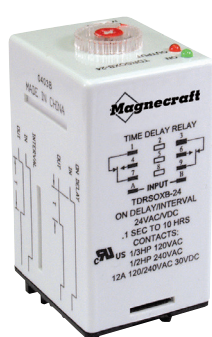


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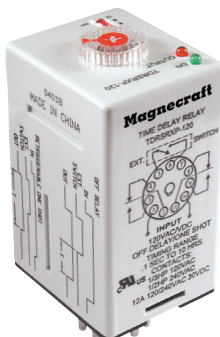
Magnecraft™ Time Delay and Sensor Relays

TDRSOX/SRX Series

DPDT, 12 A



TDRSOXB Relay



TDRSRXP Relay

Description

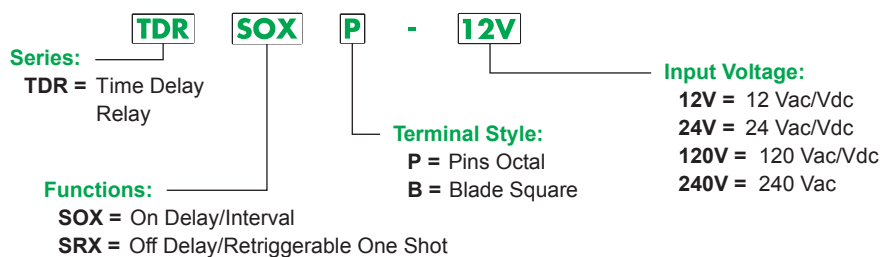
Time delay relays that are dual-function, dual-voltage and socket-compatible. The integrated DIP switching allows the user to easily adjust a wide timing range. Octal and square base available.

Feature	Benefit
Integrated DIP switch	Simplifies the programming of the functions and timing
Output and input indication	Red and green LED for status check
Removable knob	Tamper resistance
Optional side and top flange mounting	Flexibility in mounting techniques
Socket compatible	Makes for easy installation and replacement

Input Voltage	Functions Available (1)	Timing Range	Contact Configuration	Rated Current (A)	Base Type	Standard Part Number
120 Vac/Vdc	A, C	100 ms to 10 hrs	DPDT	12	8 Blade Square Base	TDRSOXB-120V
12 Vac/Vdc	A, C	100 ms to 10 hrs	DPDT	12	8 Blade Square Base	TDRSOXB-12V
24 Vac/Vdc	A, C	100 ms to 10 hrs	DPDT	12	8 Blade Square Base	TDRSOXB-24V
240 Vac	A, C	100 ms to 10 hrs	DPDT	12	8 Blade Square Base	TDRSOXB-240A
120 Vac/Vdc	A, C	100 ms to 10 hrs	DPDT	12	8 Pin Octal Base	TDRSOXP-120V
12 Vac/Vdc	A, C	100 ms to 10 hrs	DPDT	12	8 Pin Octal Base	TDRSOXP-12V
24 Vac/Vdc	A, C	100 ms to 10 hrs	DPDT	12	8 Pin Octal Base	TDRSOXP-24V
240 Vac	A, C	100 ms to 10 hrs	DPDT	12	8 Pin Octal Base	TDRSOXP-240A
120 Vac/Vdc	D, E	100 ms to 10 hrs	DPDT	12	11 Blade Square Base	TDRSRXB-120V
12 Vac/Vdc	D, E	100 ms to 10 hrs	DPDT	12	11 Blade Square Base	TDRSRXB-12V
24 Vac/Vdc	D, E	100 ms to 10 hrs	DPDT	12	11 Blade Square Base	TDRSRXB-24V
240 Vac	D, E	100 ms to 10 hrs	DPDT	12	11 Blade Square Base	TDRSRXB-240A
120 Vac/Vdc	D, E	100 ms to 10 hrs	DPDT	12	11 Pin Octal Base	TDRSRXP-120V
12 Vac/Vdc	D, E	100 ms to 10 hrs	DPDT	12	11 Pin Octal Base	TDRSRXP-12V
24 Vac/Vdc	D, E	100 ms to 10 hrs	DPDT	12	11 Pin Octal Base	TDRSRXP-24V
240 Vac	D, E	100 ms to 10 hrs	DPDT	12	11 Pin Octal Base	TDRSRXP-240A

(1) For function descriptions, see pages 33 and 34.

Part Number Explanation



Magnecraft™ Time Delay and Sensor Relays

TDRSOX/SRX Series

DPDT, 12 A

Specifications

Part Number	TDRSOX	TDRSRX
Input Characteristics		
Input Voltage Range	12, 24, 120 Vac/Vdc 240 Vac	12, 24, 120 Vac/Vdc 240 Vac
Operating Voltage	80% to 110% of Nominal	80% to 110% of Nominal
Maximum Power Consumption (AC)	2.5 VA	2.5 VA
Maximum Power Consumption (DC)	2.5 W	2.5 W
Output Characteristics		
Contact Configuration	DPDT	DPDT
Output Current Rating	12 A	12 A
Contact Material	Silver Alloy	Silver Alloy
Switching Capabilities	240 Vac, 50/60 Hz, 30 Vdc 1/3 HP @ 120 Vac 1/2 HP @ 240 Vac Pilot Duty B300	240 Vac, 50/60 Hz, 30 Vdc 1/3 HP @ 120 Vac 1/2 HP @ 240 Vac Pilot Duty B300
Minimum Switching Requirement	100 mA at 5 Vac or Vdc	100 mA at 5 Vac or Vdc
Timing Characteristics		
Functions Available (1)	A,C	D,E
Time Scales	8	8
Time Ranges	0.1 sec to 1 sec 1 sec to 10 sec 10 sec to 100 sec 0.1 min to 1 min 1 min to 10 min 10 min to 100 min 0.1 hr to 1 hr 1 hr to 10 hr	0.1 sec to 1 sec 1 sec to 10 sec 10 sec to 100 sec 0.1 min to 1 min 1 min to 10 min 10 min to 100 min 0.1 hr to 1 hr 1 hr to 10 hr
Tolerance	10% of Mechanical setting	10% of Mechanical setting
Repeatability @ constant voltage and temperature	1%	1%
Reset Time	150 ms	150 ms
Trigger Pulse Length	N/A	50 ms minimum
General Characteristics		
Electrical Life (operations at rated current) (2)	100,000 operations	100,000 operations
Mechanical Life (Unpowered) (2)	10,000,000 operations	10,000,000 operations
Dielectric Strength (Input to Contacts)	2500 Vrms	2500 Vrms
Storage Temperature Range	-30°C (-22°F) to +70°C (+158°F)	-30°C (-22°F) to +70°C (+158°F)
Operating Temperature Range	-20°C (-4°F) to +60°C (+140°F)	-20°C (-4°F) to +60°C (+140°F)
Weight	133 g (4.69 oz)	133 g (4.69 oz)
Input Indication	Green LED	Green LED
Output Indication	RED LED	RED LED
Enclosure Rating (according to IEC 60529 IP rating)	IP40	IP40
Approvals	cULus (UL Listed [File No. E43641] when used with Magnecraft sockets), cURus (File No. E43641), RoHS	cULus (UL Listed [File No. E43641] when used with Magnecraft sockets), cURus (File No. E43641), RoHS

(1) For function descriptions, see pages 33 and 34.

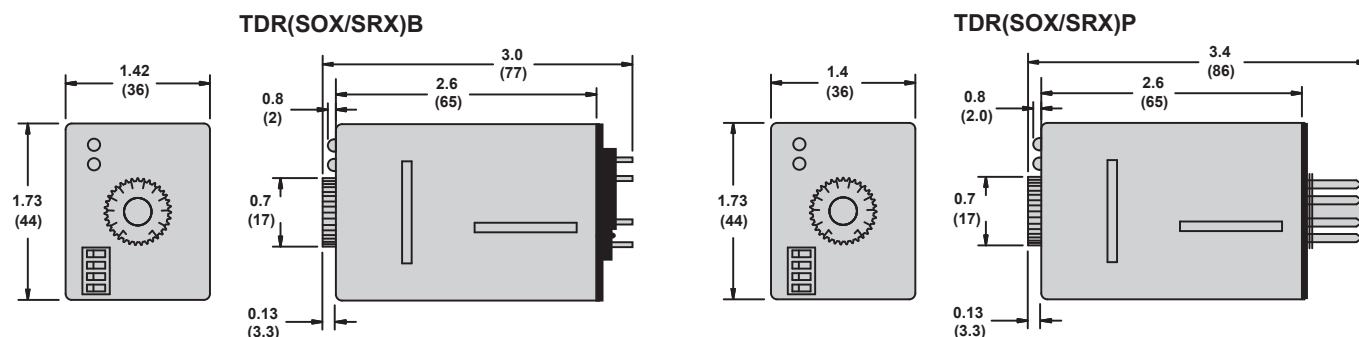
(2) Actual product life will vary based on electrical load, duty cycle, application, and environmental conditions.

Dimensions, Wiring Diagrams, Selecting Time Range and Function

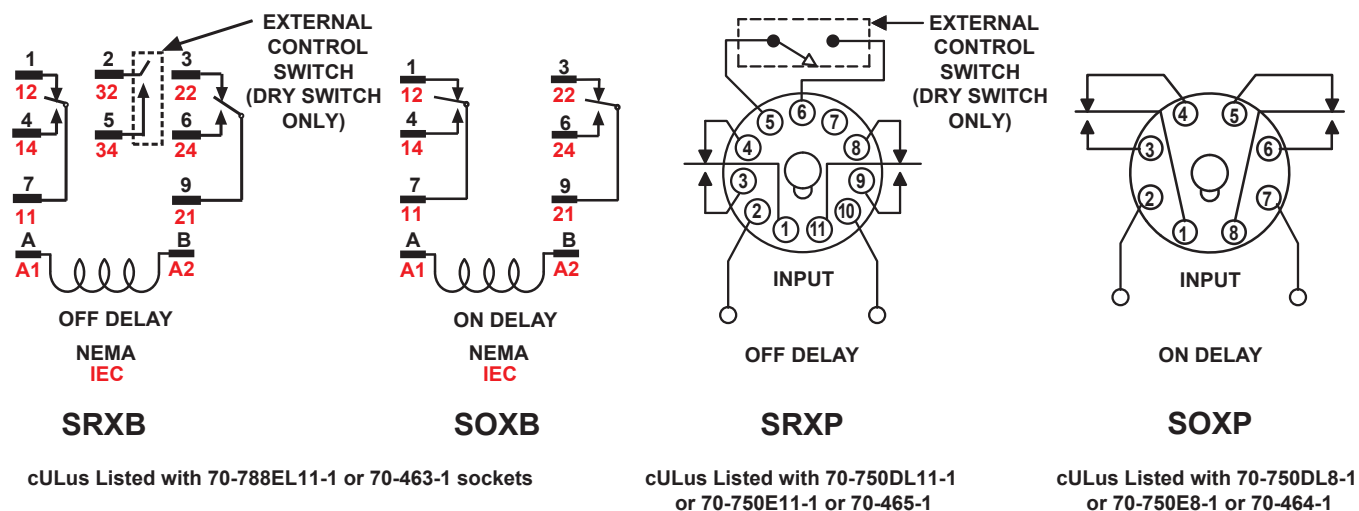
Magnecraft™ Time Delay and Sensor Relays

TDRSOX/SRX Series
DPDT, 12 A

Dimensions — inches (millimeters)



Wiring Diagrams



Selecting Time Range

Time Range	Digital Switch Position		
	II	III	IV
0.1 sec – 1 sec	OFF	OFF	OFF
1 sec – 10 sec	OFF	OFF	ON
10 sec – 100 sec	OFF	ON	OFF
0.1 min – 1 min	OFF	ON	ON
1 min – 10 min	ON	OFF	OFF
10 min – 100 min	ON	OFF	ON
0.1 hr – 1 hr	ON	ON	OFF
1hr – 10 hr	ON	ON	ON

Selecting Function (1)

Function SOX	Digital Switch Position
On Delay	OFF
Interval	ON
Function SRX	Digital Switch Position
On Delay	OFF
Interval	ON

(1) For function descriptions, see pages 33 and 34.

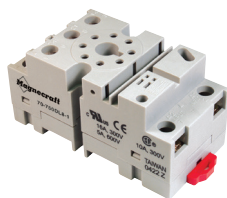
Magnecraft™ Time Delay and Sensor Relays

TDRPRO/SOX/SRX Series Accessories



Description

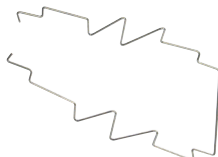
The TDR accessories create a complete system solution for all your application needs. The 70-750DL socket offers an alternate installation option for plug-in models. The 16-TDRPROSC retention clip holds the relay securely in place while allowing quick and efficient installation and maintenance.



70-750DL8-1 Socket



70-750E8-1 Socket



16-TDRPROSC Spring Clip



16-700DIN DIN Rail

Relay Accessories

Description	Function	For Use With Relays	Packaging Quantities	Standard Part Number
Socket	Mounts directly to DIN Rail or Panel	TDRPRO-5101, TDRPRO-5102, TDRSOXP	10	70-750DL8-1
Socket	Mounts directly to DIN Rail or Panel	TDRPRO-5100, TDRSRXP	10	70-750DL11-1
Socket	DIN/Panel Mount with Elevator Terminals	TDRPRO-5101, TDRPRO-5102, TDRSOXP	10	70-750E8-1
Socket	DIN/Panel Mount with Elevator Terminals	TDRPRO-5100, TDRSRXP	10	70-750E11-1
Socket	DIN/Panel Mount with Screw Terminals & Clamping Plates	TDRPRO-5100, TDRSRXP	10	70-465-1
Socket	DIN/Panel Mount with Screw Terminals & Clamping Plates	TDRPRO-5101, TDRPRO-5102, TDRSOXP	10	70-464-1
Socket	Panel Mount with Screw Terminals & Clamping Plates	TDRPRO-5100, TDRSRXP	10	70-170-1
Socket	Panel Mount with Screw Terminals & Clamping Plates	TDRPRO-5101, TDRPRO-5102, TDRSOXP	10	70-169-1
Socket	DIN/Panel Mount with Screw Terminals & Clamping Plates	TDRSRXB, TDRSOXB	10	70-463-1
Metal Hold-Down Clip	Helps secure relay in socket	TDRPRO, TDRSRX	10	16-TDRPROSC
Metal Hold-Down Clip	Helps secure relay in socket	TDRSOX, TDRSRX	100	16-1344

Socket Accessories

Description	Function	For Use With Sockets	Packaging Quantities	Standard Part Number
Metal DIN Rail	Quick installation and removal of sockets	(See table above.)	10 (1)	16-700DIN
ID Tags	Allows for identification of circuits in mult-relay applications	70-750E8-1 70-750E11-1	10	16-750/782FT-1

(1) Length is 39.3 inches.

Magnecraft™ Time Delay and Sensor Relays

TDRPRO/SOX/SRX Series Accessories

Specifications

Part Number	70-750DL8-1	70-750DL11-1	70-750E8-1	70-750E11-1
Contact Configuration	DPDT	3PDT	DPDT	3PDT
Number of Terminals	8	11	8	11
Mounting Style	Panel / DIN rail	Panel / DIN rail	Panel / DIN rail	Panel / DIN rail
Current Rating	16 A	5 A	12 A	12 A
Nominal Voltage Rating	300 V	600 V	600 V	300 V
Temperature Storage Range	-40°C (-40°F) to +105°C (+221°F)	-40°C (-40°F) to +105°C (+221°F)	-40°C (-40°F) to +105°C (+221°F)	-40°C (-40°F) to +105°C (+221°F)
Protection Category according to IEC 60529 IP rating (Fingersafe™)	IP 20	IP 20	IP 20	IP 20
Internal Metal Tracks	Copper Alloy, Zinc Plated	Copper Alloy, Zinc Plated	Copper Alloy, Zinc Plated	Copper Alloy, Zinc Plated
Screw Terminals	Steel, Zinc Plated	Steel, Zinc Plated	Steel, Zinc Plated	Steel, Zinc Plated
Screw Style	Combination Head	Combination Head	Combination Head	Combination Head
Screw Size	M3.5 mm	M3.5 mm	M3.5 mm	M3.5 mm
Maximum Screw Torque	9 lb-in (1.0 N•m)	9 lb-in (1.0 N•m)	9 lb-in (1.0 N•m)	9 lb-in (1.0 N•m)
Terminal Connection	Screw Clamping	Screw Clamping	Elevator	Elevator
Terminal Layout	Logic	Logic	Non-Logic	Non-Logic
Maximum Wire Size	Solid Cu 12 / 14 (2) AWG, 4 / 2.5 (2) mm² Stranded Cu 12 / 14 (2) AWG, 4 / 2.5 (2) mm²	Solid Cu 12 / 14 (2) AWG, 4 / 2.5 (2) mm² Stranded Cu 12 / 14 (2) AWG, 4 / 2.5 (2) mm²	Solid Cu 12 / 14 (2) AWG, 4 / 2.5 (2) mm² Stranded Cu 12 / 14 (2) AWG, 4 / 2.5 (2) mm²	Solid Cu 12 / 14 (2) AWG, 4 / 2.5 (2) mm² Stranded Cu 12 / 14 (2) AWG, 4 / 2.5 (2) mm²
DIN Rail Mounting, EN 60715	35 mm (1.38 in)	35 mm (1.38 in)	35 mm (1.38 in)	35 mm (1.38 in)
Chassis Mount Screw Torque	7 lb-in (0.8 N•m)	7 lb-in (0.8 N•m)	7 lb-in (0.8 N•m)	7 lb-in (0.8 N•m)
Flammability Rating	94V-0 Class	94V-0 Class	94V-0 Class	94V-0 Class
Body Color	Light Gray	Light Gray	Light Gray	Light Gray
DIN Locking Method	Red Plastic Locking Clip	Red Plastic Locking Clip	Red Plastic Locking Clip	Red Plastic Locking Clip
Agency Approvals	cURus (File No. E70550), CSA (File No. 40787), CE 60947-1, RoHS	cURus (File No. E70550), CSA (File No. 40787), CE 60947-1, RoHS	cURus (File No. E70550), CSA (File No. 40787), CE 60947-1, RoHS	cURus (File No. E70550), CSA (File No. 40787), CE 60947-1, RoHS

Part Number	70-169-1	70-170-1	70-464-1	70-465-1
Contact Configuration	DPDT	3PDT	DPDT	3PDT
Number of Terminals	8	11	8	11
Mounting Style	Panel	Panel	Panel / DIN rail	Panel / DIN rail
Current Rating	15 A	15 A	15/10 A	15/5 A
Nominal Voltage Rating	300 V	600 V	300/600 V	300/600 V
Temperature Storage Range	-40°C (-40°F) to +105°C (+221°F)	-40°C (-40°F) to +105°C (+221°F)	-40°C (-40°F) to +105°C (+221°F)	-40°C (-40°F) to +105°C (+221°F)
Internal Metal Tracks	Copper Alloy, Zinc Plated	Copper Alloy, Zinc Plated	Copper Alloy, Zinc Plated	Copper Alloy, Zinc Plated
Screw Terminals	Steel, Zinc Plated	Steel, Zinc Plated	Steel, Zinc Plated	Steel, Zinc Plated
Screw Style	Combination Head	Combination Head	Combination Head	Combination Head
Screw Size	M3.5 mm	M3.5 mm	M3.5 mm	M3.5 mm
Maximum Screw Torque	9 lb-in (1.0 N•m)	9 lb-in (1.0 N•m)	9 lb-in (1.0 N•m)	9 lb-in (1.0 N•m)
Terminal Connection	Screw Clamping	Screw Clamping	Screw Clamping	Screw Clamping
Terminal Layout	Non-Logic	Non-Logic	Non-Logic	Non-Logic
Maximum Wire Size	Solid Cu 12 / 14 (2) AWG, 4 / 2.5 (2) mm² Stranded Cu 12 / 14 (2) AWG, 4 / 2.5 (2) mm²	Solid Cu 12 / 14 (2) AWG, 4 / 2.5 (2) mm² Stranded Cu 12 / 14 (2) AWG, 4 / 2.5 (2) mm²	Solid Cu 12 / 14 (2) AWG, 4 / 2.5 (2) mm² Stranded Cu 12 / 14 (2) AWG, 4 / 2.5 (2) mm²	Solid Cu 12 / 14 (2) AWG, 4 / 2.5 (2) mm² Stranded Cu 12 / 14 (2) AWG, 4 / 2.5 (2) mm²
DIN Rail Mounting, EN 60715	35 mm (1.38 in)	35 mm (1.38 in)	35 mm (1.38 in)	35 mm (1.38 in)
Chassis Mount Screw Torque	7 lb-in (0.8 N•m)	7 lb-in (0.8 N•m)	7 lb-in (0.8 N•m)	7 lb-in (0.8 N•m)
Flammability Rating	94V-0 Class	94V-0 Class	94V-0 Class	94V-0 Class
Body Color	Light Gray	Light Gray	Light Gray	Light Gray
DIN Locking Method	–	–	Red Plastic Locking Clip	Red Plastic Locking Clip
Product Certifications	cURus (File No. E70550), CSA (File No. 97877), CE 60947-1, RoHS	cURus (File No. E70550), CSA (File No. 97877), CE 60947-1, RoHS	cURus (File No. E70550), CSA (File No. 97877), CE 60947-1, RoHS	cURus (File No. E70550), CSA (File No. 97877), CE 60947-1, RoHS

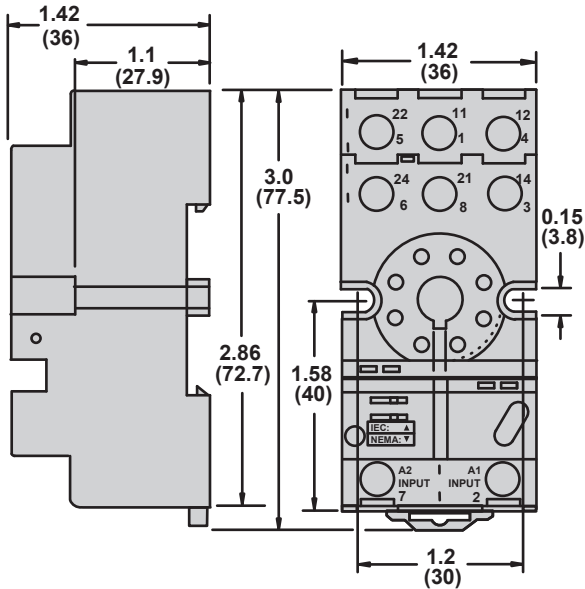
Magnecraft™ Time Delay and Sensor Relays

TDRPRO/SOX/SRX Series Accessories

Dimensions — inches (millimeters)

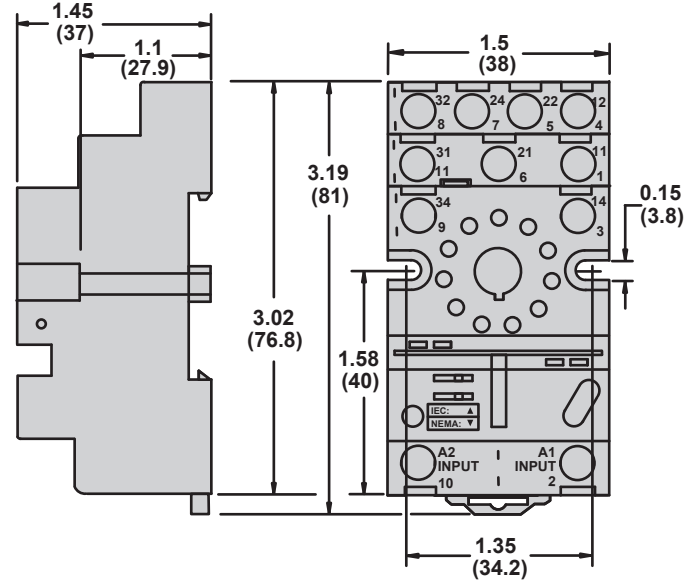
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Mounts directly to DIN Rail or Panel



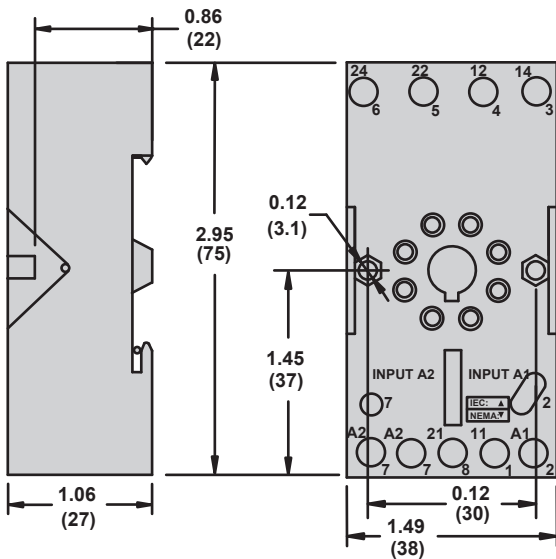
70-750DL11-1

Mounts directly to DIN Rail or Panel



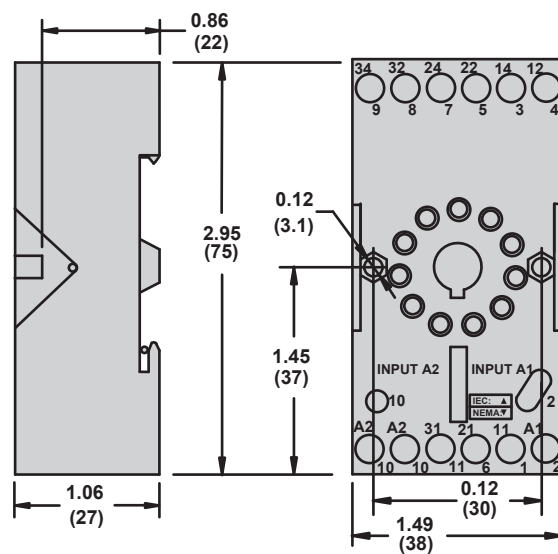
70-750E8-1

DIN/Panel Mount with Elevator Terminals



70-750E11-1

DIN/Panel Mount with Elevator Terminals



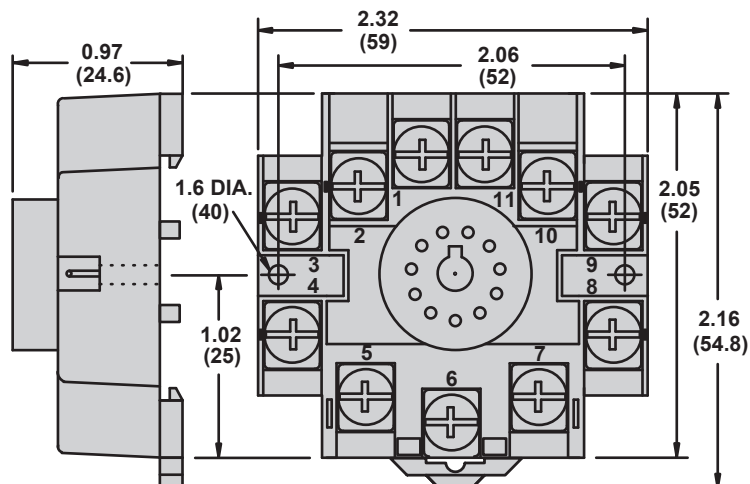
Magnecraft™ Time Delay and Sensor Relays

TDRPRO/SOX/SRX Series Accessories

Dimensions — inches (millimeters)

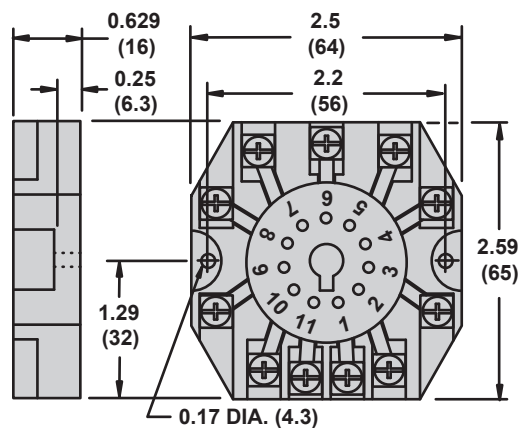
70-465-1

DIN/Mount with Screw Terminals & Clamping Plates



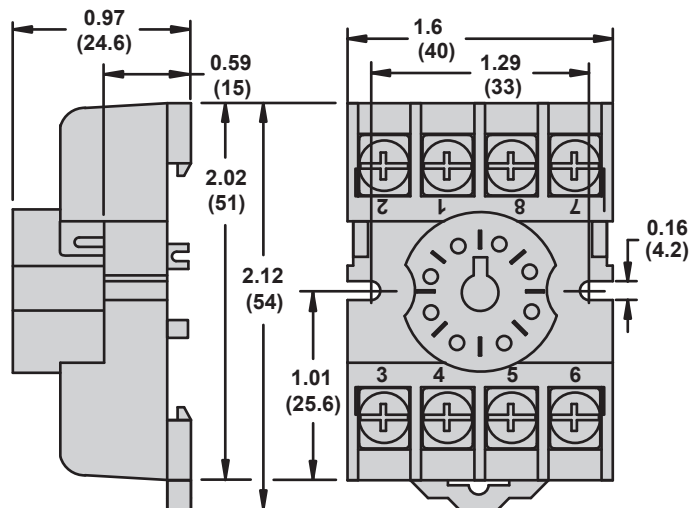
70-170-1

Panel Mount with Screw Terminals & Clamping Plates



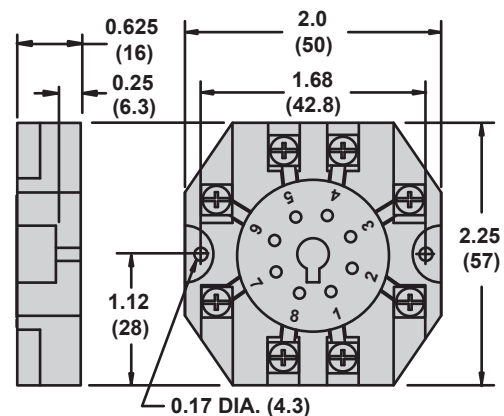
70-464-1

DIN/Mount with Screw Terminals & Clamping Plates

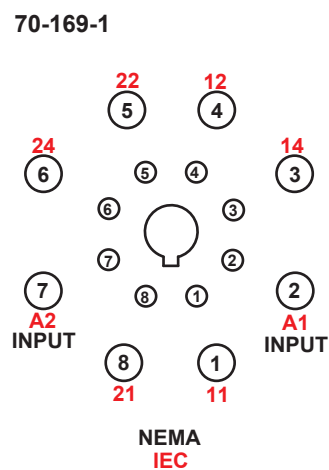
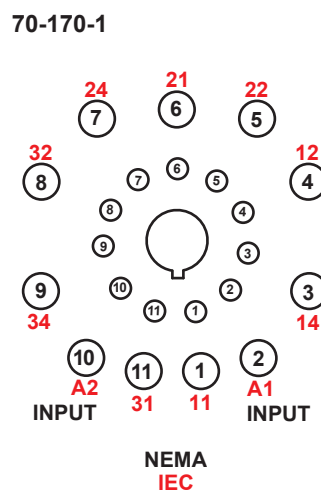
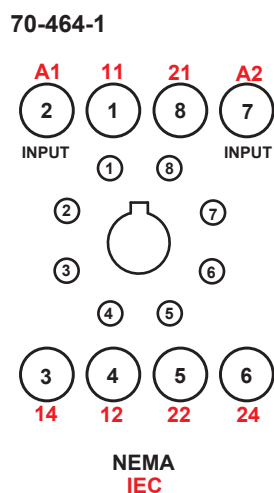
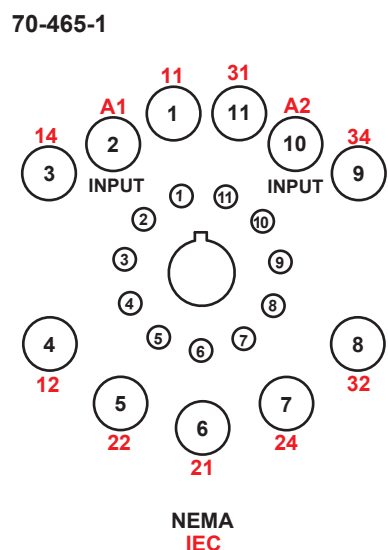
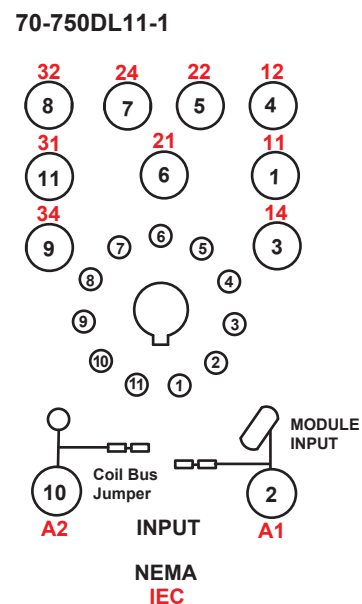
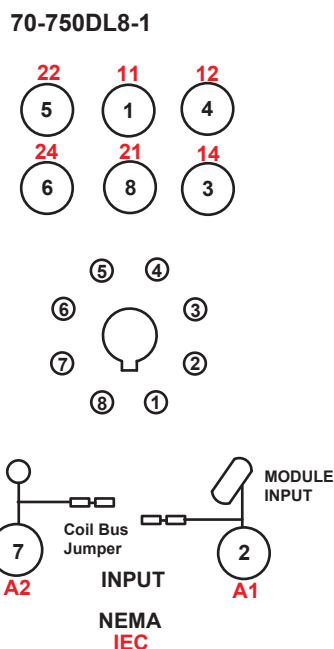
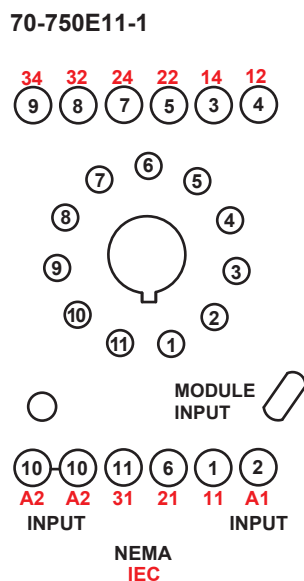
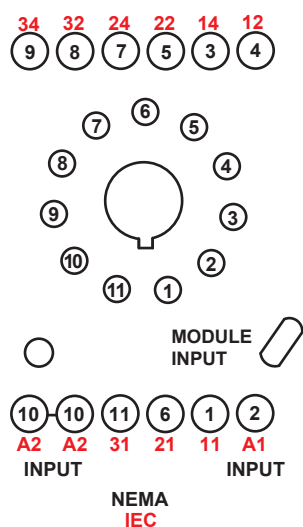


70-169-1

Panel Mount with Screw Terminals & Clamping Plates



70-750E8-1



Time Delay Relay Functions: Power Trigger

Function	Description	Timing Chart	Relays
On Delay (A)	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.		821, 822, TDR782, TDRPRO-5100, TDRPRO-5101, TDRPRO-5102, TDRSOX, 831, 841
Repeat Cycle: Starting Open (B)	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.		821, 822, TDRPRO-5100, TDRPRO-5101, TDRPRO-5102, TDRSOX
Interval (C)	When input voltage U is applied, relay contacts R change state immediately and timing cycle begins. When time delay T 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.		821, 822, TDRPRO-5100, TDRPRO-5101, TDRPRO-5102, TDRSOX
Repeat Cycle: Starting Closed (F)	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.		821, 822, TDRPRO-5100, TDRPRO-5101
Pulse Generator (G)	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 is not used in this function.		821, 822, TDRPRO-5100, TDRPRO-5101

Timing Chart Key

U = Input voltage (Power supply)
R = Relay contacts
T = Setting time

Time Delay Relay Functions: Switch Trigger

Function	Description	Timing Chart	Relays
Off Delay (D)	- Input voltage U must be applied continuously. When trigger switch S is closed, relay contacts R change state. - When trigger switch S is opened, delay T begins. When delay T is complete, contacts R return to their shelf state. - If trigger switch S is closed before time delay T is complete, then time is reset. When trigger switch S is opened, the delay begins again, and relay contacts R remain in their energized state. If input voltage U is removed, relay contacts R return to their shelf state.		821, 822, TDRPRO-5100, TDRPRO-5101, TDRPRO-5102, TDRSRX
Retriggerable One Shot (E)	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 switch S is opened and closed prior to time out T (before preset time elapses). Continuous cycling of the trigger switch 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.		821, 822, TDRPRO-5100, TDRPRO-5101, TDRPRO-5102, TDRSRX
One Shot (H)	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 switch S when the relay is not energized.		821, 822, TDRPRO-5100, TDRPRO-5101
On and Off Delay (I)	Input voltage U must be applied continuously. When trigger switch S is closed, time delay T begins. When time delay T is complete, relay contacts R change state and remain transferred until trigger switch S is opened. If input voltage U is removed, relay contacts R return to their shelf state.		821, 822, TDRPRO-5100, TDRPRO-5101
Memory Latch (J)	Input voltage U must be applied continuously. Output changes state with every trigger switch S closure. If input voltage U is removed, relay contacts R return to their shelf state.		821, 822, TDRPRO-5100, TDRPRO-5101

Timing Chart Key

- U** = Input voltage (Power supply)
- S** = Switch trigger (Control switch)
- R** = Relay contacts
- T** = Setting time