

D2PF Series

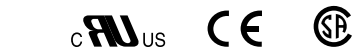


D2PF Series Relay

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

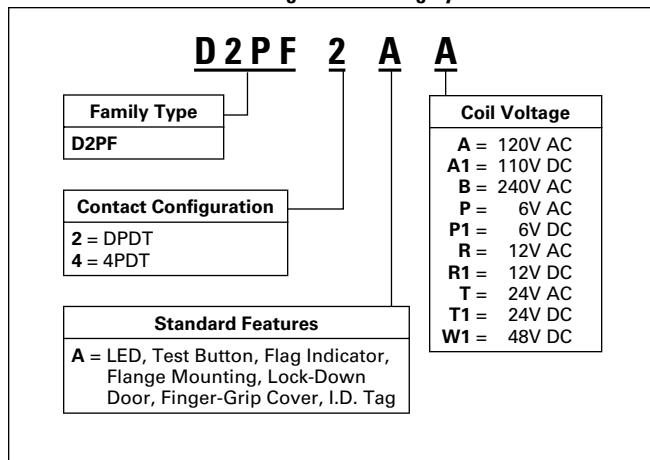
Weight

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

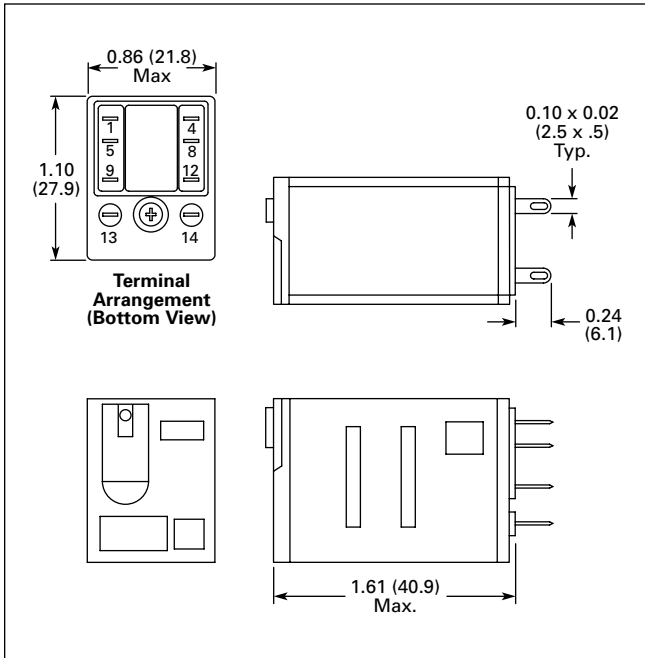


Figure 3-18. D2PF2 — Approximate Dimensions in Inches (mm)

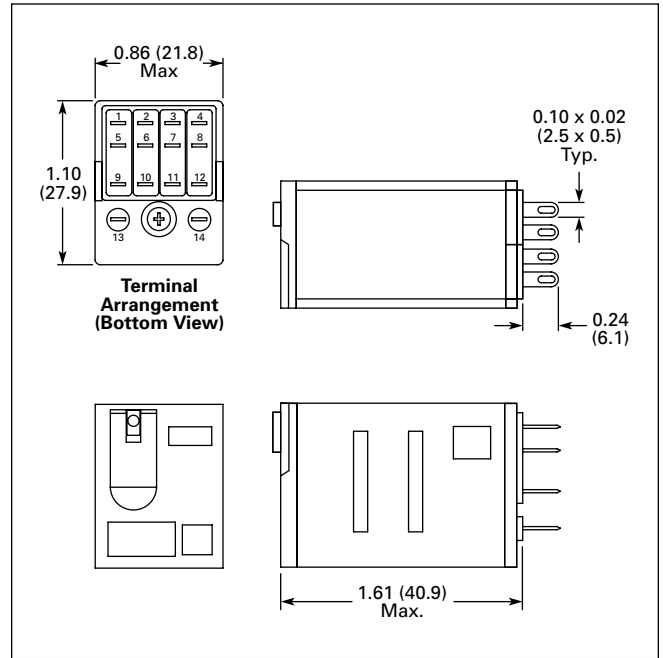


Figure 3-19. D2PF4 — Approximate Dimensions in Inches (mm)

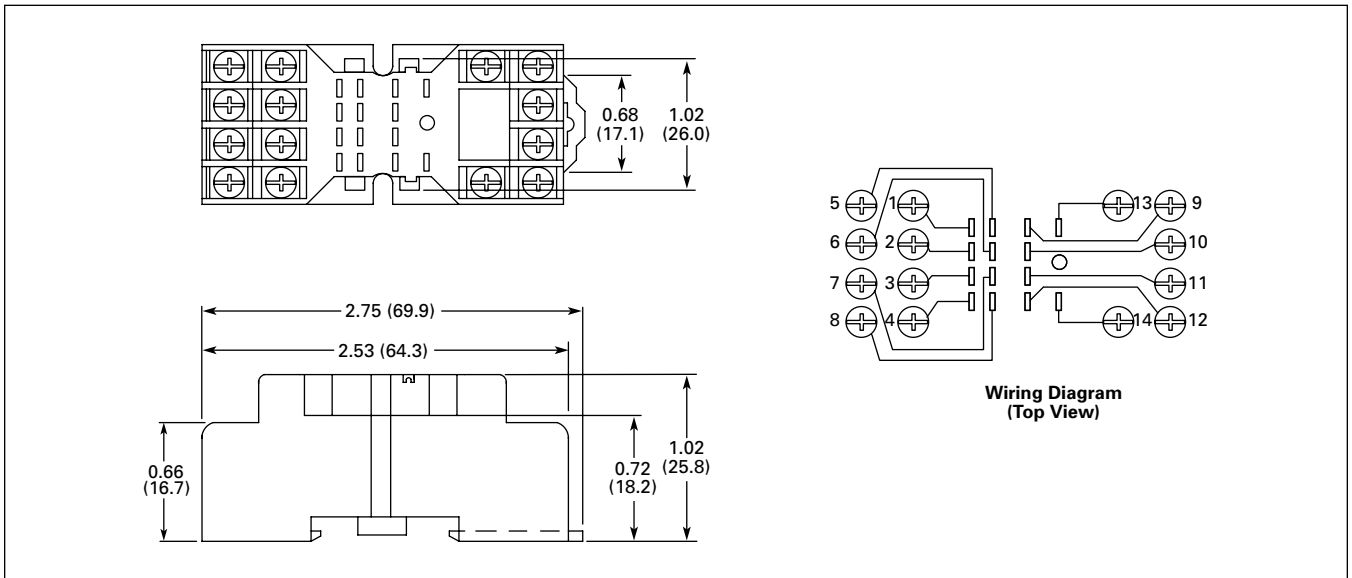


Figure 3-20. D2PA6 — Approximate Dimensions in Inches (mm)

D2PF Series — Full Featured

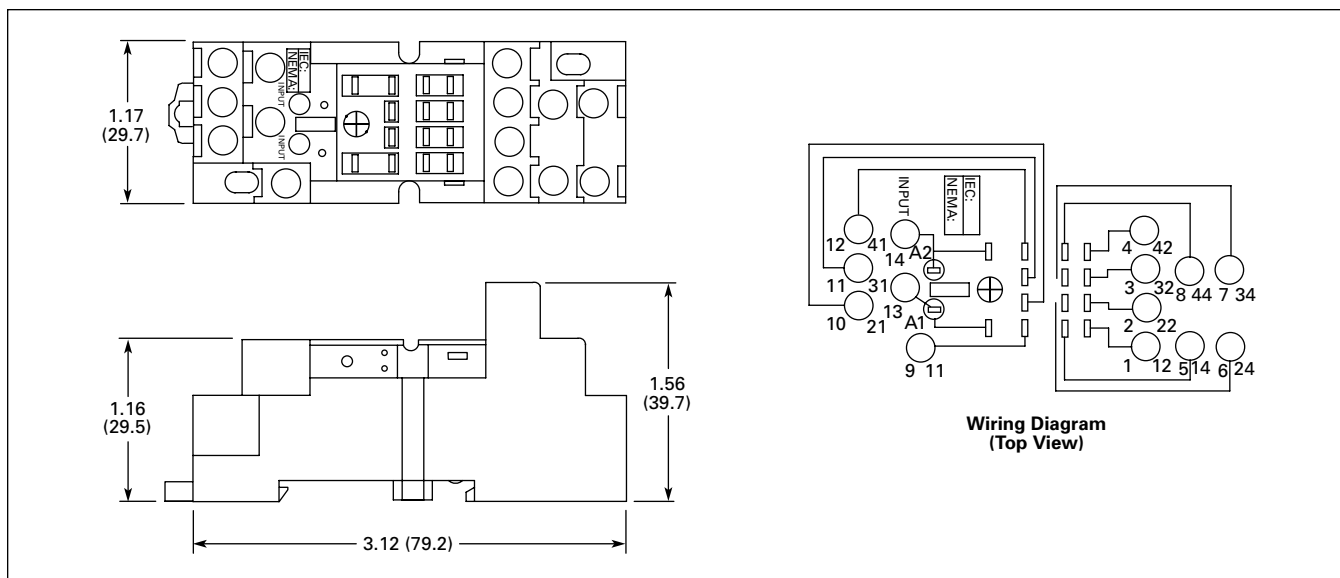


Figure 3-21. D2PA7 — Approximate Dimensions in Inches (mm)

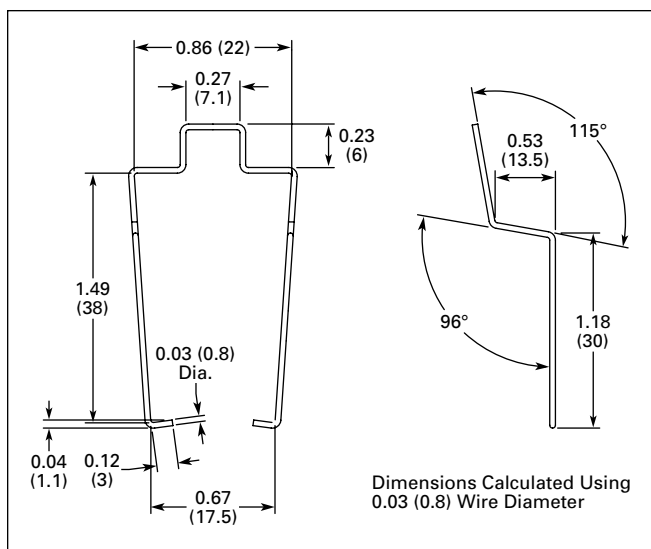


Figure 3-22. PQC-1342 — Approximate Dimensions in Inches (mm)

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

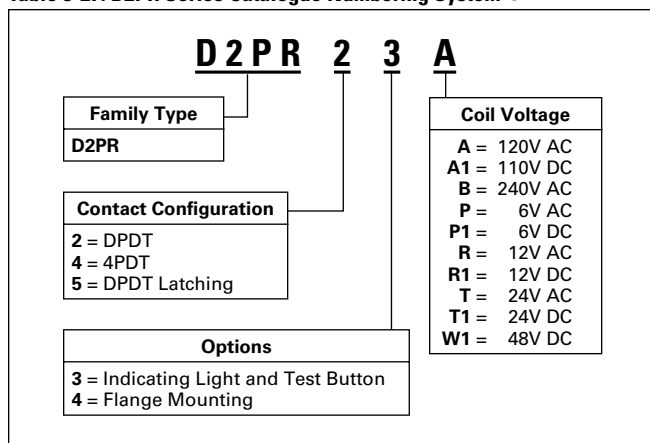
Table 3-26. D2PR Relay Specifications

	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		D2PR2T
110V AC		D2PR2A
240V AC		D2PR2B
12V DC		D2PR2R1
24V DC		D2PR2T1
DPDT with Indicating Light and Test Button		
24V AC		D2PR23T
110V AC		D2PR23A
24V DC		D2PR23T1
DPDT Flange Mount		
110V AC		D2PR24A
Standard 4PDT		
Coil Voltage:		
24V AC		D2PR4T
110V AC		D2PR4A
12V DC		D2PR4R1
24V DC		D2PR4T1
110V DC		D2PR4A1
4PDT with Indicating Light and Test Button		
24V AC		D2PR43T
110V AC		D2PR43A
12V DC		D2PR43R1
24V DC		D2PR43T1
110V DC		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

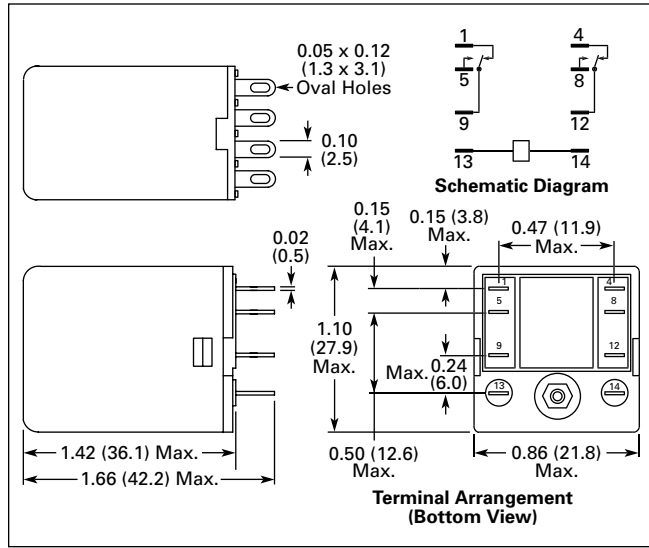


Figure 3-23. D2PR2 — Approximate Dimensions in Inches (mm)

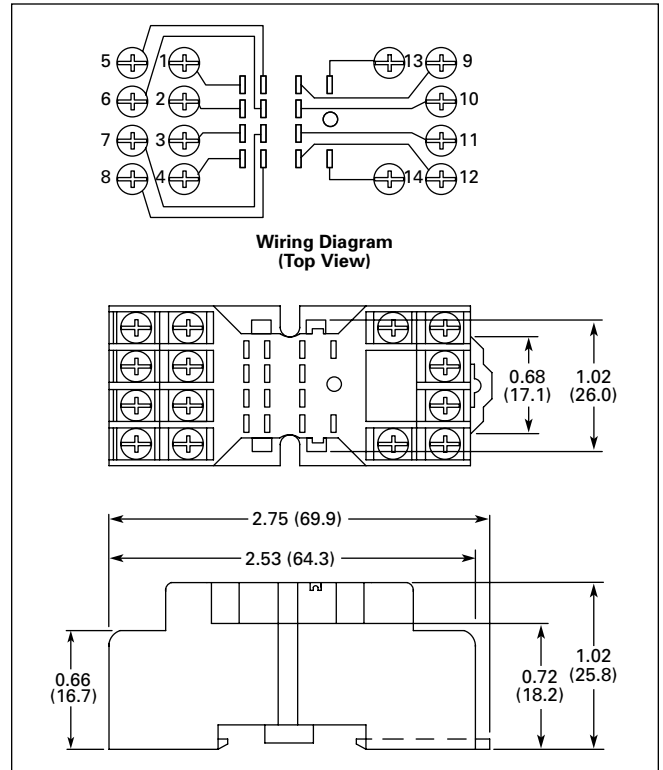


Figure 3-25. D2PA6 — Approximate Dimensions in Inches (mm)

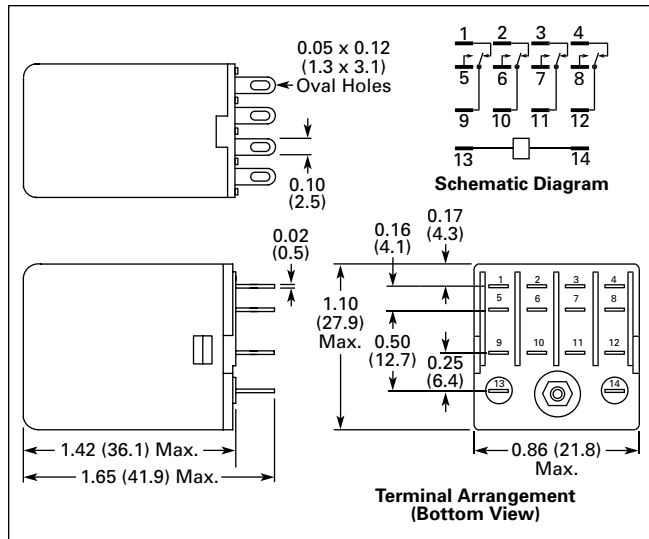


Figure 3-24. D2PR4/D2PR44 — Approximate Dimensions in Inches (mm)

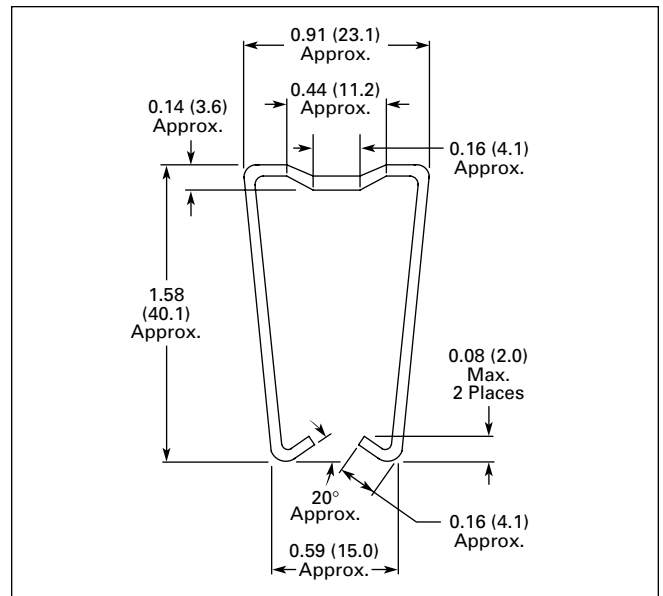


Figure 3-26. PMC-A1 Spring Clip for D2PA6

D2PR Series — Standard

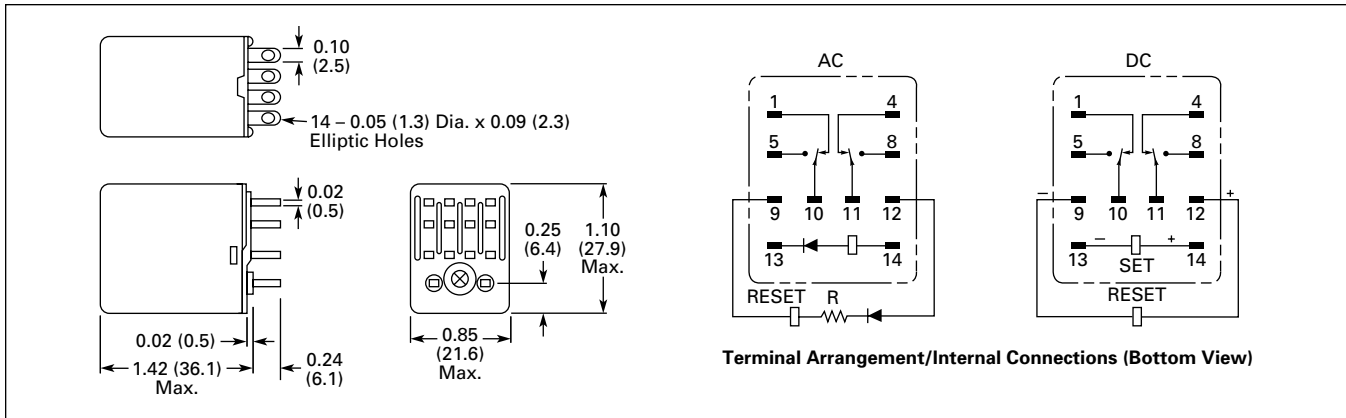


Figure 3-27. D2PR5 — Approximate Dimensions in Inches (mm)

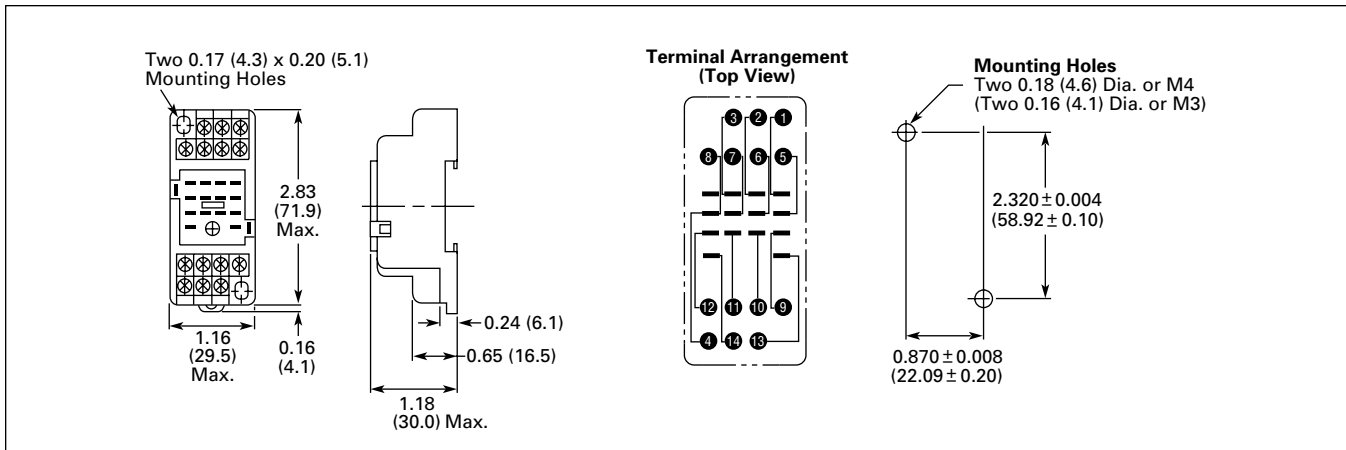


Figure 3-28. D2PA4 Socket for D2PR5 DPDT Latching Relays Only — Approximate Dimensions in Inches (mm)

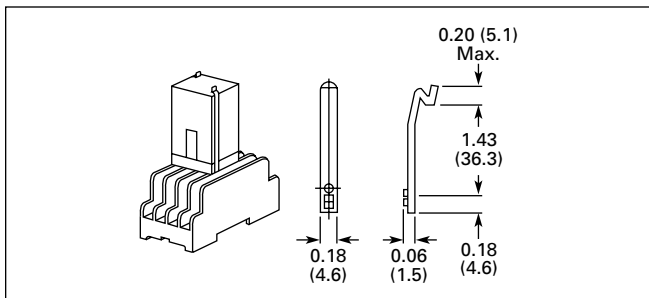


Figure 3-29. PYC-A1 Hold down Clip for D2PA4 Socket — Approximate Dimensions in Inches (mm)

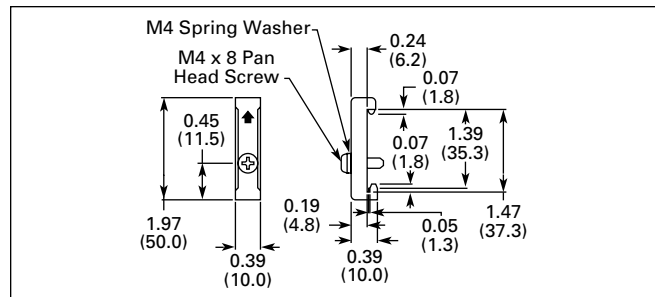


Figure 3-30. PFP-M DIN Rail End Stop — Approximate Dimensions in Inches (mm)

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

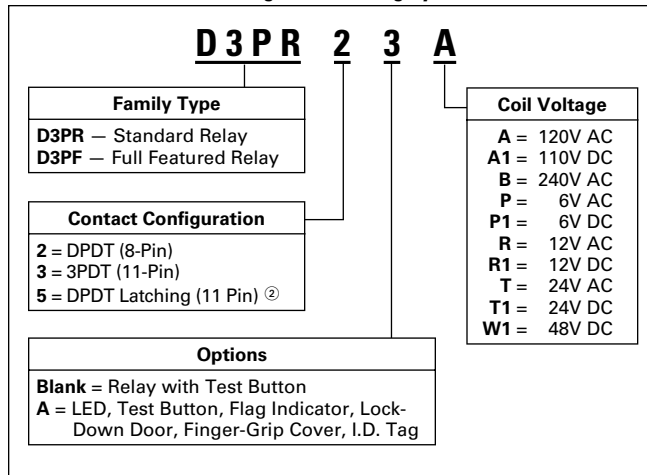
	D3PR2/D3PR3	D3PR2/D3PR3	D3PF2/D3PF3	D3PR5	D3PR5
	Resistive Load (p.f. = 1)	Inductive Load (p.f. = 0.4, L/R = 7 ms)	Resistive Load (p.f. = 1.0)	Resistive Load (p.f. = 1)	Inductive Load (p.f. = 0.4, L/R = 7 ms)
Rated Load	240V AC 10A 120V AC 12A 28V DC 10A	240V AC 7A 120V AC 7A 28V DC 7A	240V AC 12A 120V 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	PFP-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

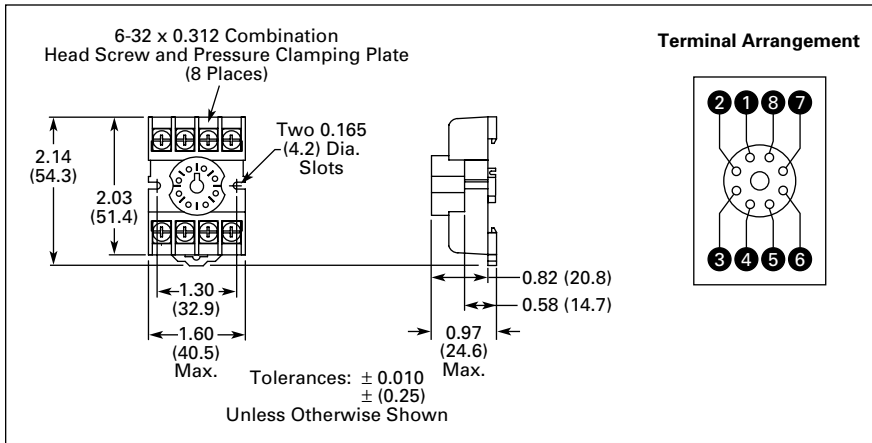


Figure 3-31. D3PA2 — Approximate Dimensions in Inches (mm)

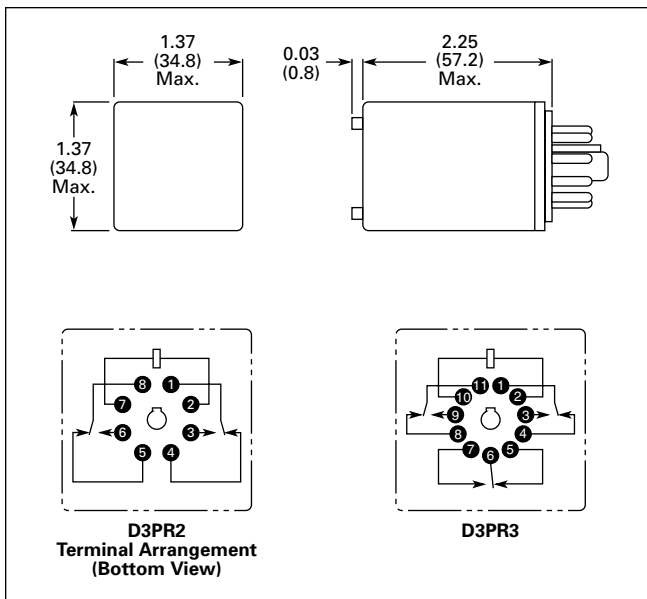


Figure 3-32. D3PR2/D3PR3 — Approximate Dimensions in Inches (mm)

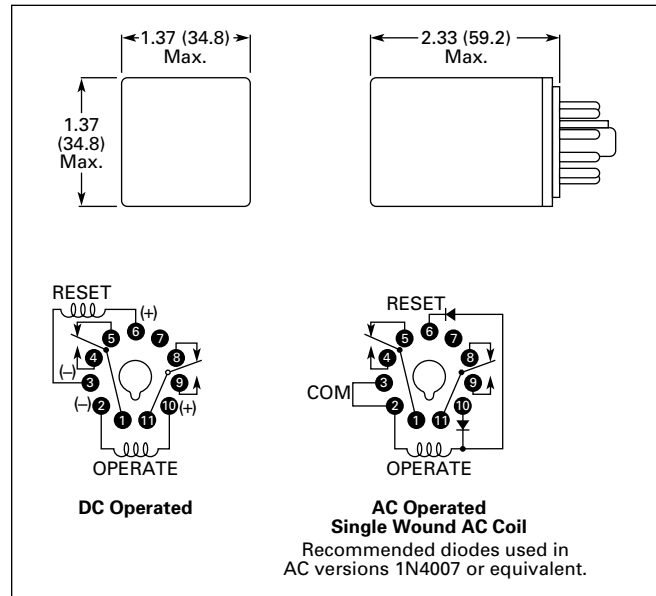


Figure 3-33. D3PR5 — Approximate Dimensions in Inches (mm)

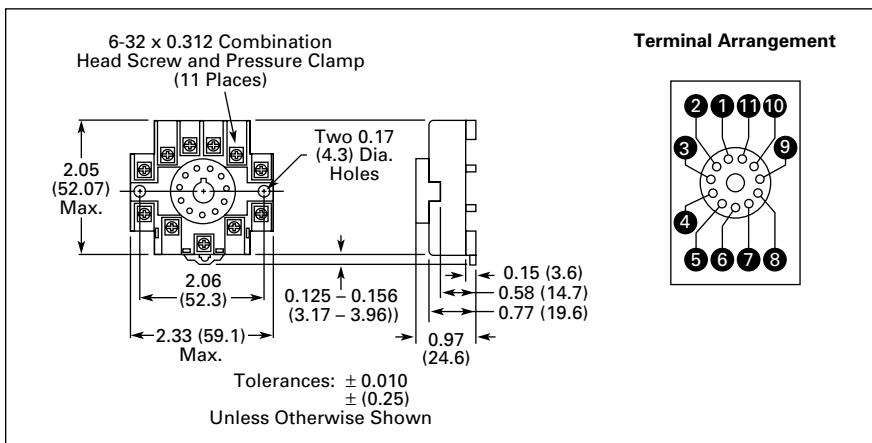


Figure 3-34. D3PA3-A2 — Approximate Dimensions in Inches (mm)

April 2009

D3PR/DP3F Series — Standard and Full Featured



D3PJ1

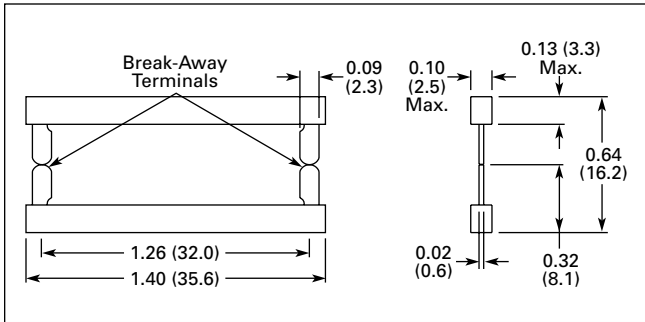


Figure 3-35. D3PJ1 — Approximate Dimensions in Inches (mm)

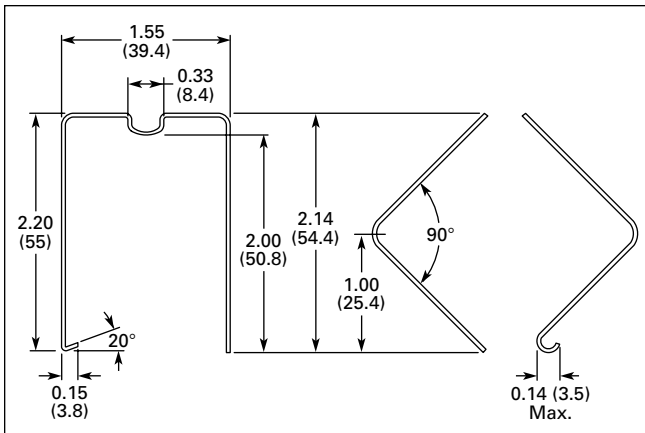


Figure 3-36. PQC-1332 — Approximate Dimensions in Inches (mm)

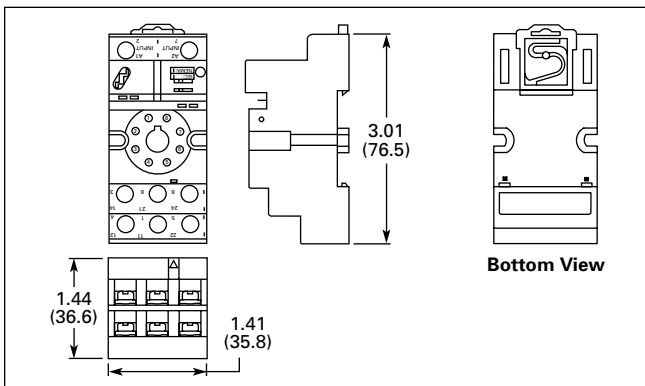


Figure 3-37. D3PA6 — Approximate Dimensions in Inches (mm)

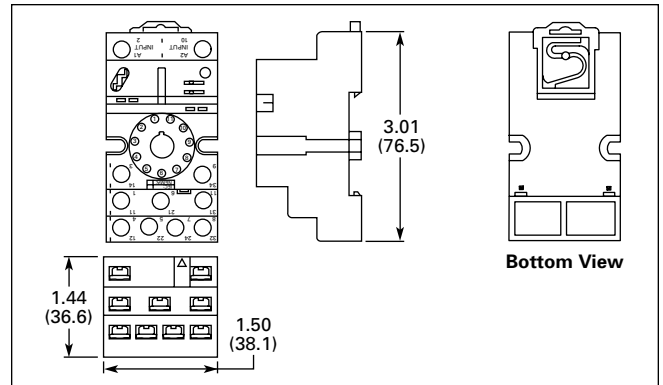


Figure 3-38. D3PA7 — Approximate Dimensions in Inches (mm)

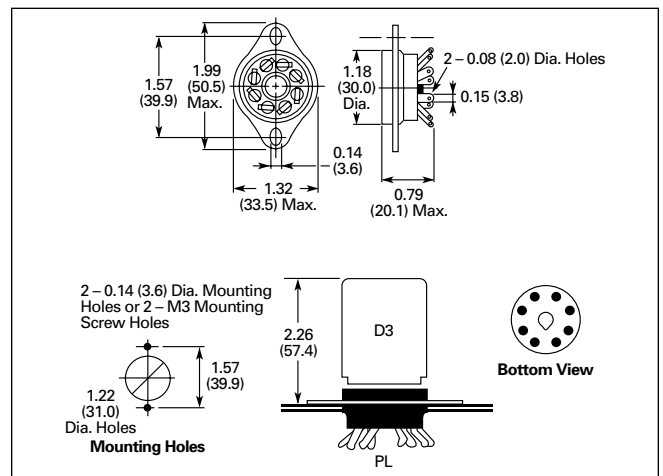


Figure 3-39. D3PA4 — Approximate Dimensions in Inches (mm)

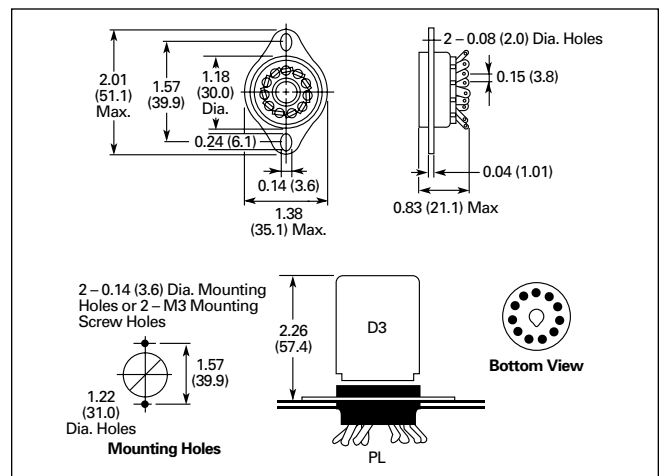


Figure 3-40. D3PA5 — Approximate Dimensions in Inches (mm)

D3PR/DP3F Series — Standard and Full Featured

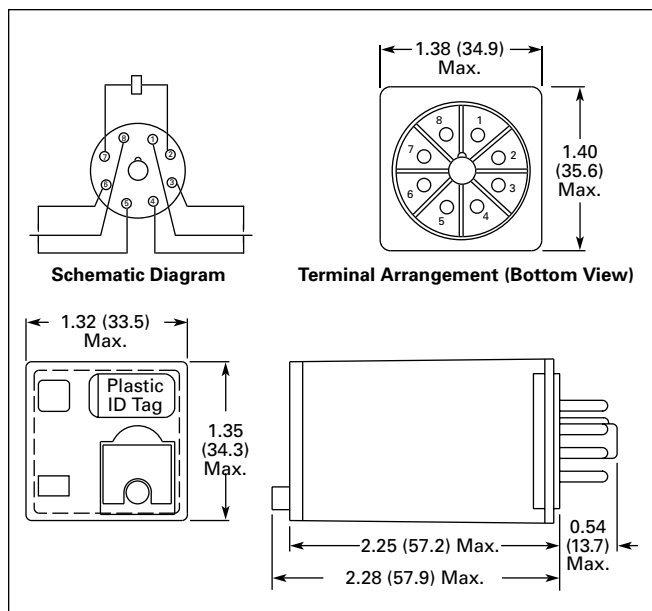


Figure 3-41. D3PF2 — Approximate Dimensions in Inches (mm)

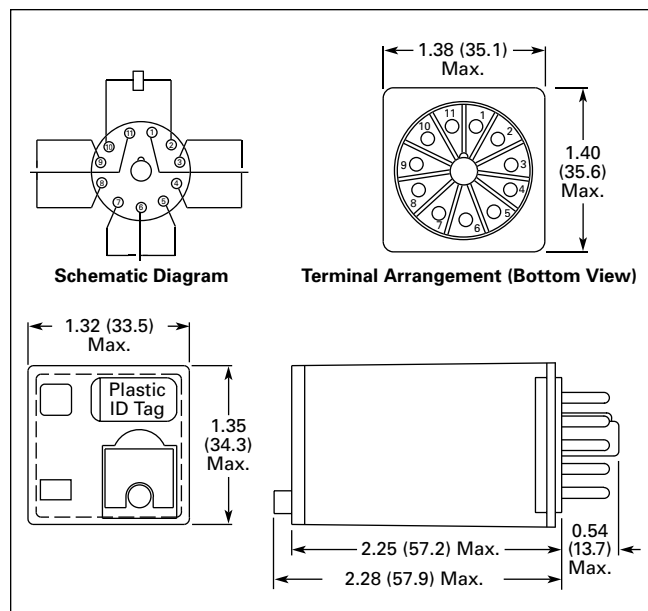


Figure 3-42. D3PF3 — Approximate Dimensions in Inches (mm)

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

SF File # LR701519
CE

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

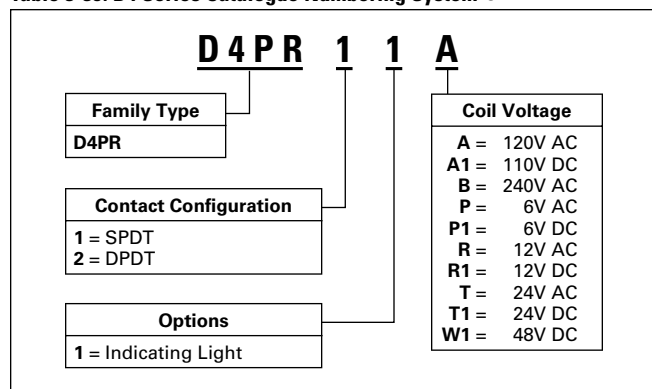
Table 3-38. Specifications

	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

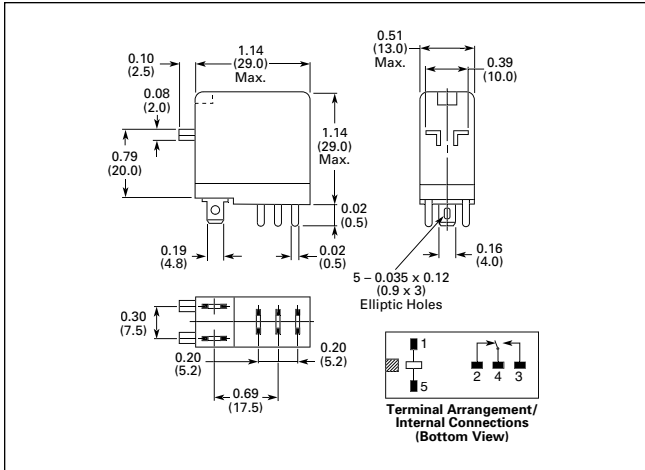


Figure 3-43. D4PR1 — Approximate Dimensions in Inches (mm)

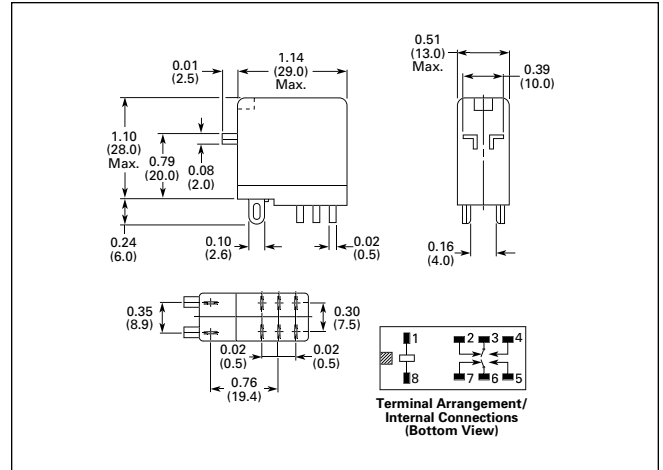


Figure 3-44. D4PR2 — Approximate Dimensions in Inches (mm)

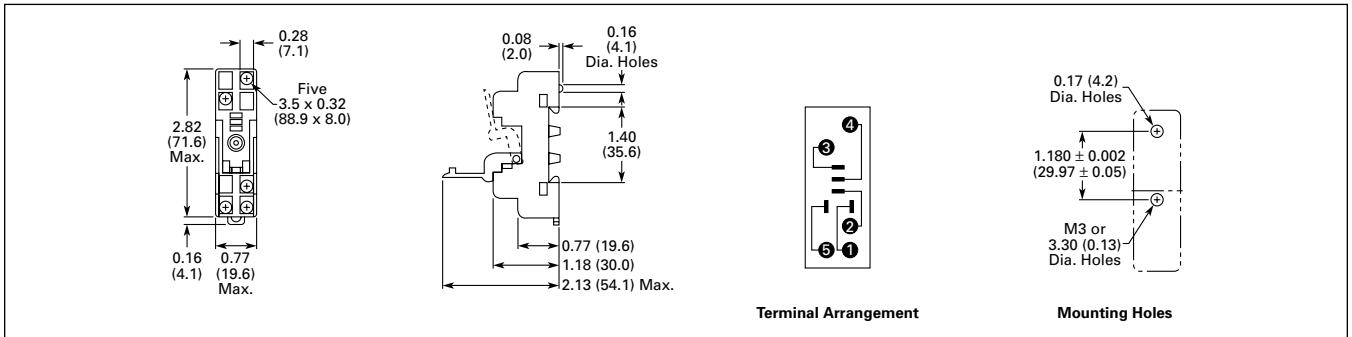


Figure 3-45. D4PA1 — Approximate Dimensions in Inches (mm)

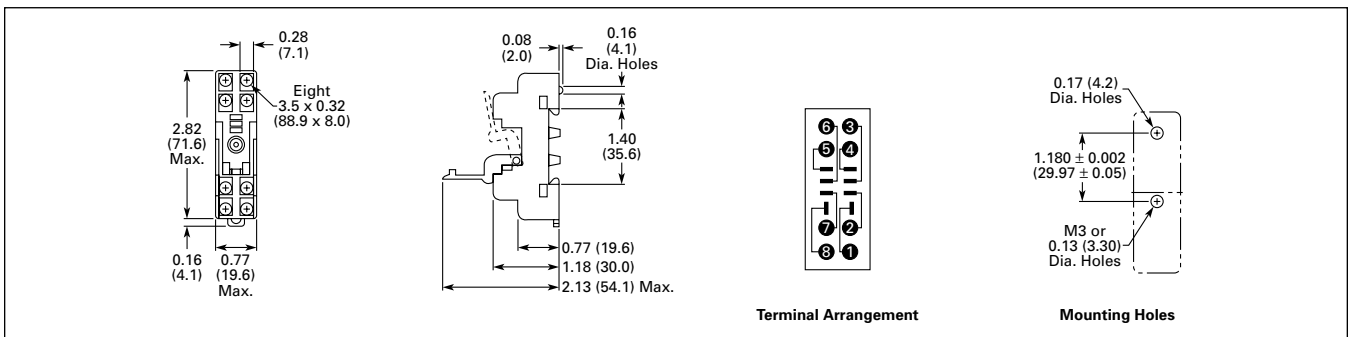


Figure 3-46. D4PA2 — Approximate Dimensions in Inches (mm)

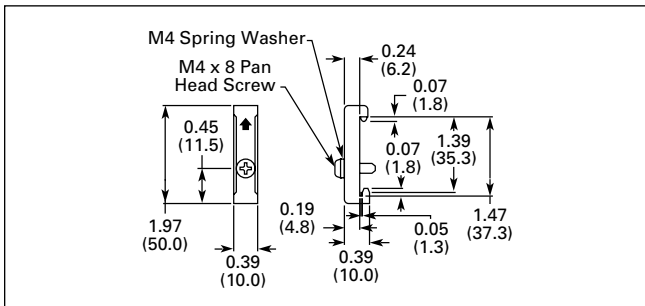


Figure 3-47. PFP-M DIN Rail End Stop — Approximate Dimensions in Inches (mm)

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

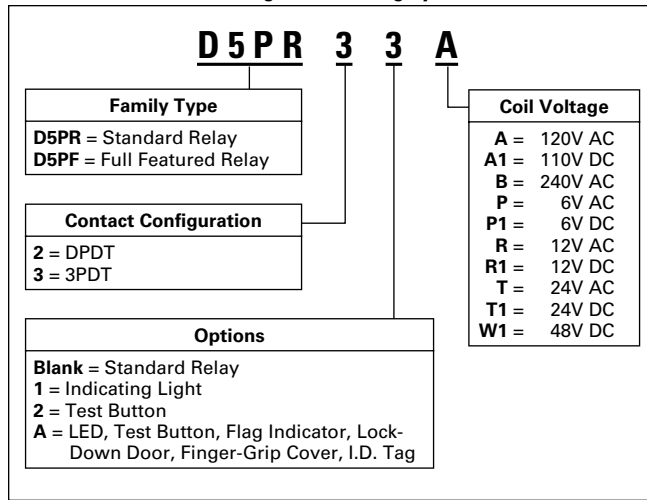
Catalogue Number	Electrical Ratings	Mounting Torque	Hook-Up Wire Range
D5PA2	15A, 300V	8 – 10 in-lbs	AWG 12 to 22 Solid or Stranded
D5PA3L D5PA3S	15A, 300V	—	Up to AWG 16 Solid or Stranded

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

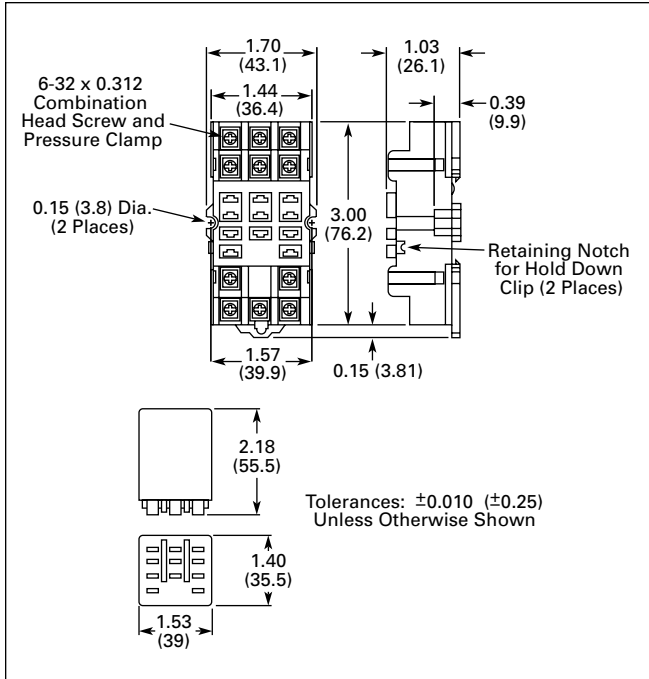


Figure 3-48. D5PA2 — Approximate Dimensions in Inches (mm)

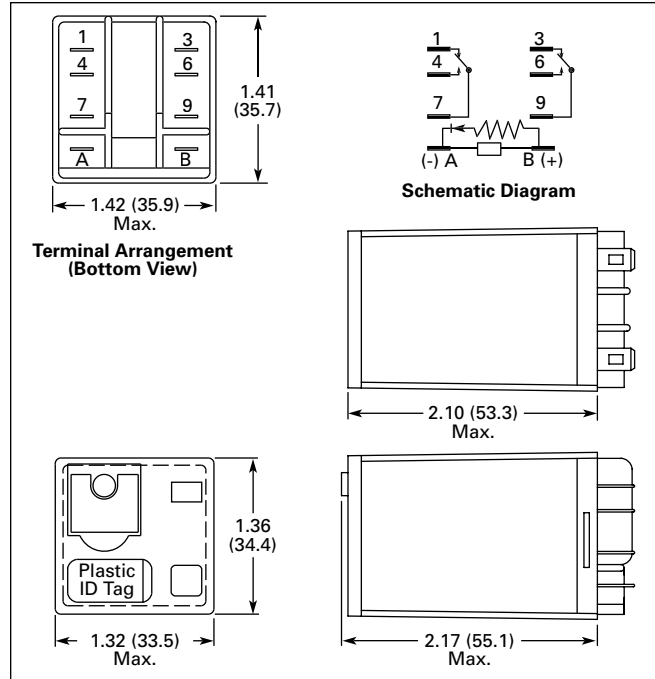


Figure 3-50. D5PF2 — Approximate Dimensions in Inches (mm)

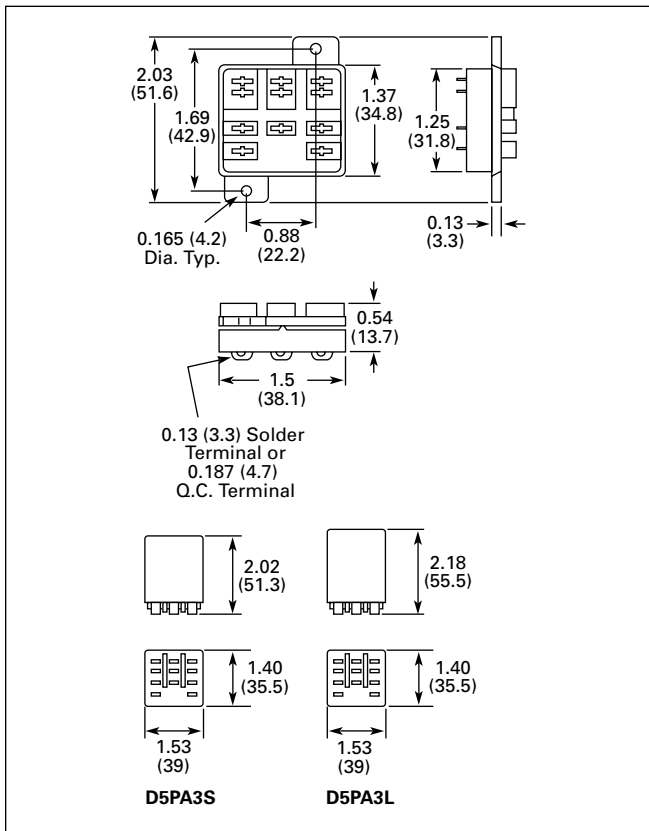


Figure 3-49. D5PA3L and D5PA3S — Approximate Dimensions in Inches (mm)

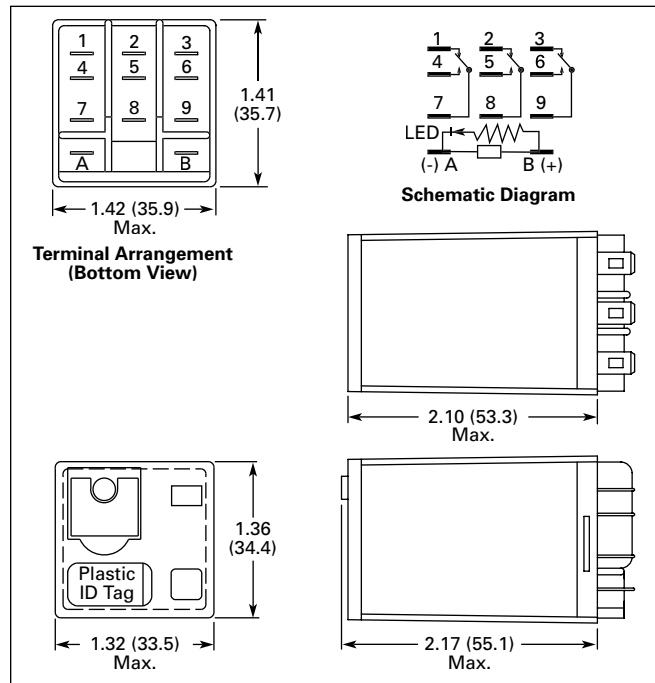


Figure 3-51. D5PF3 — Approximate Dimensions in Inches (mm)

3

Terminal Arrangements

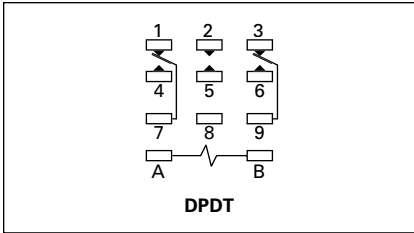


Figure 3-52. D5PR2 (Bottom View)

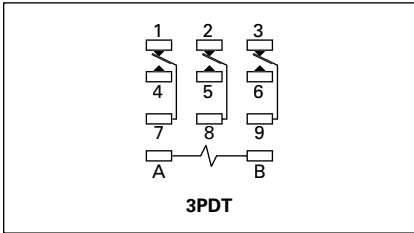
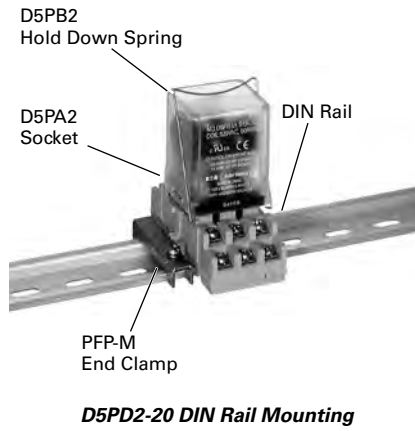


Figure 3-53. D5PR3 (Bottom View)






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

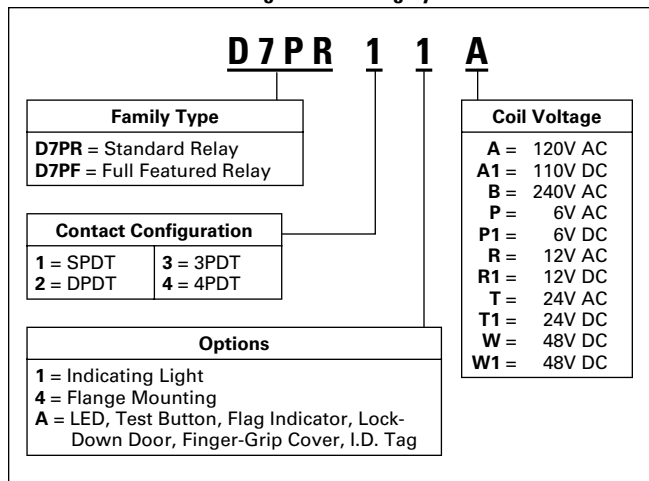
	D7PR1		D7PR2/D7PR3/D7PR4	
	Resistive Load (p.f. = 1)	Inductive Load (p.f. = 0.4, L/R = 7 ms)	Resistive Load (p.f. = 1)	Inductive Load (p.f. = 0.4, L/R = 7 ms)
Rated Load	120/240V AC 15A 30V DC 15A	120/240V AC 10A 30V DC 7A	120/240V AC 10A (D7PR2 only) 30V DC 10A (D7PR2 only) 250V AC 10A (D7PR3/D7PR4 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

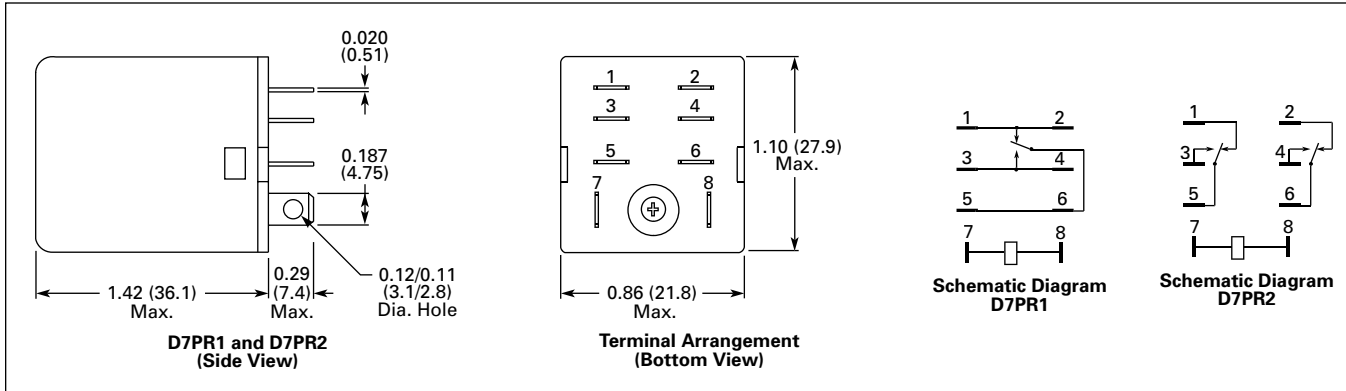


Figure 3-54. D7PR1 and D7PR2 — Approximate Dimensions in Inches (mm)

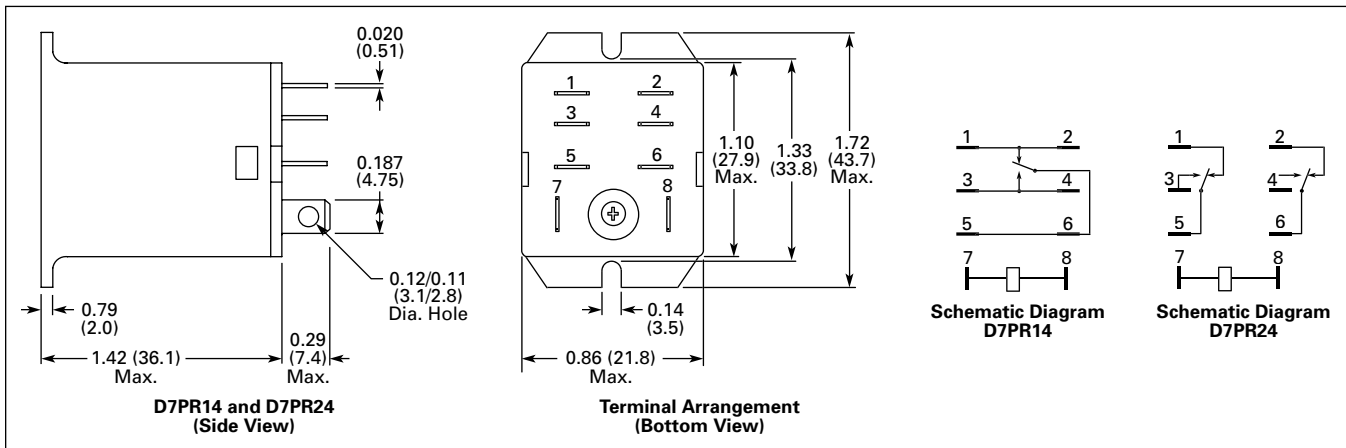


Figure 3-55. D7PR14 and D7PR24 — Approximate Dimensions in Inches (mm)

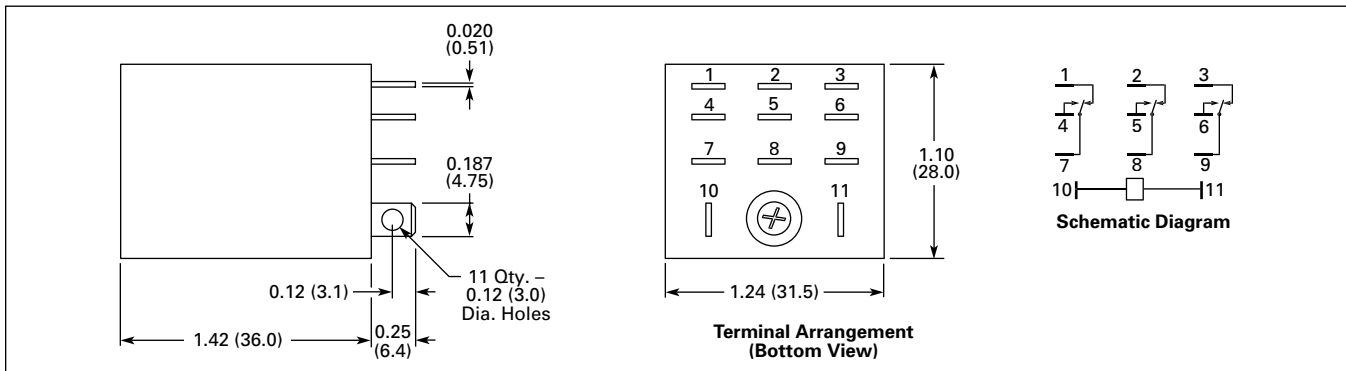


Figure 3-56. D7PR3 — Approximate Dimensions in Inches (mm)

April 2009

D7PR Series — Standard

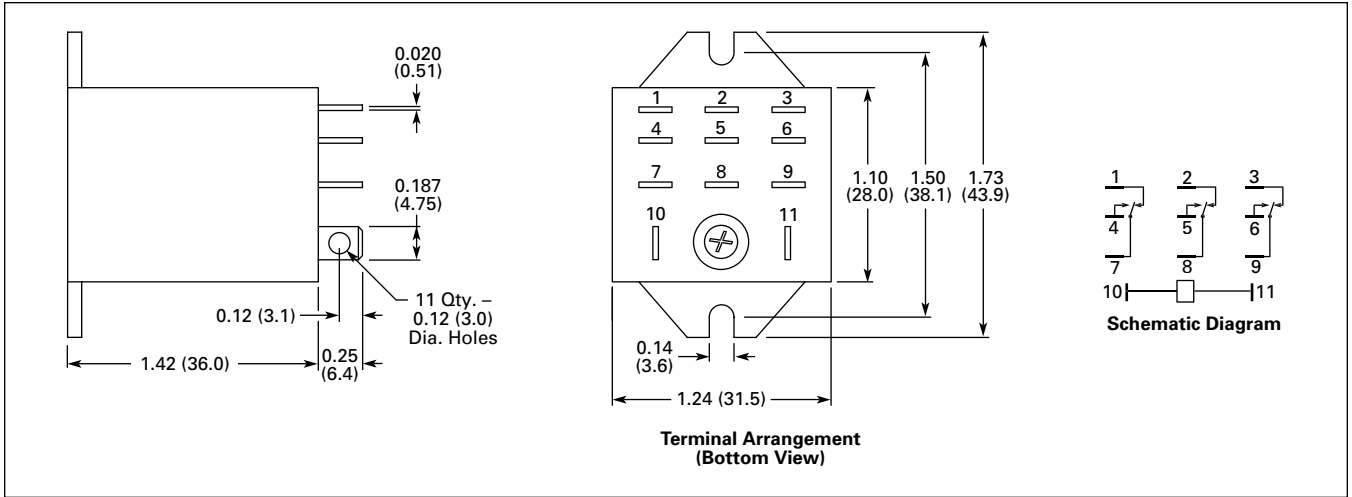


Figure 3-57. D7PR34 — Approximate Dimensions in Inches (mm)

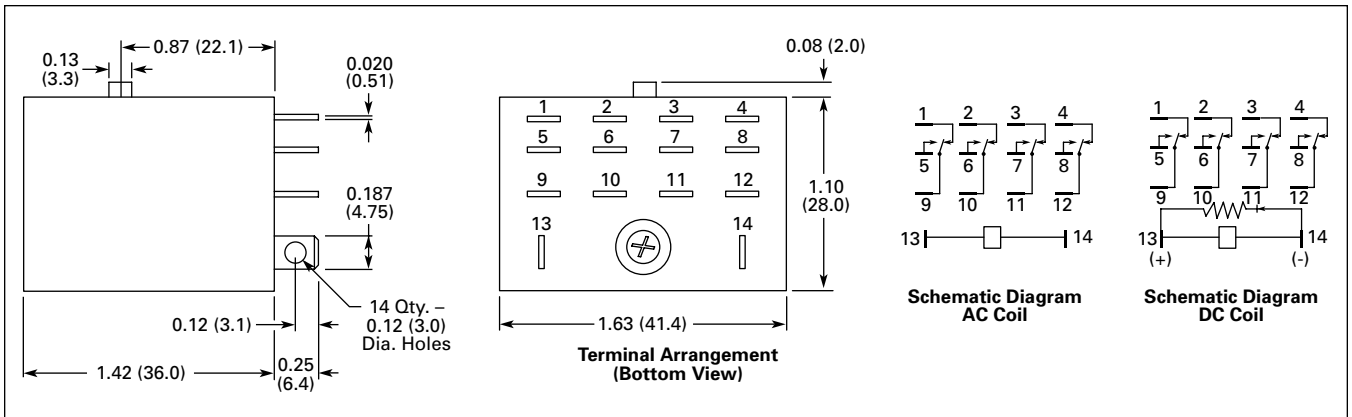


Figure 3-58. D7PR43 — Approximate Dimensions in Inches (mm)

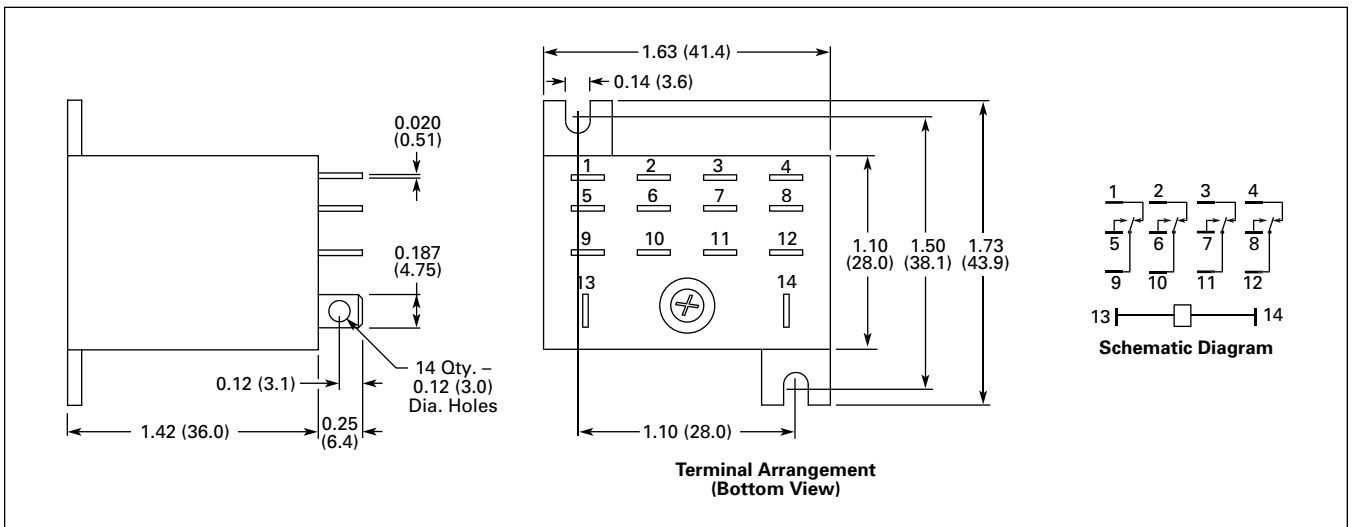


Figure 3-59. D7PR44 — Approximate Dimensions in Inches (mm)

D7PR Series — Standard

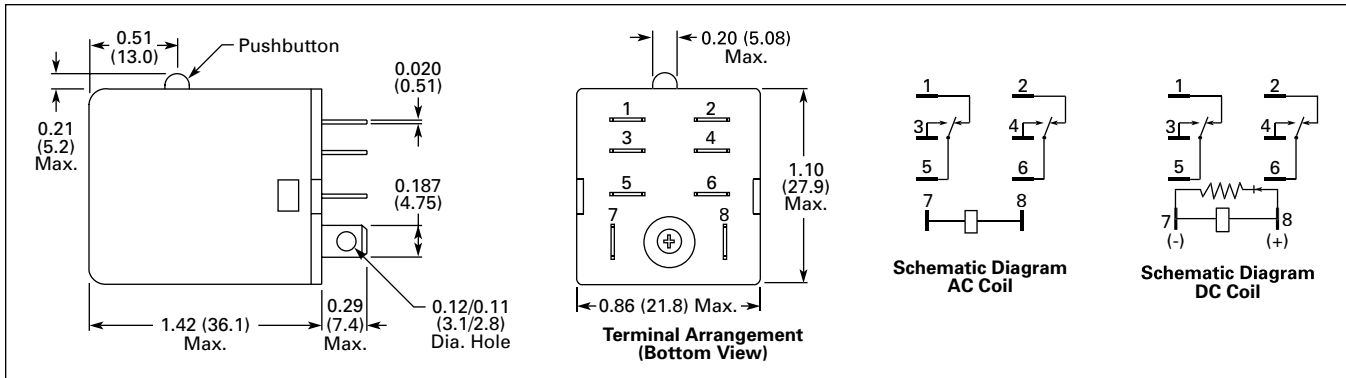


Figure 3-60. D7PR23 — Approximate Dimensions in Inches (mm)

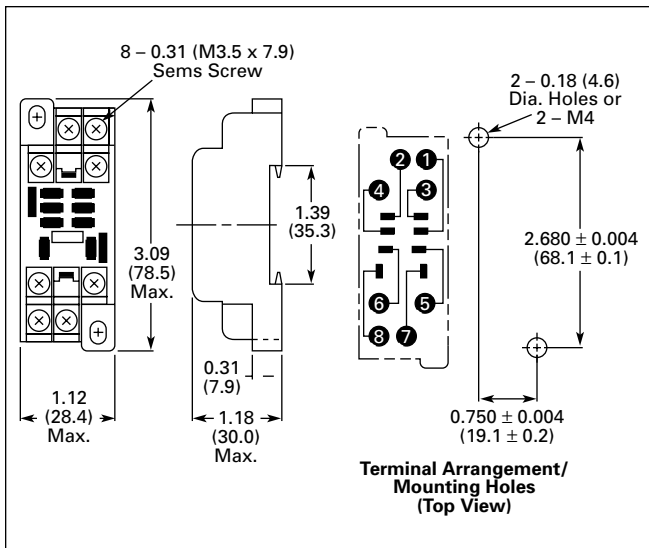


Figure 3-61. D7PA2 — Approximate Dimensions in Inches (mm)

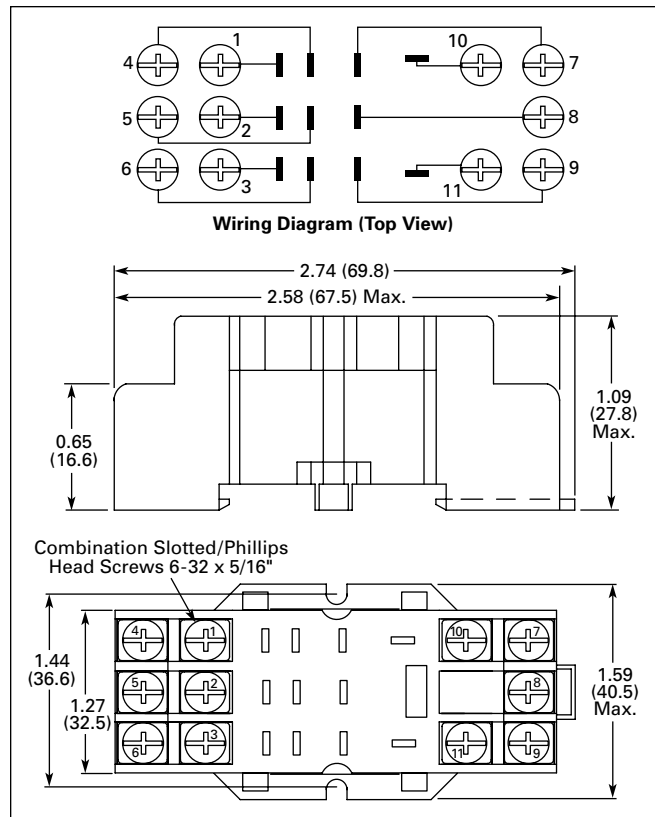


Figure 3-62. D7PA3 — Approximate Dimensions in Inches (mm)

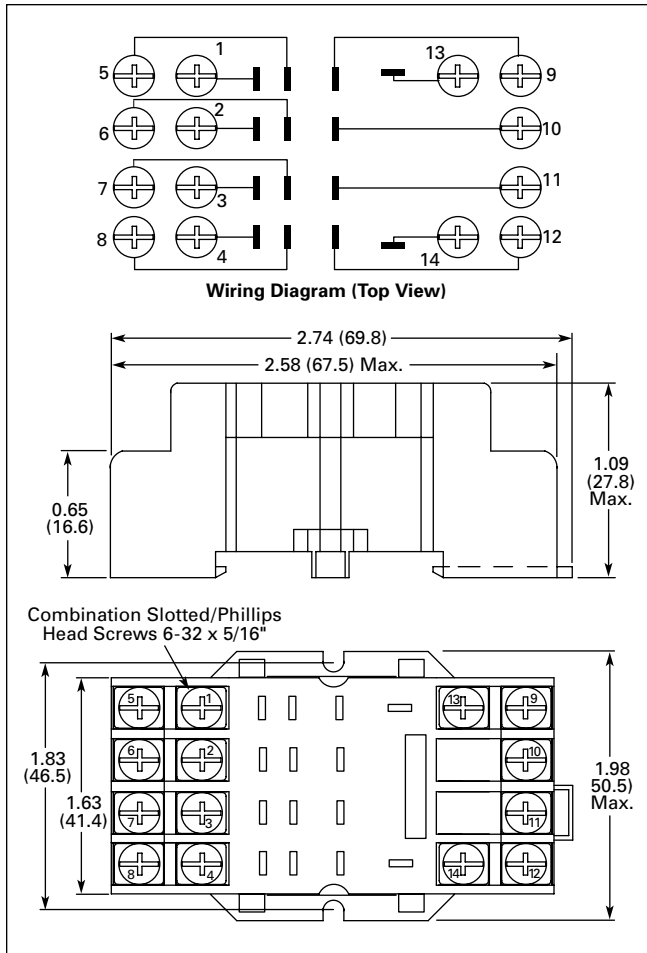


Figure 3-63. D7PA4 — Approximate Dimensions in Inches (mm)

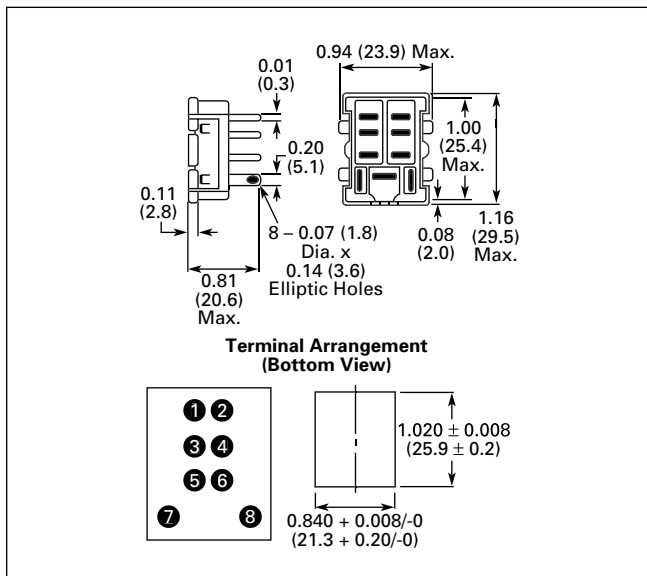


Figure 3-64. D7PA5 — Approximate Dimensions in Inches (mm)

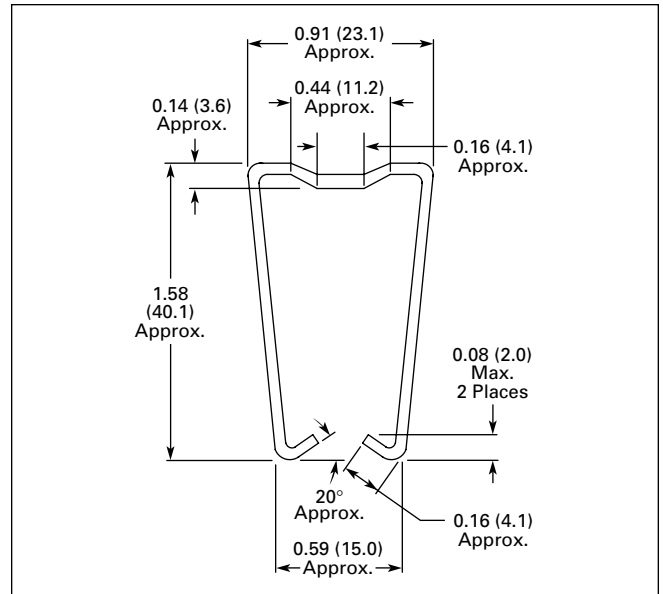


Figure 3-65. PMC-A1 Hold Down Clip — Approximate Dimensions in Inches (mm)

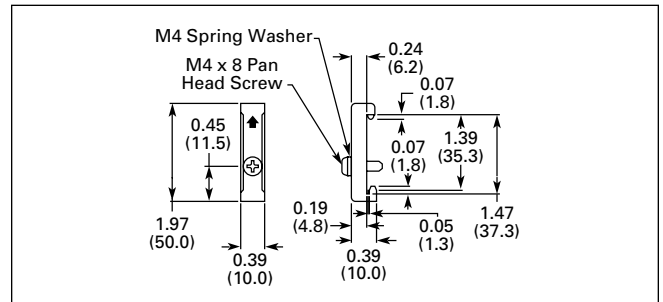


Figure 3-66. PFP-M DIN Rail End Stop — Approximate Dimensions in Inches (mm)

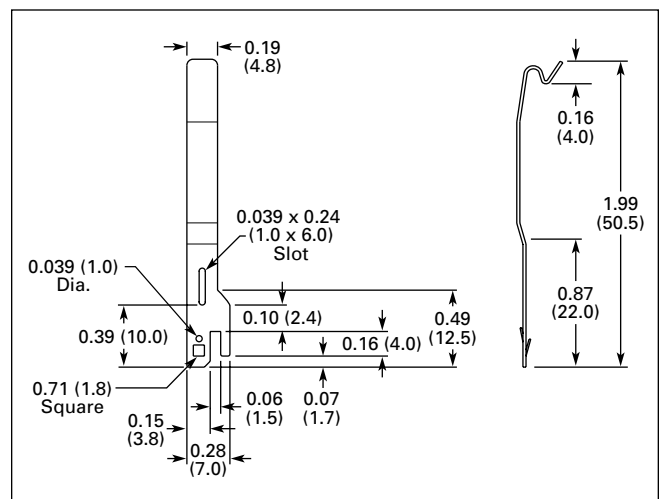


Figure 3-67. PYC-B2 Hold Down Spring — Approximate Dimensions in Inches (mm)

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.

April 2009

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

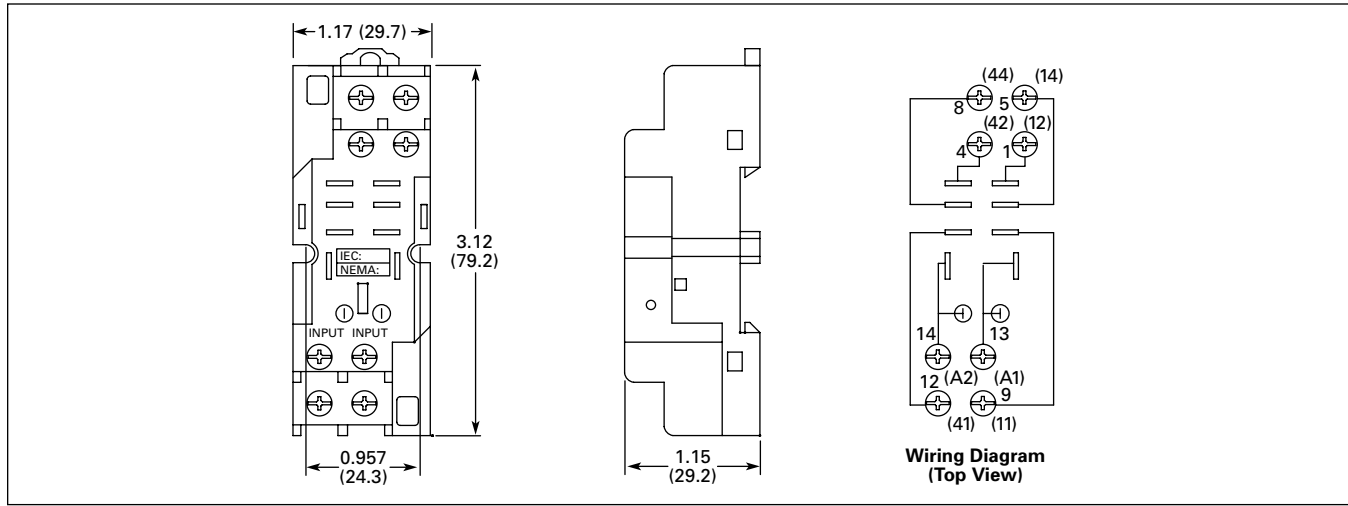


Figure 3-68. D7PAA — Approximate Dimensions in Inches (mm)

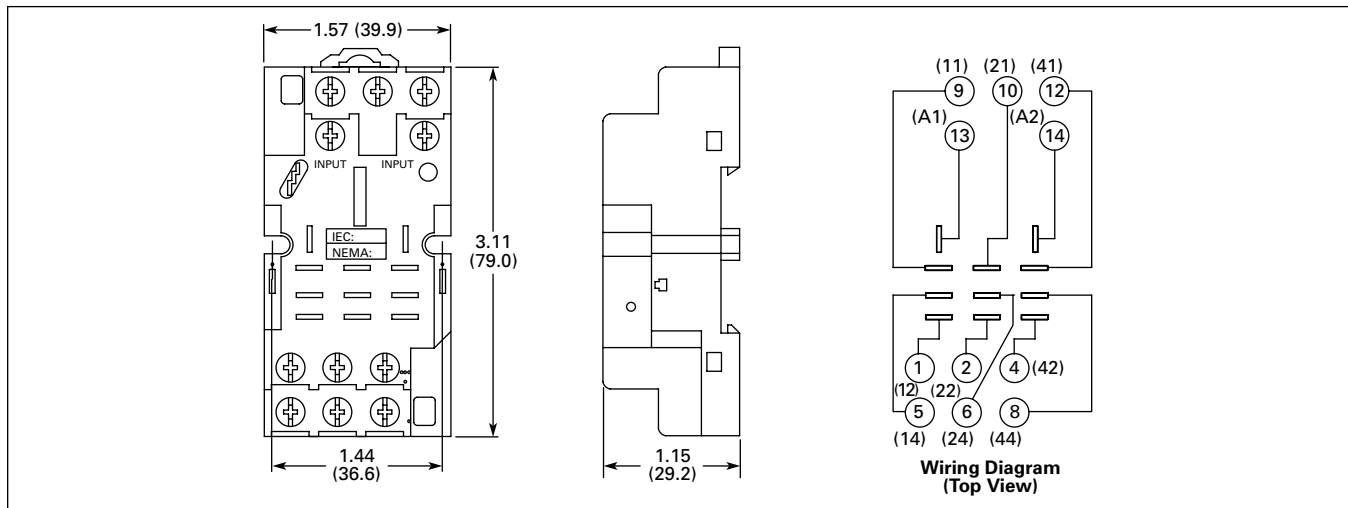


Figure 3-69. D7PAB — Approximate Dimensions in Inches (mm)

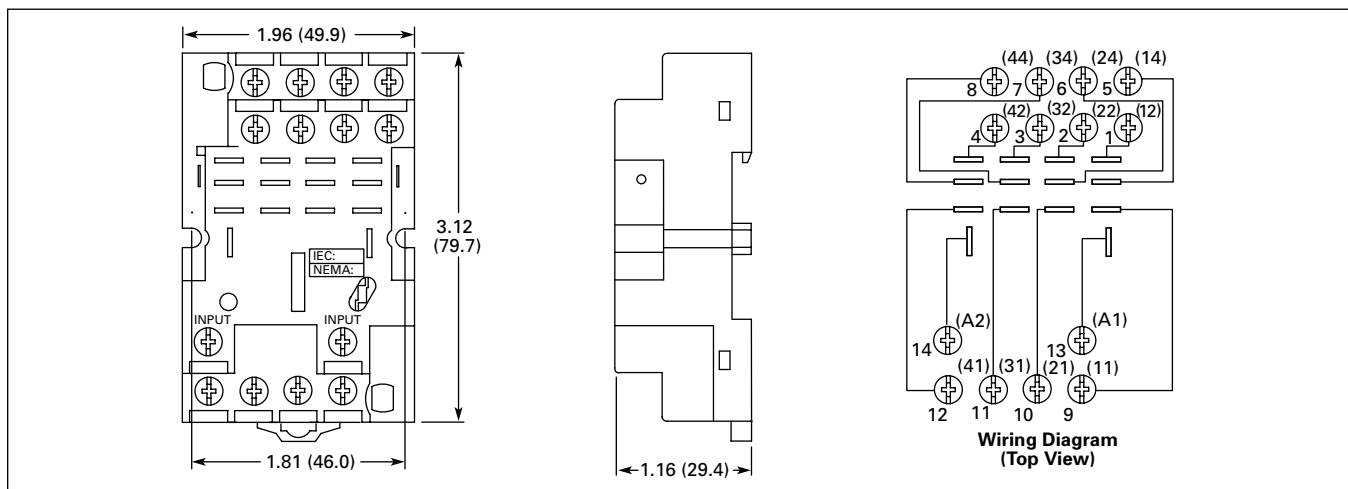


Figure 3-70. D7PAD — Approximate Dimensions in Inches (mm)

April 2009

D7PF Series — Full Featured

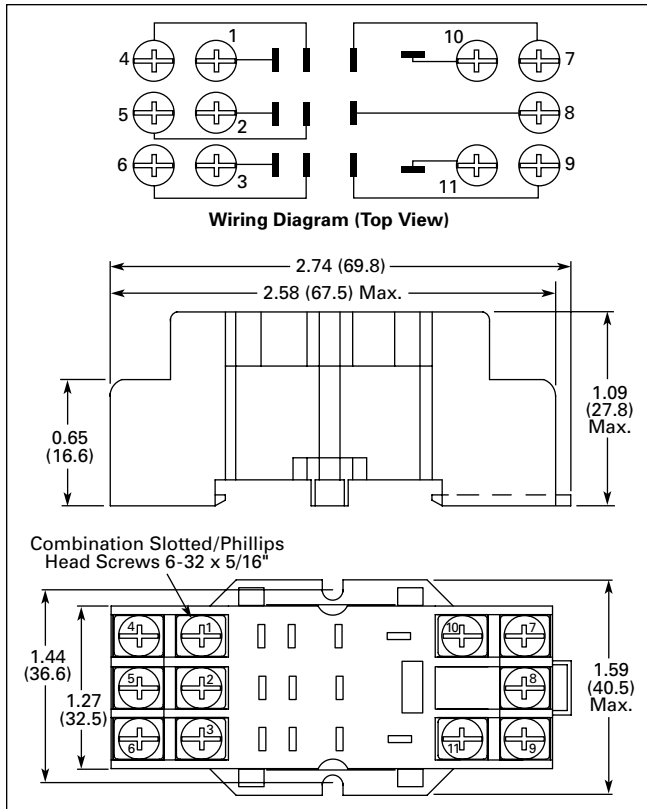


Figure 3-71. D7PA3 Standard Mount — Approximate Dimensions in Inches (mm)

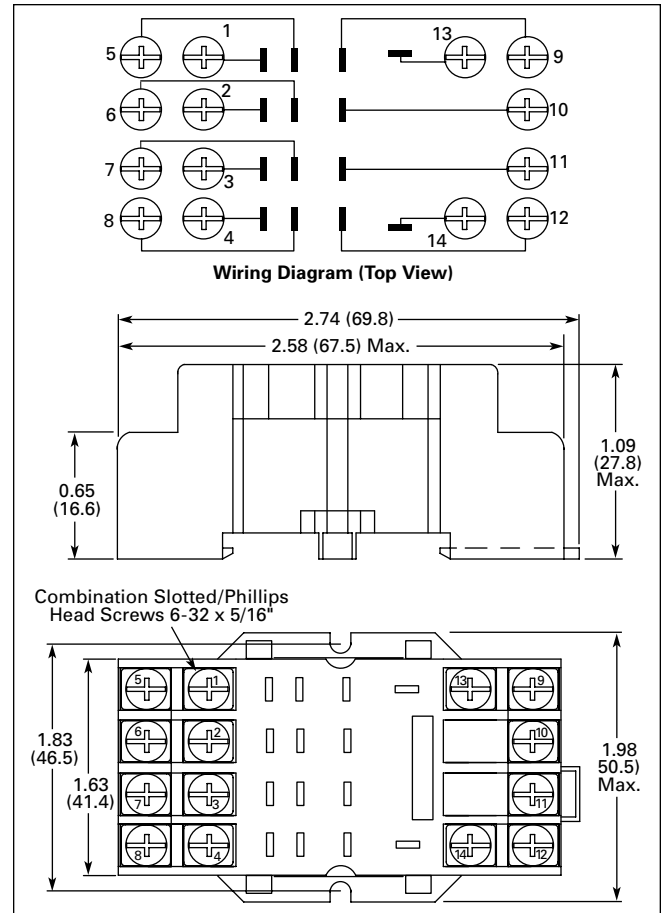


Figure 3-73. D7PA4 Panel Mount — Approximate Dimensions in Inches (mm)

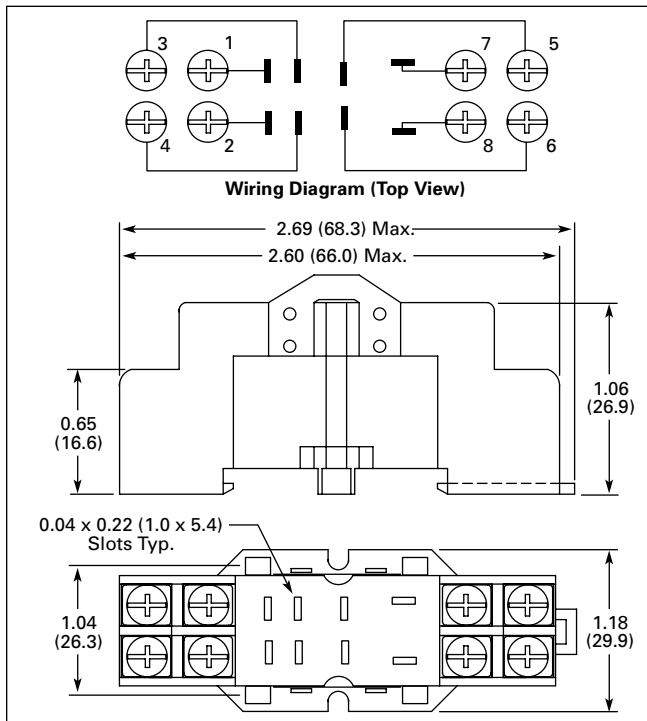


Figure 3-72. D7PA9 Standard Mount — Approximate Dimensions in Inches (mm)

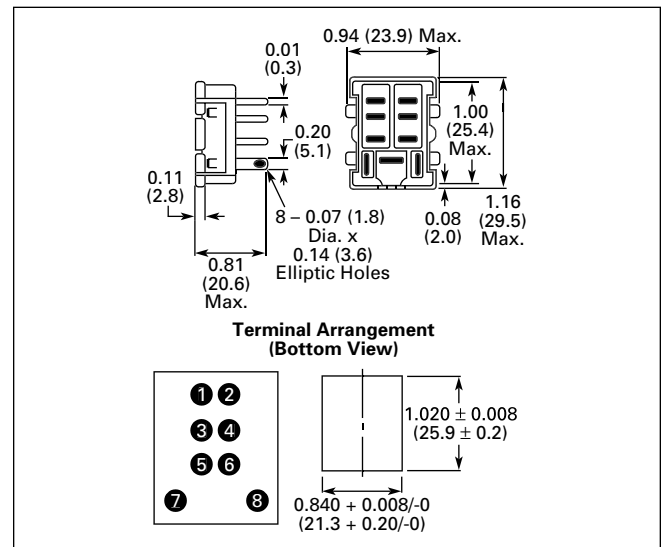


Figure 3-74. D7PA5 Panel Mount — Approximate Dimensions in Inches (mm)

D7PF Series — Full Featured

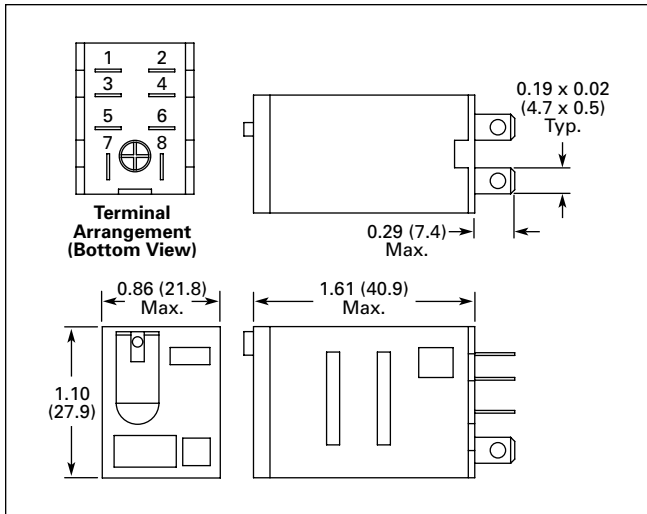


Figure 3-75. D7PF1 — Approximate Dimensions in Inches (mm)

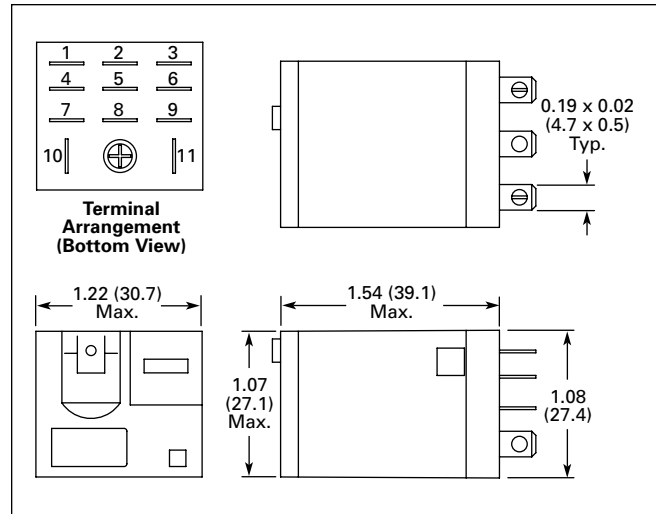


Figure 3-77. D7PF3 — Approximate Dimensions in Inches (mm)

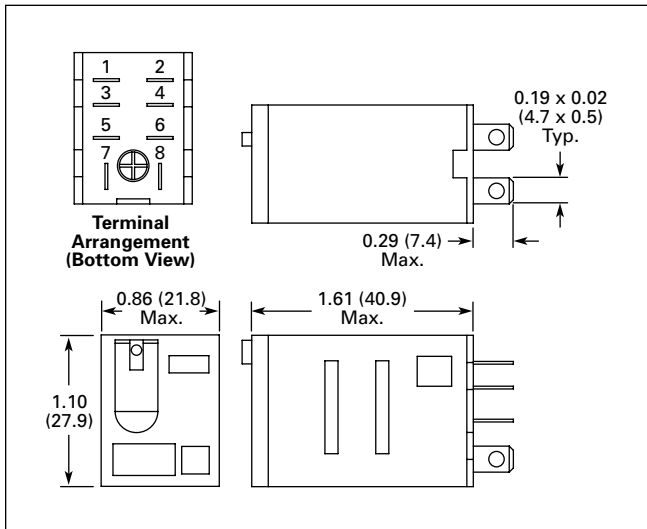


Figure 3-76. D7PF2 — Approximate Dimensions in Inches (mm)

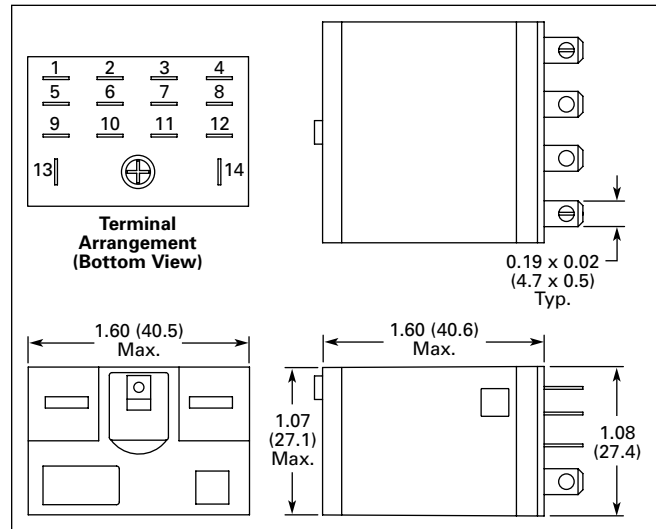


Figure 3-78. D7PF4 — Approximate Dimensions in Inches (mm)

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)

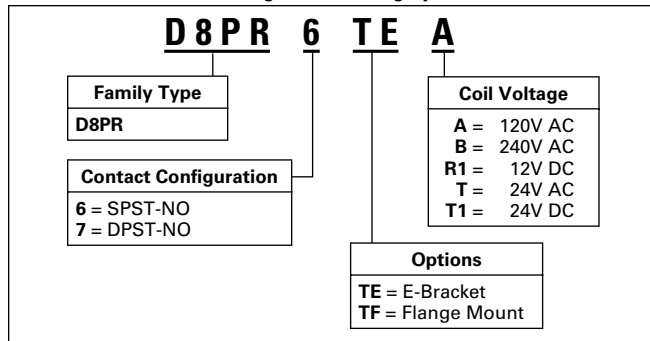
Table 3-60. Coil Data

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

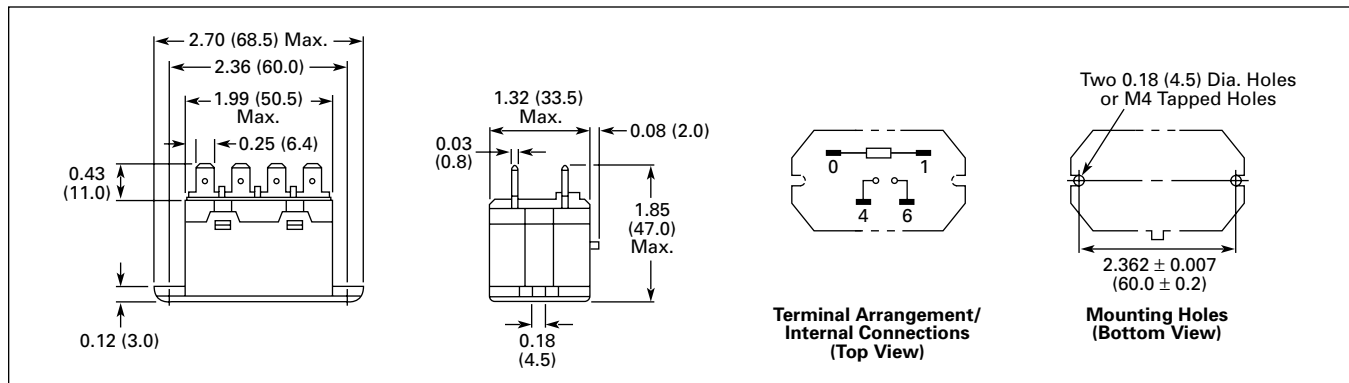


Figure 3-79. D8PR6TF — Approximate Dimensions in Inches (mm)

3

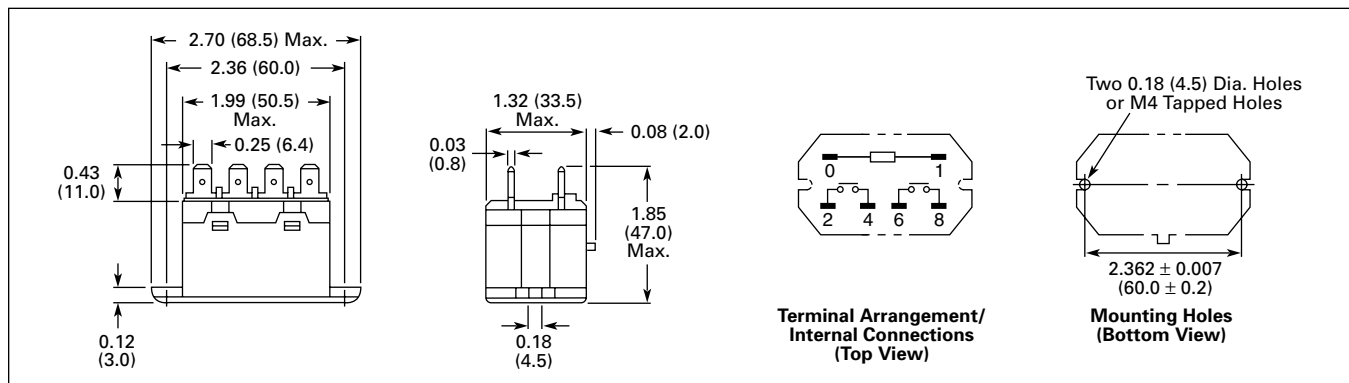


Figure 3-80. D8PR7TF — Approximate Dimensions in Inches (mm)

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D8 Series — Standard

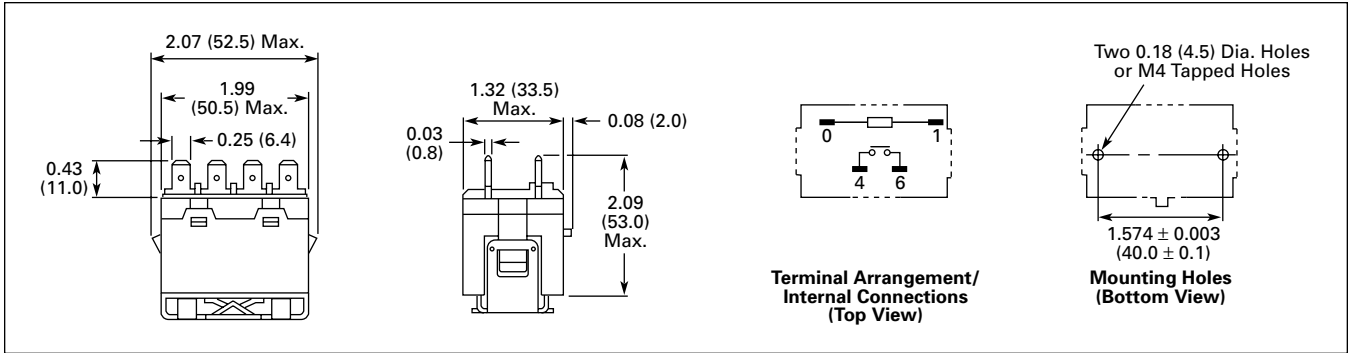


Figure 3-81. D8PR6TE with D8PA5 Bracket Attached — Approximate Dimensions in Inches (mm)

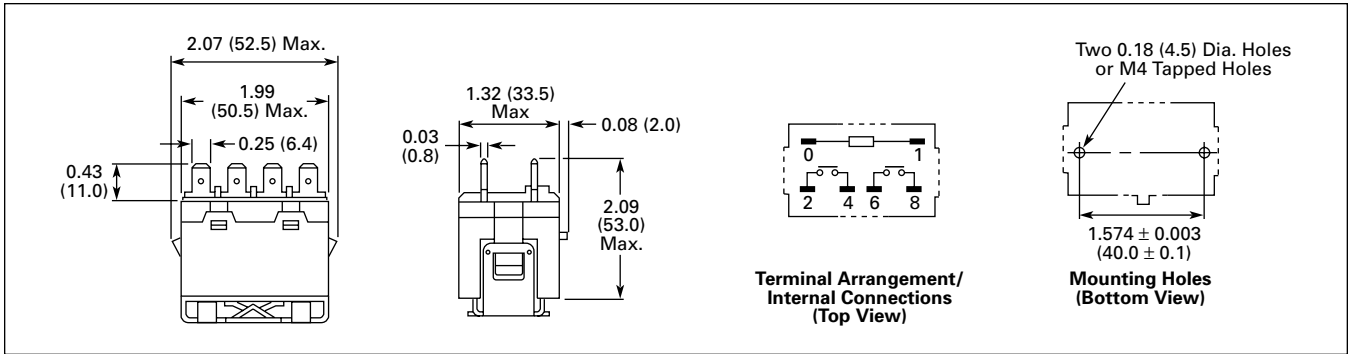


Figure 3-82. D8PR7TE with D8PA5 Bracket Attached — Approximate Dimensions in Inches (mm)

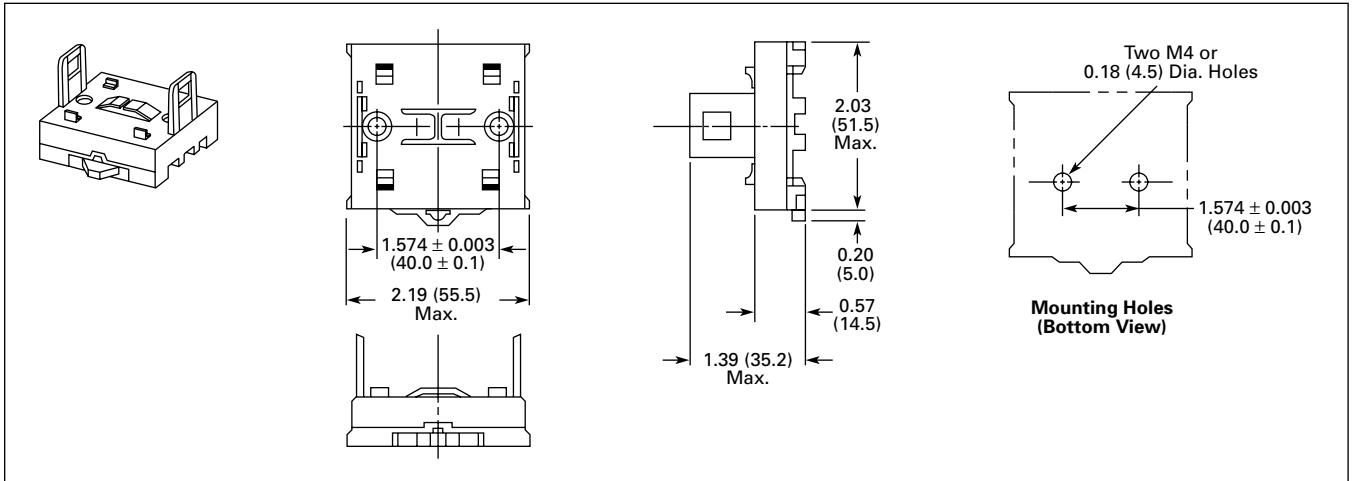


Figure 3-83. D8PA1 — Approximate Dimensions in Inches (mm)

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

D8 Series — Standard

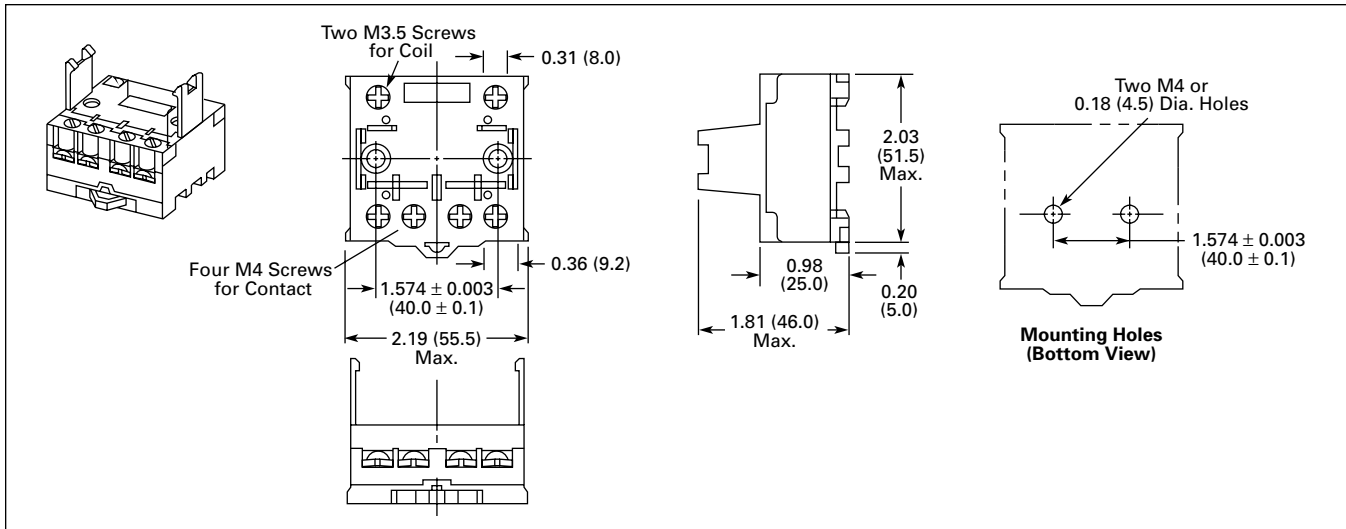


Figure 3-84. D8PA2 — Approximate Dimensions in Inches (mm)

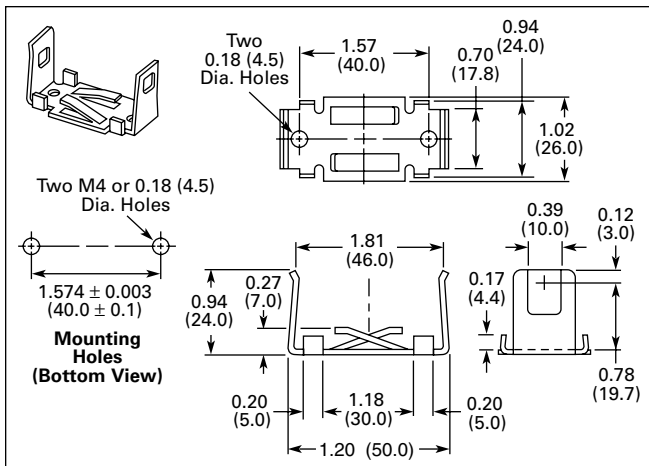


Figure 3-85. D8PA5 — Approximate Dimensions in Inches (mm)

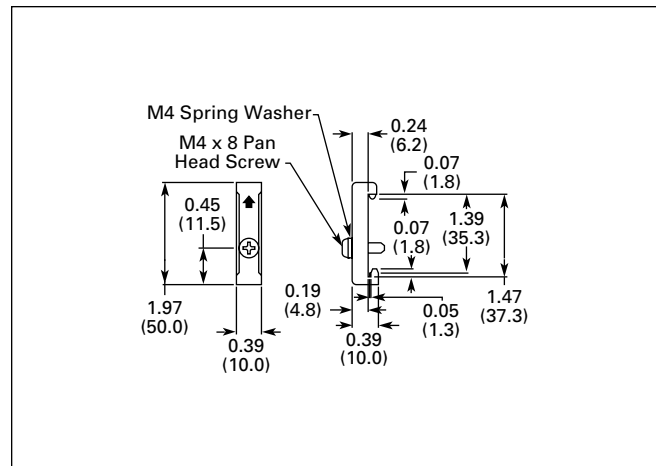


Figure 3-86. PFP-M DIN Rail End Stop — Approximate Dimensions in Inches (mm)

D9 Series — Standard

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

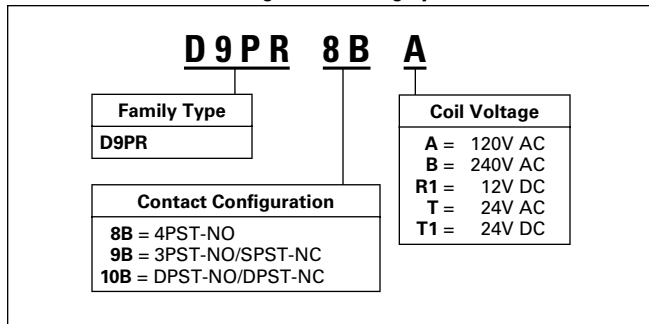
Table 3-66. Coil Data

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

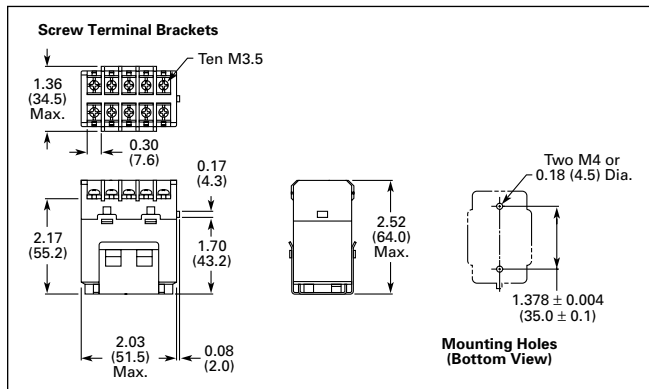


Figure 3-77. D9PR — Approximate Dimensions in Inches (mm)

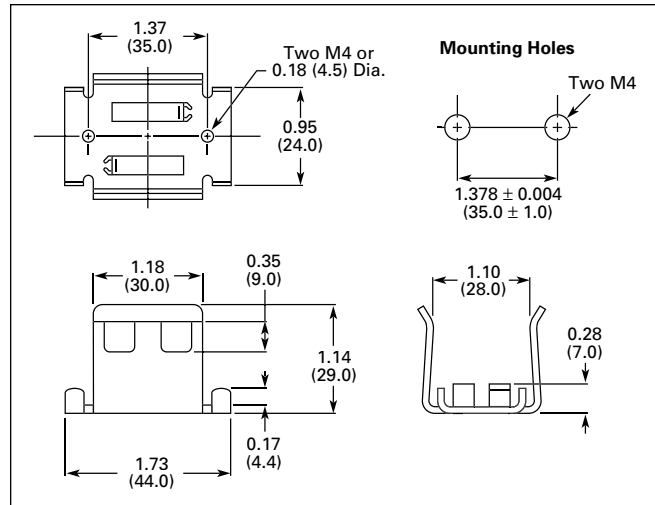


Figure 3-88. Mounting Bracket — Approximate Dimensions in Inches (mm)

Terminal Arrangements

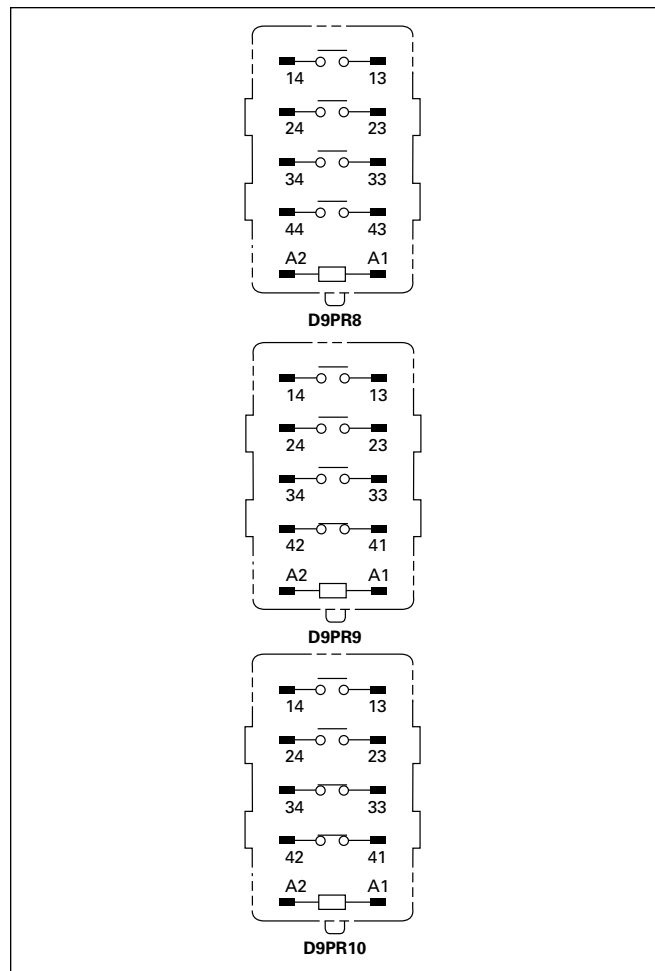


Figure 3-89. Terminal Arrangements

D2PF Series

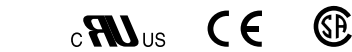


D2PF Series Relay

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

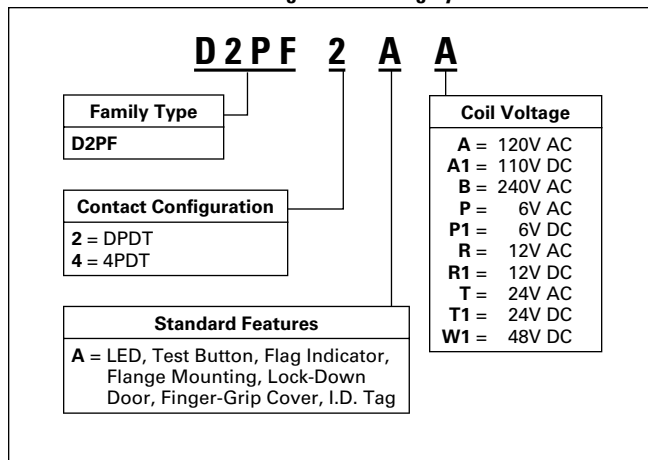
Weight

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

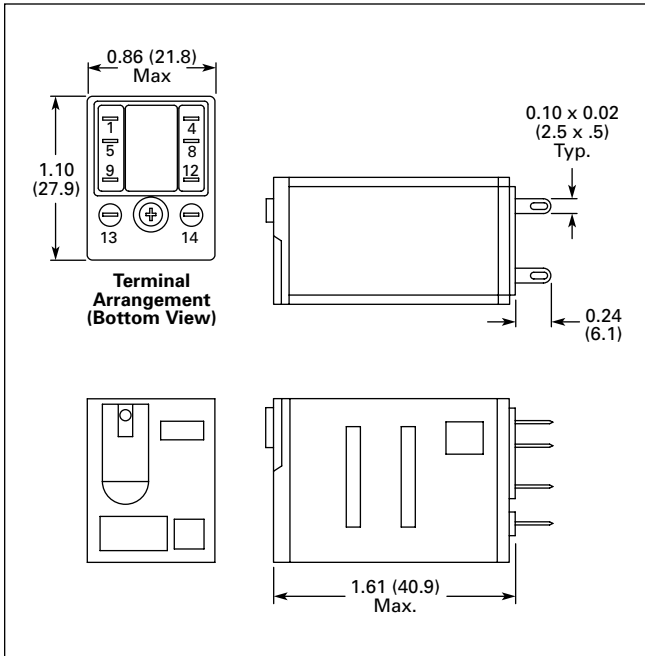


Figure 3-18. D2PF2 — Approximate Dimensions in Inches (mm)

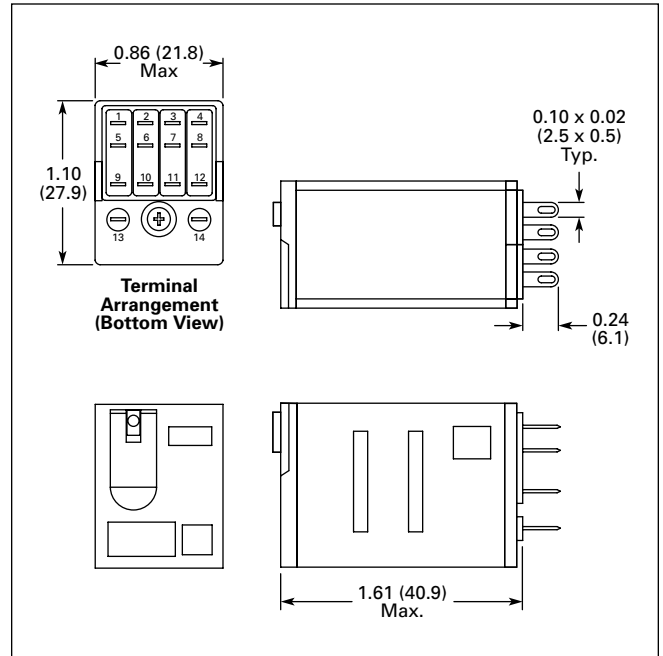


Figure 3-19. D2PF4 — Approximate Dimensions in Inches (mm)

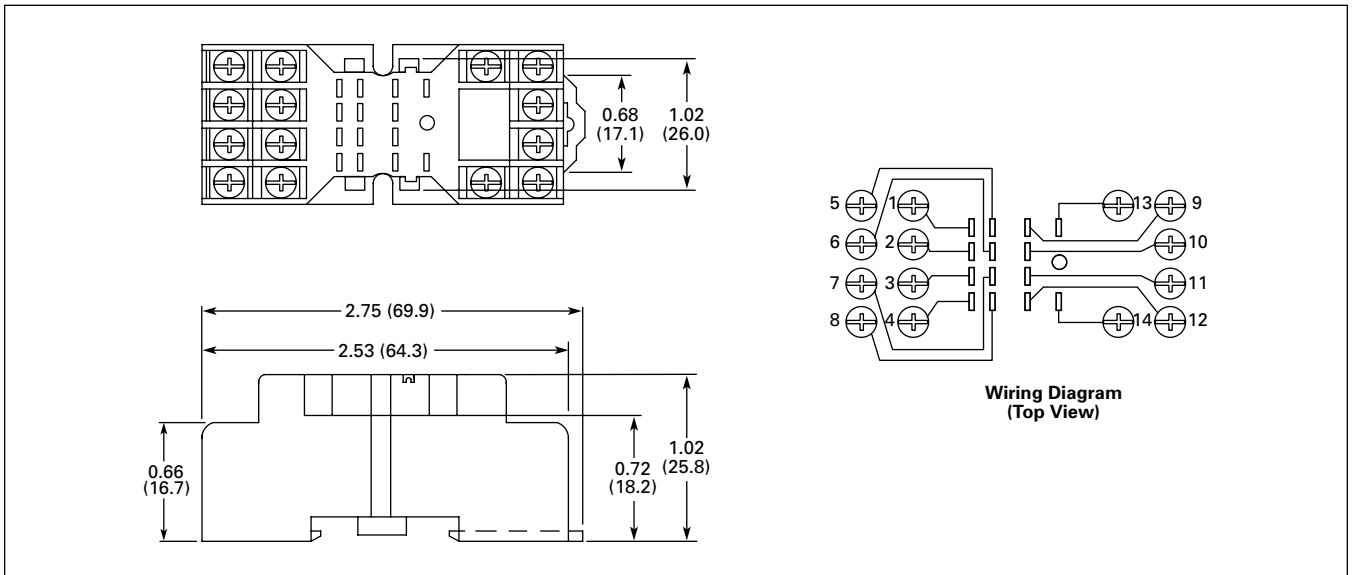


Figure 3-20. D2PA6 — Approximate Dimensions in Inches (mm)

D2PF Series — Full Featured

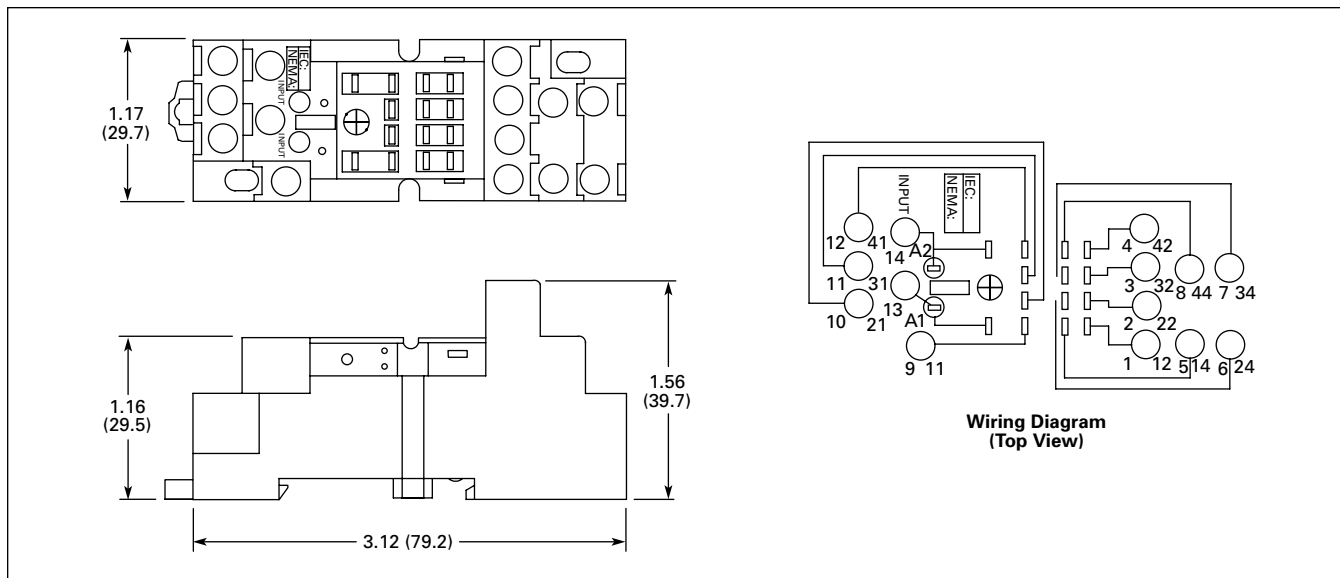


Figure 3-21. D2PA7 — Approximate Dimensions in Inches (mm)

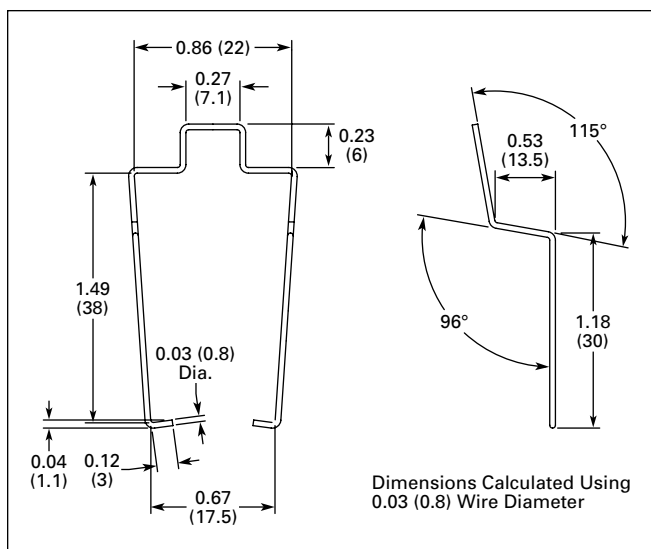


Figure 3-22. PQC-1342 — Approximate Dimensions in Inches (mm)

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

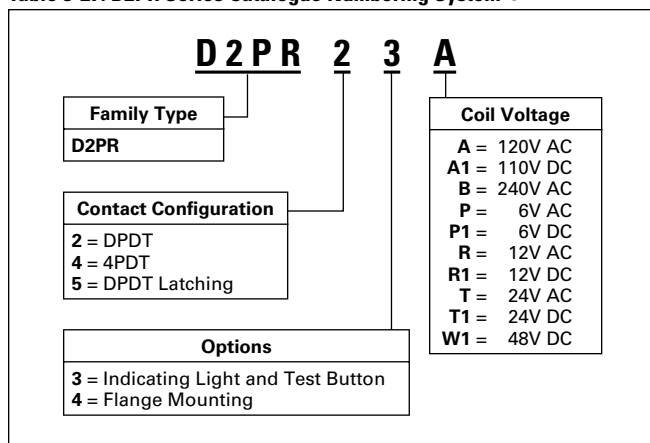
Table 3-26. D2PR Relay Specifications

	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

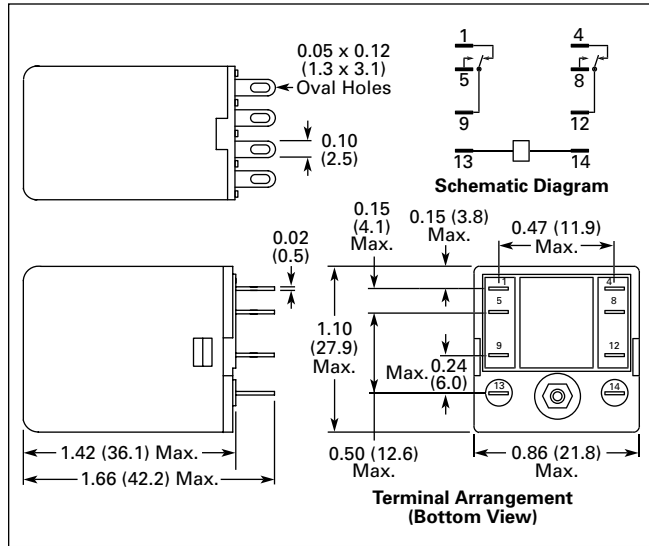


Figure 3-23. D2PR2 — Approximate Dimensions in Inches (mm)

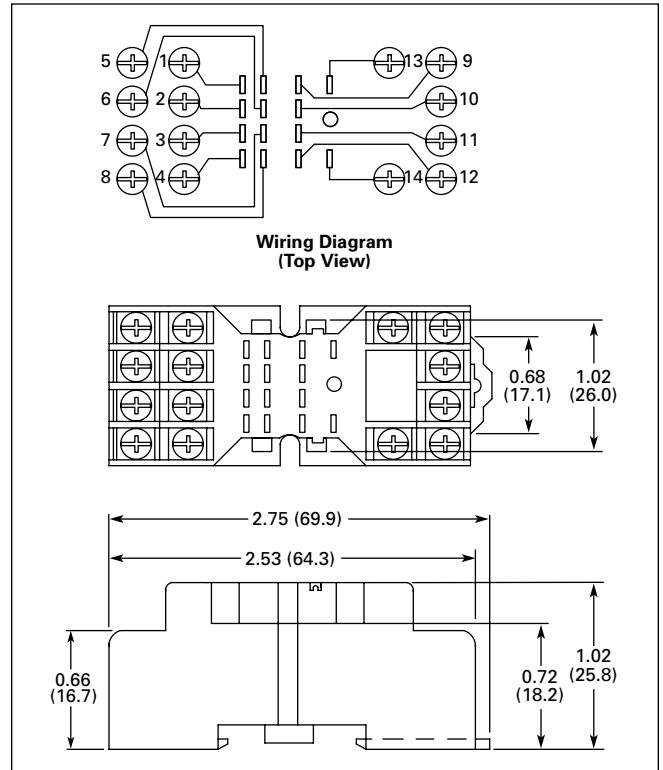


Figure 3-25. D2PA6 — Approximate Dimensions in Inches (mm)

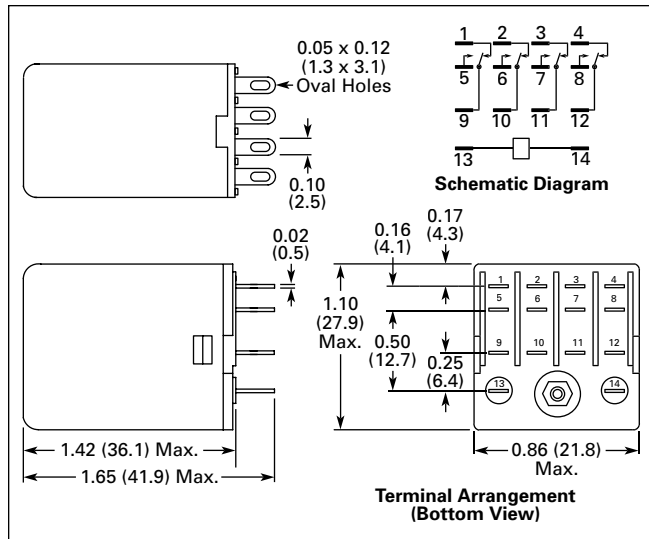


Figure 3-24. D2PR4/D2PR44 — Approximate Dimensions in Inches (mm)

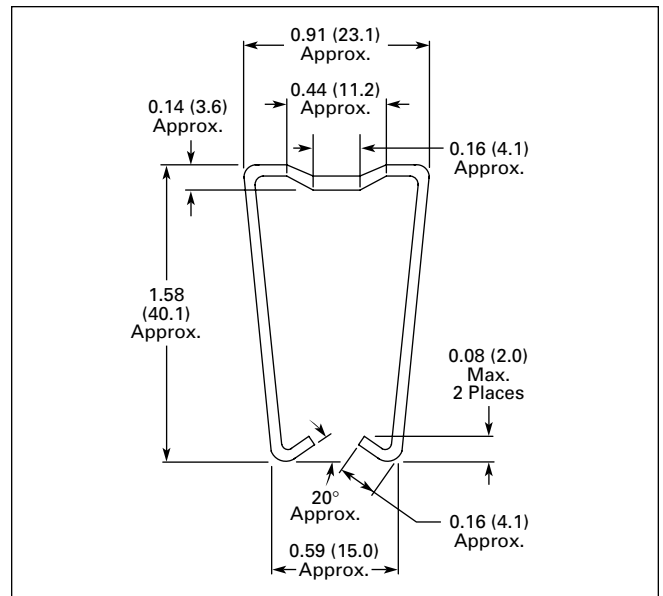


Figure 3-26. PMC-A1 Spring Clip for D2PA6

D2PR Series — Standard

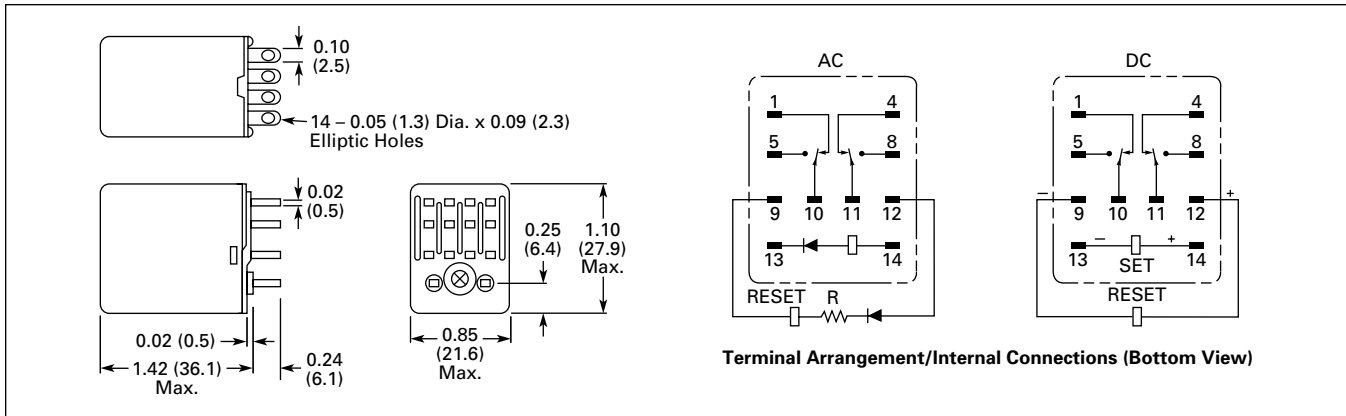


Figure 3-27. D2PR5 — Approximate Dimensions in Inches (mm)

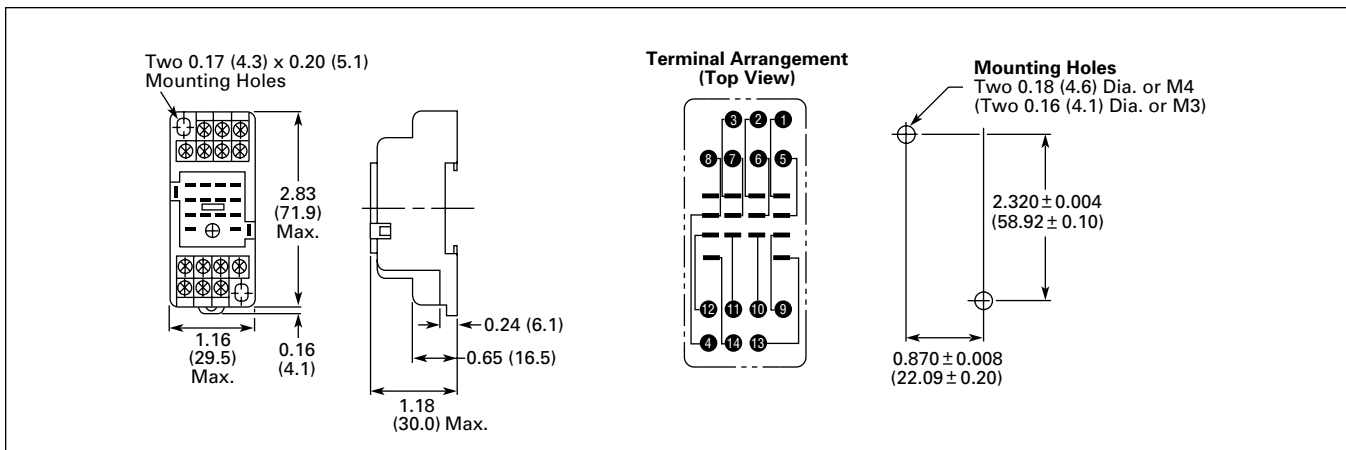


Figure 3-28. D2PA4 Socket for D2PR5 DPDT Latching Relays Only — Approximate Dimensions in Inches (mm)

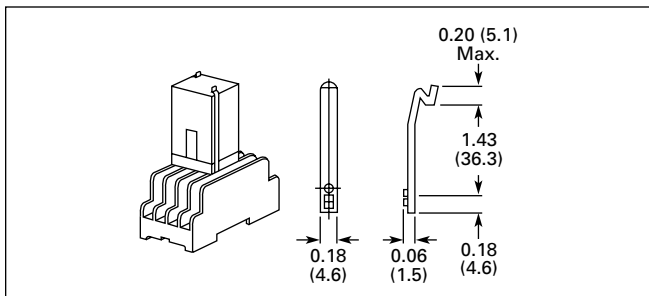


Figure 3-29. PYC-A1 Hold down Clip for D2PA4 Socket — Approximate Dimensions in Inches (mm)

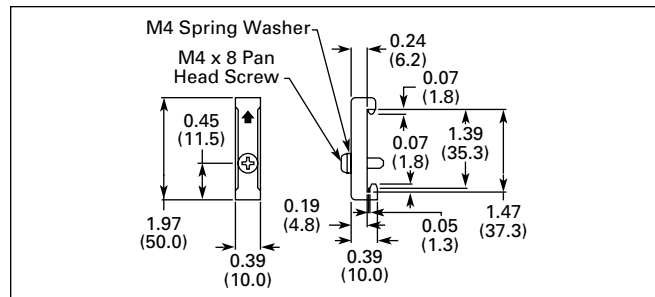


Figure 3-30. PFP-M DIN Rail End Stop — Approximate Dimensions in Inches (mm)

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

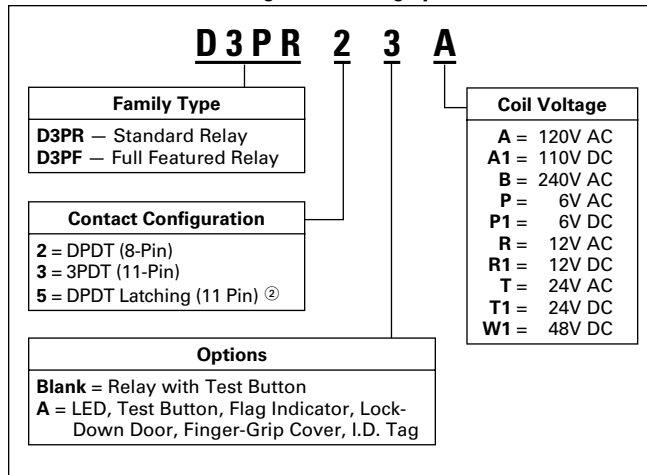
	D3PR2/D3PR3	D3PR2/D3PR3	D3PF2/D3PF3	D3PR5	D3PR5
	Resistive Load (p.f. = 1)	Inductive Load (p.f. = 0.4, L/R = 7 ms)	Resistive Load (p.f. = 1.0)	Resistive Load (p.f. = 1)	Inductive Load (p.f. = 0.4, L/R = 7 ms)
Rated Load	240V AC 10A 120V AC 12A 28V DC 10A	240V AC 7A 120V AC 7A 28V DC 7A	240V AC 12A 120V 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	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	PFP-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

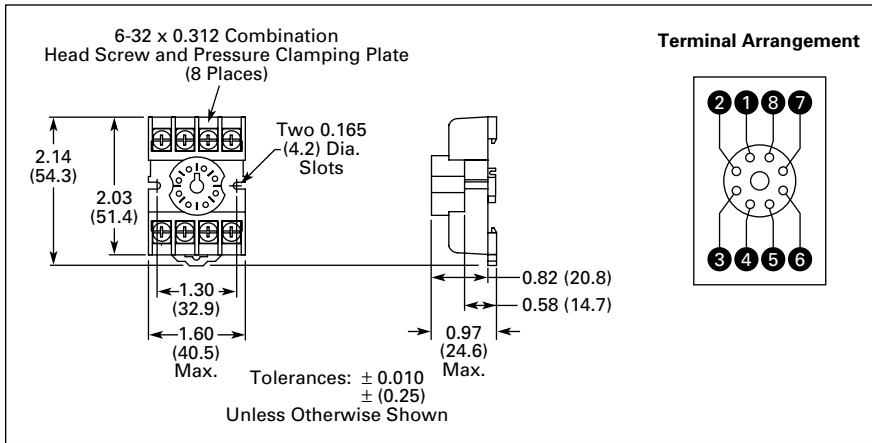


Figure 3-31. D3PA2 — Approximate Dimensions in Inches (mm)

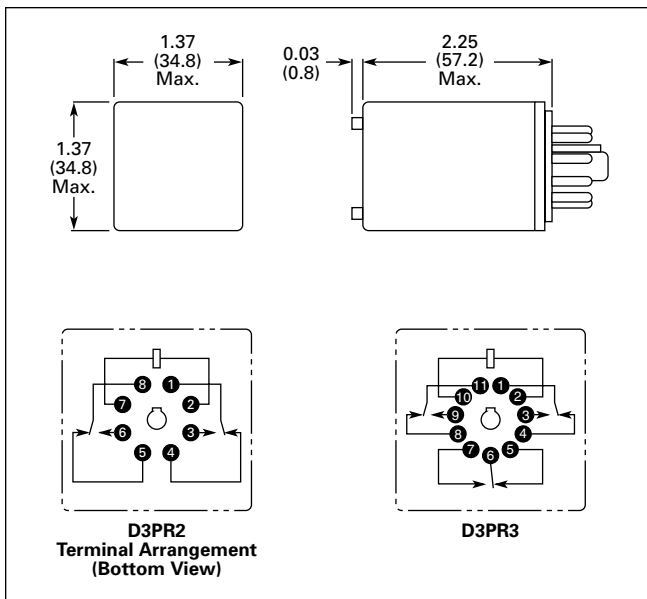


Figure 3-32. D3PR2/D3PR3 — Approximate Dimensions in Inches (mm)

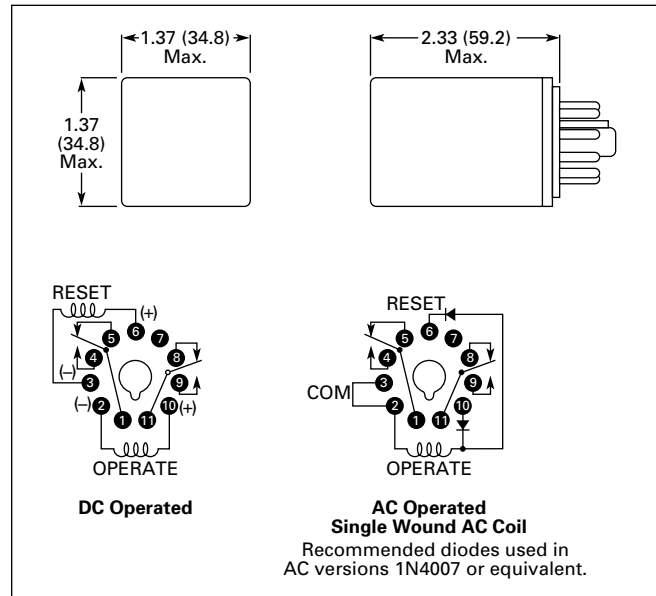


Figure 3-33. D3PR5 — Approximate Dimensions in Inches (mm)

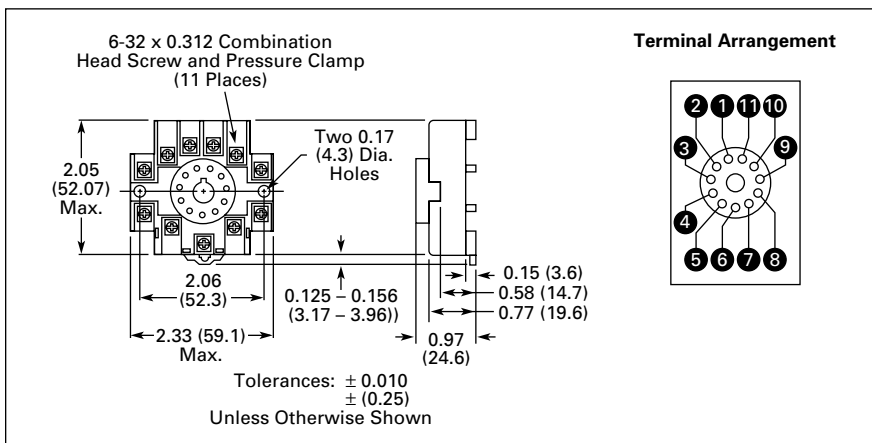


Figure 3-34. D3PA3-A2 — Approximate Dimensions in Inches (mm)

April 2009

D3PR/DP3F Series — Standard and Full Featured



D3PJ1

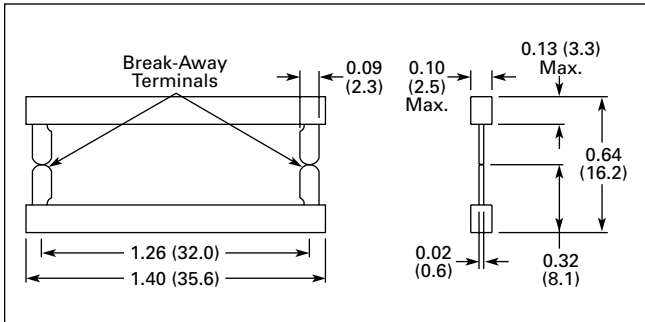


Figure 3-35. D3PJ1 — Approximate Dimensions in Inches (mm)

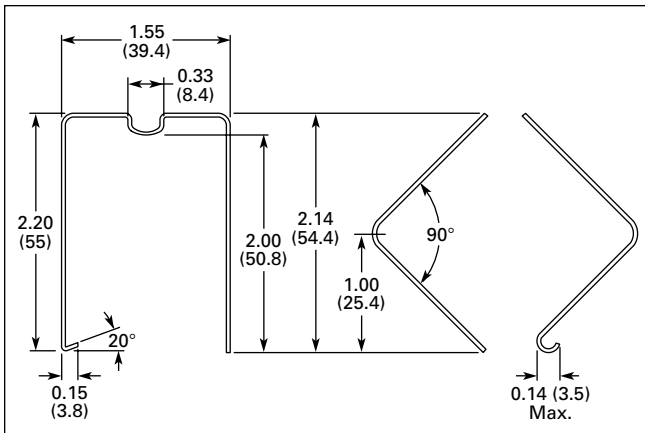


Figure 3-36. PQC-1332 — Approximate Dimensions in Inches (mm)

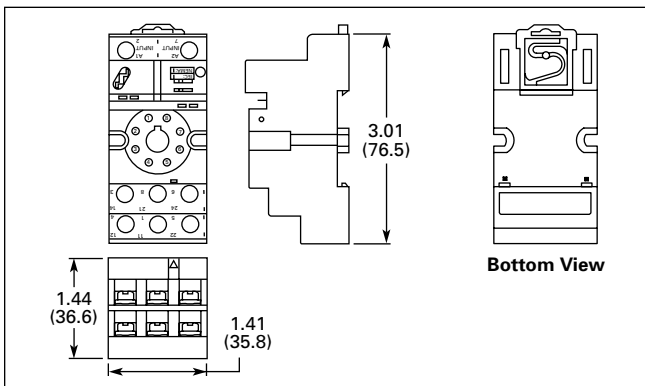


Figure 3-37. D3PA6 — Approximate Dimensions in Inches (mm)

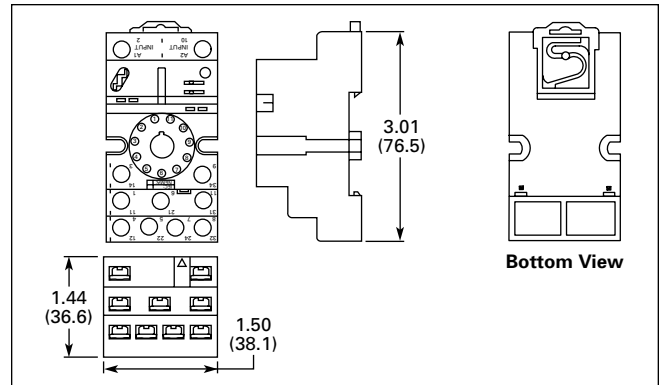


Figure 3-38. D3PA7 — Approximate Dimensions in Inches (mm)

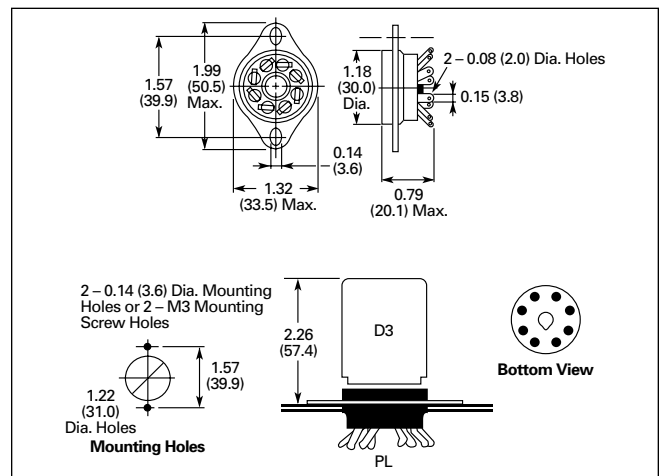


Figure 3-39. D3PA4 — Approximate Dimensions in Inches (mm)

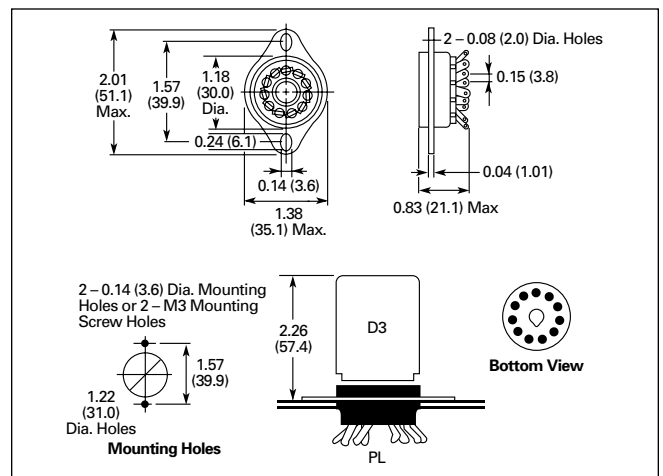


Figure 3-40. D3PA5 — Approximate Dimensions in Inches (mm)

D3PR/DP3F Series — Standard and Full Featured

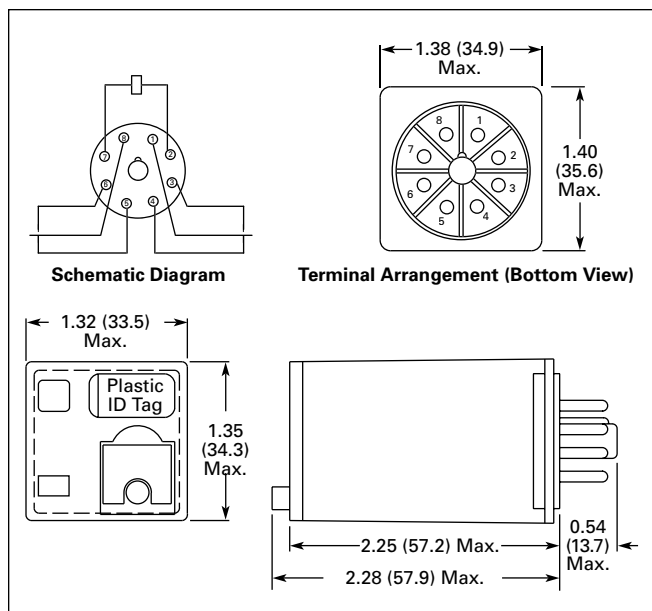


Figure 3-41. D3PF2 — Approximate Dimensions in Inches (mm)

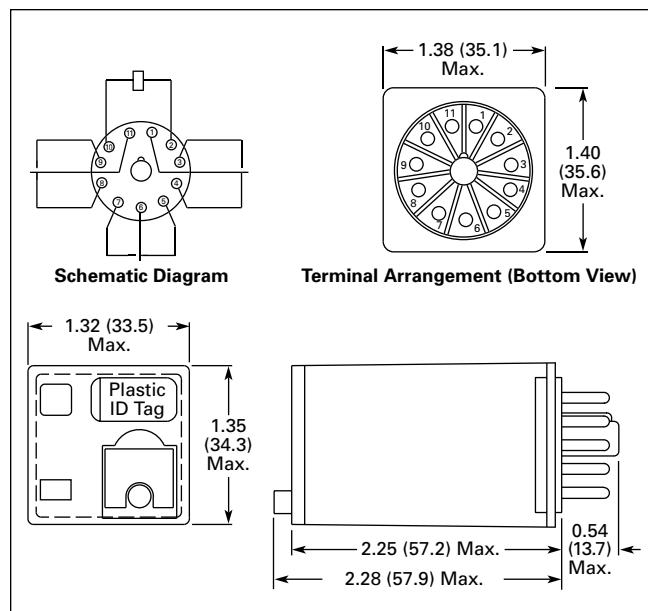


Figure 3-42. D3PF3 — Approximate Dimensions in Inches (mm)

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

SF File # LR701519
CE

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

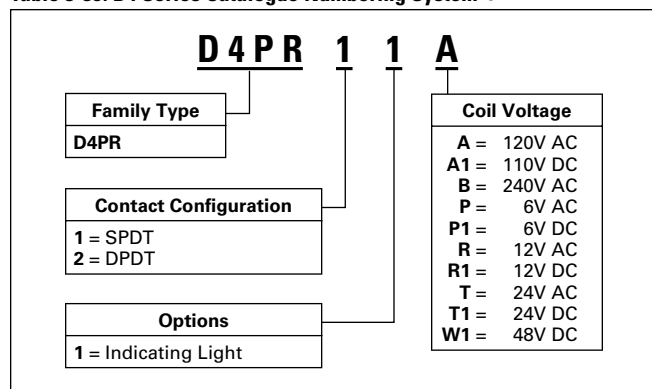
Table 3-38. Specifications

	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

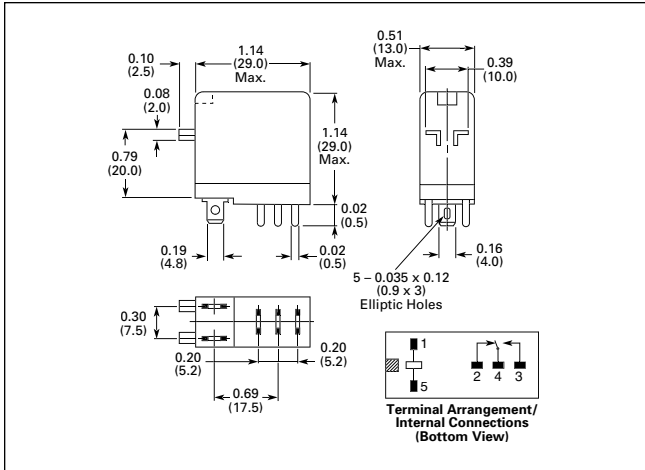


Figure 3-43. D4PR1 — Approximate Dimensions in Inches (mm)

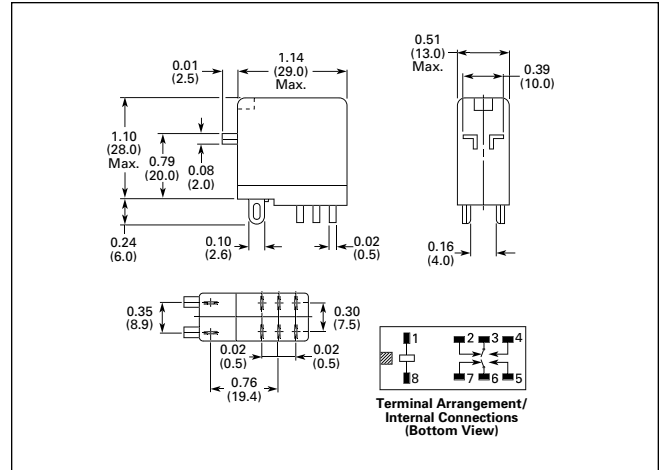


Figure 3-44. D4PR2 — Approximate Dimensions in Inches (mm)

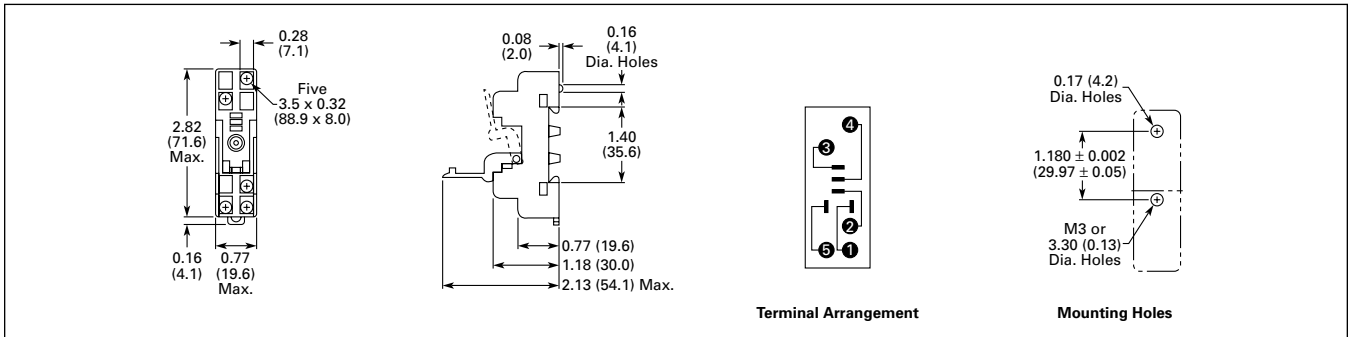


Figure 3-45. D4PA1 — Approximate Dimensions in Inches (mm)

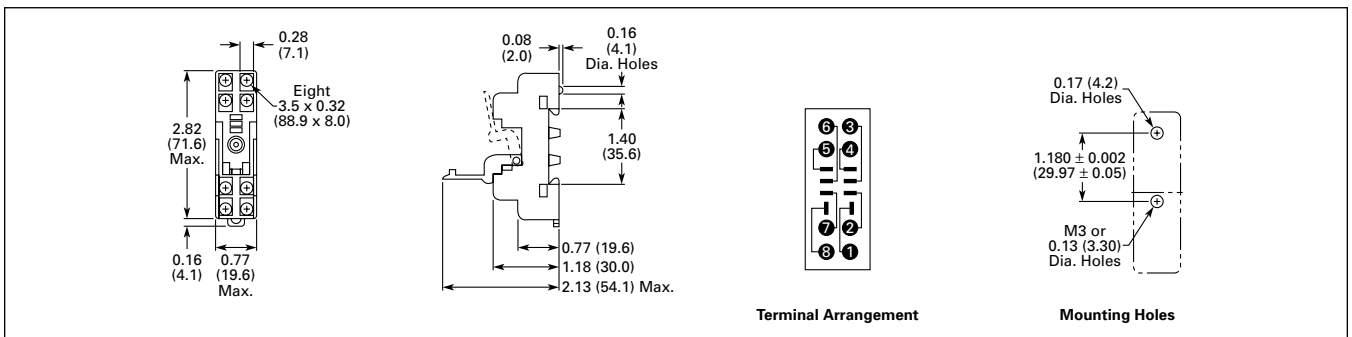


Figure 3-46. D4PA2 — Approximate Dimensions in Inches (mm)

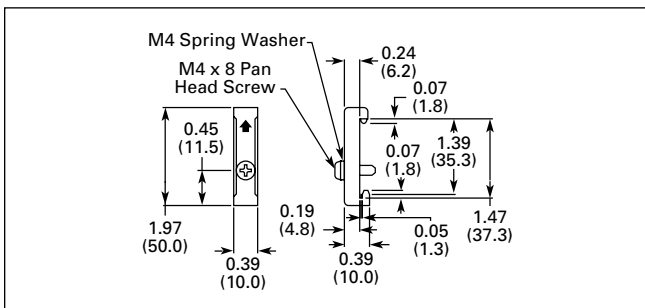


Figure 3-47. PFP-M DIN Rail End Stop — Approximate Dimensions in Inches (mm)

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

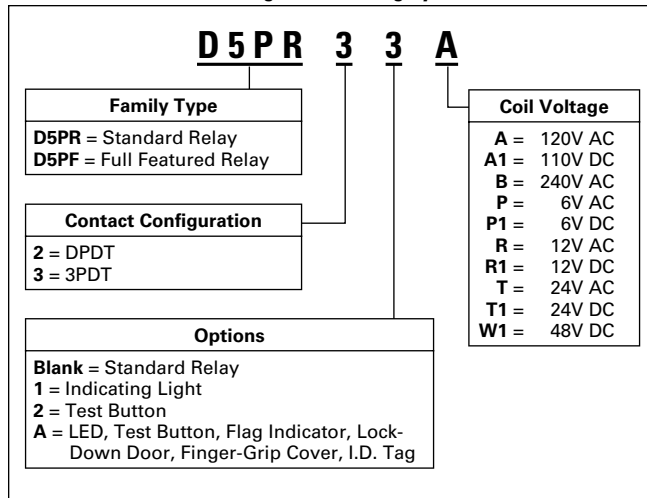
Catalogue Number	Electrical Ratings	Mounting Torque	Hook-Up Wire Range
D5PA2	15A, 300V	8 – 10 in-lbs	AWG 12 to 22 Solid or Stranded
D5PA3L D5PA3S	15A, 300V	—	Up to AWG 16 Solid or Stranded

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

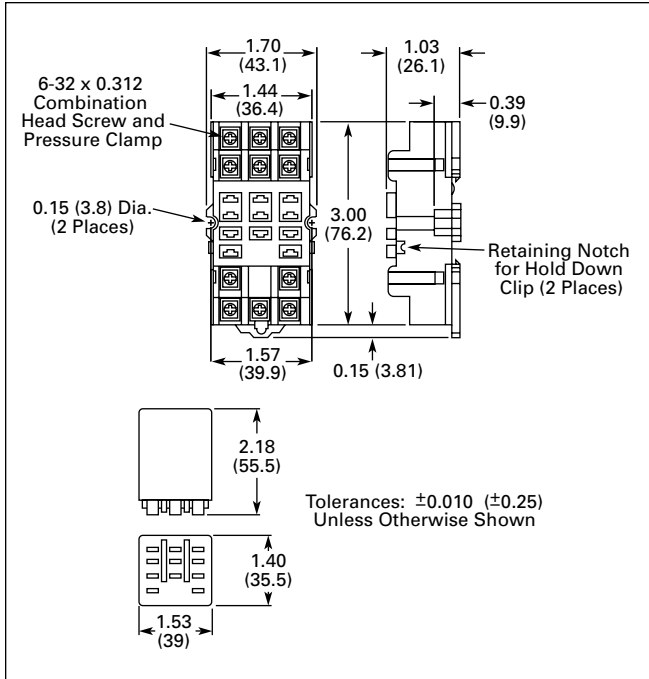


Figure 3-48. D5PA2 — Approximate Dimensions in Inches (mm)

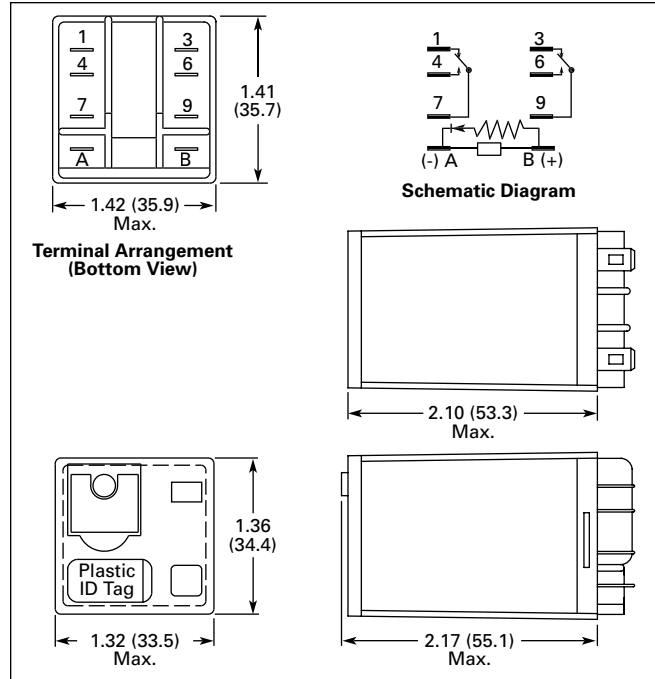


Figure 3-50. D5PF2 — Approximate Dimensions in Inches (mm)

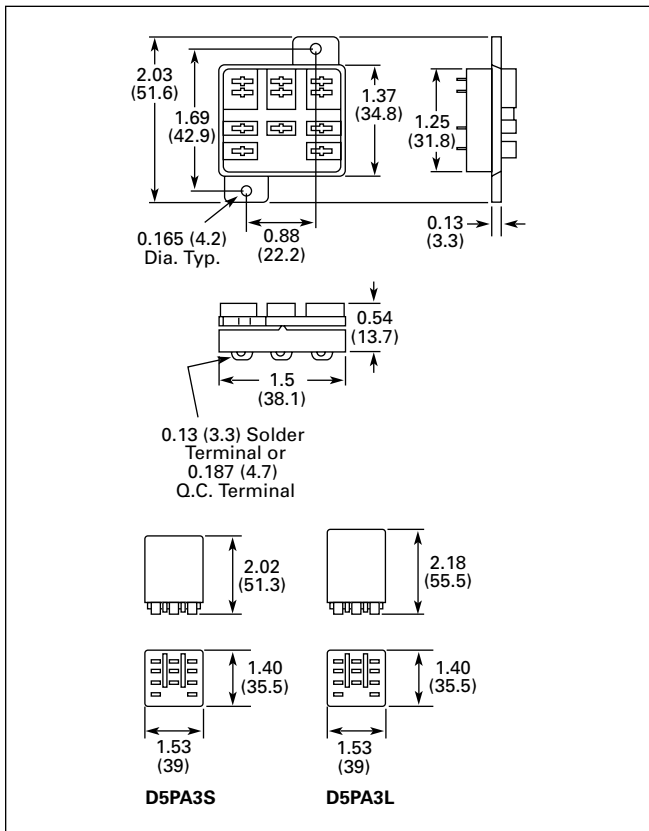


Figure 3-49. D5PA3L and D5PA3S — Approximate Dimensions in Inches (mm)

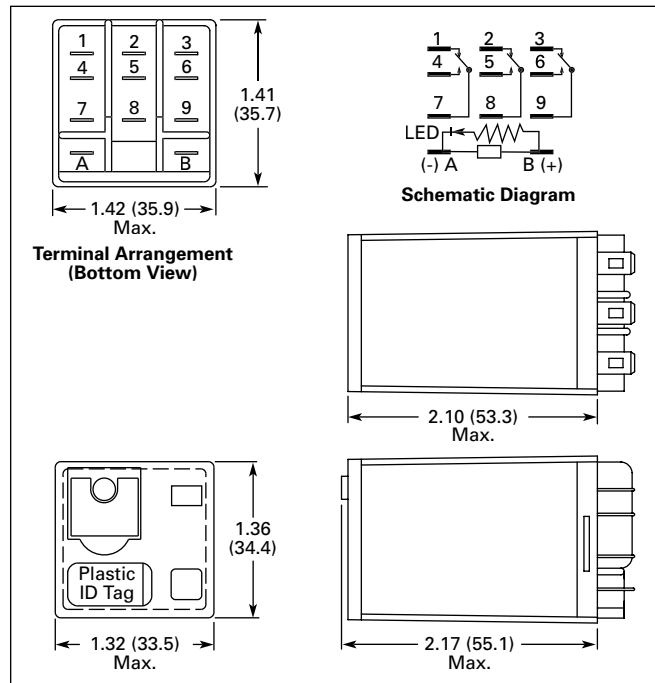


Figure 3-51. D5PF3 — Approximate Dimensions in Inches (mm)

Terminal Arrangements

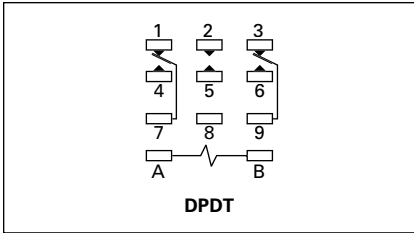


Figure 3-52. D5PR2 (Bottom View)

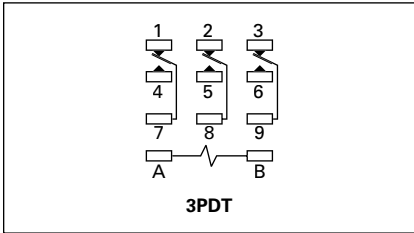
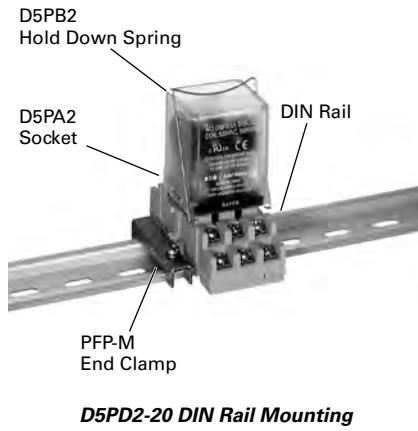


Figure 3-53. D5PR3 (Bottom View)



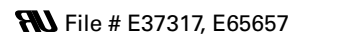
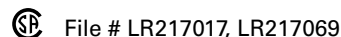

D7PR Series — Standard

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

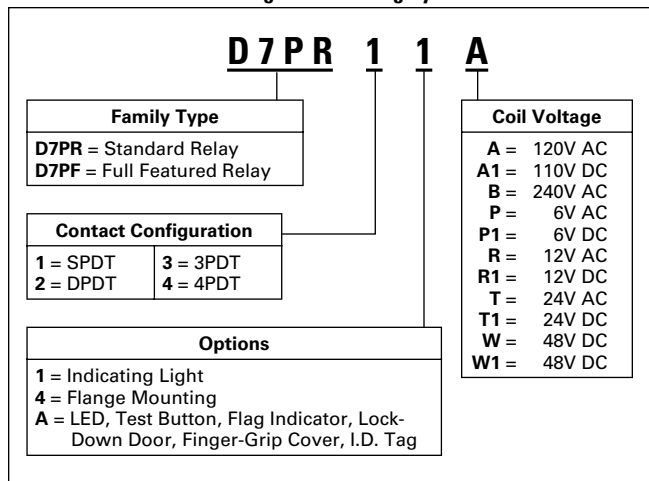
Catalogue Number	Electrical Ratings	Mounting Torque	Hook-Up Wire Range
D7PA2	15A, 250V	.785 Nm – 1.18 Nm	AWG 14 Max.
D7PA3	10A, 300V	7 – 8 in-lbs	AWG 12 to 22 Solid or Stranded
D7PA4	10A, 300V	7 – 8 in-lbs	AWG 12 to 22 Solid or Stranded
D7PA5	15A, 250V	N/A	AWG 14 Max.

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D7 Series — Standard and Full Featured

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

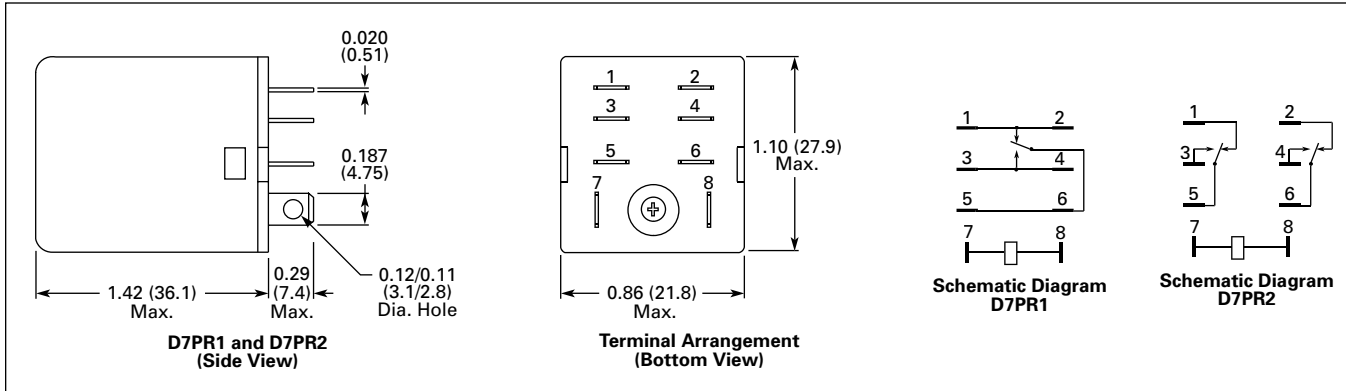


Figure 3-54. D7PR1 and D7PR2 — Approximate Dimensions in Inches (mm)

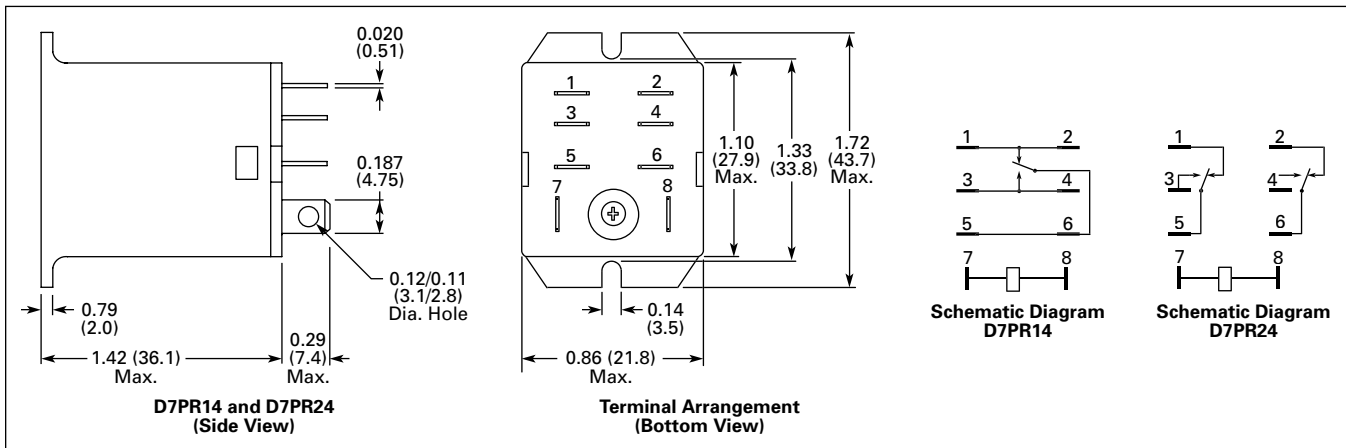


Figure 3-55. D7PR14 and D7PR24 — Approximate Dimensions in Inches (mm)

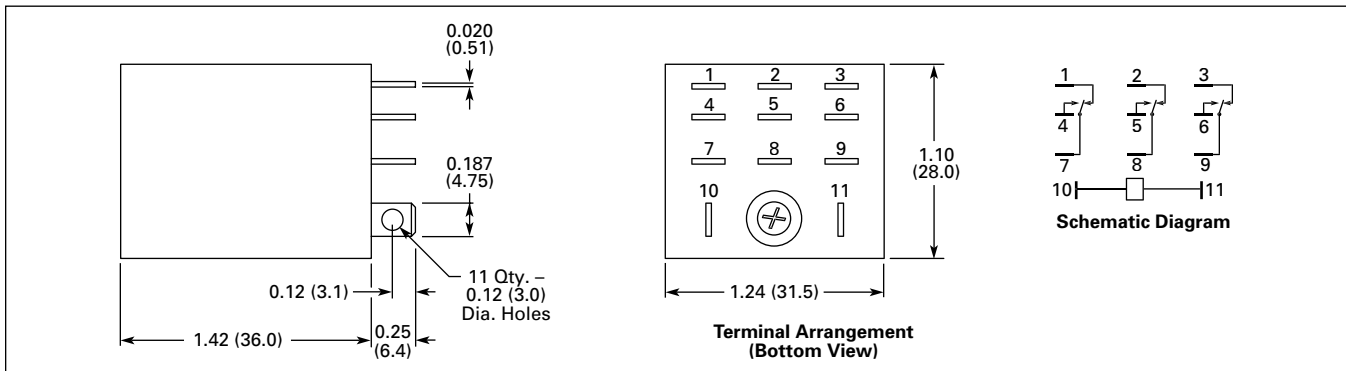


Figure 3-56. D7PR3 — Approximate Dimensions in Inches (mm)

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D7PR Series — Standard

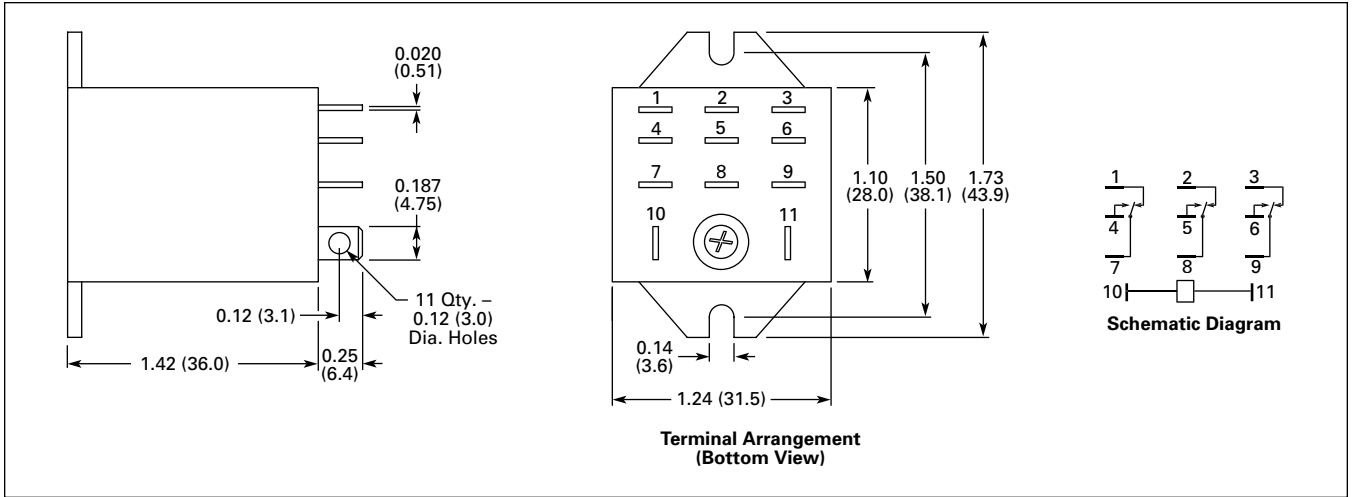


Figure 3-57. D7PR34 — Approximate Dimensions in Inches (mm)

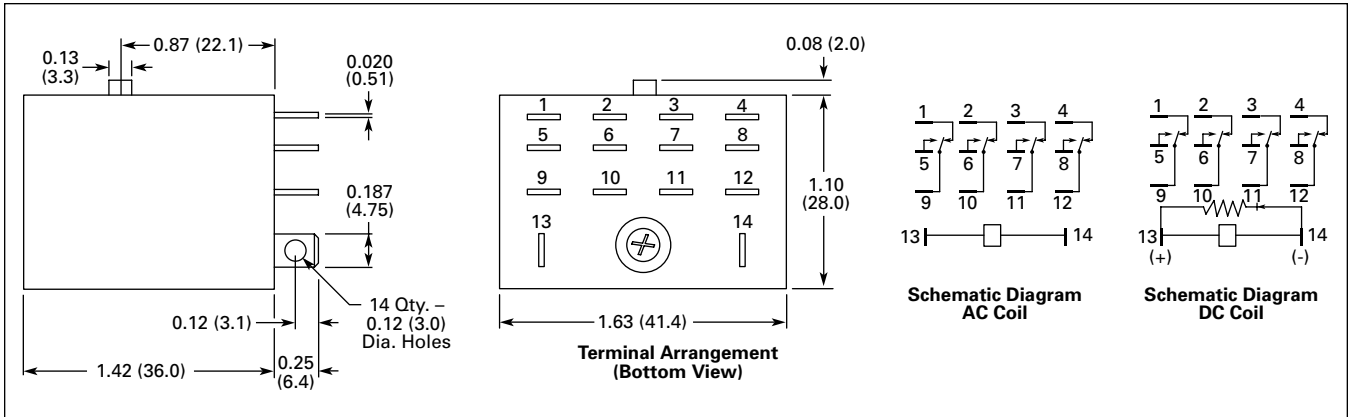


Figure 3-58. D7PR43 — Approximate Dimensions in Inches (mm)

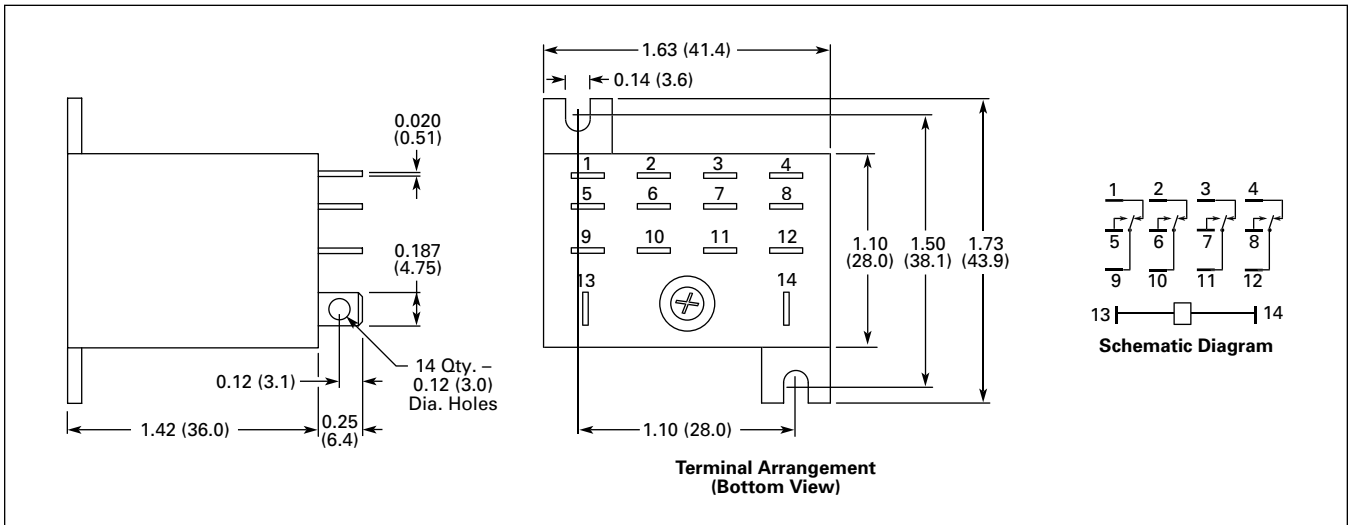


Figure 3-59. D7PR44 — Approximate Dimensions in Inches (mm)

D7PR Series — Standard

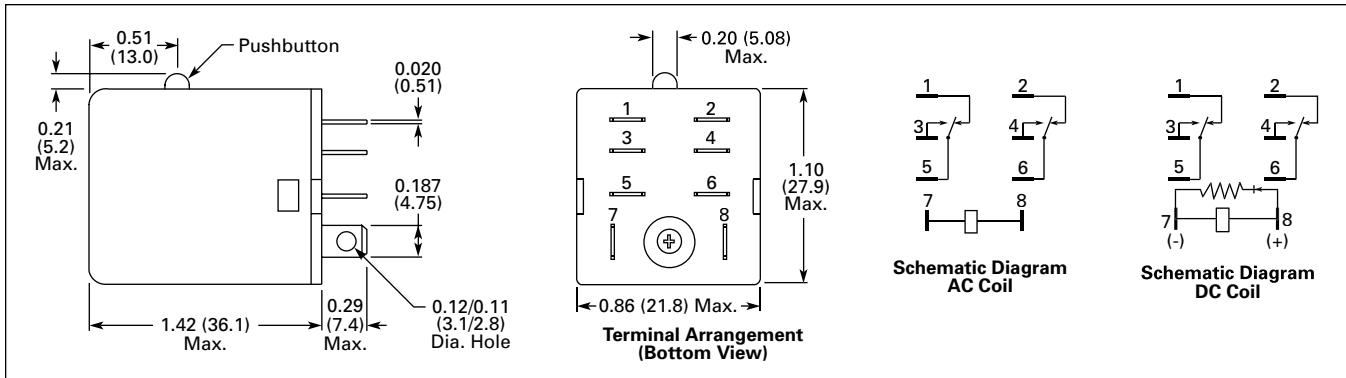


Figure 3-60. D7PR23 — Approximate Dimensions in Inches (mm)

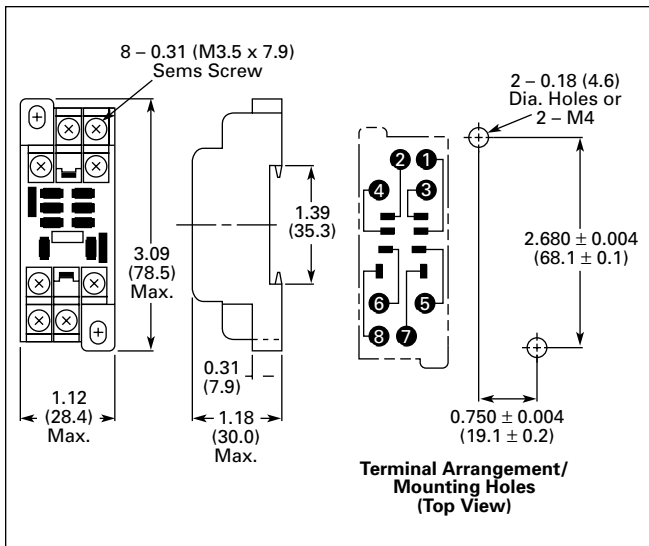


Figure 3-61. D7PA2 — Approximate Dimensions in Inches (mm)

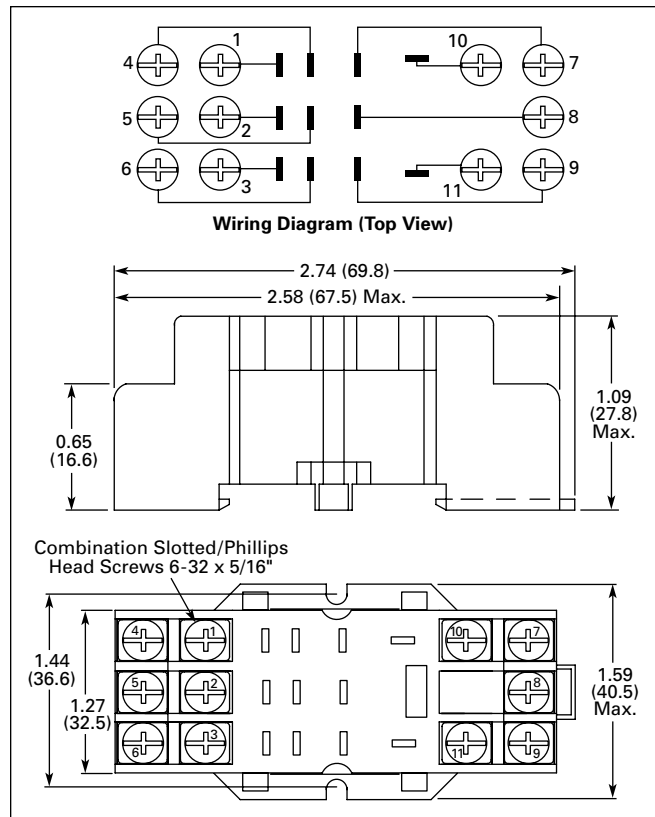


Figure 3-62. D7PA3 — Approximate Dimensions in Inches (mm)

April 2009

D7PR Series — Standard

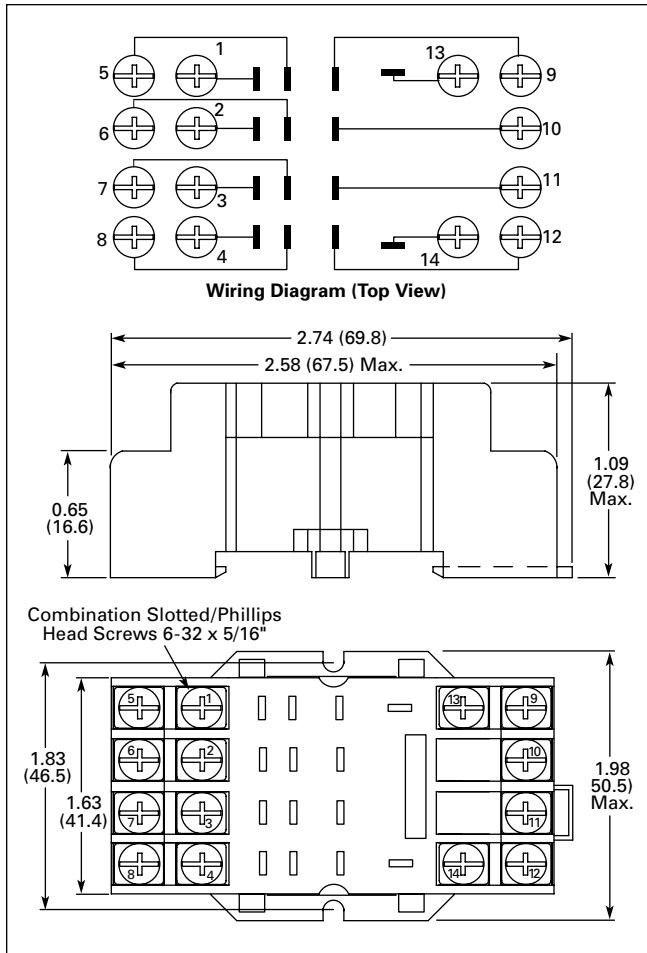


Figure 3-63. D7PA4 — Approximate Dimensions in Inches (mm)

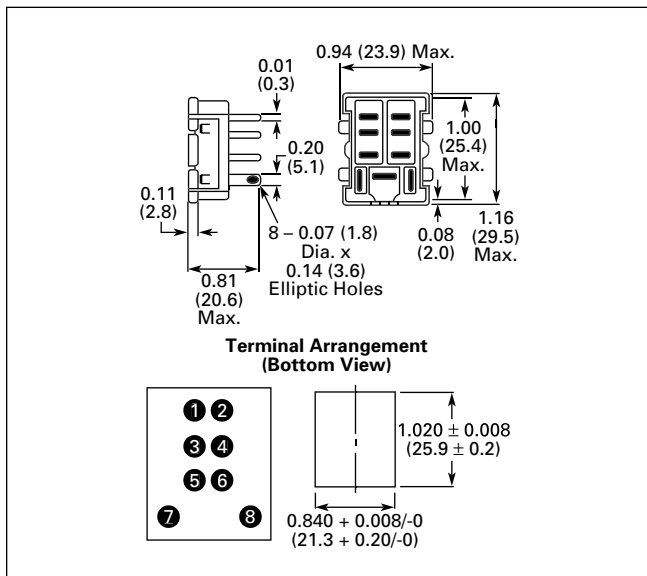


Figure 3-64. D7PA5 — Approximate Dimensions in Inches (mm)

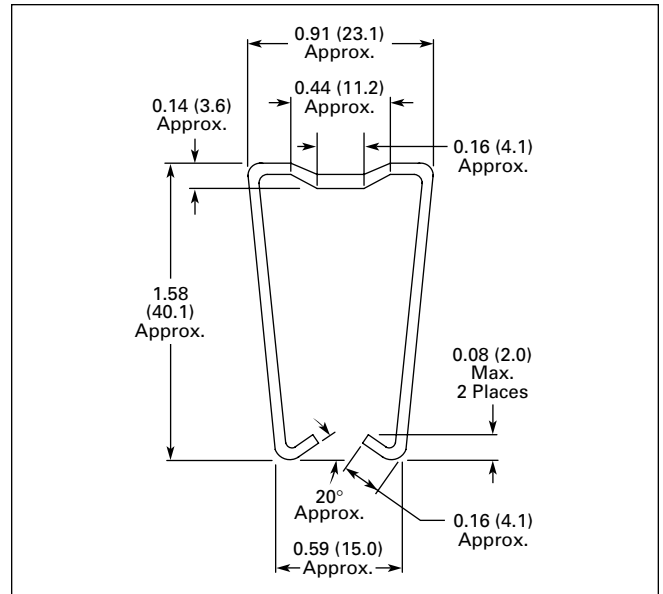


Figure 3-65. PMC-A1 Hold Down Clip — Approximate Dimensions in Inches (mm)

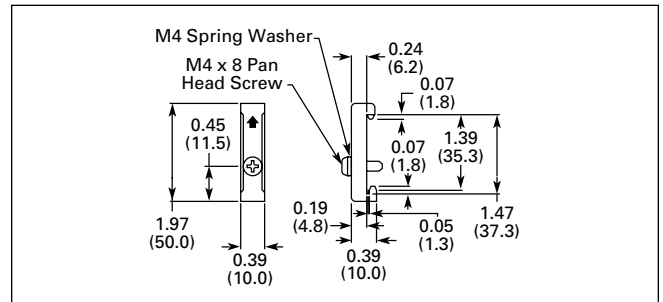


Figure 3-66. PFP-M DIN Rail End Stop — Approximate Dimensions in Inches (mm)

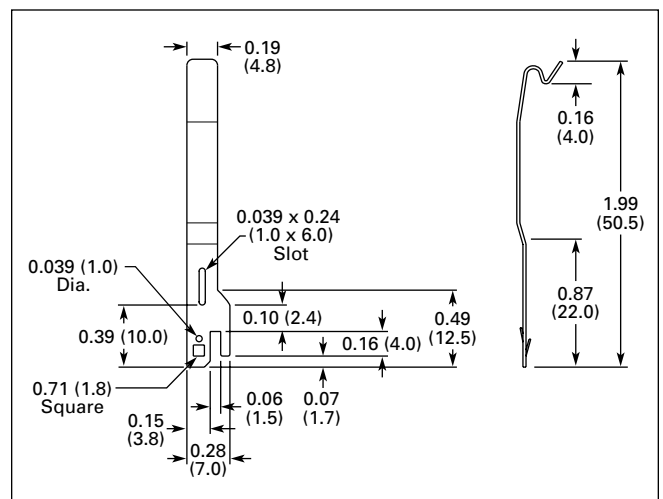


Figure 3-67. PYC-B2 Hold Down Spring — Approximate Dimensions in Inches (mm)

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

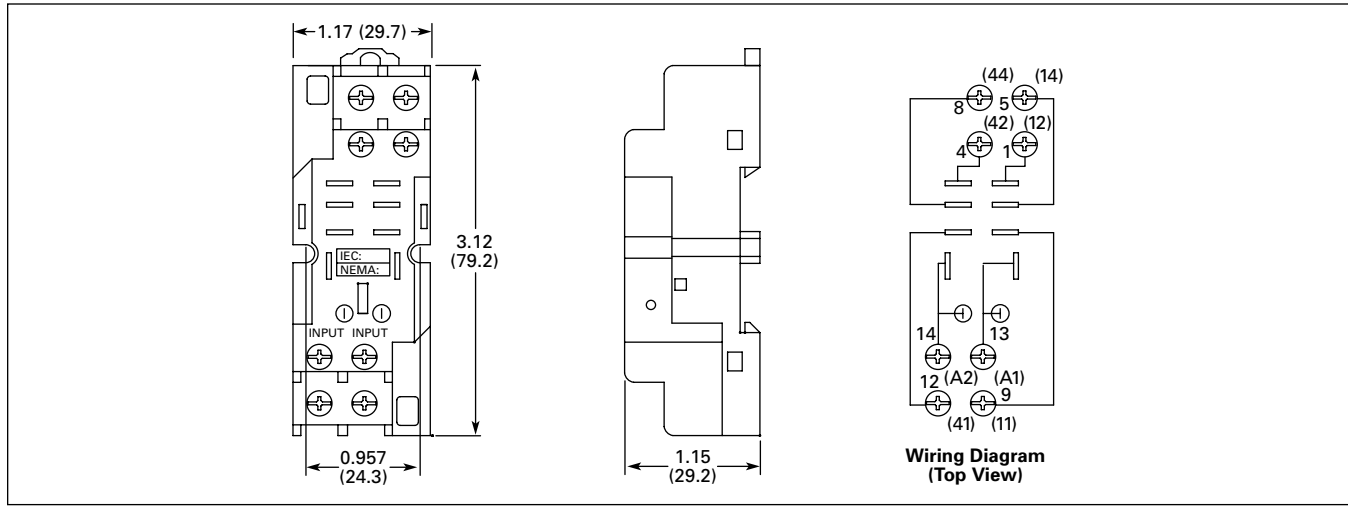


Figure 3-68. D7PAA — Approximate Dimensions in Inches (mm)

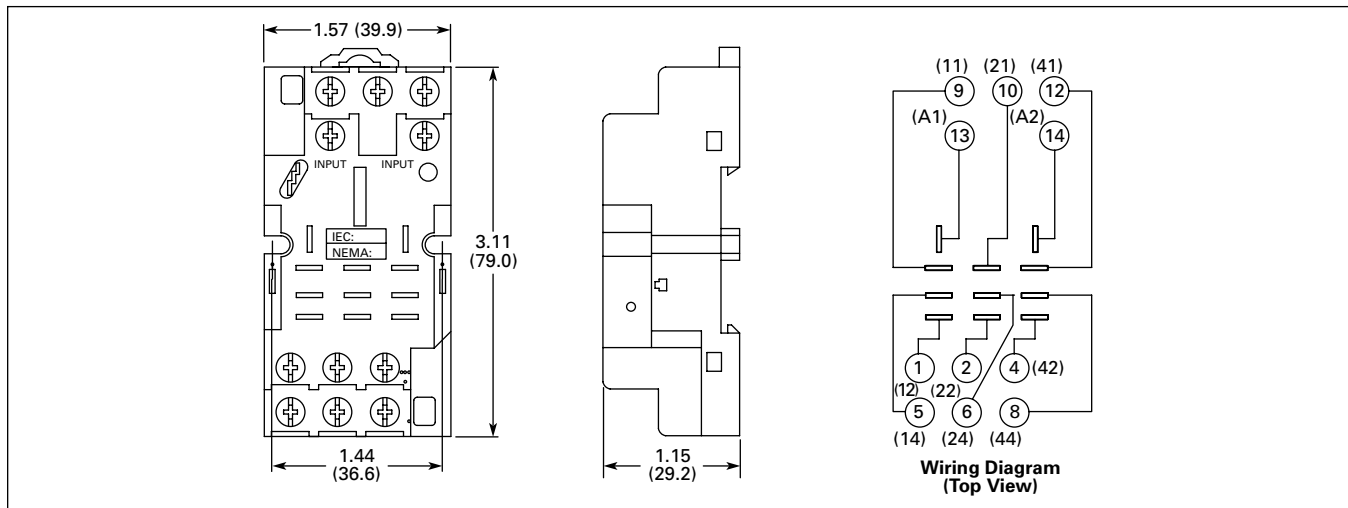


Figure 3-69. D7PAB — Approximate Dimensions in Inches (mm)

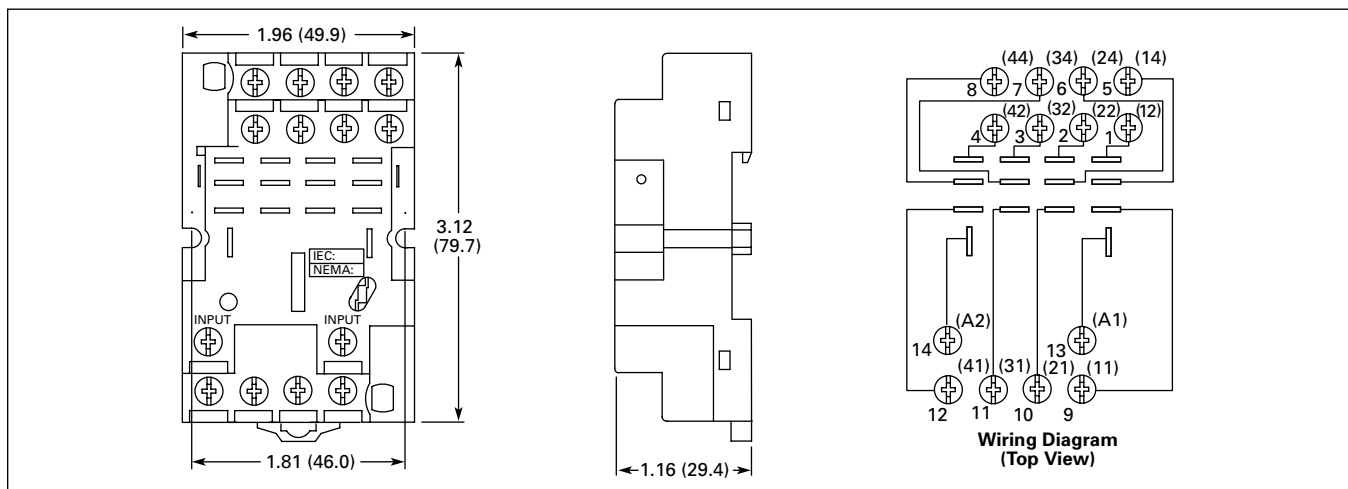


Figure 3-70. D7PAD — Approximate Dimensions in Inches (mm)

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D7PF Series — Full Featured

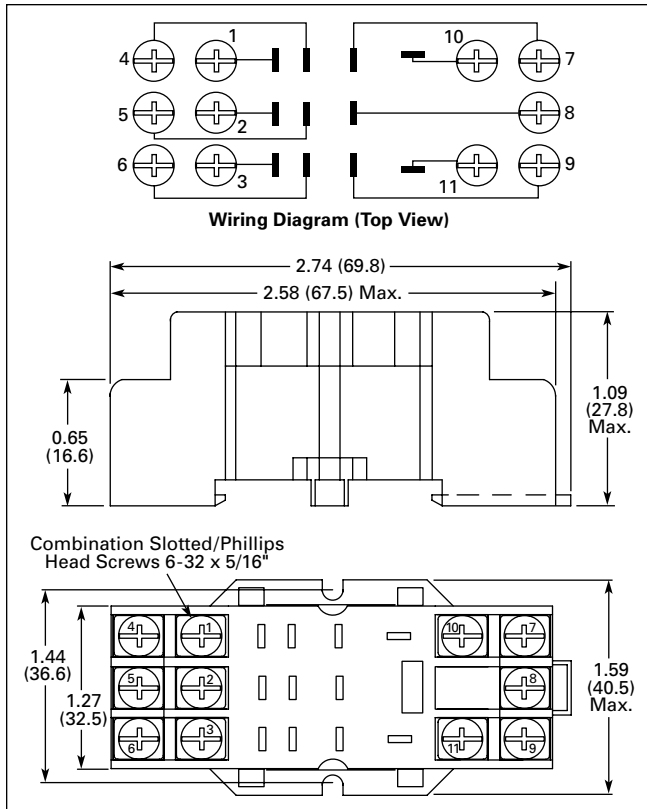


Figure 3-71. D7PA3 Standard Mount — Approximate Dimensions in Inches (mm)

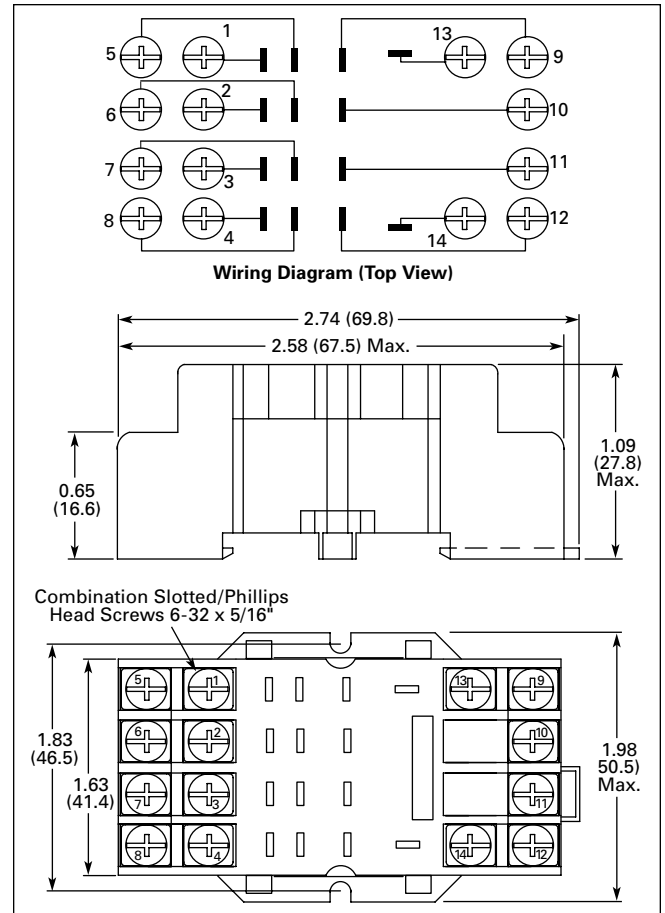


Figure 3-73. D7PA4 Panel Mount — Approximate Dimensions in Inches (mm)

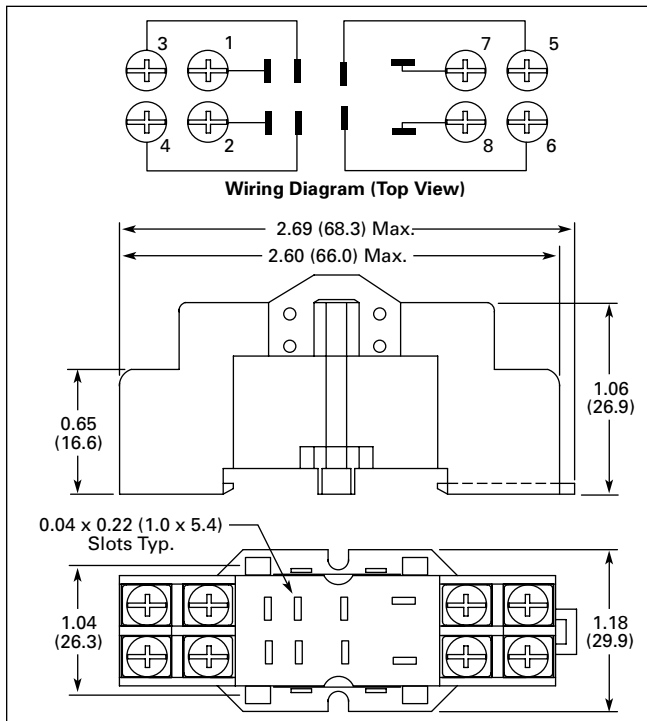


Figure 3-72. D7PA9 Standard Mount — Approximate Dimensions in Inches (mm)

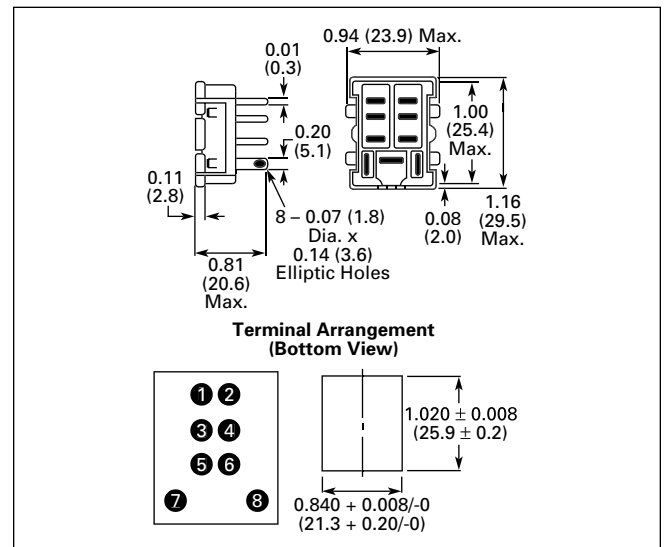


Figure 3-74. D7PA5 Panel Mount — Approximate Dimensions in Inches (mm)

D7PF Series — Full Featured

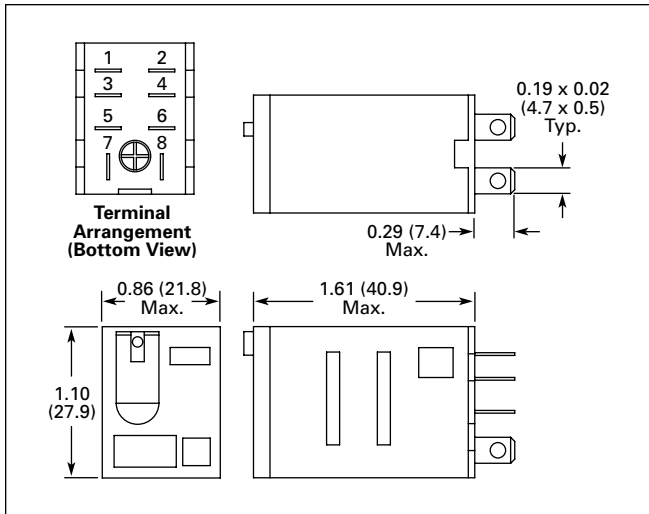


Figure 3-75. D7PF1 — Approximate Dimensions in Inches (mm)

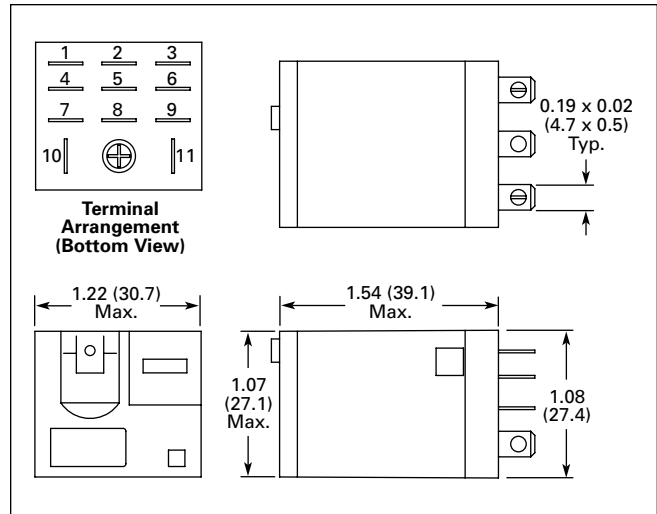


Figure 3-77. D7PF3 — Approximate Dimensions in Inches (mm)

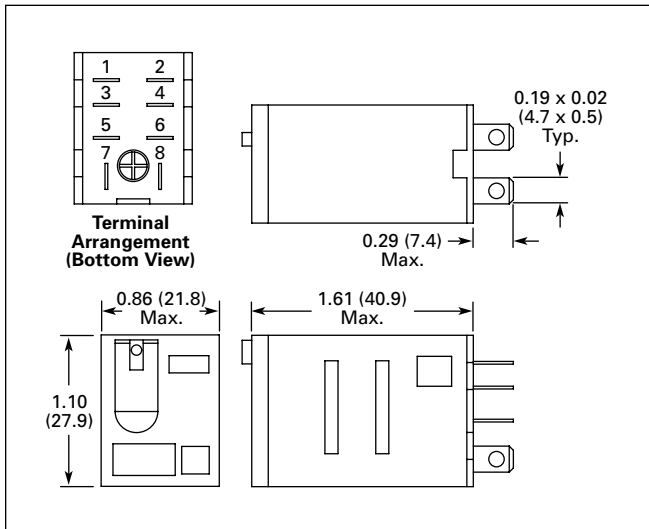


Figure 3-76. D7PF2 — Approximate Dimensions in Inches (mm)

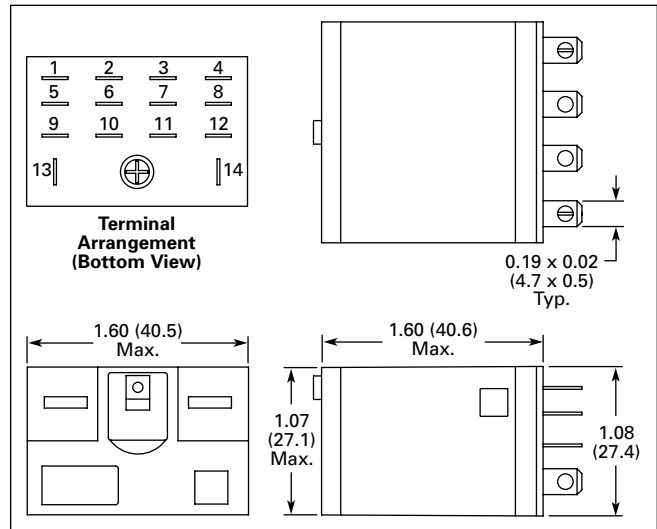


Figure 3-78. D7PF4 — Approximate Dimensions in Inches (mm)

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)

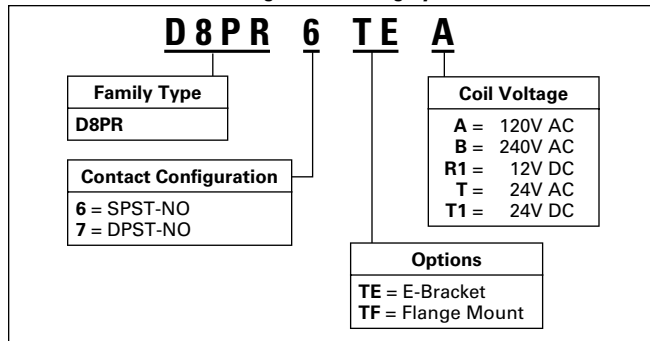
Table 3-60. Coil Data

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

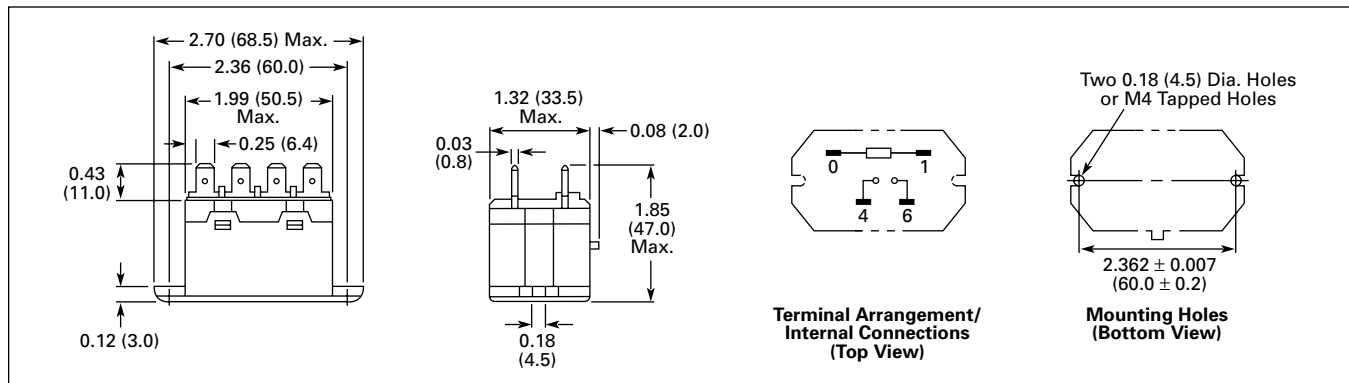


Figure 3-79. D8PR6TF — Approximate Dimensions in Inches (mm)

3

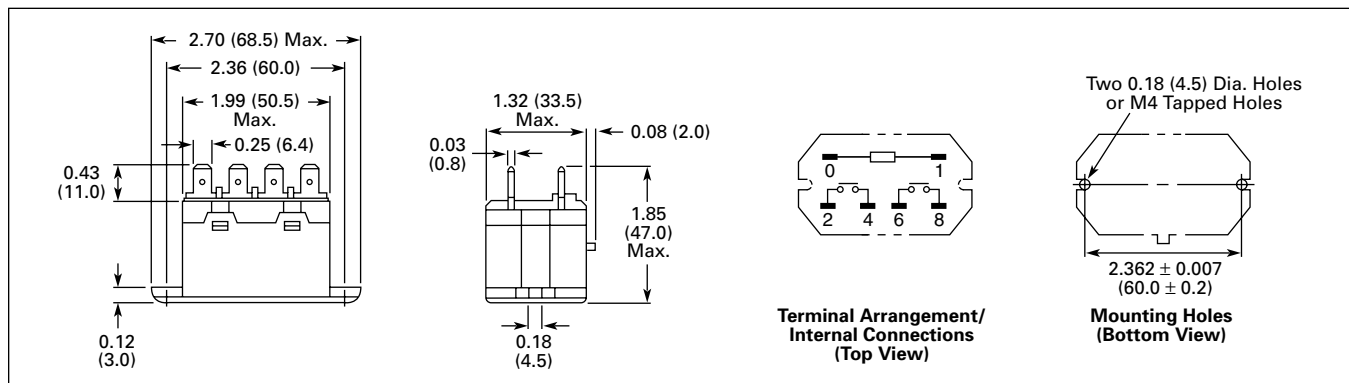


Figure 3-80. D8PR7TF — Approximate Dimensions in Inches (mm)

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D8 Series — Standard

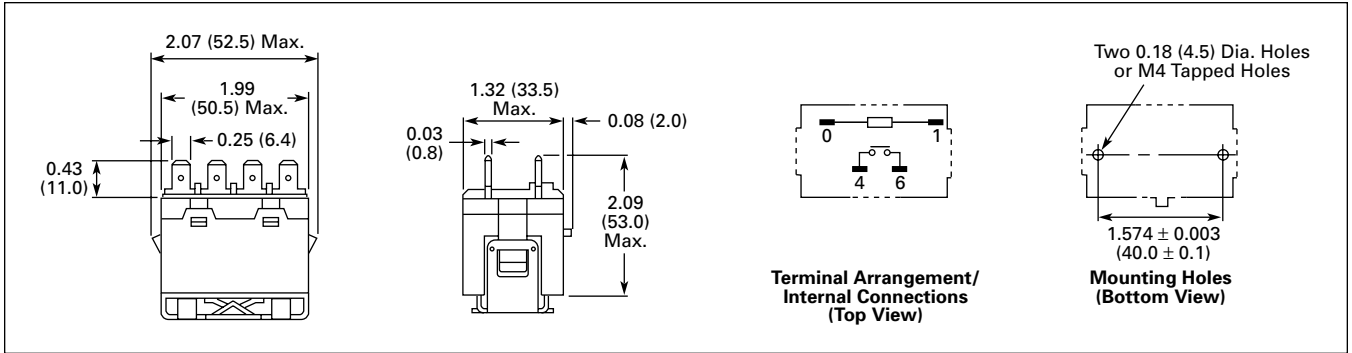


Figure 3-81. D8PR6TE with D8PA5 Bracket Attached — Approximate Dimensions in Inches (mm)

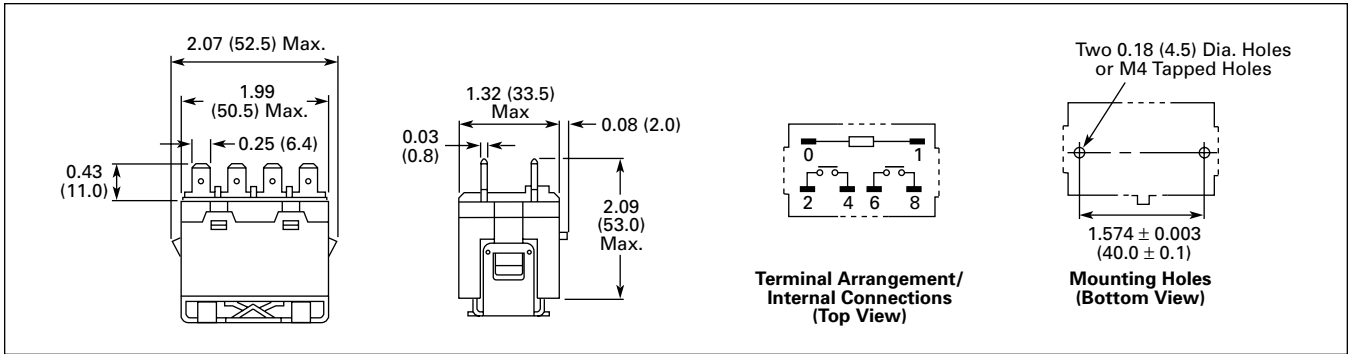


Figure 3-82. D8PR7TE with D8PA5 Bracket Attached — Approximate Dimensions in Inches (mm)

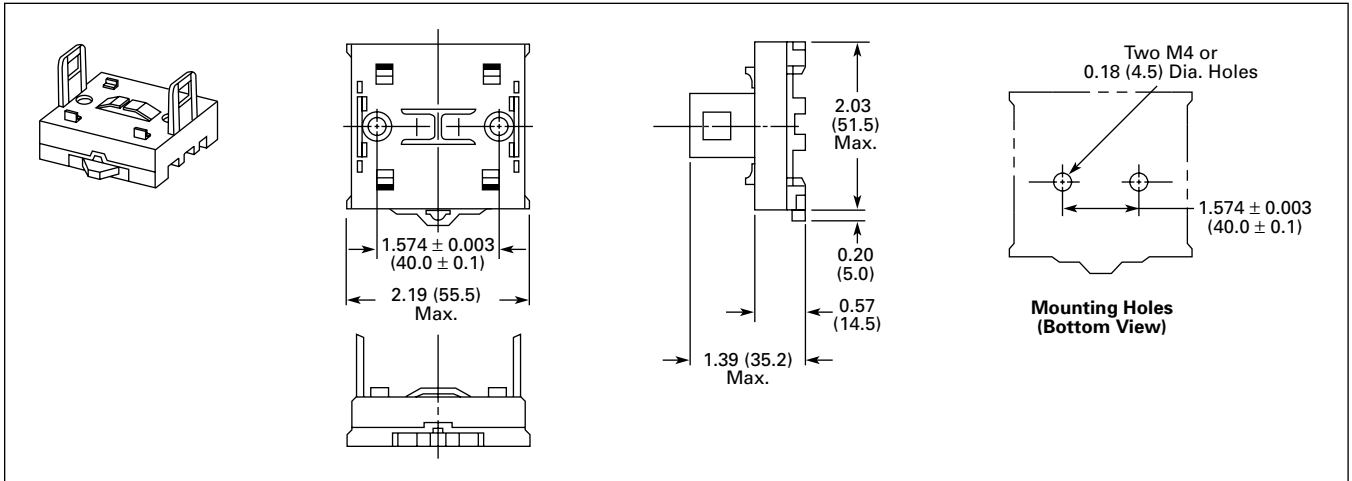


Figure 3-83. D8PA1 — Approximate Dimensions in Inches (mm)

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

D8 Series — Standard

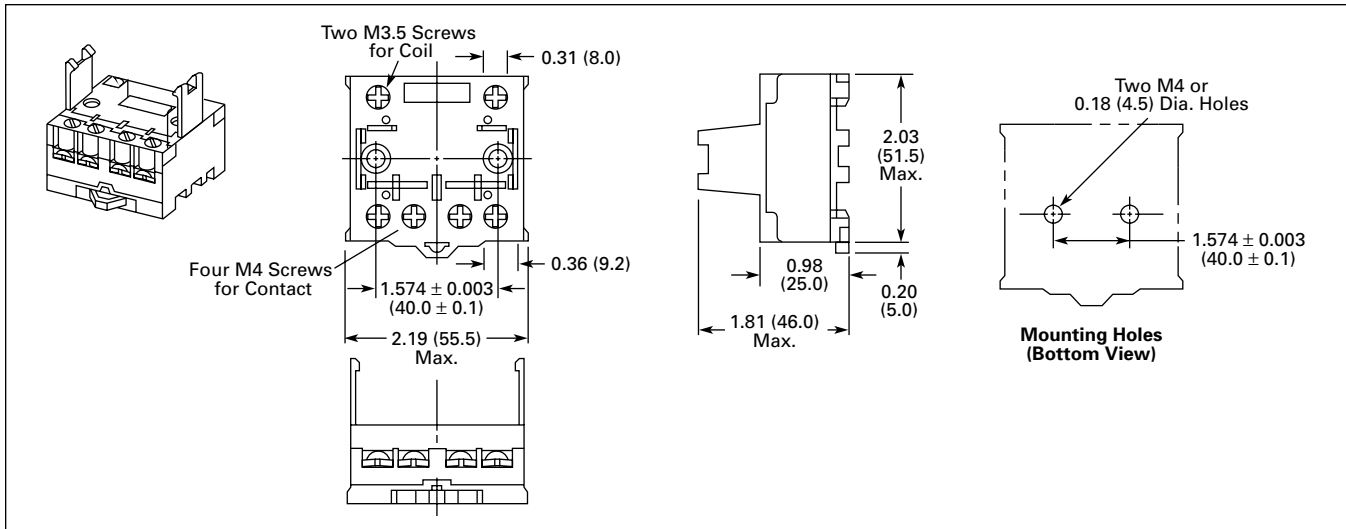


Figure 3-84. D8PA2 — Approximate Dimensions in Inches (mm)

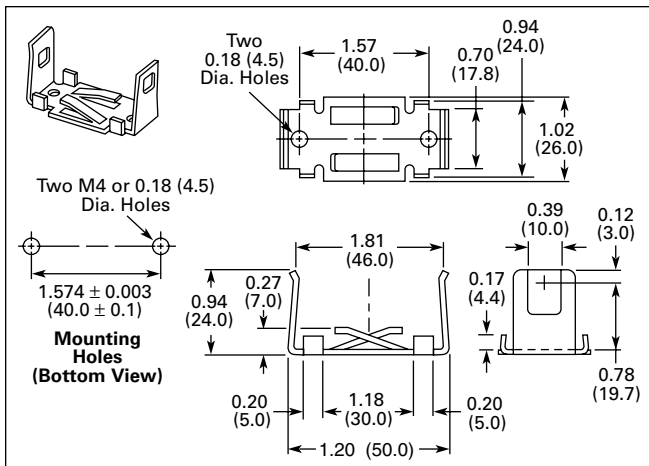


Figure 3-85. D8PA5 — Approximate Dimensions in Inches (mm)

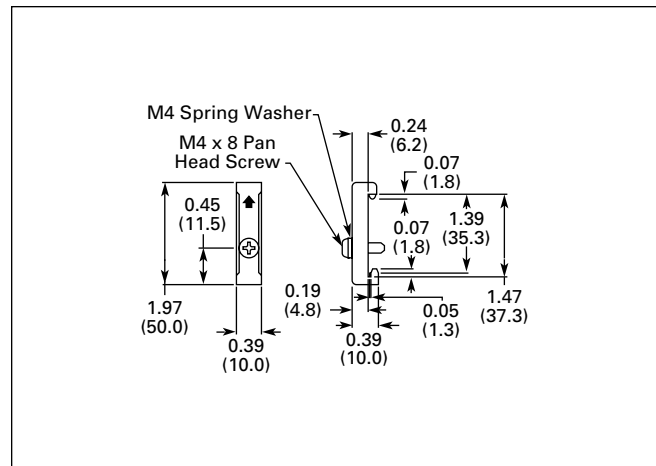


Figure 3-86. PFP-M DIN Rail End Stop — Approximate Dimensions in Inches (mm)

D9 Series — Standard

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

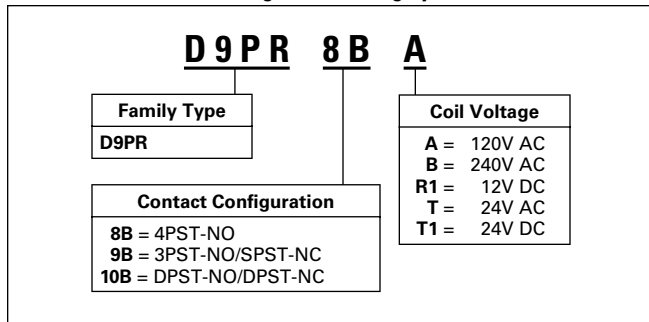
Table 3-66. Coil Data

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

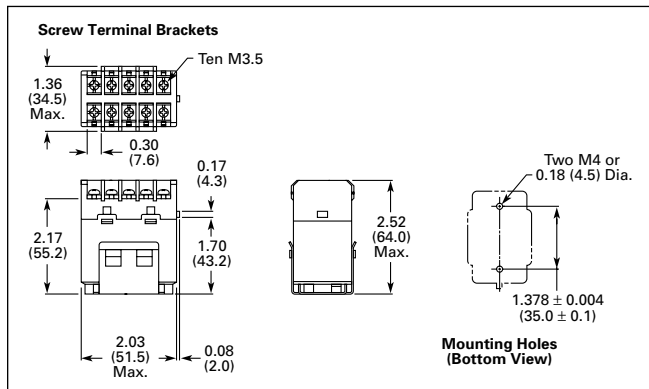


Figure 3-77. D9PR — Approximate Dimensions in Inches (mm)

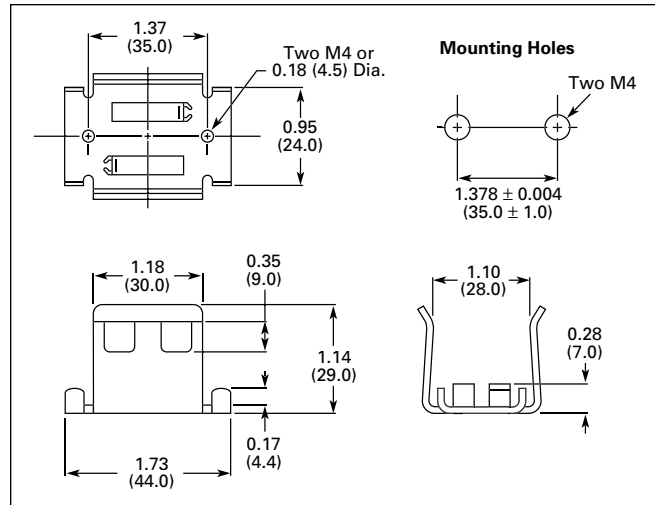


Figure 3-88. Mounting Bracket — Approximate Dimensions in Inches (mm)

Terminal Arrangements

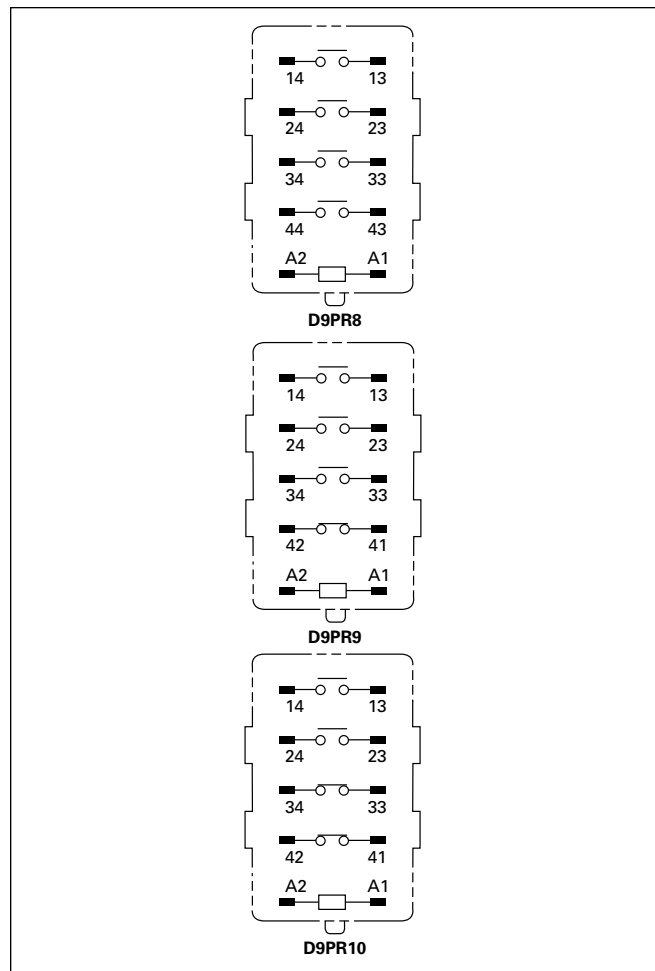


Figure 3-89. Terminal Arrangements