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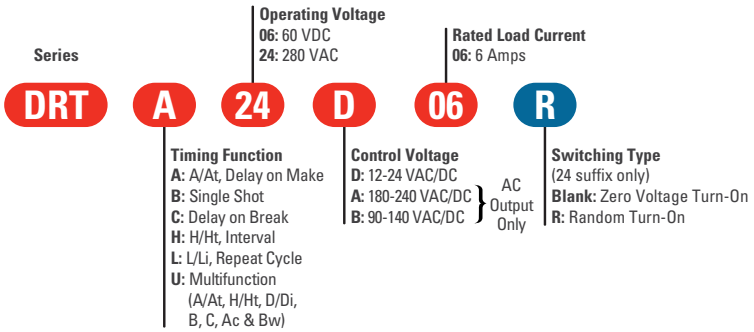
InstallationSheet

series oneDR TIMER

DIN Rail Mounted AC & DC Output Solid State Relay Timers

Crydom's proprietary thermal management technology and proven Solid State Relay expertise are now combined with advanced microprocessor based timing in the SeriesOne DR Timer line offering models with 8 different precision timing functions with 18 variations in a compact 11 mm wide IP20 housing with unique integrated heat sink designed for the direct control of a wide variety of resistive and inductive loads.

PART NUMBER NOMENCLATURE



Required for valid part number
For options only and not required for valid part number

FEATURES

- Compact Size (11mm wide)
- Single channel 6 Amps output power rating
- Single channel 60 VDC & 280 VAC operating voltage ratings
- 12-24, 90-140 & 180-240 VAC/DC control input options available
- 8 Industry standard functions (A/At, B, C, D/Di, H/Ht, L/Li, Ac, Bw)
- IP20 Housing with unique integrated heat sink
- LED Input/Timer status Indicator
- AC Output versions with Zero Voltage Turn-On for resistive loads and Random Turn-On for inductive loads
- UL Listed & cUL recognized (A)
- UL & IEC General Use & Motor Control rated

MOUNTING INSTRUCTIONS (B)

Please read all installation instructions before using your SeriesOne DR Timer.

- Install the relay on the DIN rail (as shown in **fig.1**).
- Wire the relay to the input side. AWG #22 (0.3 mm²) minimum, AWG #16 (1.3 mm²) maximum.
- Wire the relay to the output side. AWG #22 (0.3 mm²) minimum, AWG #14 (2.1 mm²) x 2 or AWG #12 (3.3 mm²) x 1 (stranded/solid) maximum.
- Maximum recommended terminal screw torque input 4.4 in-lbs (0.5 Nm) & output 7 in-lbs (0.8 Nm).
- If multiple units are installed be sure to follow derating curves.

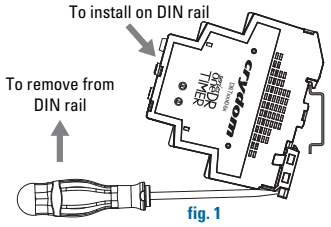


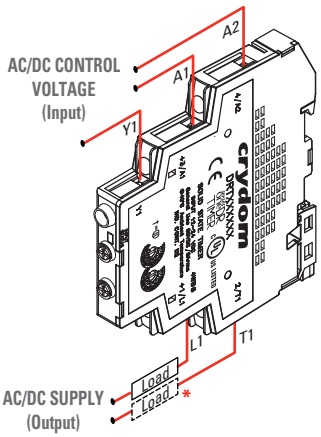
fig. 1

WARNING! Removing product from 35 mm rail incorrectly by not using the appropriate tool could damage the latching system

TABLE 1. Timer Settings

Timing Function	Identification: Side View	Identification: Front View
U Multifunction [A/At, H/Ht, D/Di, B, C, Ac, Bw]	Range; Function	Fine Adjustment
L Repeat Cycle	T on; T off	Fine Adjustment
A Delay on Make **H** Interval **B** Single Shot **C** Delay on Break	Range ↑=▯ Flat side indicates selection	Fine Adjustment

WIRING DIAGRAM (C)



- **Terminals**
  5 Terminal screws Pozidriv #1, 3/16 in (4.8 mm).
- **Wire Size (B)**
  Maximum wire strip length 0.20 in (5.1 mm), maximum 0.28 in (7.1 mm).
- **Important Considerations**
  Be sure to use input and output voltages within operating ranges.
  LED indicates only input status. It does not represent output status.

* Load is allowed in either terminal L1 or terminal T1
No grounding wire required. DC inductive loads must be diode suppressed

DERATING CURVES

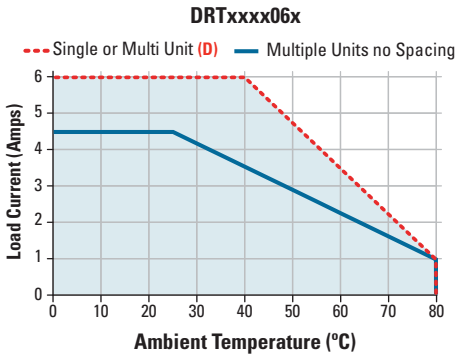


TABLE 2. Timing Ranges (E)

Identification	Timing Range
1s	0.1 s **to** 1 s
10 s	1 s **to** 10 s
1 min	0.1 min **to** 1 min
10 min	1 min **to** 10 min
1 h	0.1 h **to** 1 h
10 h	1 h **to** 10 h
100 h	10 h **to** 100 h

(A) For UL listing the housing can not exceed 130°C or the load terminals exceed 105°C
(B) Use copper conductors rated 75°C only
(C) No grounding wire required. DC inductive loads must be diode suppressed
(D) Minimum spacing between units is 11 mm
(E) Timing accuracy ± 10%

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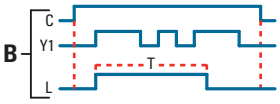
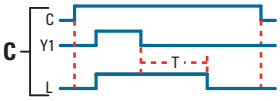
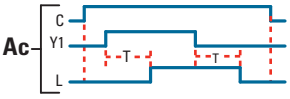
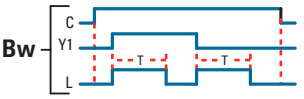
TABLE 3. LED Status by Function

Function	Control Voltage	Y1	Timing	Output State	LED Status	Notes
A/At Delay On Make	Off	◆	Off	Off	Off	**At** function is identical to the **A** function except when **Y1** is connected to **A1** timing is paused. When **Y1** is removed timing resumes until relay times out. To reset timer remove control power. 
	On	◆	On	Off	Long Flashes	
	On	◆	Timed Out	On	On	
H/Ht Interval	Off	◆	Off	Off	Off	**Ht** function is identical to the **H** function except when **Y1** is connected to **A1** timing is paused. When Y1 is removed timing resumes until relay times out. To reset timer remove control power. 
	On	◆	On	On	Long Flashes	
	On	◆	Timed Out	Off	Short Flashes	
D/Di Repeat Cycle	Off	◆	Off	Off	Off	To select between on time (**Di**) first or off time (**D**) first **Y1** is connected. Default is On time (**Di**) first, for Off time (**D**) first connect **Y1**. Equal On/Off time. 
	On	◆	On	On/Off	Long Flashes/Short Flashes	
L/Li Repeat Cycle	Off	◆	Off	Off	Off	To select between on time (**Li**) first or off time (**L**) first **Y1** is connected **A1**. Default is On time (**Li**) first, for Off time (**L**) first connect **Y1** to **A1**. Time delay is independent of each other. 
	On	◆	On	On/Off	Long Flashes/Short Flashes	
B Single Shot	Off	Open	Off	Off	Off	**Y1** switch can be momentary or maintained to **A1**. To reset timer after relay has timed out **Y1** has to be opened. 
	On	Open	Off	Off	Short Flashes	
	On	Closed	On	On	Long Flashes	
	On	Closed	Timed Out	Off	Short Flashes	
C Delay On Break	Off	Open	Off	Off	Off	**Y1** switch to **A1** must be momentary for timing to begin. If during timing **Y1** is closed again the time delay is reset and will begin again once **Y1** is removed. Once timed out timer is reset and ready for the next cycle. 
	On	Open	Off	Off	Short Flashes	
	On	Closed	Off	On	On	
	On	Open	On	On	Long Flashes	
	On	Open	Timed Out	Off	Short Flashes	
Ac Delay On Make / Delay On Break	Off	Open	Off	Off	Off	To start Delay on Make (**A**) timing connect **Y1** to **A1** and maintain until LED is on Solid then to start Delay on Break (**c**) portion remove **Y1** until relay times out. Removing **Y1** During (**A**) portion or Connecting **Y1** during (**c**) portion will reset time for that portion. 
	On	Open	Off	Off	Short Flashes	
	On	Closed	On	Off	Long Flashes	
	On	Closed	Timed Out	On	On	
	On	Open	On	On	Long Flashes	
	On	Open	Timed Out	Off	Short Flashes	
Bw	Off	Open	Off	Off	Off	**Y1** to **A1** switch can be momentary or maintained. If maintained until relay has timed out removing it will start timing again. If momentary and timers has timed out reapplying **Y1** will start timing again. 
	On	Open	Off	Off	Short Flashes	
	On	Closed	On	On	Long Flashes	
	On	Closed	Timed Out	Off	Short Flashes	

⚠ DANGER / DANGER / GEFARH / PELIGRO / PERICOLO / 危险

HAZARD OF ELECTRIC SHOCK, EXPLOSION OR ARC FLASH • Turn off power supply before working on this equipment. **Failure to follow these instructions will result in death or serious injury.**	**RISQUE D'ELECTROCUTION, D'EXPLOSION OU D'ARC ELECTRIQUE** • Coupez l'alimentation avant de travailler sur cet appareil. **Le non-respect de ces instructions provoquera la mort ou des blessures graves.**	**STROMSCHLAG-, EXPLOSIONS- ODER LICHTBOGENGEFAHR** • Vor dem Arbeiten an dem Gerät dessen Stromversorgung abschalten. **Die Nichtbeachtung dieser Anweisungen führt zu Tod oder schwerer Körperverletzung.**
RIESGO DE ELECTROCUCIÓN, EXPLOSIÓN O ARCO ELÉCTRICO • Desconecte toda alimentación antes de realizar el servicio. **Si no se siguen estas instrucciones provocará lesiones graves o incluso la muerte.**	**RISCHIO DI SCOSSA ELETTRICA, DI ESPLOSIONE O DI OFTALMIA DA FLASH** • Scollegare l'apparecchio dalla presa di corrente prima di qualsiasi intervento. **Il mancato rispetto di queste istruzioni provocherà morte o gravi infortuni.**	存在电击、爆炸或电弧闪烁危险 • 在操作此设备之前请先关闭电源。 若不遵守这些说明，可能会导致严重的人身伤害甚至死亡。

⚠ WARNING / AVERTISSEMENT / WARNUNG /ADVERTENCIA / AVVERTENZA / 警告

RISK OF MATERIAL DAMAGE AND HOT ENCLOSURE • The product's side panels may be hot, allow the product to cool before touching. • Follow proper mounting instructions including torque values. • Do not allow liquids or foreign objects to enter this product. **Failure to follow these instructions can result in serious injury, or equipment damage.**	**RISQUE DE DOMMAGE MATERIEL ET DE SURCHAUFFE DU BOITIER** • Les panneaux latéraux du produit peuvent être chauds. Laisser le produit refroidir avant de le toucher. • Respecter les consignes de montage, et notamment les couples de serrage. • Ne pas laisser pénétrer de liquide ni de corps étrangers à l'intérieur du produit. **Le non-respect de cette directive peut entraîner, des lésions corporelles graves ou des dommages matériels.**	**GEFAHR VON MATERIALSCHÄDEN UND GEHÄUSEERHITZUNG** • Die Seitenwände können heiß sein. Lassen Sie das Produkt abkühlen, bevor Sie es berühren. • Beachten Sie die Montageanweisungen, • Führen Sie keine Flüssigkeiten oder Fremdkörper in das Produkt ein. **Die Nichtbeachtung dieser Anweisung kann Körperverletzung oder Materialschäden zur Folge haben.**
RIESGO DE DAÑOS MATERIALES Y DE SOBRECALENTAMIENTO DE LA UNIDAD • Los paneles laterales del producto pueden estar calientes. Esperar que el producto se enfríe antes de tocarlo. • Respetar las instrucciones de montaje, y en particular los pares de apretado. • No dejar que penetren líquidos o cuerpos extraños en el producto. **Si no se respetan estas precauciones pueden producirse graves lesiones, daños materiales.**	**RISCHIO DI DANNI MATERIALI E D'INVOLUCRO CALDO** • I pannelli laterali dell'apparecchio possono scottare; lasciar quindi raffreddare il prodotto prima di toccarlo. • Seguire le istruzioni di montaggio corrette. • Non far entrare liquidi o oggetti estranei in questo apparecchio. **La mancata osservanza di questa precauzione può causare gravi rischi per l'incolumità personale o danni alle apparecchiature.**	材料损坏和高温外壳的危险性 • 产品的一侧面板可能很热，在其冷却前请不要触碰。 • 遵照正确的安装说明，包括扭矩值。 • 请勿让液体及其他异物进入本产品。 如不能正确执行这些操作说明， 极有可能造成严重人体伤害或者设备的损坏。

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