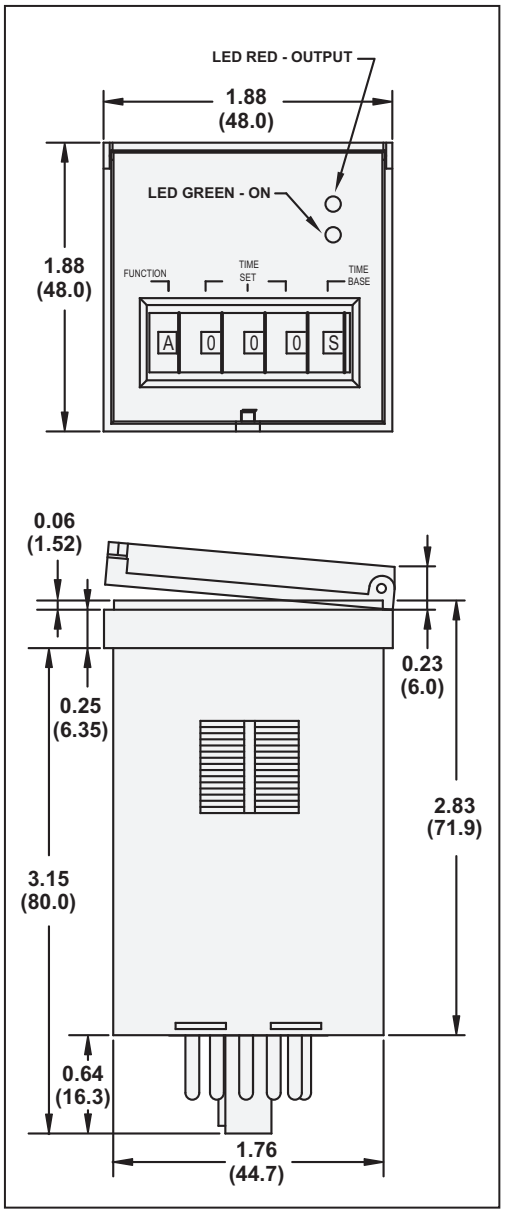
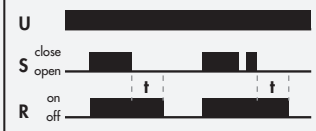
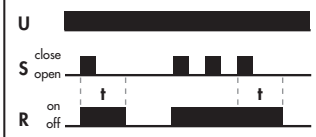
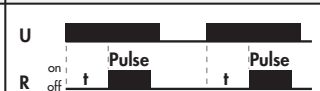
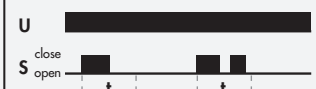
# 48mm X 48mm Plug-In Style Time Delay Relay

| FEATURES | BENEFITS |
|---|---|
| Up to 10 Functions | 5 Timing Functions Controlled via Supply Voltage<br>4 Timing Functions Controlled via Trigger Input<br>1 Timing Function of Memory Latching Relay |
| Broad Timing Range | 0.1 Seconds to 9990 Hours |
| Contact Configuration | SPDT or DPDT |
| Tamper proof Dust Cover | Retains Settings / Keeps Dust Out |
| Universal Power Supply | 12 – 240 VAC/VDC |
| Thumb Wheel Adjustment for Function / Timing | No Mechanical Deviation |
| 2 LED Status Inicators | Indicate Coil Pwr / Timing Out / Output State |
| RoHs Compliant | Environmentally Friendly |

## DIMENSIONS
**INCHES (MILLIMETERS)**




## FUNCTION

| Function | Operation | Timing Chart |
|---|---|---|
| **A.** **ON DELAY** Power On | When the input voltage **U** is applied, timing delay **t** begins. Relay contacts **R** change state after time delay is complete. Contacts **R** return to their shelf state when input voltage **U** is removed. Trigger switch is not used in this function. |  |
| **B.** **REPEAT CYCLE** Starting Off | When input voltage **U** is applied, time delay **t** begins. When time delay **t** is complete, relay contacts **R** change state for time delay **t**. This cycle will repeat until input voltage **U** is removed. Trigger switch is not used in this function. |  |
| **C.** **INTERVAL** Power On | When input voltage **U** is applied, relay contacts **R** change state immediately and timing cycle begins. When time delay is complete, contacts return to shelf state. When input voltage **U** is removed, contacts will also return to their shelf state. Trigger switch is not used in this function. |  |
| **D.** **OFF DELAY** S Break | Input voltage **U** must be applied continuously. When trigger **S** is closed, relay contacts **R** change state. When trigger **S** is opened, delay **t** begins. When delay **t** is complete, contacts **R** return to their shelf state. If trigger **S** is closed before time delay **t** is complete, then time is reset. When trigger **S** is opened, the delay begins again, and relay contacts remain in their energized state. If input voltage **U** is removed, relay contacts **R** return to their shelf state. |  |
| **E.** **RETRIGGERABLE ONE SHOT** | Upon application of input voltage **U**, the relay is ready to accept trigger signal **S**. Upon application of the trigger signal **S**, the relay contacts **R** transfer and the preset time **t** begins. At the end of the preset time **t**, the relay contacts **R** return to their normal condition unless the trigger signal **S** is opened and closed prior to time out **t** (before preset time elapses). Continuous cycling of the trigger signal **S** at a rate faster than the preset time will cause the relay contacts **R** to remain closed. If input voltage **U** is removed, relay contacts **R** return to their shelf state. |  |
| **F.** **REPEAT CYCLE** Starting On | When input voltage **U** is applied, relay contacts **R** change state immediately and time delay **t** begins. When time delay **t** is complete, contacts return to their shelf state for time delay **t**. This cycle will repeat until input voltage **U** is removed. Trigger switch is not used in this function. |  |
| **G.** **PULSE GENERATOR** | Upon application of input voltage **U**, a single output pulse of 0.5 seconds is delivered to relay after time delay **t**. Power must be removed and reapplied to repeat pulse. Trigger switch **S** is not used in this function. |  |
| **H.** **ONE SHOT** | Upon application of input voltage **U**, the relay is ready to accept trigger signal **S**. Upon application of the trigger signal **S**, the relay contacts **R** transfer and the preset time **t** begins. During time-out, the trigger signal **S** is ignored. The relay resets by applying the trigger signal **S** when the relay is not energized. |  |
| **I.** **ON/OFF DELAY** S Make/Break | Input voltage **U** must be applied continuously. When trigger **S** is closed, time delay **t** begins. When time delay **t** is complete, relay contacts **R** change state and remain transferred until trigger **S** is opened. If input voltage **U** is removed, relay contacts **R** return to their shelf state. |  |
| **J.** **MEMORY LATCH** S Make | Input voltage **U** must be applied continuously. Output changes state with every trigger **S** closure. If input voltage **U** is removed, relay contacts **R** return to their shelf state. |  |

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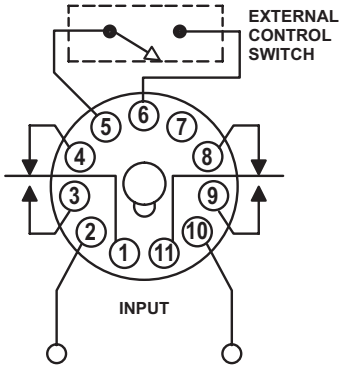
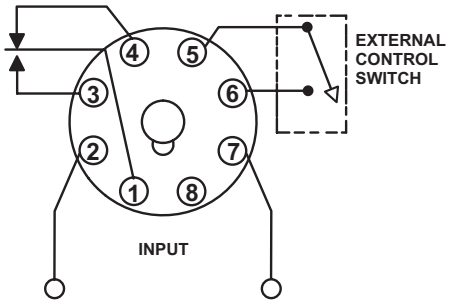
## WIRING DIAGRAMS
**VIEWED FROM PIN END**

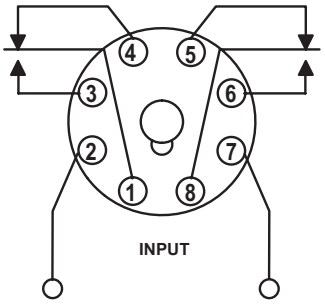
**DPDT**
**10 FUNCTION**




**SPDT**
**10 FUNCTION**




**DPDT**
**3 FUNCTION**




## SPECIFICATIONS (@ 25°C)

| | DPDT, 10 FUNCTION | SPDT, 10 FUNCTION | DPDT, 3 FUNCTION |
|---|---|---|---|
| **TIMING:** | | | |
| Functions | 10 | 10 | 3 |
| Time Scales | 10-10H, H, .1H, M, .1M, S, .1S, .1M, S, .1S | 10-10H, H, .1H, M, .1M, S, .1S, .1M, S, .1S | 10-10H, H, .1H, M, .1M, S, .1S, .1M, S, .1S |
| Time Range | .1 Second to 9990 Hours | .1 Second to 9990 Hours | .1 Second to 9990 Hours |
| Time Adjustment | Thumbwheels | Thumbwheels | Thumbwheels |
| Timing Deviation (mechanical setting) | None | None | None |
| Timing Repeatability (constant voltage & temperature) | 0.10% | 0.10% | 0.10% |
| Reset Time | 150mS | 150mS | 150mS |
| Input Pulse Length | 50mS minimum | 50mS minimum | 50mS minimum |
| **INPUT:** | | | |
| Input Voltage | 12 to 240 VAC 50/60Hz/VDC | 12 to 240 VAC 50/60Hz/VDC | 12 to 240 VAC 50/60Hz/VDC |
| Input Voltage Tolerance | -15%, +15% | -15%, +15% | -15%, +15% |
| Power Consumption | 2.5VA/2W maximum | 2.5VA/2W maximum | 2.5VA/2W maximum |
| Transient Protection | maximum4kv burst/surge IEC61000-4-5/-4-4 | maximum4kv burst/surge IEC61000-4-5/-4-4 | maximum4kv burst/surge IEC61000-4-5/-4-4 |
| Reverse Polarity Protection | Non-polarity sensitive | Non-polarity sensitive | Non-polarity sensitive |
| Operate Time | 25mS maximum | 25mS maximum | 25mS maximum |
| Release Time | 25mS maximum | 25mS maximum | 25mS maximum |
| Input Indication | Green LED | Green LED | Green LED |
| **OUTPUT:** | | | |
| Contact Configuration | DPDT | SPDT | DPDT |
| Contact Rating AC (AC1) | 12A resistive @ 120, 240 - UL 508 | 12A resistive @ 120, 240 - UL 508 | 12A resistive @ 120, 240 - UL 508 |
| Contact Rating DC (DC1) | 12A resistive @ 30 - UL 508 | 12A resistive @ 30 - UL 508 | 12A resistive @ 30 - UL 508 |
| Contact Rating Horsepower | 1/2 @ 120, 1 @ 240 | 1/2 @ 120, 1 @ 240 | 1/2 @ 120, 1 @ 240 |
| Contact Rating Pilot Duty | A300, 720 VA @ 240 VAC | A300, 720 VA @ 240 VAC | A300, 720 VA @ 240 VAC |
| Minimum Load | 12V /100mA | 12V /100mA | 12V /100mA |
| Contact Material | Silver - Nickel 90/10 | Silver - Nickel 90/10 | Silver - Nickel 90/10 |
| Contact Resistance | 100 milliohms max. @ 1A 12 VDC | 100 milliohms max. @ 1A 12 VDC | 100 milliohms max. @ 1A 12 VDC |
| Output Indication | Red LED: Blinks = timing, On = energized | Red LED: Blinks = timing, On = energized | Red LED: Blinks = timing, On = energized |
| **GENERAL:** | | | |
| Life - Electrical Full Load | 100,000 Operations | 100,000 Operations | 100,000 Operations |
| Life - Mechanical No Load | 10 million Operations | 10 million Operations | 10 million Operations |
| **ENVIRONMENTAL:** | | | |
| Temperature Range - Storage | - 40 to 85°C | - 40 to 85°C | - 40 to 85°C |
| Temperature Range - Operate | - 10 to 55°C | - 10 to 55°C | - 10 to 55°C |