

Main Feature



- 1 Pole to 4 Poles versions are available with switching current at 15 Amps (1 Pole) and 10 Amps (2-4 Poles).
- Printed Circuit Board Terminal, Solder Lug Terminal and Flanged Case are designed for direct panel mounting use.
- Low coil power consumption with high response time.
- High reliability and long life with better vibration and shock resistance.
- 1/3 Horse power on RET 2 Poles series are certified by UL.
- Touch Button and LED version are available for customer's selection.

Contact Rating

| Load Type | RET-1P | RET-2P | RET-3P | RET-4P |
|----------------------------|------------|------------|------------|------------|
| Rated Load (Resistive) | 15A 250VAC | 10A 250VAC | 10A 250VAC | 10A 250VAC |
| | 15A 30VDC | 10A 30VDC | 10A 30VDC | 10A 30VDC |
| Rated Carrying Current | 15A | 10A | 10A | 10A |
| Max. Allowable Voltage | AC 250V | AC 250V | AC 250V | AC 250V |
| | DC 110V | DC 110V | DC 110V | DC 110V |
| Max. Allowable Current | 15A | 10A | 10A | 10A |
| Max. Allowable Power Force | 1,700VA | 1,100VA | 1,100VA | 1,100VA |
| | 360W | 240W | 240W | 240W |
| Contact Material | Ag Alloy | Ag Alloy | Ag Alloy | Ag Alloy |
| Contact Form | SPDT, SPST | DPDT, DPST | 3PDT, 3PST | 4PDT, 4PST |

Application

Vending Machine, Cooking Appliances, Office Machine, Domestic Appliances, Control Equipment, etc.

Performance (at Initial Value)

- Contact Resistance 100 mΩ Max. @1A,6VDC
- Operate Time..... 25 mSec. Max.
- Release Time 25 mSec. Max.
- Dielectric Strength :
Between Coil & Contact 1,500VAC at 50/60 Hz for one minute.
Between Contacts 1,000VAC at 50/60 Hz for one minute.
- Surge Strength 3,000V (between Coil & Contact 1.2x50μSec.)
- Insulation Resistance 100 MegaΩ Min. at 500VDC.
- Max. On/Off Switching :
Electrical..... 6 Cycles per Minute.
Mechanical 300 Cycles per Minute.
- Temperature Range..... -25~55°C
- Humidity Range..... 45~85% RH.

- Coil Temperature Rise..... 60°C Max.
- Vibration:
Endurance 10 to 55 Hz dual amplitude width 1.5mm.
Error Operation..... 10 to 55 Hz dual amplitude width 1.5mm.
- Shock:
Endurance 1,000 m/S².
Error Operation..... 100 m/S².
- Life Expectancy :
Mechanical 10⁷ Operations at No Load condition.
Electrical 10⁵ Operations at Rated Resistive Load.
- Weight 1-2P :About 35 g.
3P :About 53.2g.
4P :About 66.5g.

Safety Standard & Its File Number

- UL & C-UL (1-pole & 2-pole).....E141060
- CQC.....07001018730(For RET-1P/2P)

Coil Specification (at 20°C)

| Coil Sensitivity | Coil Voltage Code | Nominal Voltage (VAC/VDC) | Nominal Current (mA) | | Coil Resistance ($\Omega \pm 10\%$) | Power Consumption | | Pull-In Voltage (VDC) | Drop-Out Voltage (VDC) | Max.Allowable Voltage (VDC) |
|-----------------------------|-------------------|---------------------------|----------------------|-------|---------------------------------------|-----------------------------------|----------------|-----------------------|------------------------|-----------------------------|
| | | | 50 Hz | 60 Hz | | 50Hz | 60Hz | | | |
| | | | | | | | | | | |
| RET 1-P & 2-P AC Coil | 01 | 6 | 282.7 | 214.3 | 10 | 1.7VA | 1.29VA | 80% Maximum | 30% Minimum | 110% |
| | 02 | 12 | 106.2 | 94.9 | 40 | 1.27VA | 1.14VA | | | |
| | 03 | 24 | 52.8 | 45.5 | 160 | 1.27VA | 1.09VA | | | |
| | 04 | 48 | 23.7 | 20.0 | 600 | 1.1VA | 0.96VA | | | |
| | 05 | 110 | 12.5 | 10.3 | 3,400 | 1.37VA | 1.13VA | | | |
| | 06 | 120 | 16.8 | 14.3 | 3,400 | 2.01VA | 1.72VA | | | |
| | 07 | 220 | 6.2 | 5.1 | 13,600 | 1.36VA | 1.12VA | | | |
| | 08 | 240 | 7.2 | 5.9 | 13,600 | 1.74VA | 1.41VA | | | |
| | 09 | 230 | 7.0 | 5.7 | 13,600 | 1.61VA | 1.31VA | | | |
| RET 3-P AC Coil | 01 | 6 | 310 | 270 | 6.7 | Abt. 1.6 to 2.0VA (60 Hz) | 80% Maximum | 30% Minimum | 110% | |
| | 02 | 12 | 159 | 134 | 24 | | | | | |
| | 03 | 24 | 80 | 67 | 100 | | | | | |
| | 04 | 48 | 38 | 33 | 410 | | | | | |
| | 05 | 110 | 16 | 13.7 | 2,300 | | | | | |
| | 06 | 120 | 15.4 | 13.2 | 2,300 | | | | | |
| | 07/08 | 220/240 | 10 | 8.5 | 8,650 | | | | | |
| RET 4-P AC Coil | 01 | 6 | 386 | 330 | 5 | Abt. 1.95 to 2.5 VA (60 Hz) | 80% Maximum | 30% Minimum | 110% | |
| | 02 | 12 | 199 | 170 | 20 | | | | | |
| | 03 | 24 | 93.6 | 80 | 78 | | | | | |
| | 04 | 48 | 46.8 | 40 | 350 | | | | | |
| | 05 | 110 | 25.5 | 21.8 | 1,600 | | | | | |
| | 06 | 120 | 24.5 | 21 | 1,600 | | | | | |
| | 07/08 | 220/240 | 13.1 | 11.2 | 6,700 | | | | | |
| RET 1-P & 2-P DC Coil | 01 | 6 | 150 | | 40 | Abt. 0.9 W | 80% Maximum | 10% Minimum | 110% | |
| | 02 | 12 | 75 | | 160 | | | | | |
| | 03 | 24 | 36.9 | | 650 | | | | | |
| | 04 | 48 | 18.5 | | 2,600 | | | | | |
| | 05 | 110 | 10 | | 11,000 | | | | | |
| | 06 | 120 | 10 | | 11,000 | | | | | |
| | 10 | 60 | 15 | | 4,000 | | | | | |
| RET 3-P DC Coil | 01 | 6 | 234 | | 25.7 | Abt. 1.4 W | 80% Maximum | 10% Minimum | 110% | |
| | 02 | 12 | 112 | | 107 | | | | | |
| | 03 | 24 | 58.6 | | 410 | | | | | |
| | 04 | 48 | 28.2 | | 1,700 | | | | | |
| | 05 | 110 | 13 | | 8,500 | | | | | |
| | 06 | 120 | 14.1 | | 8,500 | | | | | |
| RET 4-P DC Coil | 01 | 6 | 240 | | 25 | Abt. 1.5 W | 80% Maximum | 10% Minimum | 110% | |
| | 02 | 12 | 120 | | 100 | | | | | |
| | 03 | 24 | 69 | | 350 | | | | | |
| | 04 | 48 | 30 | | 1,600 | | | | | |
| | 05 | 110 | 15.9 | | 6,900 | | | | | |
| | 06 | 120 | 17.4 | | 6,900 | | | | | |

Ordering Information

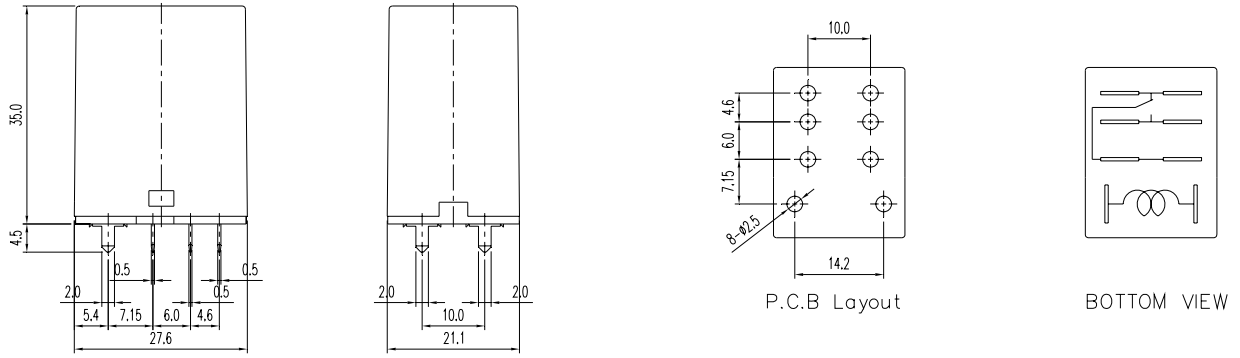
| | | | | | | | | | | | |
|------------------------|---|---|---|----|---|---|---|---|---|---|--|
| RET | - | 2 | - | 01 | D | M | P | F | L | T | |
| Touch Button: | | | | | | | | | | | Nil: Standard Relay |
| | | | | | | | | | | | T: With Touch Button Selection |
| LED: | | | | | | | | | | | Nil: Standard Relay |
| | | | | | | | | | | | L: With LED Selection (Use Polarity LED) |
| | | | | | | | | | | | Z: Coil Parallel with Diode & the Positive Pole |
| | | | | | | | | | | | “+” On #8(RET-1P,RET-2P) 、#11(RET-3P) 、#14(RET-4P) |
| | | | | | | | | | | | Y: Coil Parallel with Diode & the Negative Pole |
| | | | | | | | | | | | “-” On #8(RET-1P,RET-2P) 、#11(RET-3P) 、#14(RET-4P) |
| | | | | | | | | | | | X : Coil Parallel with Diode + LED & the Positive Pole |
| | | | | | | | | | | | “+” On #8(RET-1P,RET-2P) 、#11(RET-3P) 、#14(RET-4P) |
| | | | | | | | | | | | V : Coil Parallel with Diode + LED & the Negative Pole |
| | | | | | | | | | | | “-” On #8(RET-1P,RET-2P) 、#11(RET-3P) 、#14(RET-4P) |
| Case Type: | | | | | | | | | | | Nil: Standard Square Shape |
| | | | | | | | | | | | F: Flanged Case |
| Terminal Type: | | | | | | | | | | | Nil: Solder Lug Terminal |
| | | | | | | | | | | | P: PC Board Terminal |
| Contact Form: | | | | | | | | | | | Nil: Form C |
| | | | | | | | | | | | M: Form A |
| | | | | | | | | | | | B: Form B |
| Coil Type: | | | | | | | | | | | D: DC Coil |
| | | | | | | | | | | | A: AC Coil |
| Coil Code: | | | | | | | | | | | 01: 6V, 02: 12V, 03: 24V, 04: 48V, 05: 110V, |
| | | | | | | | | | | | 06: 120V, 07: 220V, 08: 240V, 09: 230V, 10: 60V |
| Number of Pole: | | | | | | | | | | | 1: 1 Pole |
| | | | | | | | | | | | 2: 2 Poles |
| | | | | | | | | | | | 3: 3 Poles |
| | | | | | | | | | | | 4: 4 Poles |
| Type: | | | | | | | | | | | RET |

Classification

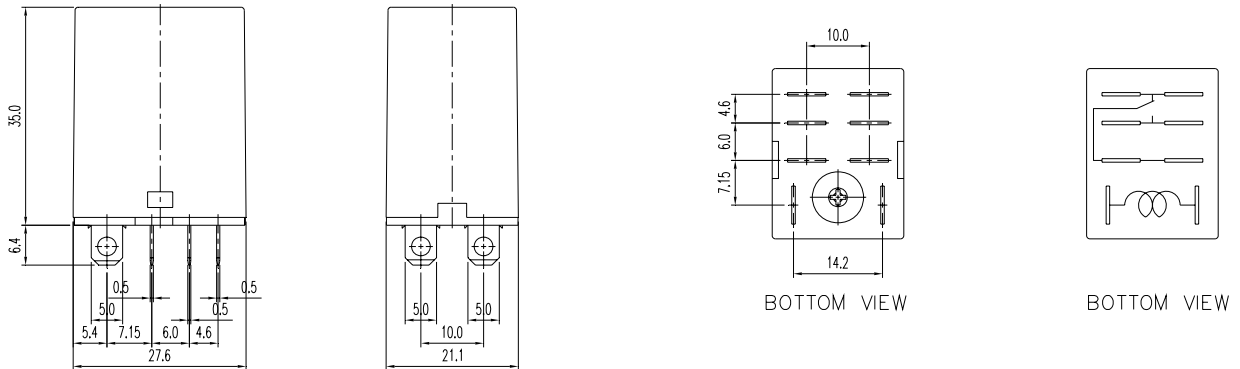
| Model | RET | | | | | | | |
|-----------------|--|---|--|---|--|---|--|---|
| Coil Type | AC Coil | | | | DC Coil | | | |
| Number Of Poles | 1C / 1A / 1B | 2C / 2A / 2B | 3C / 3A / 3B | 4C / 4A / 4B | 1C / 1A / 1B | 2C / 2A / 2B | 3C / 3A / 3B | 4C / 4A / 4B |
| Contact Form | RET-1/2□□A/AM/AB | RET-3/4□□A/AM/AB | RET-1/2□□A/AM/AB | RET-3/4□□A/AM/AB | RET-1/2□□A/AM/AB | RET-3/4□□A/AM/AB | RET-1/2□□A/AM/AB | RET-3/4□□A/AM/AB |
| Terminal Type | RET-1/2□□A/AM/AB RET-1/2□□AP/AMP/ABP | RET-3/4□□A/AM/AB RET-3/4□□AP/AMP/ABP | RET-1/2□□A/AM/AB RET-1/2□□AP/AMP/ABP | RET-3/4□□A/AM/AB RET-3/4□□AP/AMP/ABP | RET-1/2□□A/AM/AB RET-1/2□□AP/AMP/ABP | RET-3/4□□A/AM/AB RET-3/4□□AP/AMP/ABP | RET-1/2□□A/AM/AB RET-1/2□□AP/AMP/ABP | RET-3/4□□A/AM/AB RET-3/4□□AP/AMP/ABP |
| Case Type | RET-1/2□□A/AM/AB RET-1/2□□AF/AMF/ABF | NIL | RET-1/2□□D/DM/DB RET-1/2□□DF/DMF/DBF | NIL | RET-1/2□□D/DM/DB RET-1/2□□DF/DMF/DBF | NIL | RET-1/2□□D/DM/DB RET-1/2□□DF/DMF/DBF | NIL |
| LED | RET-1/2□□AL/AML/ABL RET-1/2□□APL/AMPL/ABPL RET-1/2□□AFL/AMFL/ABFL | NIL | RET-1/2□□DL/DML/DBL RET-1/2□□DPL/DMPL/BPL RET-1/2□□DFL/DMFL/DBFL | NIL | RET-1/2□□DL/DML/DBL RET-1/2□□DPL/DMPL/BPL RET-1/2□□DFL/DMFL/DBFL | NIL | RET-1/2□□DL/DML/DBL RET-1/2□□DPL/DMPL/BPL RET-1/2□□DFL/DMFL/DBFL | NIL |
| Touch Button | RET-1/2□□AT/AMT/ABT RET-1/2/□□ APLT/AMPLT/ABPLT RET-1/2/□□ALT/AMLT/ABLT RET-1/2/□□ AFLT/AMFLT/ABFLT | NIL | RET-1/2□□DT/DMT/DBT RET-1/2/□□ DPLT/DMPLT/DBPLT RET-1/2/□□DLT/DMLT/DBLT RET-1/2/□□ DFLT/DMFLT/DBFLT | NIL | RET-1/2□□DT/DMT/DBT RET-1/2/□□ DPLT/DMPLT/DBPLT RET-1/2/□□DLT/DMLT/DBLT RET-1/2/□□ DFLT/DMFLT/DBFLT | NIL | RET-1/2□□DT/DMT/DBT RET-1/2/□□ DPLT/DMPLT/DBPLT RET-1/2/□□DLT/DMLT/DBLT RET-1/2/□□ DFLT/DMFLT/DBFLT | NIL |

Dimension ($\leq 5\text{mm} \pm 0.2\text{mm}$, $> 5\text{mm} \pm 0.3\text{mm}$, the tolerance of PCB thru hole: $+0.1\text{mm}$)

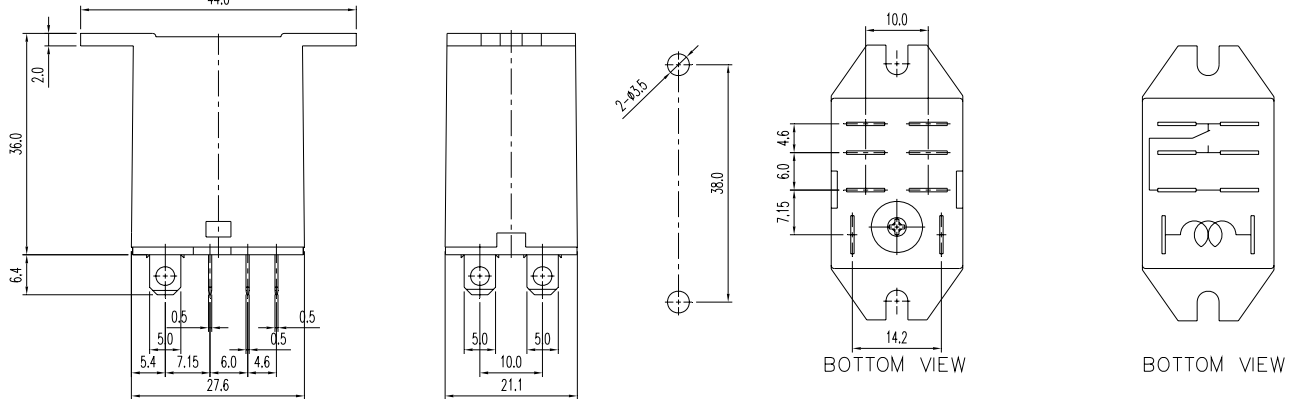
RET-1-P



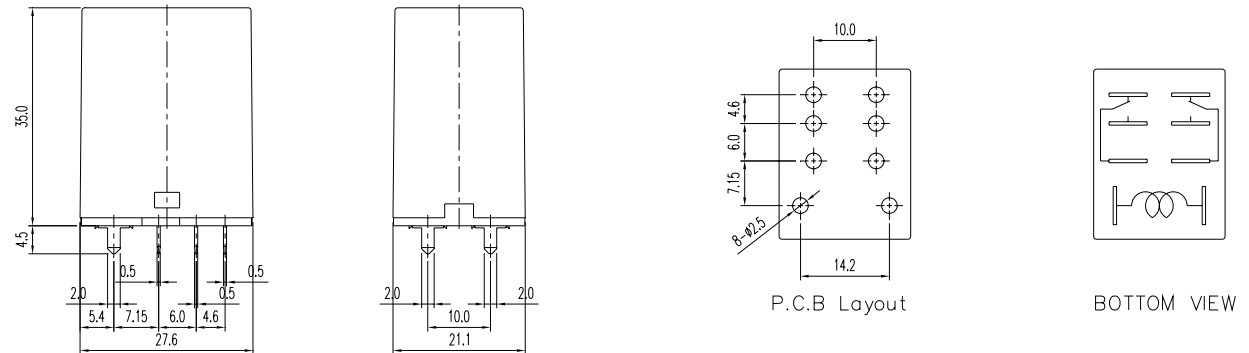
RET-1



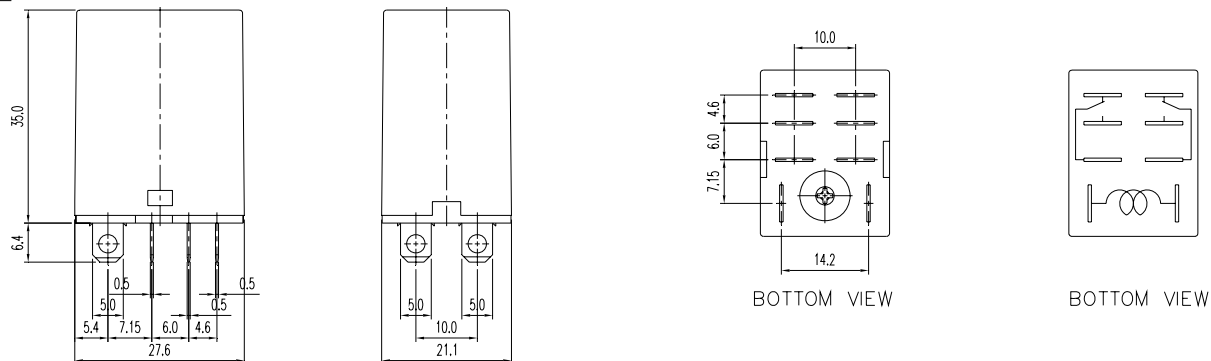
RET-1-F



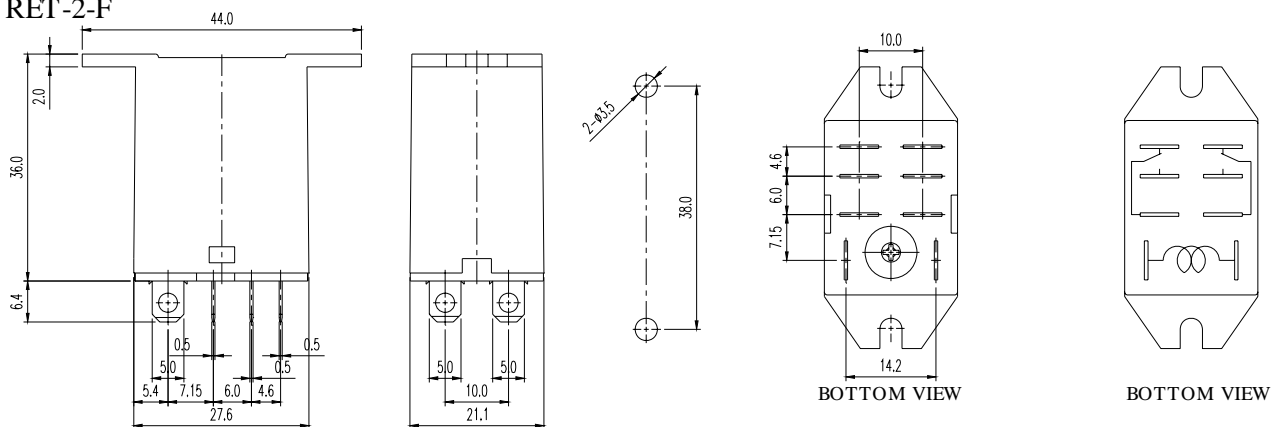
RET-2-P



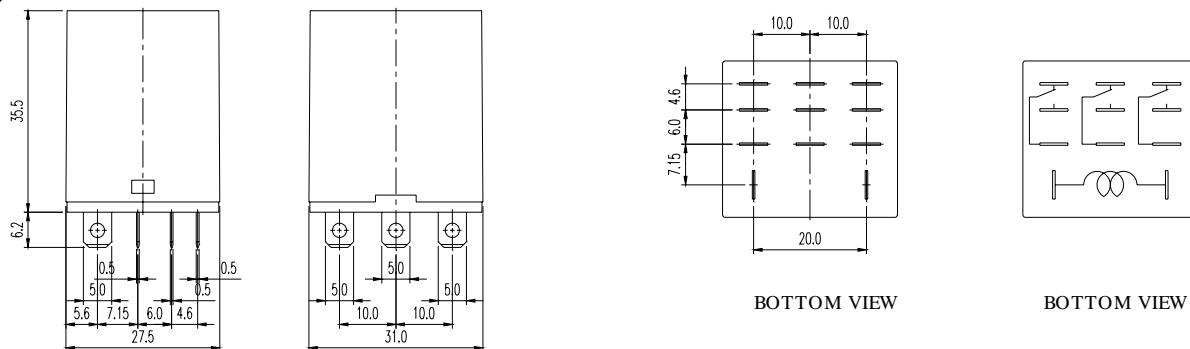
RET-2



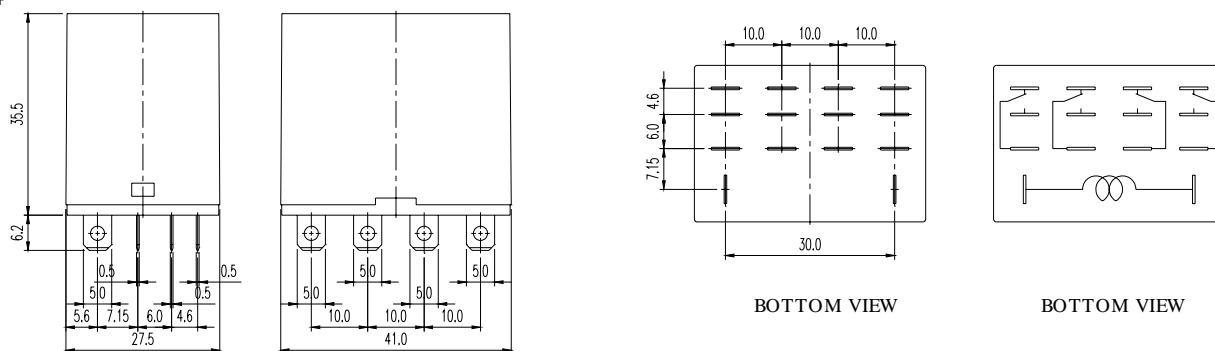
RET-2-F



RET-3



RET-4



Accessories & Sockets

RET-1P/2P

- PTF-08ASee Page 172
- PTF-08AESee Page 172
- PT-08See Page 177
- PT-08-0See Page 177

RET-4P

- PTF-14A.....See Page 172
- PTF-14AE..... See Page 172

Wiring diagrams (Bottom view)

| RET-1P | | | | | |
|---------------|---------------|---------------|---------------|---------------|------------------------|
| RET-1□D□□□□L□ | RET-1□D□□□□Z□ | RET-1□D□□□□Y□ | RET-1□D□□□□X□ | RET-1□D□□□□V□ | AC Coil Model With LED |
| | | | | | |
| RET-2P | | | | | |
| RET-2□D□□□□L□ | RET-2□D□□□□Z□ | RET-2□D□□□□Y□ | RET-2□D□□□□X□ | RET-2□D□□□□V□ | AC Coil Model With LED |
| | | | | | |
| RET-3P | | | | | |
| RET-3□D□□□□L□ | RET-3□D□□□□Z□ | RET-3□D□□□□Y□ | RET-3□D□□□□X□ | RET-3□D□□□□V□ | AC Coil Model With LED |
| | | | | | |
| RET-4P | | | | | |
| RET-4□D□□□□L□ | RET-4□D□□□□Z□ | RET-4□D□□□□Y□ | RET-4□D□□□□X□ | RET-4□D□□□□V□ | AC Coil Model With LED |
| | | | | | |