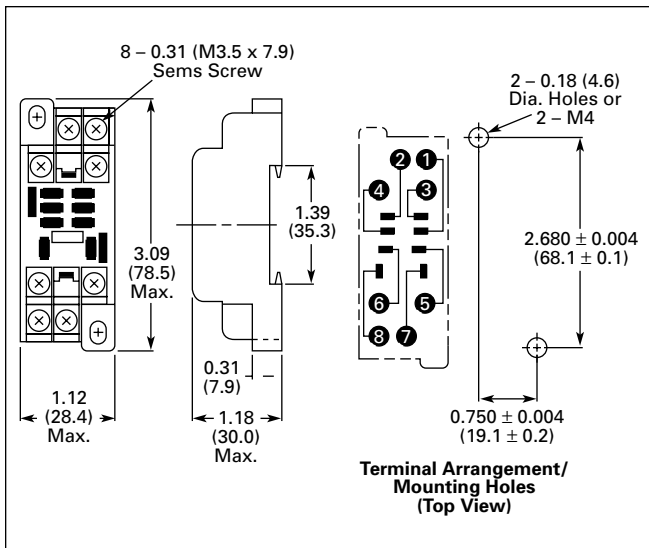


Figure 3-61. D7PA2 — Approximate Dimensions in Inches (mm)

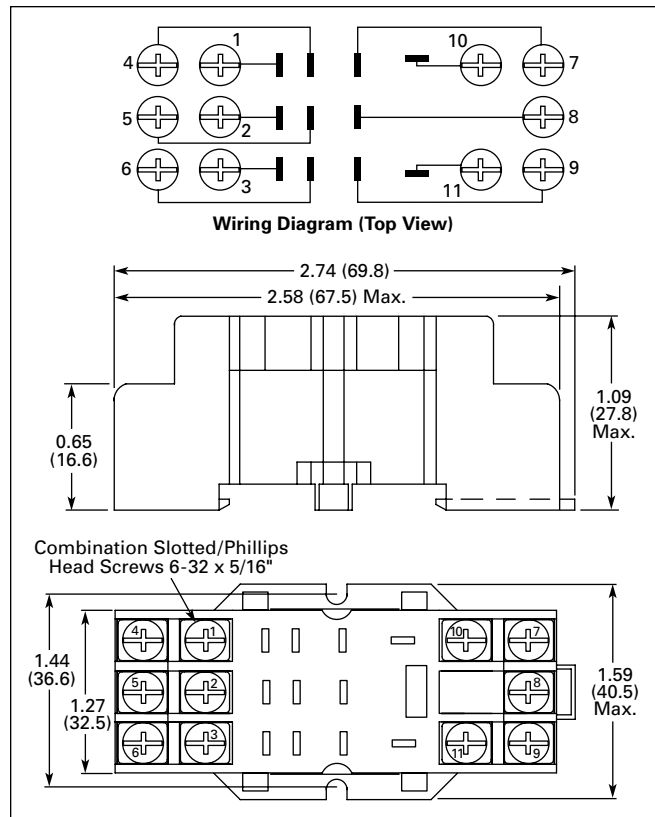


Figure 3-62. D7PA3 — Approximate Dimensions in Inches (mm)

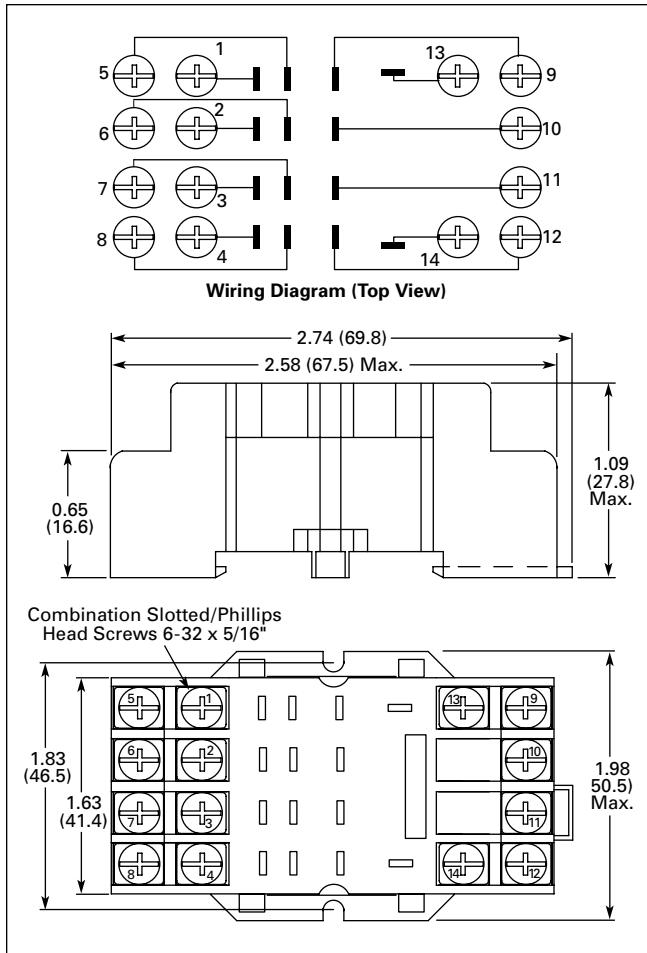


Figure 3-63. D7PA4 — Approximate Dimensions in Inches (mm)

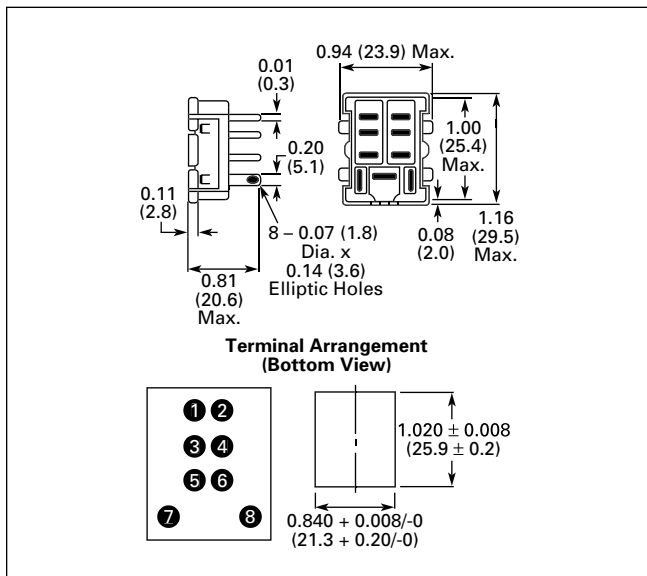


Figure 3-64. D7PA5 — Approximate Dimensions in Inches (mm)

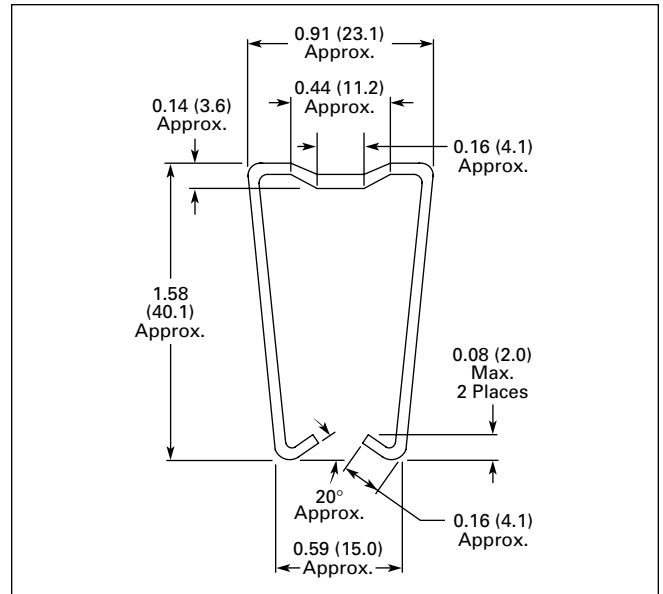


Figure 3-65. PMC-A1 Hold Down Clip — Approximate Dimensions in Inches (mm)

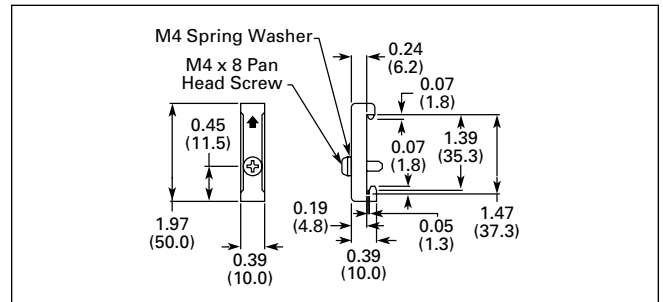


Figure 3-66. PFP-M DIN Rail End Stop — Approximate Dimensions in Inches (mm)

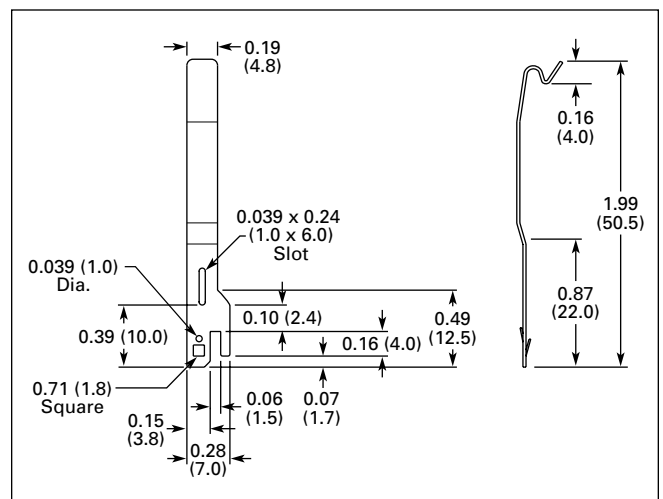


Figure 3-67. PYC-B2 Hold Down Spring — Approximate Dimensions in Inches (mm)

D7PF Series — Full Featured

D7PF Series



D7PF Series Relay

Features

- Flag indicator shows relay status in manual or powered condition
- Bi-polar LED status lamp allows for reverse polarity applications
 - Shows coil ON or OFF status
 - Ideal in low light conditions
- Colour 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 I.D. tag/write label used for identification of relays in multi-relay circuits

Standards and Certifications



Technical Data and Specifications

Table 3-55. D7PF Coil Resistance

| Coil Voltage | Ohms | | | | Amps ^① | | | |
|--------------|-------|-------|-------|-------|-------------------|-------|-------|-------|
| | D7PF1 | D7PF2 | D7PF3 | D7PF4 | D7PF1 | D7PF2 | D7PF3 | D7PF4 |
| 6V AC | 9.5 | 9.5 | 6 | 5.4 | 0.167 | 0.168 | 0.27 | 0.255 |
| 12V AC | 46 | 46 | 25.3 | 21.2 | 0.081 | 0.082 | 0.148 | 0.164 |
| 24V AC | 180 | 180 | 103 | 84.5 | 0.042 | 0.041 | 0.08 | 0.09 |
| 48V AC | 770 | 770 | 460 | 338 | 0.018 | 0.018 | 0.035 | 0.044 |
| 120V AC | 3830 | 3830 | 2770 | 2200 | 0.012 | 0.012 | 0.016 | 0.018 |
| 240V AC | 15700 | 15700 | 12100 | 9120 | 0.004 | 0.004 | 0.006 | 0.008 |
| 6V DC | 40 | 40 | 25 | 24 | 0.15 | 0.15 | 0.24 | 0.25 |
| 12V DC | 160 | 160 | 100 | 96 | 0.075 | 0.075 | 0.120 | 0.125 |
| 24V DC | 650 | 650 | 400 | 388 | 0.037 | 0.037 | 0.060 | 0.062 |
| 48V DC | 2600 | 2600 | 1600 | 1550 | 0.018 | 0.018 | 0.030 | 0.031 |
| 110V DC | 11000 | 11000 | 8600 | 7340 | 0.010 | 0.010 | 0.013 | 0.015 |

^① At 60 Hz for AC Coils.

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D7PF Series — Full Featured

Table 3-56. D7PF Relay Specifications

| | D7PF1 Resistive Load (p.f. = 1.0) | D7PF2 Resistive Load (p.f. = 1.0) | D7PF3 Resistive Load (p.f. = 1.0) | D7PF4 Resistive Load (p.f. = 1.0) |
|--|-----------------------------------------|-----------------------------------------|-----------------------------------------|-----------------------------------------|
|--|-----------------------------------------|-----------------------------------------|-----------------------------------------|-----------------------------------------|

Coil

| | | | | |
|----------------------------------------|-------------------------------|--|--|--|
| Pickup Voltage (Max.) | 85% AC; 80% DC (% of nominal) | | | |
| Drop Out Voltage (Min.) | 10% AC; 10% DC (% of nominal) | | | |
| Maximum Voltage | 110% of nominal | | | |
| Insulation System per UL Standard 1446 | Class B 266°F (130°C) | | | |

Contacts

| | | | | |
|----------------------------|--------------------------------------------|-------------------------------------------------------------|-------------------------------------------------------------|-------------------------------------------------------------|
| Rated Load | 277V AC, 28V DC – 20A 220V DC – 0.5A | 120V AC – 15A 277V AC, 28V DC – 12A 220V DC – 0.5A | 120V AC, 28V DC – 15A 277V AC – 12A 220V DC – 0.5A | 120V AC, 28V DC – 15A 277V AC – 12A 220V DC – 0.5A |
| Maximum hp Ratings | 1/2 hp, 120V AC 1 hp, 250V AC | | 1/2 hp, 120V AC 3/4 hp, 250V AC | |
| Contact Material | Silver Alloy, Gold Flashed | | | |
| Pilot Duty | B300 | | | |
| Utilization Category (IEC) | AC-15 | | | |
| Min. Permissible Load | 100mA @ 5V DC or 0.5W | | | |
| Contact Resistance | 100 Milliohms Max @ 6V, 1A | | | |

Dielectric Strength

| | | | | |
|-----------------------|----------------------------|-----------|-----------|-----------|
| Coil to Contacts | 2500V RMS | | | |
| Across Open Contacts | 1500V RMS | 1000V RMS | 1000V RMS | 1000V RMS |
| Pole to Pole | — | 2500V RMS | 2500V RMS | 2500V RMS |
| Insulation Resistance | 100 Megohms Min. @ 500V DC | | | |

Temperature

| | |
|-----------|----------------------------|
| Operating | -40 – 158°F (-40 to 70°C) |
| Storage | -40 – 221°F (-40 to 105°C) |

Life Expectancy

| | | | | |
|------------------------------------|-----------------------|--------------------|--------------------|--------------------|
| Electrical at Rated Resistive Load | 100,000 Operations | 200,000 Operations | 150,000 Operations | 150,000 Operations |
| Mechanical at No Load | 10 Million Operations | | | |

Weight

| | | | | |
|--------------------|------------------|------------------|------------------|------------------|
| Approximate Weight | 0.079 lbs. (36g) | 0.079 lbs. (36g) | 0.132 lbs. (60g) | 0.176 lbs. (80g) |
|--------------------|------------------|------------------|------------------|------------------|

Table 3-57. D7PF Socket Specifications

| Catalogue Number | Electrical Ratings | Mounting Torque | Hook-Up Wire Range |
|------------------|--------------------|-----------------|--------------------------------|
| D7PA3 | 10A, 300V | 7 – 8 in-lbs | AWG 12 to 22 Solid or Stranded |
| D7PA4 | 10A, 300V | 7 – 8 in-lbs | AWG 12 to 22 Solid or Stranded |
| D7PA5 | 15A, 250V | N/A | AWG 14 Max. |
| D7PAA | 16A, 300V | 8 – 10 in-lbs | 20 – 12 AWG |
| D7PAB | 16A, 300V | 8 – 10 in-lbs | 20 – 12 AWG |
| D7PAO | 16A, 300V | 8 – 10 in-lbs | 20 – 12 AWG |
| D7PA9 | 10A, 300V | 7 – 8 in-lbs | 20 – 12 AWG |

D7PF Series — Full Featured

Dimensions

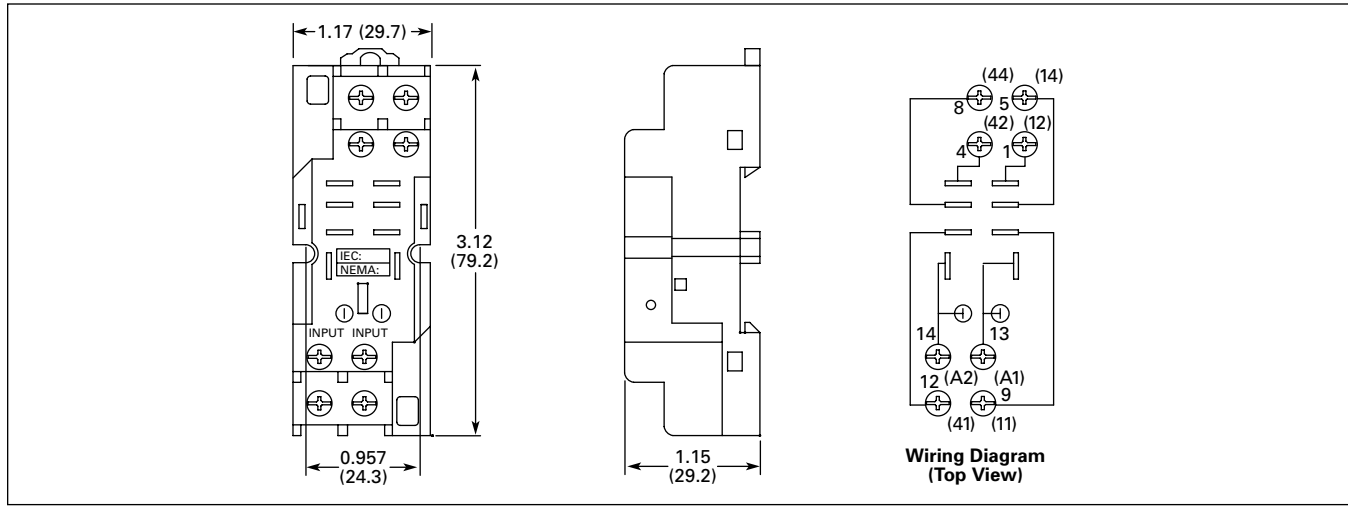


Figure 3-68. D7PAA — Approximate Dimensions in Inches (mm)

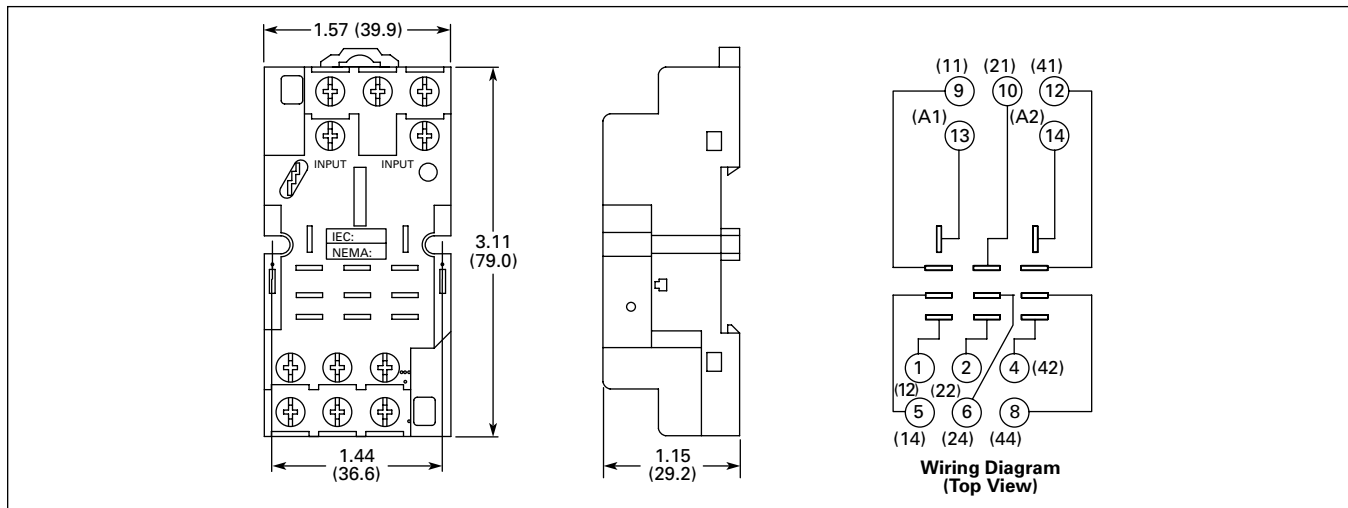


Figure 3-69. D7PAB — Approximate Dimensions in Inches (mm)

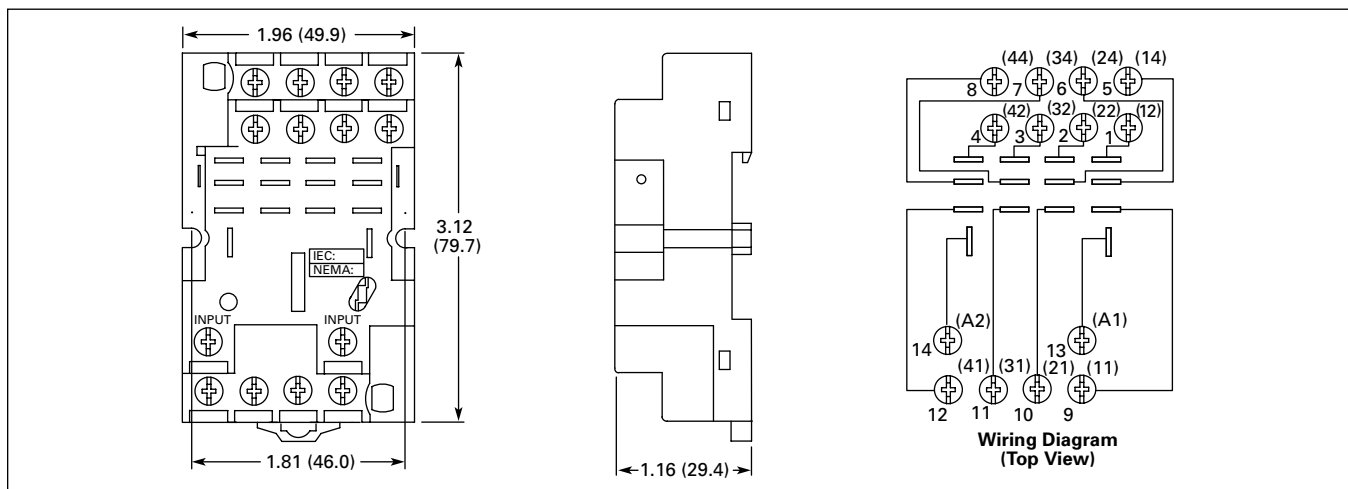


Figure 3-70. D7PAD — Approximate Dimensions in Inches (mm)

April 2009

D7PF Series — Full Featured

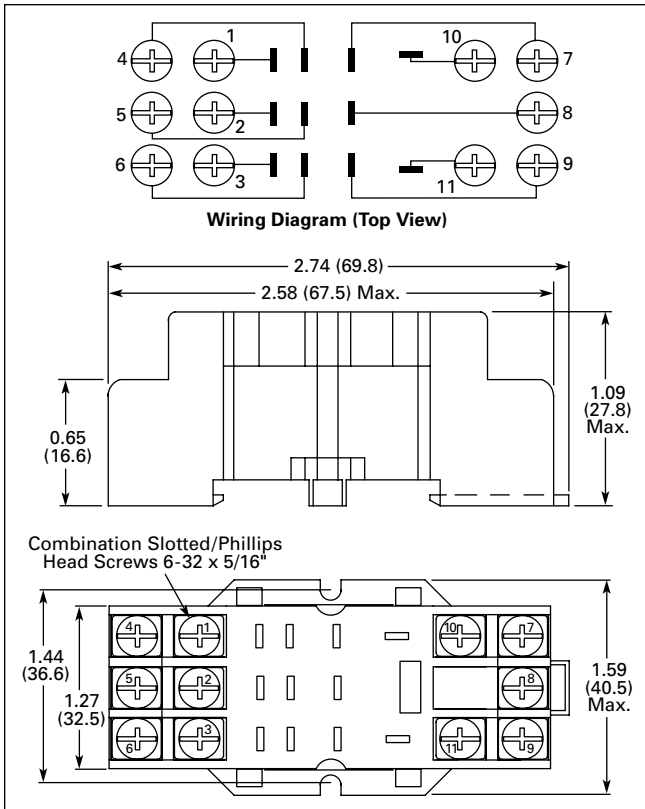


Figure 3-71. D7PA3 Standard Mount — Approximate Dimensions in Inches (mm)

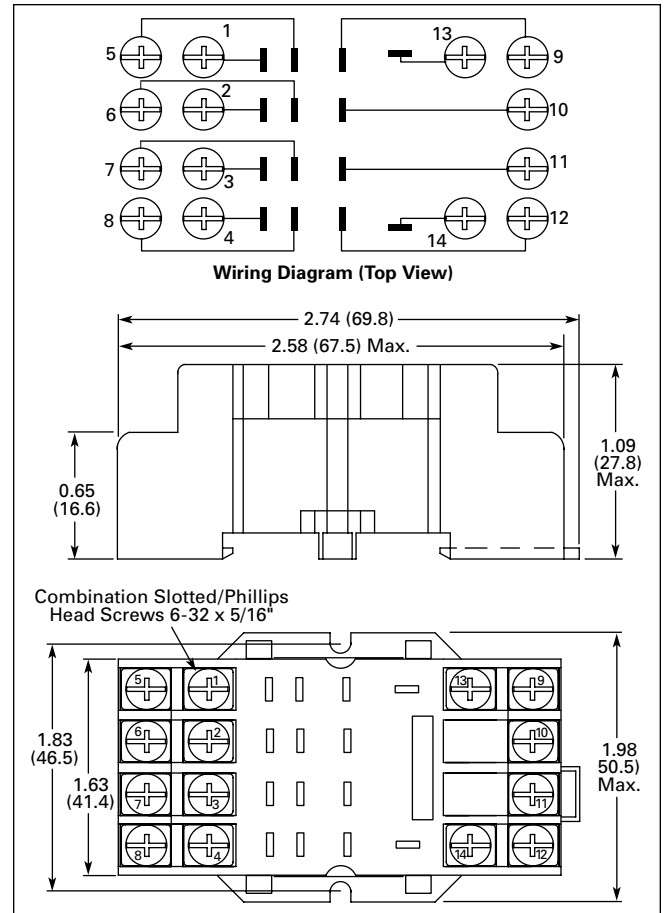


Figure 3-73. D7PA4 Panel Mount — Approximate Dimensions in Inches (mm)

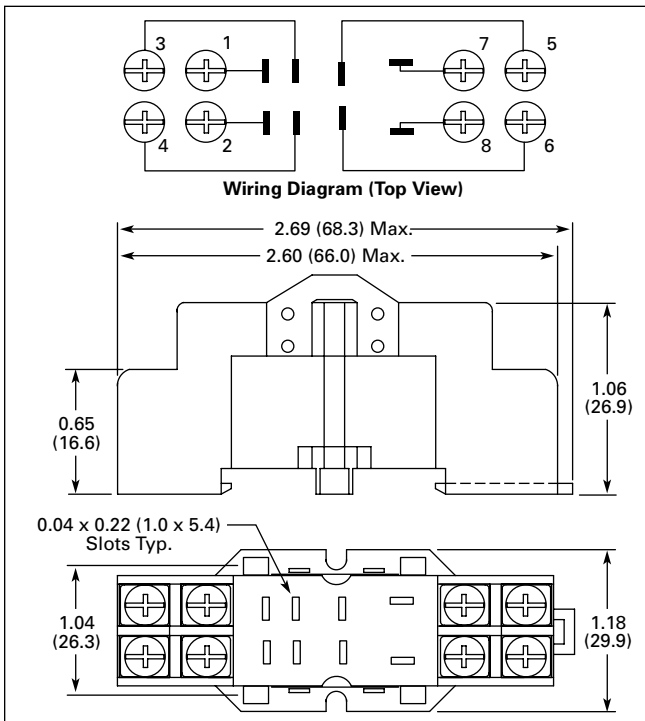


Figure 3-72. D7PA9 Standard Mount — Approximate Dimensions in Inches (mm)

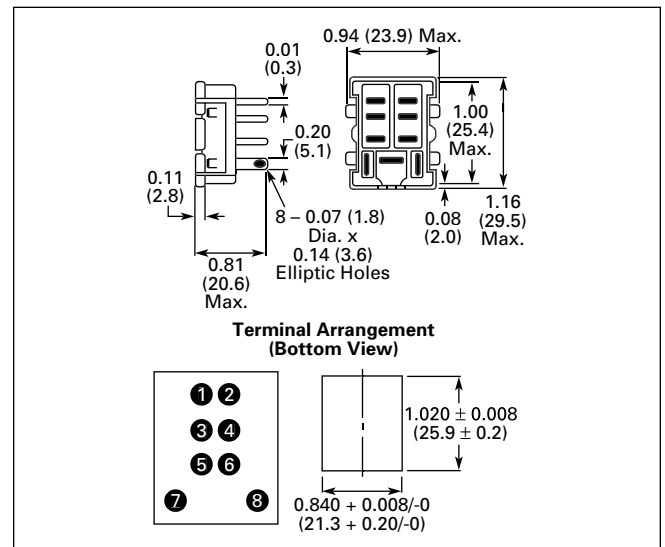


Figure 3-74. D7PA5 Panel Mount — Approximate Dimensions in Inches (mm)

D7PF Series — Full Featured

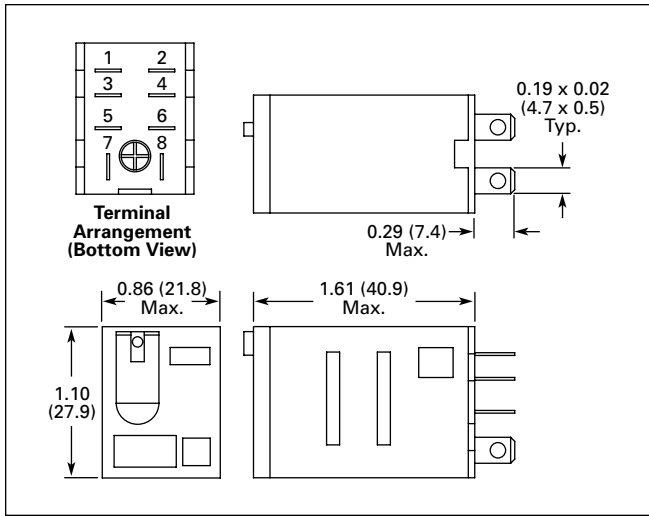


Figure 3-75. D7PF1 — Approximate Dimensions in Inches (mm)

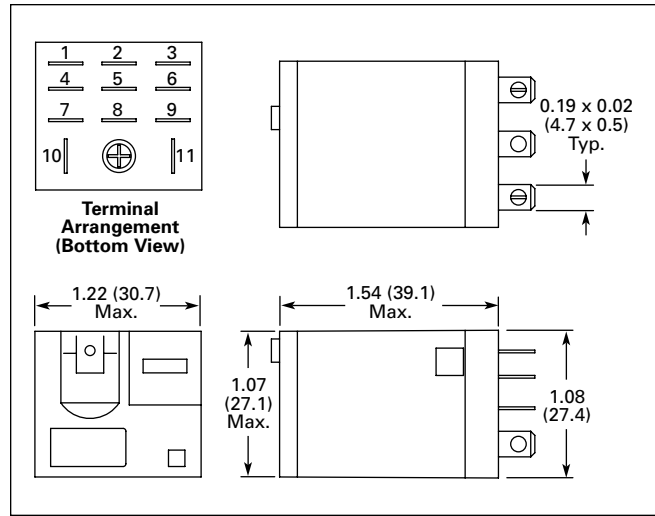


Figure 3-77. D7PF3 — Approximate Dimensions in Inches (mm)

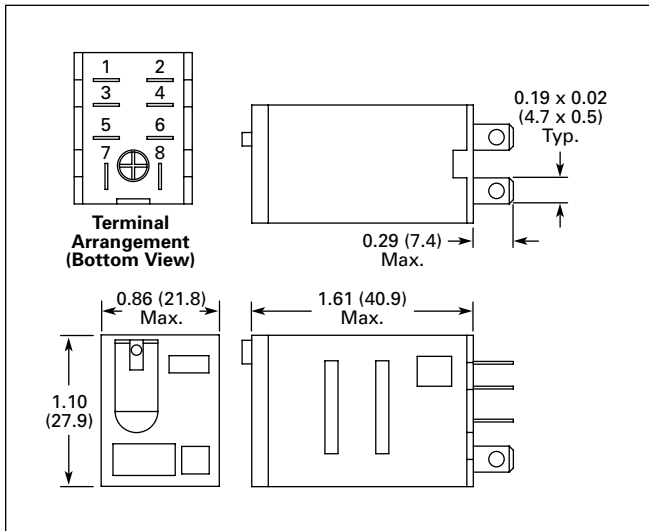


Figure 3-76. D7PF2 — Approximate Dimensions in Inches (mm)

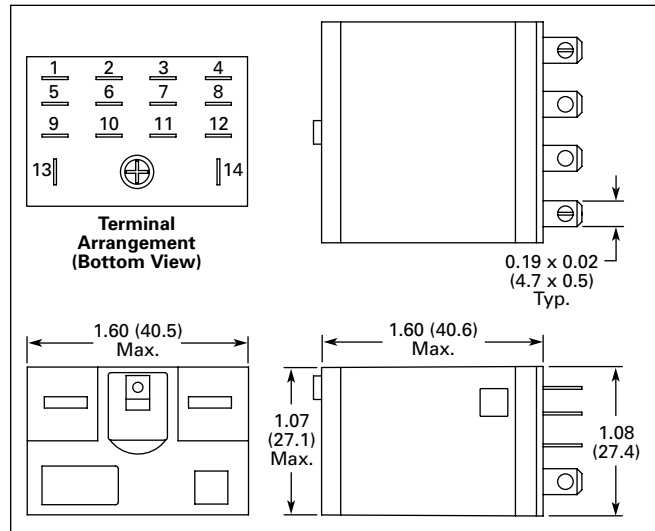


Figure 3-78. D7PF4 — Approximate Dimensions in Inches (mm)

D8 Series — Standard

D8 Series



D8 Series Relay

Features

- Allows switching of 25A and 30A loads
- A high-capacity, high-withstand voltage relay compatible with momentary voltage drops
- No contact chattering for momentary voltage drops up to 50% of rated voltage
- UL Class B construction standard
- Wide-range AC-activated coil that handles 100 to 120V AC at either 50 or 60 Hz
- Panel, DIN rail and flange mounting

Standards and Certifications

- File # E1491
- File # LR701520
-

Technical Data and Specifications

Table 3-58. Coil Resistance

| Coil Voltage | Ohms | mA |
|--------------|-------|------|
| 24V AC | 303 | 71 |
| 110/120V AC | 5260 | 20.4 |
| 220/240V AC | 21000 | 10.2 |
| 12V DC | 75 | 158 |
| 24V DC | 303 | 79 |

Table 3-59. Specifications

| | D8PR6 | | D8PR7 |
|----------------------------------------------|----------------------------------------------|----------------------------------------------|----------------------------------------------|
| Rated Load | 220V AC 30A | 220V AC 25A | 220V AC 25A |
| Carry Current | 30A | 30A | 25A |
| Max. Operating Voltage | 250V AC | 250V AC | 250V AC |
| Max. Switching Current | 30A | 30A | 25A |
| Contact Material | AgCdO | AgCdO | AgCdO |
| Max. Switching Capacity | 6600 VA | 6600 VA | 5500 VA |
| Min. Permissible Load | 100 mA @ 5V DC | 100 mA @ 5V DC | 100 mA @ 5V DC |
| Mechanical Life (min.) | 5,000,000 Operations | 5,000,000 Operations | 5,000,000 Operations |
| Electrical Life @ All Contact Ratings (min.) | 100,000 Operations | 100,000 Operations | 100,000 Operations |
| Maximum hp Ratings | 1-1/2 hp (120V AC) 3 hp (240/265/277V AC) | 1-1/2 hp (120V AC) 3 hp (240/265/277V AC) | 1-1/2 hp (120V AC) 3 hp (240/265/277V AC) |

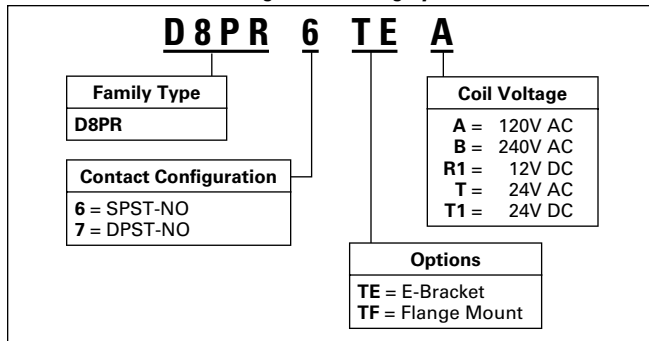
Table 3-60. Coil Data

| Coil Voltage | Must Operate | Must Release | Maximum Voltage |
|---------------------|--------------|--------------|-----------------|
| 24V DC/V AC, 12V DC | 75% maximum | 15% minimum | 110% |
| 120V AC | 75V | 18V | 132V |
| 240V AC | 150V | 36V | 264V |

D8 Series — Standard

Catalogue Number Structure

Table 3-61. D8 Series Catalogue Numbering System ①



① For deciphering Catalogue Numbers. Do not use for ordering as not all combinations are readily available.

Table 3-62. Relay/Socket Quick Reference

| Relay Type | Mounting Bracket | Adapter Track/Panel Mount | Front Connecting Sockets Track/Panel Mount |
|------------|------------------|---------------------------|--------------------------------------------|
| D8PR6TE | D8PA5 | D8PA1 | D8PA2 |
| D8PR7TE | D8PA5 | D8PA1 | D8PA2 |

Product Selection

Table 3-63. D8 Product Selection ②

| | Std. Pack | Catalogue Number |
|--------------------------|-----------|------------------|
| SPST E-Bracket | | |
| Coil Voltage: 24V AC | | D8PR6TET |
| 24V DC | | D8PR6TET1 |
| SPST Flange Mount | | |
| 120V AC | | D8PR6TFA |
| 24V DC | | D8PR6TFT1 |
| DPST E-Bracket | | |
| Coil Voltage: 120V AC | | D8PR7TEA |
| DPST Flange Mount | | |
| 120V AC | | D8PR7TFA |
| 24V DC | | D8PR7TFT1 |
| Sockets | | |
| DIN Rail Adapter | 10 | D8PA1 |
| Screw Terminal Adapter | 10 | D8PA2 |
| Bracket Adapter | 10 | D8PA5 |
| Accessory | | |
| DIN Rail End Stop | 100 | PPF-M |

② Additional coil voltages available — consult Contact Customer Support Centre 1-800-268-3578.

Dimensions

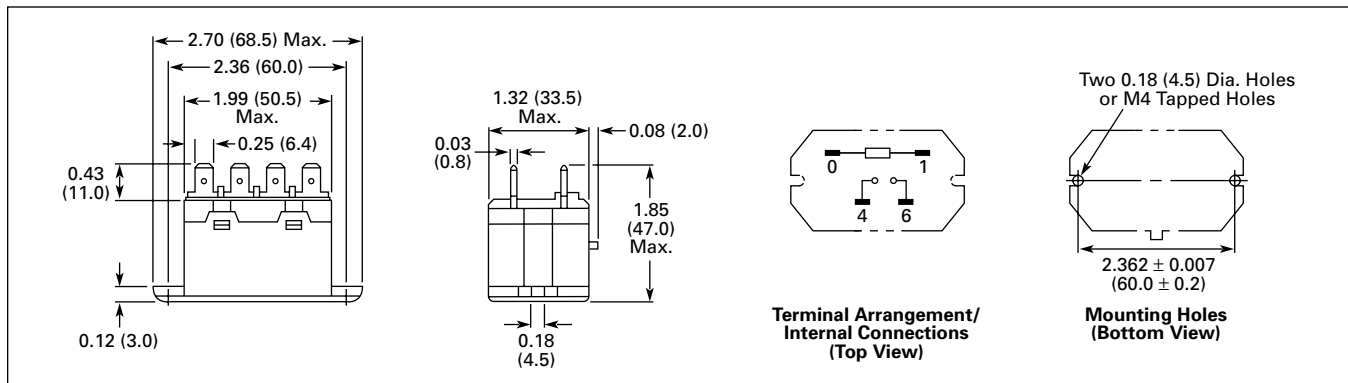


Figure 3-79. D8PR6TF — Approximate Dimensions in Inches (mm)

3

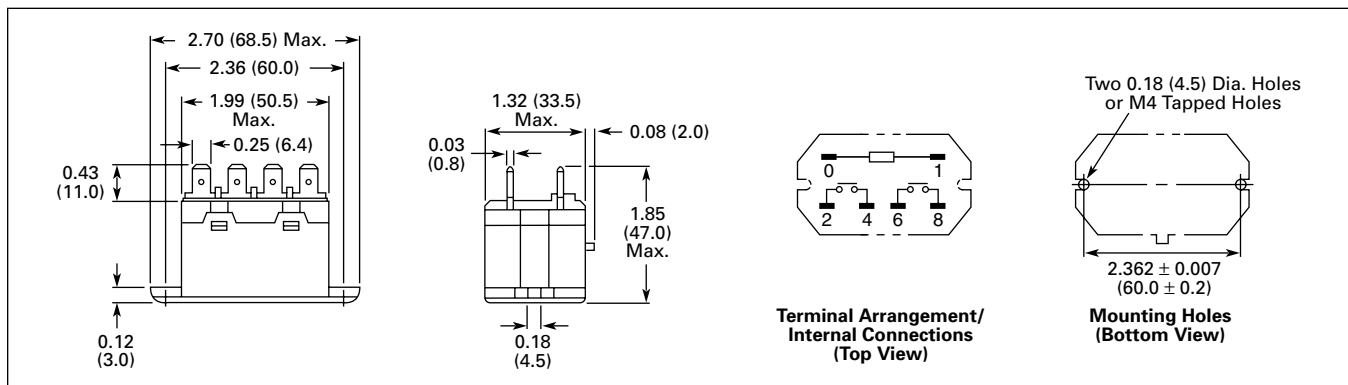


Figure 3-80. D8PR7TF — Approximate Dimensions in Inches (mm)

April 2009

D8 Series — Standard

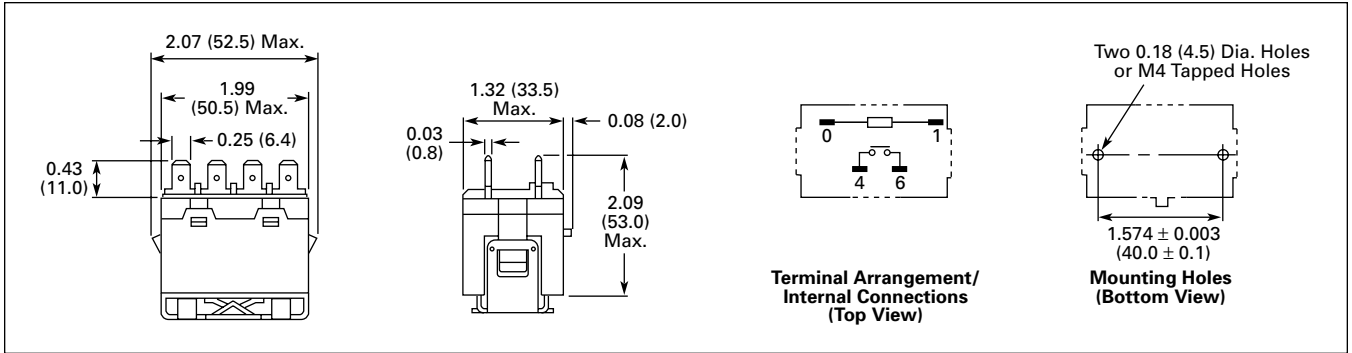


Figure 3-81. D8PR6TE with D8PA5 Bracket Attached — Approximate Dimensions in Inches (mm)

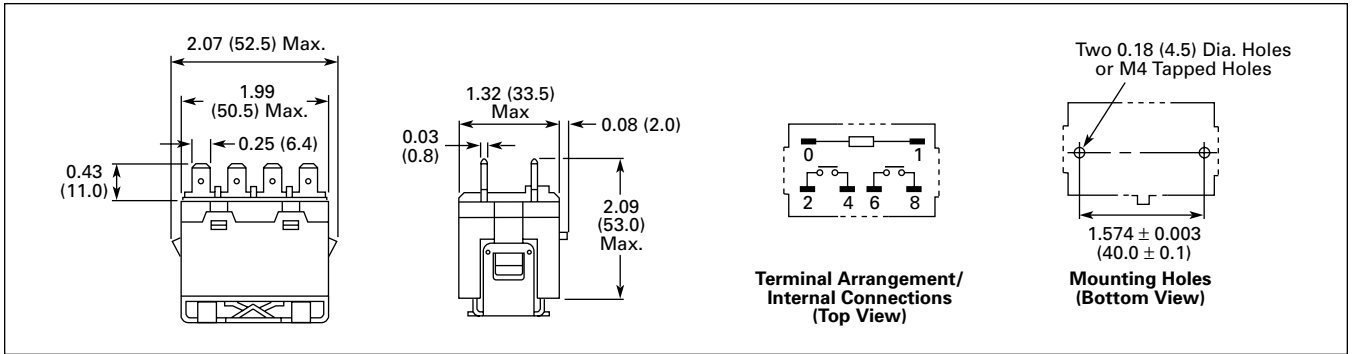


Figure 3-82. D8PR7TE with D8PA5 Bracket Attached — Approximate Dimensions in Inches (mm)

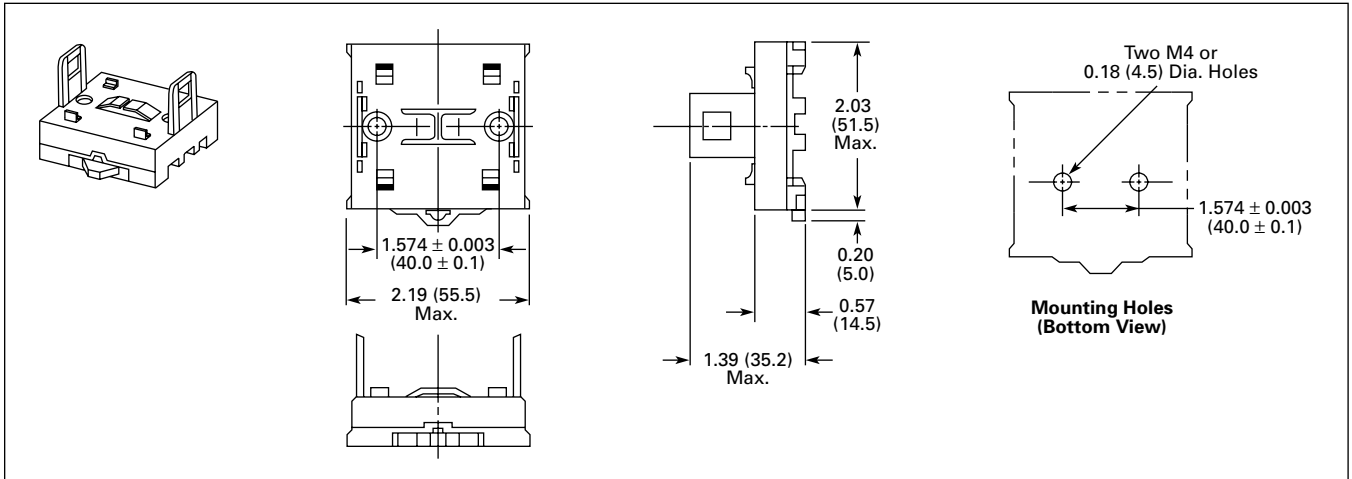


Figure 3-83. D8PA1 — Approximate Dimensions in Inches (mm)

Note: Minimum spacing around relay = 0.20 inches (5 mm).

D8 Series — Standard

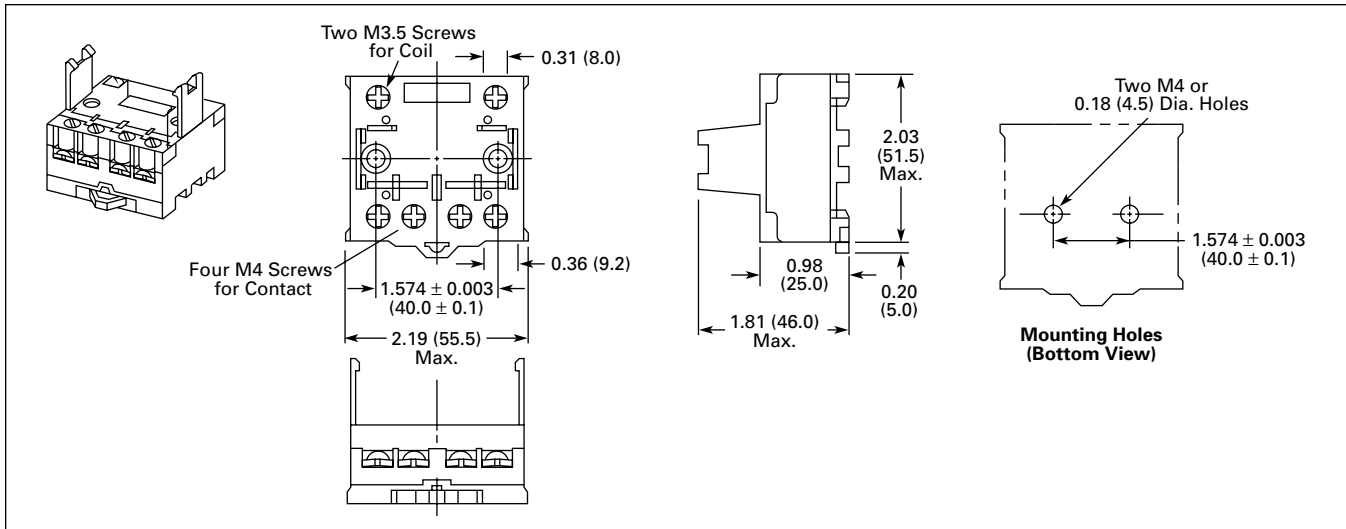


Figure 3-84. D8PA2 — Approximate Dimensions in Inches (mm)

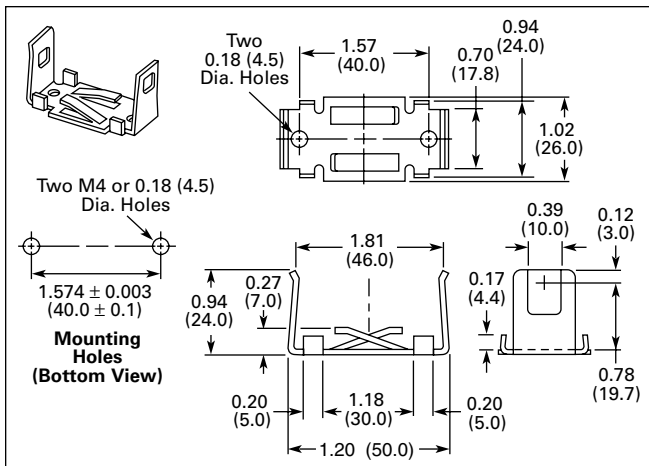


Figure 3-85. D8PA5 — Approximate Dimensions in Inches (mm)

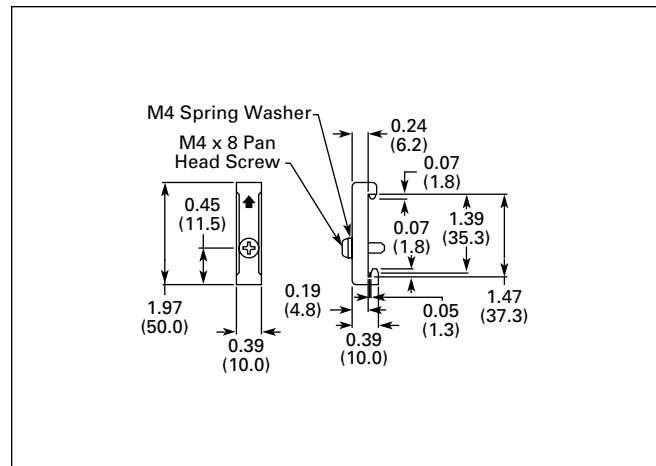


Figure 3-86. PFP-M DIN Rail End Stop — Approximate Dimensions in Inches (mm)

D9 Series





D9 Series Relay

Features

- Ideal for 3-phase motor control applications
- No contact chattering for momentary voltage drops up to 50% of rated voltage
- Push-to-test button is a standard feature to check contact operation
- Mounting bracket is supplied with relay

Standards and Certifications

 File # E1491

 File # LR701520

Technical Data and Specifications

Table 3-64. Coil Resistance

| Coil Voltage | Ohms | mA |
|--------------|------|------|
| 24V AC | — | 75 |
| 120V AC | — | 21.6 |
| 240V AC | — | 10.8 |
| 12V DC | 72 | 167 |
| 24V DC | 288 | 83 |
| 110V DC | 6050 | 18 |

Table 3-65. Specifications

| | D9PR | |
|-------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| | NO Contacts Resistive Load (p.f. = 1) | NC Contacts Resistive Load (p.f. = 1) |
| Rated Load | 220V AC 25A 30V DC 25A | 220V AC 8A 30V DC 8A |
| Carry Current | 25A | 8A |
| Max. Operating Voltage | 250V AC/125V DC | 250V AC/125V DC |
| Max. Switching Current | 25A | 8A |
| Max. Switching Capacity | 5500 VA 750W | 1760 VA 240W |
| Min. Permissible Load | 100 mA @ 24V DC | 100 mA @ 24V DC |
| Mechanical Life (min.) | 1,000,000 operations | 1,000,000 operations |
| Electrical Life @ All Contact Ratings (min.) | 100,000 operations | 100,000 operations |
| Maximum hp Ratings | 1-1/2 hp (120V AC) 3 hp (240/265/277V AC) 3-Phase 3 hp (240/265/277V AC) 30,000 cycles 3-Phase 5 hp (240/265/277V AC) 30,000 cycles | 1-1/2 hp (120V AC) 3 hp (240/265/277V AC) 3-Phase 3 hp (240/265/277V AC) 30,000 cycles 3-Phase 5 hp (240/265/277V AC) 30,000 cycles |

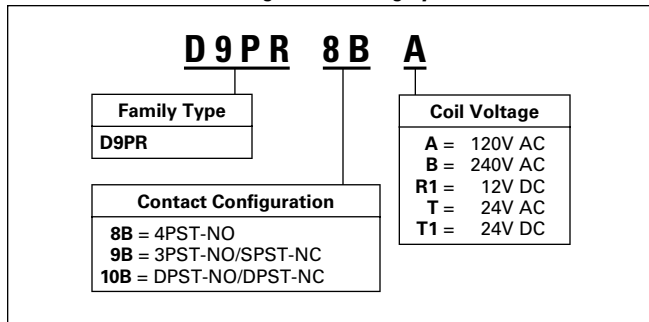
Table 3-66. Coil Data

| Coil Voltage | Must Operate | Must Release | Maximum Voltage |
|------------------------------|--------------|--------------|-----------------|
| 24V DC/V AC, 12V DC, 110V DC | 75% maximum | 10% minimum | 110% |
| 120V AC | 75V | 18V | 132V |
| 240V AC | 150V | 36V | 264V |

D9 Series — Standard

Catalogue Number Structure

Table 3-67. D9 Series Catalogue Numbering System ①



① For deciphering Catalogue Numbers. Do not use for ordering as not all combinations are readily available.

Product Selection

Table 3-68. D9 Product Selection ②

| | Catalogue Number |
|------------------------------------|------------------|
| 4PST-NO Power Relay | |
| Coil Voltage: | |
| 24V AC | D9PR8BT |
| 120V AC | D9PR8BA |
| 240V AC | D9PR8BB |
| 24V DC | D9PR8BT1 |
| 3PST-NO/SPST-NC Power Relay | |
| 120V AC | D9PR9BA |
| DPST-NO/DPST-NC Power Relay | |
| Coil Voltage: | |
| 24V AC | D9PR10BT |
| 120V AC | D9PR10BA |
| 24V DC | D9PR10BT1 |

② Additional coil voltages available — consult Contact Customer Support Centre 1-800-268-3578.

Dimensions

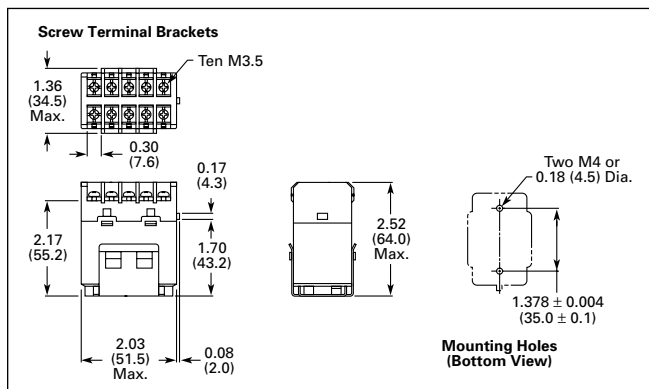


Figure 3-77. D9PR — Approximate Dimensions in Inches (mm)

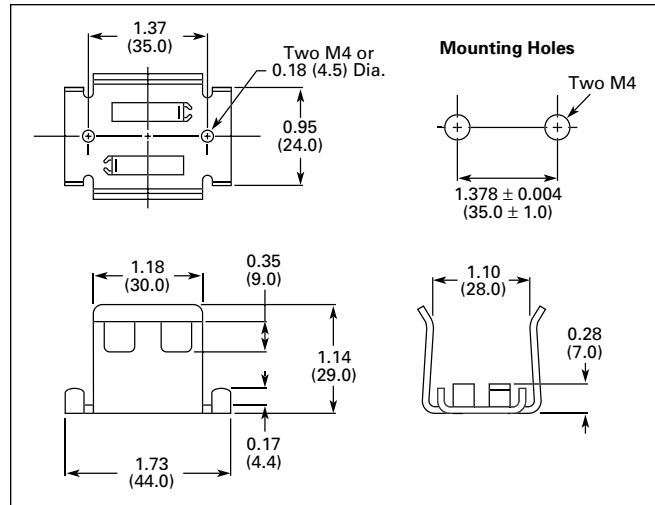


Figure 3-88. Mounting Bracket — Approximate Dimensions in Inches (mm)

Terminal Arrangements

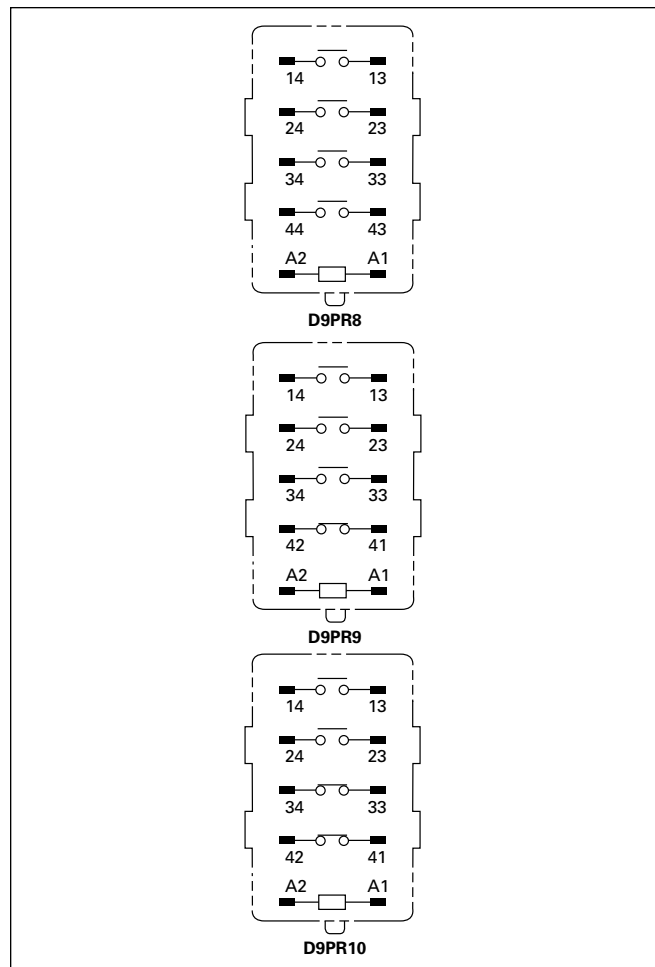


Figure 3-89. Terminal Arrangements