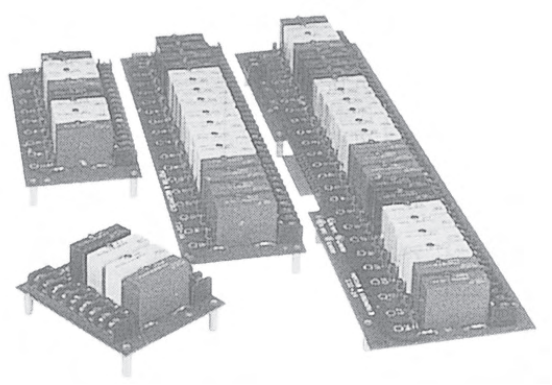


2IOM SERIES
SPACE SAVING MOUNTING BOARDS FOR SLIM LINE INPUT/OUTPUT MODULES

FEATURES:
- LED status indicators, plug-in fuses & pull-up resistors.
- Card edge, straight header, right-angle header and screw terminal logic connections.
- Screw terminals for field wiring.
- UL recognized/CSA certified for 125V max. with 5A fuses; 250V max. with #22 solid copper jumper wire instead of fuses.
- UL File E61482, CSA File LR15734.

2IOM MOUNTING BOARDS FOR SLIM LINE INPUT/OUTPUT MODULES

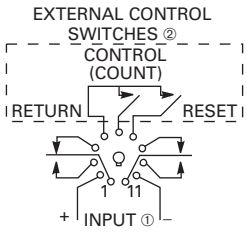
Cat. No.	Module Positions	Logic Terminals	Logic Type	Logic Voltage	Dimensions W×L×H	Hold Down Kit	Net Price
2IOM16●*	16	50-pin card edge connector	Negative True (active low)	Single	88.9×264.2×54.8	SSA-0003	**$128.60**
2IOM24●*	24	50-pin card edge connector	Negative True (active low)	Single	152.4×213.4×54.8	SSA-0004	**210.07**
2IOM24D●*	24	50-pin straight header	Negative True (active low)	Single	152.4×213.4×54.8	SSA-0004	**220.82**

●Denotes UL.
*Denotes CSA.

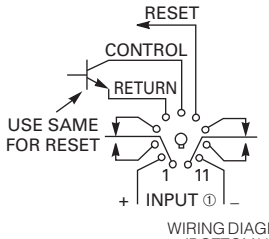
3RP1 SERIES
DIN MOUNT TIME DELAY RELAYS

Cat. No.	Input Voltage AC	Input Voltage DC	Input Type	No. of Functions	Net Price
MULTIFUNCTION MODELS WITH SPDT CONTACTS RATED 3A					
3RP1505-1AQ30●*▲	24	24, 100-127	Fixed	8	**$167.57**
3RP1505-1AP30●*▲	24	24, 200-240	Fixed	8	**167.57**
MULTIFUNCTION MODELS WITH DPDT CONTACTS RATED 3A					
3RP1505-1BQ30●*▲	24	24, 100-127	Fixed	16	**194.04**
3RP1505-1BW30●*▲	24-240	24, 200-240	Universal	16	**238.12**
DELAY ON MODELS WITH SPDT CONTACTS RATED 3A					
3RP1525-1AQ30●*▲	24	24, 100-127	Fixed	1	**114.66**
3RP1525-1AP30●*▲	24	24, 200-240	Fixed	1	**114.66**
DELAY ON MODELS WITH DPDT CONTACTS RATED 3A					
3RP1525-1BQ30●*▲	24	24, 100-127	Fixed	1	**123.48**

NOTE: All models have 15 time setting ranges. Programmable timing range is 0.05 s to 100 hr. Wiring Diagrams vary with the function selected. A detailed instruction sheet ships with each unit.
●Denotes UL.
*Denotes CSA.
▲Denotes VDE.



DIA. 1



WIRING DIAGRAM
(BOTTOM VIEW)
PINS NUMBERED CLOCKWISE FROM KEYWAY

CNT SERIES
MULTIFUNCTION, DIGITAL TIME DELAY RELAY/COUNTER
OPTIONAL SOLID STATE INTERFACE

(1) Note input polarity for DC operation. For most reliable opertion on AC, connect high side to "+".

(2) Important: A dry circuit switch is recommended for proper operation. A "dry circuit" switch is one rated to reliably switch currents of less than 50mA.

OPTIONAL MOUNTING CLIP

Ratchet-fit clip, part number SSA-24C667, slides onto CNT from behind to secure CNT in panel mount applications.

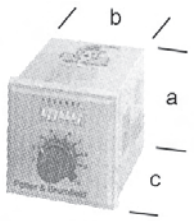
FEATURES:
- 10 programmble timing models + 2 counting modes.
- Universal input (24-240 VAC/VDC) and fixed input types.
- 10A output relay with DPDT contacts.
- 0.1 sec. to 9,990 hr. programmable timing range.
- 1 to 99,900 counting range.
- LCD digital display.
- Thumbwheel switches for programming.
- 1/16 DIN style enclosure.
- Approx. dimensions a(47.8)×b(47.8)×c(71.9h).
- Weight 122g.
- Contact rating 10A @ 30VDC or 277VAC.
- Plug-in mounting.
- UL File E22575, CSA File LR15734.

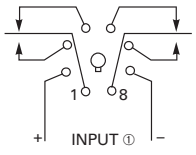
AVAILABLE TIMING FUNCTIONS:
- Delay on operate and release—switch controlled on opening and closure.
- Interval on—input and switch controlled by closure.
- Interval on—switch controlled by closure and opening.
- Recycler—equal on and off times starting with off time upon momentary switch closure.
- Single cycle—equal on and off time.
- Output pulsing—0.5 seconds on time, thumbwheel set off time.
- Cumulative delay on operate.

CNT TIME DELAY RELAYS/COUNTERS

Cat. No.	Input Voltage	Time Range	Type of Adjustment	Wiring Dia.	Net Price
PROGRAMMABLE, MULTIFUNCTION MODELS					
CNT-35-96●*	Universal 24-240 VAC/VDC	0.1 S-9,990H in 7 ranges	Thumbwheel Switches	1	**$149.26**
CNT-35-26●*	12 VAC				**128.68**
CNT-35-76●*	120 VAC				**128.68**

●Denotes UL.
*Denotes CSA.
NOTE: For available sockets see KRPA Series.





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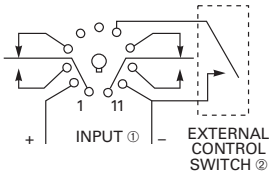


DIA. 2
WIRING DIAGRAMS
(BOTTOM VIEWS)
PINS NUMBERED CLOCKWISE FROM KEYWAY

CNS SERIES

MULTIFUNCTION TIME DELAY RELAY

(1) Note input polarity for DC operation. For most reliable operation on AC, connect high side to "+".

(2) Important: A 50 millisecond minimum switch closure is required. A dry circuit switch is recommended for proper operation. A "dry circuit" switch is one rated to reliably switch currents of less than 50mA.

OPTIONAL MOUNTING CLIP

Ratchet-fit clip, part number SSA-24C667, slides onto CNS from behind to secure CNS in panel mount applications.

FEATURES:
- 8 programmable timing functions (4 to 8-pin models).
- Universal input (24-240 VAC/VDC).
- DIP switch selection of timing function and range.
- Knob and dial scale for setting actual delay time.
- 10A output relay with DPDT contacts.
- Approx. dimensions a(47.8) × b(47.8) × c(71.9h).
- Weight 122g.
- Contact rating 10A @ 30VDC or 277VAC.
- Plug-in mounting.
- UL File E22575, CSA File LR15734.

OPERATION:
Available timing functions on both 8-pin and 11-pin types are:
- Delay on.
- Interval on—input controlled.
- Recycler—equal on and off times starting with on time.
- Recycler—equal on and off times starting with off time.

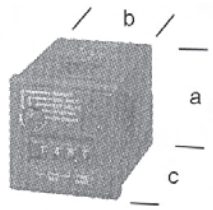
Available timing functions on 11-pin types only are:
- Delay on.
- Interval on-switch controlled.
- Interval off.

Inverted delay on release.

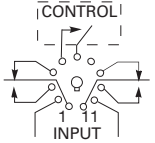
CNS TIME DELAY RELAYS

Cat. No.	Input Voltage	Time Range	Type of Adjustment	Wiring Dia.	Net Price
PROGRAMMABLE, 4-FUNCTION MODELS WITH 8-PIN BASES					
CNS-35-92●*	Universal 24-240 VAC/VDC	0.1 S-100M in 6 ranges	Knob & DIP Switches	1	**$97.76**
CNS-35-72●*	120 VAC				**87.76**
PROGRAMMABLE, 8-FUNCTION MODELS WITH 11-PIN BASES					
CNS-35-96●*	Universal 24-240 VAC/VDC	0.1 S-100M in 6 ranges	Knob & DIP Switches	2	**116.59**
CNS-35-76●*	120 VAC				**87.76**

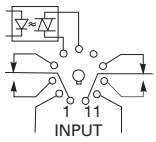
●Denotes UL.
*Denotes CSA.
NOTE: For available sockets see KRPA Series.



EXTERNAL CONTROL SWITCH ①



DIA. 1



WIRING DIAGRAM
(BOTTOM VIEW)
PINS NUMBERED CLOCKWISE
FROM KEYWAY

CNM5 SERIES

MULTIFUNCTION TIME DELAY RELAY FOR PLUG-IN OR PANEL MOUNTING OPTIONAL SOLID STATE INTERFACE

(1) Important: A dry circuit switch is recommended. A "dry circuit" switch is one rated to reliably switch currents of less than 50mA. Use of a switch rated for other than dry circuit may result in failure of the time dealy relay to function properly.

OPTIONAL MOUNTING CLIP

Ratchet-fit clip, part number SSA-24C667, slides onto CNM5 from behind to secure CNM5 in panel mount applications.

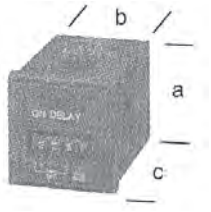
FEATURES:
- Fixed input type (120VAC ± 15%).
- 10A output relay with DPDT contacts.
- 0.1 sec. to 9,990 hr. timing range.
- Digital accuracy.
- Thumbwheel switches for programming delay time.
- 1/16 DIN style enclosure with 11-pin plug-in base.
- Five timing functions selectable via rotary switch.
- Approx. dimensions a(47.8) × b(47.8) × c(71.9h).
- Weight 122g.
- Contact arrangement—2 Form C.
- Contact rating 10A @ 30VDC or 277VAC.
- Plug-in mounting.
- UL File E22575.
- CSA File LR15734.

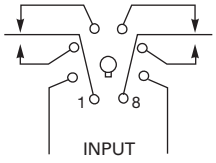
AVAILABLE TIMING FUNCTIONS:
- Repeat, Interval, On Delay, Off Delay, One Shot.

CNM5 TIME DELAY RELAYS

Cat. No.	Input Voltage	Time Range	Type of Adjustment	Wiring Dia.	Net Price
PROGRAMMABLE, MULTIFUNCTION MODEL					
CNM5●*	120VAC	0.1 S-9,990H in 7 ranges	Thumbwheel Switches	1	**$94.47**

●Denotes UL.
*Denotes CSA.
NOTE: For available sockets see KRPA Series.





DIA. 1
WIRING DIAGRAM (BOTTOM VIEW)
PINS NUMBERED CLOCKWISE FROM KEYWAY

CN1 SERIES

ON DELAY, TIME DELAY RELAY FOR PLUG-IN OR PANEL MOUNTING OPTIONAL MOUNTING CLIP

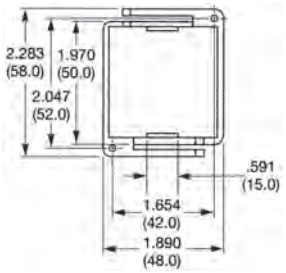
Ratchet-fit clip, part number SSA-24C667, slides onto CN1 from behind to secure CN1 in panel mount applications.

FEATURES:
- Fixed input type (120VAC ± 15%).
- 10A output relay with DPDT contacts.
- 0.1 sec. to 9,990 hr. timing range.
- LED shows status.
- Digital accuracy.
- Thumbwheel switches for programming delay time.
- 1/16DIN style enclosure with 8-pin plug-in base.
- Approx. dimensions a(47.8) × b(47.8) × c(71.9h).
- Weight 122g.
- Contact arrangement—2 Form C.
- Contact rating 10A @ 30VDC or 277VAC.
- Plug-in mounting.
- UL File E22575, CSA File LR15734.

CN1 TIME DELAY RELAYS

Cat. No.	Input Voltage	Time Range	Type of Adjustment	Wiring Dia.	Net Price
DELAY ON OPERATE MODEL					
CN1●*	120VAC	0.1 S-9,990H in 7 ranges	Thumbwheel Switches	1	**$76.29**

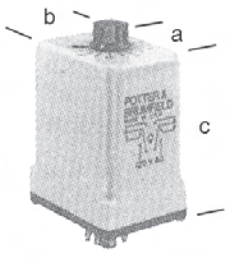
●Denotes UL.
*Denotes CSA.
NOTE: For available sockets see KRPA Series.



SSA-24C667
MOUNTING CLIP

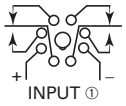
ACCESSORY

Cat. No.	Description	Net Price
SSA-24C667	Ratchet-fit mounting clip slides onto CN1 from behind to secure CN1 in panel mount applications.	**$19.55**

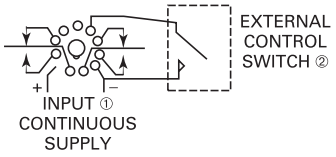


CG/CD/CK/CH/CB SERIES

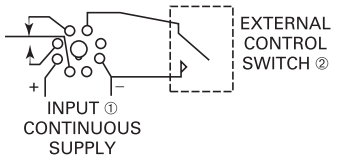
FEATURES:
- Approx. dimensions a(61.1) × b(45.2) × c(74.6h).
- Contact Arrang. 2 Form C.
- Contact Rating 10A @ 240VAC.
- Plug-in mounting.
- UL File E22575, CSA File LR15734.



DIA. 1



DIA. 2



DIA. 3
WIRING DIAGRAM (BOTTOM VIEWS)
PINS NUMBERED CLOCKWISE FROM KEYWAY

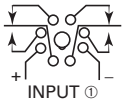
CB SERIES
CMOS IC TIME DELAY RELAY

(1) Note input polarity for DC operation. For most reliable operation on AC, connect high side to "+".

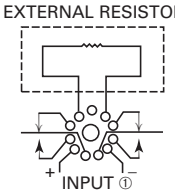
(2) Important: If control switch is closed when power is applied, relay will immediately energize. A 50 millisecond minimum switch closure is required. A dry circuit switch is recommended for proper operation. A "dry circuit" switch is one rated to reliably switch currents of less than 50mA.

For available sockets see KRPA/KRP section.

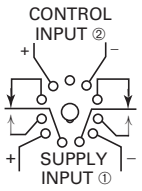
FEATURES:
- Choice of timing modes: delay on operate; delay on release; interval on with or without control switch.
- Fixed, knob or resistor adjustable types.
- 10A output relay with SPDT or DPDT contacts.
- Various models time from 0.1 sec. to 100 min.



DIA. 4



DIA. 5



DIA. 6

WIRING DIAGRAMS (BOTTOM VIEWS) PINS NUMBERED CLOCKWISE FROM KEYWAY

CD SERIES
CMOS IC TIME DELAY RELAY

(1) Note input polarity for DC operation. For most reliable operation on AC, connect high side to "+".

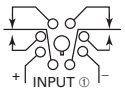
(2) Important: If control voltage is present when supply voltage is applied, the relay will immediately energize.

For available sockets see KRPA/KRP section.

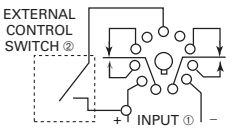
FEATURES:
- 1% Repeatability.
- Operates from –40˚C to +55˚C.
- Delay on operate or delay on release timing modes.
- Fixed, knob or resistor adjustable types—calibrated dial on knob adjustable types.
- 10A output relay with SPDT or DPDT contacts.
- Various models time from 0.1 to 180 sec.

CDF EXTERNAL RESISTOR VALUES

Factory Set Time Delay (No Resistor)	Approx. Resistance to Reduce Delay 50%	Short Circuit Time Delay
5 S	200K Ohms	0.1 S



DIA. 7



DIAG. 8

WIRING DIAGRAMS (BOTTOM VIEWS) PINS NUMBERED CLOCKWISE FROM KEYWAY

CG SERIES
CMOS IC TIME DELAY RELAY

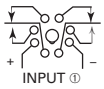
(1) Note input polarity for DC operation. For most reliable operation on AC, connect high side to "+".

CG SERIES
CMOS IC TIME DELAY RELAY

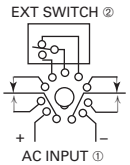
(1) Note input polarity for DC operation. For most reliable operation on AC, connect high side to "+".

(2) Important: If control switch is closed when power is applied, relay will immediately energize. A 50 millisecond minimum switch closure is requried. A dry circuit switch is recommended for proper operation. A "dry circuit" switch is one rated to reliably switch currents of less than 50mA.

For available sockets see KRPA/KRP section.



DIA. 9



DIA. 10

WIRING DIAGRAMS (BOTTOM VIEWS) PINS NUMBERED CLOCKWISE FROM KEYWAY

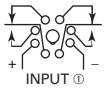
CH SERIES
MID- TO LOW-PRICED CMOS IC TIME DELAY RELAY

(1) Note input polarity for DC operation. For most reliable operation on AC, connect high side to "+".

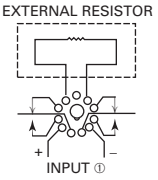
(2) Important: A 50 millisecond minimum switch closure is required. A dry circuit switch is recommended for proper operation. A "dry circuit" switch is one rated to reliably switch currents of less than 50mA.

For available sockets see KRPA/KRP section.

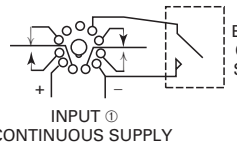
FEATURES:
- Choice of timing modes: delay on operate; delay on release; interval on.
- Fixed, knob or resistor adjustable types.
- 10A output relay with DPDT contacts.
- Various models time from 1 to 180 sec.



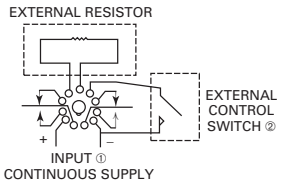
DIA. 11



DIA. 12



DIA. 13



DIA. 14

WIRING DIAGRAMS (BOTTOM VIEWS) PINS NUMBERED CLOCKWISE FROM KEYWAY

CK SERIES

MID-PRICED CMOS IC TIME DELAY RELAY

(1) Note input polarity for DC operation. For most reliable operation on AC, connect high side to "+".

(2)Important: If control switch is closed when power is applied, relay will immediately energize. A 50 millisecond minimum switch closure is required. A dry circuit switch is recommended for proper operation. A "dry circuit" switch is one rated to reliably switch currents of less than 50mA.

For available sockets see KRPA/KRP section.

CKF EXTERNAL RESISTOR VALUES

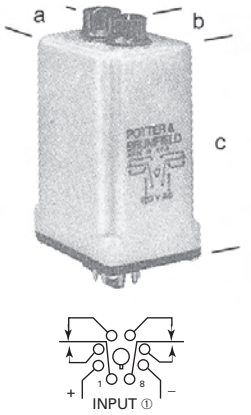
Short circuit provides minimum (0.1 S) time delay. 200K resistor (approx.) provides maximum (10 S) time delay.

FEATURES:
- Choice of timing modes: delay on operate; delay on release; delay on dropout (no input required during timing); interval on.
- Fixed, knob or resistor adjustable types.
- 10A output relay with DPDT contacts.
- Various models time from 0.1 to 180 sec.

TIME DELAY RELAYS

Cat. No.	Input Voltage	Time Range	Type of Adjustment	Wiring Dia.	Net Price
DELAY ON OPERATE MODELS					
CB-1001B-70●*	120VAC	0.1-1 S	Knob	1	**$101.78**
CB-1002B-70●*		0.1-5 S			**101.78**
CB-1003B-70●*		0.1-10 S			**101.78**
CB-1004B-70●*		0.6-60 S			**101.78**
CB-1005B-70●*		1.8-180 S			**101.78**
CB-1006B-70●*		1-10 M			**101.78**
CB-1007B-70●*		10-100 M			**101.78**
CB-1047D-20	12VDC	0.1-10 S	Knob	1	**101.78**
CB-1028D-30●*	24VDC	0.1-10 S	Knob	1	**101.78**
CDB-38-70001●*	120VAC	0.1-1 S	Knob	1	**217.66**
CDB-38-70002●*		0.1-5 S			**217.66**
CDB-38-70003●*		0.1-10 S			**217.66**
CDB-38-70006●*		0.3-30 S			**217.66**
CDB-38-70004●*		0.6-60 S			**217.66**
CDB-38-70005●*		0.8-180 S			**223.11**
CDA-38-70012●*	120VAC	1 S	Fixed	4	**205.53**
CDF-38-70002●*	120VAC	0.1-5 S	Resistor	5	**205.53**
CDD-38-30003●*	24VDC	0.1-10 S	Knob	4	**217.66**
CDD-38-30004●*		0.6-60 S			**224.21**
CDD-38-30005●*		1.8-180 S			**217.66**
CGB-38-70010M●*	120VAC	1-10 M	Knob	7	**252.76**
CGB-38-70050M●*		5-50 M			**260.39**
CHB-38-30001●*	24VAC	1-10 S	Knob	9	**126.20**
CHB-38-30003●*		1-180 S			**126.20**
CHB-38-70001●*	120VAC	1-10 S	Knob	9	**126.20**
CHB-38-70002●*		1-60 S			**126.20**
CHB-38-70003●*		1-180 S			**126.20**
CHA-38-70001●*	120VAC	10 S	Fixed	9	**121.17**
CHD-38-30001●*	24VDC	1-10 S	Knob	9	**122.52**
CHD-38-30003●*		1-180 S			**126.20**
CKB-38-70010●*	120VAC	0.1-10 S	Knob	11	**126.20**
CKB-38-70060●*		0.6-60 S			**126.20**
CKB-38-70120●*		1.2-120 S			**126.20**
CKF-38-70010●*	120VAC	0.1-10 S	Resistor	12	**122.59**
CKD-38-20010●*	12VDC	0.1-10 S	Knob	11	**126.20**
DELAY ON RELEASE MODELS					
CB-1021B-78●*	120VAC	0.1-10 S	Knob	2	**$98.79**
CB-1023B-78●*		0.6-60 S		2	**98.79**
CB-1024B-78●*		1.8-180 S		2	**98.79**
CB-1038D-38●*	24VDC	0.1-10 S	Knob	2	**98.79**
CB-1039D-38●*		1.8-180 S			**98.79**
CDB-38-70016●*	120VAC	0.1-1 S	Knob	6	**224.21**
CDB-38-70091●*		0.1-5 S			**224.21**
CDB-38-70014●*		0.1-10 S			**224.21**
CDB-38-70092●*		0.3-30 S			**224.21**
CDB-38-70012●*		0.6-60 S			**224.21**
CDB-38-70015●*		1.8-180 S			**224.21**
CDD-38-30014●*	24VDC	0.1-10 S	Knob	6	**224.21**
CDD-38-30012●*		0.6-60 S			**224.21**
CDD-38-30008●*		1.8-180 S			**224.21**
CGB-38-78010M●*	120VAC	1-10 M	Knob	8	**260.39**
CGB-38-78050M●*		5-50 M			**252.76**
CHB-38-70011●*	120VAC	1-10 S	Knob	10	**122.52**
CHB-38-70012●*		1-60 S			**122.52**
CHB-38-70013●*		1-180 S			**122.52**
CKB-38-78010●*	120VAC	0.1-10 S	Knob	13	**122.52**
CKF-38-78010●*	120VAC	0.1-10 S	Resistor	14	**118.97**
DELAY ON DROPOUT MODELS					
CKB-38-37010●*	24VAC	0.1-10 S	Knob	11	**165.94**
CKB-38-77010●*	120VAC	0.1-10 S	Knob	11	**165.94**
CKB-38-77060●*		0.6-60 S		11	**165.94**
CKB-38-77120●*		1.2-120 S		11	**165.94**
INTERVAL ON MODELS					
CGB-38-79010M●*	120VAC	1-10 M	Knob		**252.76**
CHB-38-70021●*	120VAC	1-10 S	Knob	9	**126.20**
CHB-38-70022●*		1-60 S			**126.20**
CHB-38-70023●*		1-180 S			**126.20**
CHD-38-30021●*	24VDC	1-10 S	Knob	9	**126.20**

●Denotes UL.
*Denotes CSA.



DIA. 1
WIRING DIAGRAM (BOTTOM VIEW)
PINS NUMBERED CLOCKWISE FROM KEYWAY

CR SERIES

RECYCLE TIME DELAY RELAY

(1) Note input polarity for DC operation. For most reliable operation on AC, connect high side to "+".

For available sockets see KRPA section.

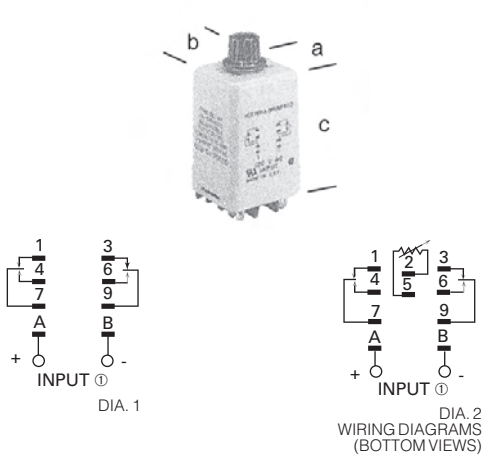
FEATURES:
- Individual on and off time adjustment knobs.
- 10A output relay with DPDT contacts.
- Various models time from 0.1 to 180 sec.
- Approx. dimensions a(61.1)×b(45.2)×c(90.4h).
- Contact arrang. 2 Form C.
- Contact rating 10A @ 240VAC.
- Mode of operation: recycle timer.
- Plug in mounting.
- UL File E22575, CSA File LR15734.

Continued on next page....

CR TIME DELAY RELAYS

Cat. No.	Input Voltage	Time Range	Type of Adjustment	Wiring Dia.	Net Price
CRB-48-70010●*	120VAC	0.1-10 S	Knob	1	**$247.21**
CRB-48-70030●*		0.3-30 S			**239.97**
CRB-48-70060●*		0.6-60 S			**239.97**
CRB-48-70180●*		1.8-180 S			**239.97**
CRD-48-30180●*	24VDC	1.8-180 S	Knob	1	**239.97**

●Denotes UL.
*Denotes CSA.



CL-CU SERIES
COMPACT TIME DELAY RELAY

(1) Note input polarity for DC operation. For most reliable operation on AC, connect high side to "+".

FEATURES:
- Delay on operate timing mode.
- Fixed, knob or resistor adjustable types.

CL-CU SERIES
COMPACT TIME DELAY RELAY

(1) Note input polarity for DC operation. For most reliable operation on AC, connect high side to "+".

FEATURES:
- Delay on operate timing mode.
- Fixed, knob or resistor adjustable types.

- 10A output relay with DPDT contacts.
- Variety of mounting options.

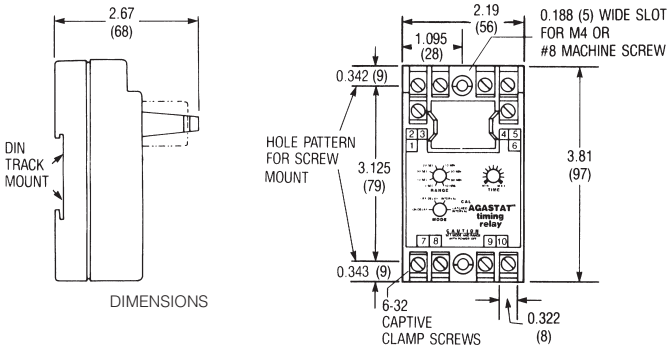
CLF/CLH/CUF/CUH EXTERNAL RESISTOR VALUES

Time Delay		Approximate Resistance	
CU	CL	AC Input	DC Input
1 S	0.1 S	Short	Short
10 S	10 S	200K Ohm	160K Ohm
1 S	0.3 S	Short	Short
30 S	30 S	600K Ohm	500K Ohm
1 S	1.2 S	Short	Short
120 S	120 S	2.4 Megohm	2.0 Megohm

CL/CU TIME DELAY RELAYS

Cat. No.	Input Voltage	Time Range	Type of Adjustment	Wiring Dia.	Net Price
DELAY ON OPERATE MODELS					
TYPES WITH NO TIMING CYCLE INTERRUPT TRANSFER					
CLB-51-30010●*	24VAC	0.1-10 S	Knob	1	**$107.94**
CLB-51-70010●*	120VAC	0.1-10 S	Knob	1	**107.94**
CLB-51-70030●*		0.3-30 S		1	**107.94**
CLB-51-70120●*		1.2-120 S		1	**107.94**
CLF-41-70010●*	120VAC	0.1-10 S	Resistor	2	**106.64**
CLF-42-70010●*		0.1-10 S			**106.64**
CLH-41-30010●*	24VDC	0.1-10 S	Resistor	2	**112.60**
TYPES WHICH MAY MOMENTARILY TRANSFER CONTACTS IF TIMING CYCLE IS INTERRUPTED					
CUA-41-30010●*	24VAC	10 S	Fixed	1	**108.95**
CUF-41-30010●*	24VAC	1-10 S	Resistor	2	**108.95**
CUB-51-70010●*	120VAC	1-10 S	Knob	1	**110.97**
CUB-51-70030●*		1-30 S			**110.97**
CUB-51-70060●*		1-60 S			**110.97**
CUB-51-70120●*		1-120 S			**110.97**
CUA-41-70001●*	120VAC	1 S	Fixed	1	**111.67**
CUA-41-70003●*		3 S			**112.23**
CUA-41-70005●*		5 S			**108.95**
CUA-41-70010●*		10 S			**112.23**
CUF-41-70010●*	120VAC	1-10 S	Resistor	2	**108.95**
CUF-42-70010●*		1-10 S			**112.23**
CUF-41-70030●*		1-30 S			**108.95**
CUF-41-70120●*		1-120 S			**108.95**
CUF-42-70120●*		1-120 S			**108.95**
CUH-41-30010●*	24VDC	1-10 S	Resistor	2	**108.95**
CUH-42-30010●*		1-10 S			**108.95**
CUH-41-30120●*		1-120 S			**108.95**

CLF-**42**-70010: "42" denotes bracket mount case with two mounting slots on 2.5 (63.5) centres.
All other models listed have a plain case for socket mounting. For sockets see KUP section.
●Denotes UL.
*Denotes CSA.

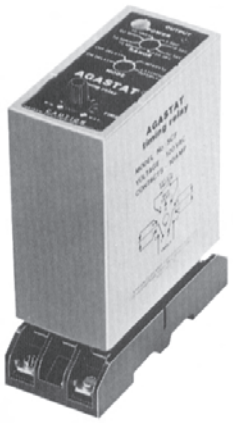


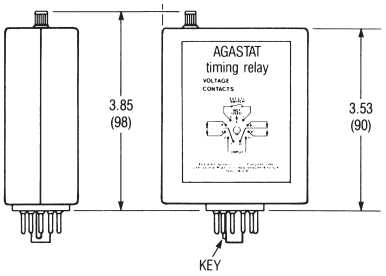
AGASTAT SERIES SSF UNIVERSAL TIMERS

The Series SSF heavy duty timer offers four user-selectable timing modes, and a choice of eight timing ranges. One universal unit accommodates seven standard operating voltages through the selection of the appropriate plug-in DPDT output relay. In addition, SSF timers offer high repeat accuracy, outstanding transient protection and reliable performance. Designed for surface, DIN rail or machine tool relay channel mounting, they feature front screw terminals and can be precisely set by the TC-1 calibrator. Operating Modes: 1 On-Delay, 2 Off-Delay, 3 Interval, 4 Latching Interval. Mode Selection: Screwdriver adjustment; Recessed 4-position selector switch. Range Selection: Screwdriver adjustment; Recessed 8-position selector switch. Timing Adjustment: Potentiometer adjustment with reference calibrations, with recessed screwdriver slot. Timing Ranges: .1-3 sec., .33-10 sec., 1-30 sec., 4-120 sec., 33-10 min., 1-30 min., 2-60 min., and .33-10 hrs. Accuracy Overall: ±3%. Reset Time (All Modes): 0.100 sec. Relay Release Time: Types 1 and 3, 0.030 sec. (with factory installed relay). Relay Operating Time: Types 2, 3, 4, 0.040 sec. (with factory installed relay). Mounting Terminals: Surface or DIN rail mounting case with screw terminals. Output: DPDT Relay 10 amps Resistive, 28VDC/120VAC 1/3 HP, 120/240VAC 345 VA.

Cat. No.	Operating Voltage/ Description	Net Price
SSFR90A	120VAC 50/60Hz., 10 amps	**$151.08**
SSFR90X*	Universal (Relay Dependent)	**144.88**

***NOTE:** The unit requires a user supplied P&B K10 series output relay with a coil voltage of 24, 48, 120 or 240 VAC or 24, 48 or 125VDC.

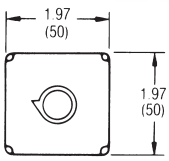


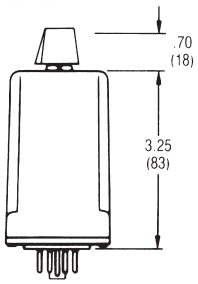


AGASTAT SERIES SCF MULTI-MODE MULTI-RANGE PLUG-IN TIMERS

The series SCF external plug-in timer provides a wide choice of operating voltages with a minimum of inventory—reducing maintenance and downtime costs. It offers four user-selectable timing modes and a span of 0.1 second to 10 hours through eight overlapping time ranges, plus easy screwdriver setting ±1% repeat accuracy. An external knob allows adjustment within each time range. An 11-pin octal socket is also available for surface or DIN rail mounting. The timer may be quickly and precisely set with the TC-1 calibrator. Operating Modes: 1 On-Delay, 2 Off-Delay, 3 Interval, 4 Latching Interval. Mode Selection: Screwdriver adjustment; Recessed 4-position selector switch. Time Selection: Screwdriver adjustment; Recessed 8-position selector switch. Timing Adjustment: Potentiometer adjustment with reference calibrations, with external knob. Timing Ranges: .1-3 sec., .33-10 sec., 1-30 sec., 4-120 sec., .33-10 min., 1-30 min., 2-60 min., and .33-10 hrs. Reset Time (All Modes): 0.035 sec. Mounting/Terminals: 11-Pin octal type plug for use with mating socket.

Cat. No.	Operating Voltage/ Description	Net Price
SCFRX902BA	120VAC 50/60Hz./125VDC, 5 amps.	**$180.46**
ACCESSORY		
BCSF11SC	11-Pin Octal Socket For SCF.	**21.01**





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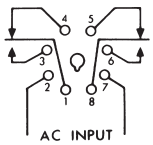
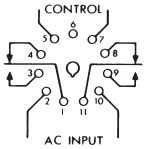
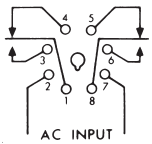


WIRING DIAGRAMS
MODEL SSC12



MODEL SSC22



MODEL SSC32

AGASTAT SSC SERIES TRANSIENT PROTECTED INDUSTRIAL SOLID STATE TIMING RELAYS

The AGASTAT SSC Series Timing Relays provide industrial control designers the accuracy and reliability of military grade solid state timers at industrial price levels. Through improved circuit design, they eliminate many of the problems associated with low cost R-C timers—a transistorized voltage sensing circuit does away with large-value dropping resistors, reducing the internal heat which destroys the accuracy and shortens the life of conventional design. Current drain is correspondingly minimized—25 mA maximum for 120 VAC units. The unique circuit also eliminates the need for supplementary temperature-compensation components, providing unusual stability over a broad operating temperature range of –30˚C to +65˚C. Under typical conditions, repeat accuracy falls within ±1% of set time. SSC Series timers from Electro Sonic's stocks have a nominal operating voltage of 120 VAC (50-60 Hz), with a voltage tolerance of +10%, –15%. Other operating voltages are available to special order. Standard models are transient protected. Contacts are DPDT, rated 10 amps resistive. Dielectric strength: 1000 VAC between terminals and case between mutually-isolated terminals. All models are housed in a nylon plug-in case, 1.97″ square × 3.95″ high (including adjustment knob).

MODEL SSC12—120 VAC 50-60 Hz & 120 VDC DELAY ON ENERGIZATION POTENTIOMETER ADJUST

Applying line voltage to pin #2 and #7 initiates the time delay. Contacts transfer at the end of the timing cycle. Output resets within .02 seconds (maximum) after removal of line voltage. Voltage must be removed and reapplied to recycle the timer. In contrast to conventional delay-on-energization units, this circuit incorporates **protection against premature output switching when power is removed prior to time out.** 8-pin octal base.

Cat. No.	Timing Range	Net Price
SSC12AAA	.1 to 3 Sec.	**$113.16**
SSC12ABA	.5 to 15 Sec.	**113.16**
SSC12ACA	1 to 30 Sec.	**113.16**
SSC12AFA	6 to 180 Sec.	**110.40**
SSC12AGA	10 to 300 Sec.	**113.16**
SSC12AIA	2 to 60 Min.	**113.16**
SSC12ALA	20 Sec. to 10 Min.	**113.16**

MODEL SSC22—120 VAC 50-60 Hz & 120 VDC DELAY ON DE-ENERGIZATION POTENTIOMETER ADJUST

Input voltage must be applied continuously or at least 0.050 second to pins #2 and #10 before Control Switch closure. Closure of a dry switch (not supplied) across pins #5 and #7 simultaneously transfers the output and resets the timer. Maximum rest time 0.025 seconds. Switch must remain closed for at least 25 milliseconds for timer to be within specifications. Operating switch initiates the time delay, after which the output drops out. Control (switch) may be reapplied immediately to begin a new cycle. If control is re-applied during the time delay, the timer will be reset to zero but the output will remain energized. 11-pin octal base.

Cat. No.	Timing Range	Net Price
SSC22ABA	.5 to 15 Sec.	**$139.28**
SSC22ACA	1 to 30 Sec.	**139.28**
SSC22AGA	10 to 300 Sec.	**139.28**

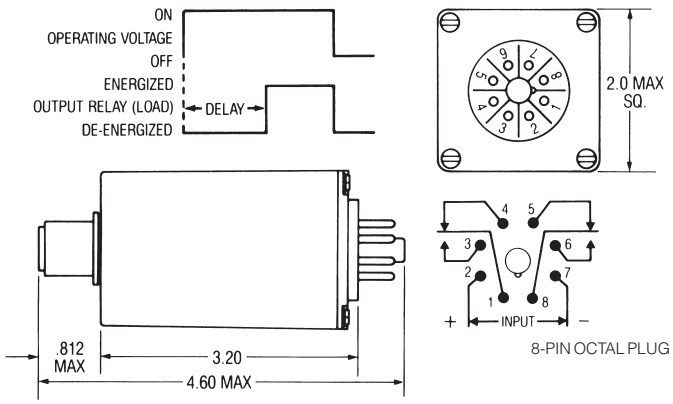
MODEL SSC32—120 VAC 50-60 Hz & 120 VDC DELAY ON ENERGIZATION WITH INSTANT TRANSFER POTENTIOMETER ADJUST

Applying line voltage to Pins #2 and #7 simultaneously transfers the output and initiates the time delay. At the end of the timing period the output returns to its original position. If line voltage is removed during or after the time delay, the output will reset within .025 seconds (maximum). To recycle the timer, line voltage must be removed and reapplied. 8-pin octal base.

Cat. No.	Timing Range	Net Price
SSC32ACA	1 to 30 Sec.	**$134.92**

AGASTAT SST SERIES TRANSIENT PROTECTED INDUSTRIAL SOLID STATE TIMING RELAYS

Fast, easy setting with time-calibrated knob is yours with these versatile timing controls. Digital timing circuitry assures high repeat accuracy. Time delays to 60 minutes. Superior transient protection. 8 or 11-pin plug-in. Rugged construction. Flame-retardant housing. Operating Voltage: 120VAC (50-60 Hz), with a voltage tolerance of ±10%. Standard models are transient protected. Dielectric: 1500 volts RMS min. @ 60 Hz between contacts and circuitry and between line inputs and control circuits.

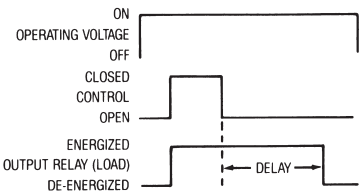


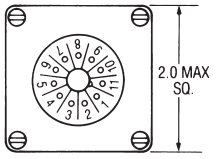
ALL DIMENSIONS IN INCHES

MODEL SST1—120 VAC 50-60 Hz. ON DELAY

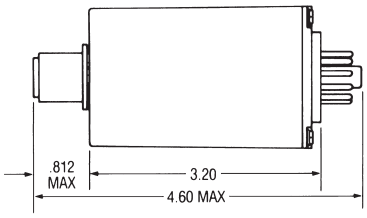
The preset time-delay begins when operating voltage is applied. At the end of the preset time delay, the output relay (load) is energized and remains energized until operating voltage is removed. To reset, remove operating voltage.

Cat. No.	Timing Range	Net Price
SST12AAA	0.1-10 Sec.	**$56.02**
SST12ADA	1.8-180 Sec.	**56.02**
SST12AEA	3-300 Sec.	**57.42**

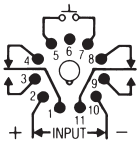




EXTERNAL CONTROL SWITCH (ZERO VOLTAGE)



ALL DIMENSIONS IN INCHES

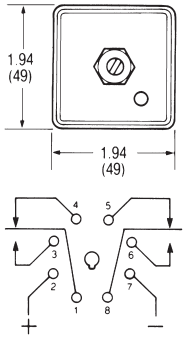


11-PIN OCTAL PLUG

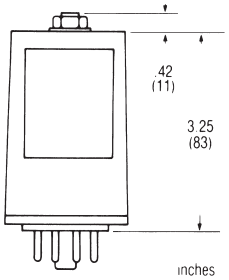
MODEL SST2—120 VAC 50-60 Hz. OFF DELAY

Operating voltage is applied continuously. The output relay (load) is energized when a normally-open control switch is closed (the load remains energized as long as the control switch is closed). When the control switch is re-opened, the preset time-delay begins. At the end of the preset time-delay, the output relay (load) de-energizes. If the control state is reversed during the time-delay period, the delay generating circuit automatically resets to zero. To reset, close the control switch.

Cat. No.	Timing Range	Net Price
SST22AAA	0.1-10 Sec.	**$63.04**
SST22ADA	1.8-180 Sec.	**63.04**
SST22AGA	18 Sec.-30 Min.	**63.04**



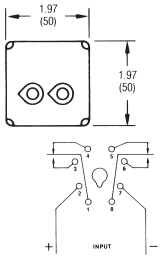
WIRING DIAGRAM
SOCKETS AVAILABLE
8-PIN OCTAL TYPE SOCKET:
BCSA08SC

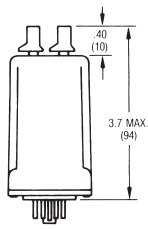


AGASTAT SERIES VMA UNDERVOLTAGE RELAY

The AGASTAT solid state undervoltage relays protect valuable equipment in DC or single phase AC systems. Two features assure operation only when adequate voltage is available: a calibrated adjustment for the drop out point and a fixed, rather than a floating, pick/up point. The solid state sensing circuit is coupled to an internal DPDT relay for positive load control, with an integral time delay to prevent nuisance tripping. A built in LED signals adequate voltage. Solid state circuitry accuracy and long life. Automatic reset minimizes equipment downtime. **PICK-UP:** VMAXAA 104 Volts. **DROP-OUT RANGE:** VMAXAA 78-99 Volts. **OPERATING TEMPERATURE RANGE:** –30˚C to +65˚C. **POWER CONSUMPTION:** 4 Watts max. **DIELECTRIC:** 1480 VOLTS. **OPERATING LIFE OPERATIONS:** Electrical 10,000,000; Mechanical 100,000.

Cat. No.	Description	Net Price
VMAXAA	120VAC	**$152.35**





WIRING DIAGRAM
SOCKETS AVAILABLE
8-PIN OCTAL TYPE SOCKET:
BCSA08SC

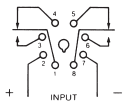
AGASTAT SRC SERIES DUAL FUNCTION REPEAT-CYCLE TIMER

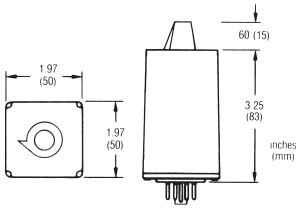
The Series SRC Dual-Function Repeat-Cycle Timer permits the industrial-control designer to simplify and cost-reduce his systems by combining in one unit both ON and OFF control of a load. It is for applications requiring repetitive ON/OFF cycles of independently variable durations. Advanced circuitry uses high-rel IC's and premium discrete-component protective and timing circuits for high accuracy, stability, and long-term reliability. Its design also provides exceptional immunity to line transient, even in high-stress environments. A premium-quality timer at an industrial-grade price. Time Adjustment: Dual internal potentiometers with individual knobs. Nylon case with 8-pin phenolic base. Output: DPDT Relay 10 amps., resistive, 28 VDC/120 VAC. ⅓ HP, 120/240 VAC. Currect Drain: Output relay energized 0.015 amp, de-energized 0.005 amp.

120 VAC & DC

Cat. No.	Off-Time* Timing Range	Net Price
SRC72ABBA	.5 to 15 sec.	**$169.85**
SRC72ANNA	1 to 30 min.	**169.85**

*Insert code for desired On-Time Range as follows: A-.1 to 3 Sec.; B-.5 to 15 Sec.; C-1 to 30 Sec.; D-2 to 60 Sec.; E-4 to 120 Sec.; F-6 to 180 Sec.; G-10 to 300 Sec.; 1-2 to 60 Min.; K-6 to 180 Cycles.; L-20 Sec. to 10 Min.; M-30 Sec. to 15 Min.; N-1 to 30 Min.; P-.1 to 10 Sec.





AGASTAT SCE SERIES TRUE OFF-DELAY TIMING RELAY

The AGASTAT SCE Series industrial timing relays provide true off-delay. Timing is initiated upon removal of power. These timers offer excellent transient immunity, and delays of up to 10 minutes. Repeat accuracy is typically better than ±1%.

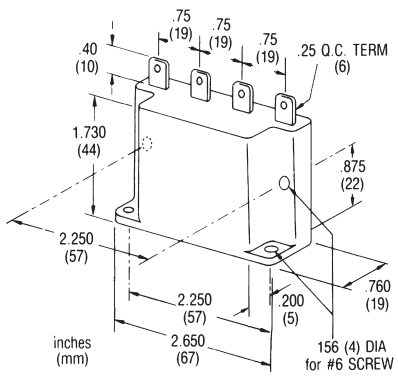
Upon application of operating voltage, output relay contacts transfer. When operating voltage is removed, after the time delay period, output relay contacts release. If operating voltage is re-applied prior to expiration of the delay period, the delay will be cancelled and output relay contacts will remain transferred.

OPERATING VOLTAGE: 120V 50/60 Hz or 125 VDC (+10, –15%). **ACCURACY:** Repeat accuracy ±1%. **TIME ADJUSTMENT:** Knob adjustment. **MOUNTING/TERMINALS:** Eight pin octal type plug.

AGASTAT SCE SERIES TRUE OFF-DELAY TIMING RELAY

Cat. No.	Timing Range	Operating Range	Net Price
SCERX22AAA	0.1 to 3 sec.	120V 50/60 Hz or 125 VDC	**$163.22**
SCERX22ABA	0.5 to 15 sec.		**163.22**
SCERX22ACA	1 to 30 sec.		**163.22**
SCERX22AGA	10 to 300 sec.	120V 50/60 Hz or 125 VDC	**163.22**
SCERX22ALA	20 sec. to 10 min.		**163.22**

NOTE: Knob Adjust.

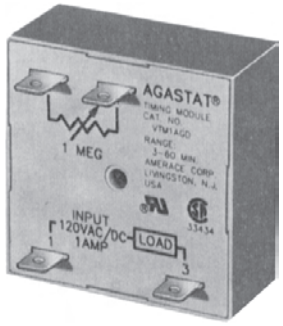


AGASTAT VTM IN-LINE TIMING MODULE

The **AGASTAT VTM** in-line Timing Module provides, in a simple, compact design, remarkable economy, exceptional simplicity, and unprecedented application flexibility. Wired in series with a load circuit, it will control inductive loads of up to 1 Amp, RMS AC or DC. Connecting a resistor of a predetermined value across the centre terminals provides tamperproof delay setting. The VTM will accommodate power-circuit voltages from 24V to 240V, RMS AC or DC. Cost is low compared with conventional TDR's. **OUTPUT:** Solid state SPNO, 1 ampere inductive at nominal operating voltage. **RESISTIVE RATING:** 166 mA AC, 250 mA DC. **INRUSH:** 10 amps for .010 sec. **TIMING ADJUSTMENT:** The time delay period is determined by the connection of a resistor across the centre two terminals. Add 10K ohms of resistance for every additional second of delay required. Maximum delay 1000 seconds. FOR EXAMPLE: 5 seconds = 40K ohms, 10 seconds = 90K ohms. When using variable resistance on centre terminals, lead length must not exceed 6˝. **CURRENT DRAIN:** .002 amp. (max.). **TERMINALS:** Four ¼˝ quick-connect terminals for input line, load output and timing resistor connection. **ACCURACY REPEAT OVERALL:** ±2%; **RESET TIME, SECONDS:** 0.1; **TEMPERATURE RANGE, OPERATING:** –30˚C to +65˚C.

AGASTAT VTM SERIES TIMING MODULES

Cat. No.	Input Voltage	Mode of Operation	Net Price
VTM-1	24-240V AC/DC	**ON DELAY**—VTM-1 in-line timing module is wired in series with the load circuit. Time delay is initiated when power is applied to the series network. Connecting a resistor across the centre terminals provides tamper-proof setting of time delay from 1-1000 seconds.	**$55.43**



AGASTAT VTM SERIES INDUSTRIAL GRADE SOLID STATE MINIATURE TIMING MODULES

The AGASTAT VTM Industrial Grade Solid State Miniature Timing Modules are designed for demanding industrial applications. Time delays to 10 hours. Reliable solid state timing circuitry. Superior transient protection. Compact design. Flame-retardant, solvent-resistant housing. **OUTPUT** VTM1, VTM2, VTM3, VTM4 and VTM7: Solid State, SPNO, 1 amp. @ nominal. **INRUSH:** Not to exceed 20 amps. for 1 cycle, non-repetitive. **TIMING ADJUSTMENT** VTM1, VTM2, VTM3, VTM4 and VTM7: External Potentiometer or Resistor. **CURRENT DRAIN** VTM1: 2mA max., VTM2, VTM3, VTM4 and VTM7: Less than 5mA. **MOUNTING/TERMINALS:** Surface mount with one #8 screw ¼˝ × 0.032˝ male quick-connect terminals. **REPEAT ACCURACY:** ±1% at constant temperature. **RESET TIME** VTM1: 100 milliseconds max. before time-out, 10 milliseconds max. after time-out, VTM2, VTM3 and VTM4: 50 milliseconds max., VTM7: 150 milliseconds max. **OPERATING TEMPERATURE:** –40˚F to +150˚F (–40˚C to +65.5˚C).

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