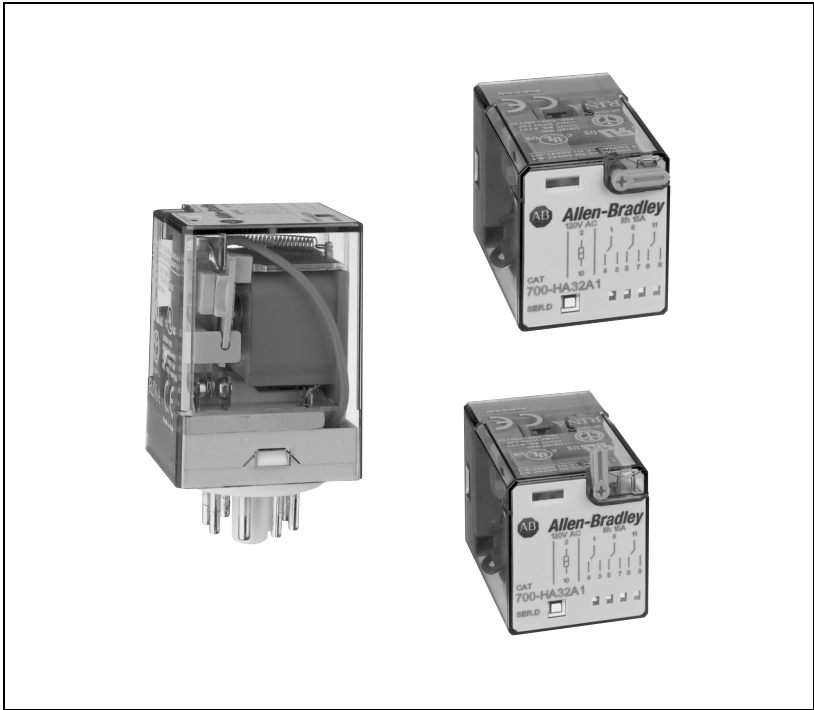




Bulletin 700-HA

- 10 A Contact Rating
- DPDT, 3PDT
- Pin Style Terminals
- Standard ON/OFF Flag Indicator
- Clear Cover for Easy Visual Inspection
- Optional Push-to-test and Manual Override
- Optional LED
- Optional Socket Mounted Surge Suppressor Module
- Optional Multi-Function Timing Module
- Type HAB—Bifurcated Contacts
- Type HAX—Gold Bifurcated Contacts

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Specifications	49		

Description

The Bulletin 700-HA General Purpose Relays have pin-style terminals and are available in 2-pole (DPDT) or 3-pole (3PDT). They feature a standard ON/OFF flag indicator, and can be ordered with an optional push-to-test operator, a LED, and bifurcated or gold bifurcated contacts. Coils are available in a wide range of AC and DC voltages. Contacts are rated up to 10 A.

Conformity to Standards:

- EN 60947-4-1
- EN 60947-5-1
- IEC 947
- CSA 22.2
- UL 508
- NEMA/EE MAC compliant
- ICS-2 compliant

Approvals:

- cURus Recognized, File E3125 Guide NLDX 2
- cULus Listed, with Allen-Bradley socket
- CE Marked (per EU Low Voltage Directive 73/23 EEC 93/68 EEC)
- ABS (American Bureau of Shipping), File 00-GE195140-PDA
- RINA listed

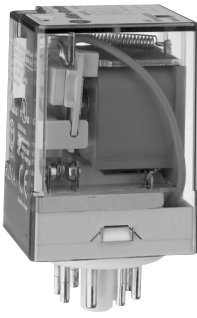
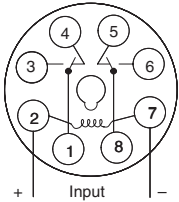
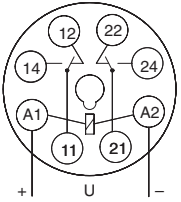
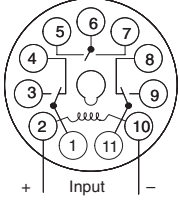
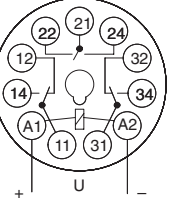
Your order must include:

- Cat. No. of the plug-in relay plus suffixes of selection options.
- Cat. No. of socket required.
- If required, Cat. No. of any accessories.

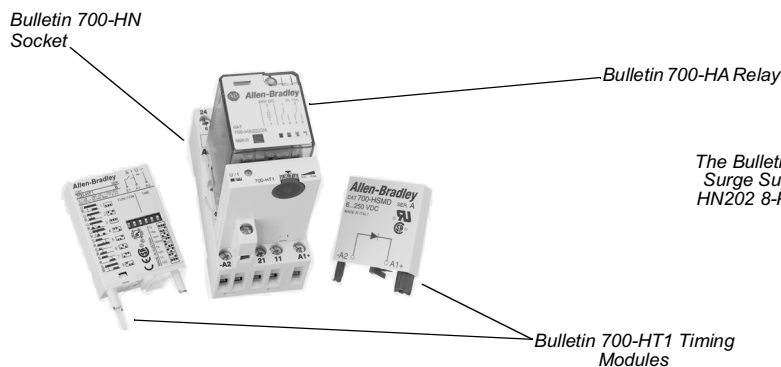
Third Party Approval:

- IMQ listed

**Bulletin 700-HA Tube Base Relay with PIN Terminals (Single Contact) —
Mechanical ON/OFF Indicator included ❶**

	Description	Contact Rating	Wiring Diagrams		Coil Voltage	Cat. No. ❷❸❹	Factory-Stocked Item	
			U.S./Canada	International			❺	❻
	DPDT 2-Pole 2 Form C Single AgNi Contact	10 A B300			6V AC	700-HA32A06		
					12V AC	700-HA32A12	✓	
					24V AC	700-HA32A24 ❺	✓	
					120V AC	700-HA32A1 ❺	✓	✓
					240V AC	700-HA32A2 ❺	✓	
					277V AC	700-HA32A27❻	✓	
					6V DC	700-HA32Z06		
					12V DC	700-HA32Z12 ❺	✓	
					24V DC	700-HA32Z24 ❺	✓	
					36V DC	700-HA32Z36		
					48V DC	700-HA32Z48	✓	
					110V DC	700-HA32Z1	✓	
					125V DC	700-HA32Z01	✓	
					140V DC	700-HA32Z3		
Sockets			700-HN125	700-HN100 700-HN202				
	3PDT 3-Pole 3 Form C Single AgNi Contact	10 A B300			6V AC	700-HA33A06		
					12V AC	700-HA33A12		
					24V AC	700-HA33A24 ❺	✓	
					120V AC	700-HA33A1 ❺	✓	✓
					240V AC	700-HA33A2	✓	
					6V DC	700-HA33Z06		
					12V DC	700-HA33Z12	✓	
					24V DC	700-HA33Z24 ❺	✓	
					48V DC	700-HA33Z48		
					110V DC	700-HA33Z1		
					125V DC	700-HA33Z01	✓	
					140V DC	700-HA33Z3		
Sockets			700-HN126	700-HN101 700-HN203				

- ❶ For Time Module and Surge Suppressor Module, see page 47.
- ❷ LED Option: Add suffix **(-4)** to the selected Bulletin 700-HA Relay Cat. No., except for the 240V AC Units, add **(-4L)**.
- ❸ Push-to-test, Manual Override, and LED Option: Add suffix **(-3-4)** to the selected Bulletin 700-HA Relay Cat. No., except for the 240V AC units, add **(-3-4L)**.
- ❹ Push-to-test and Manual Override option: Add suffix **(-3)** to the selected Bulletin 700-HA relay.
- ❺ Bulk Package Option: Relay can be purchased at discounted prices in bulk quantities of 10. Add suffix **(-99)** to the selected relay catalog number.
- ❻ LED not available.
- ❼ Single pack
- ❽ Bulk pack



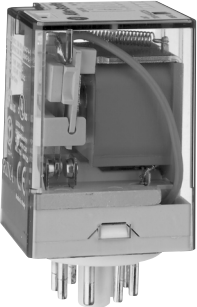
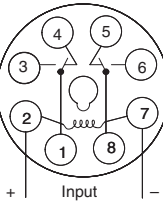
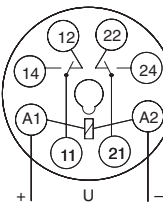
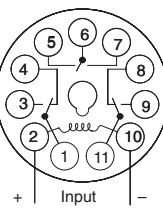
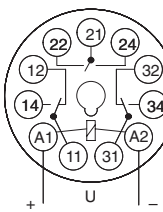
The Bulletin 700-HA Relays can be used together with Timing or Surge Suppressor Modules by plugging in to the Cat. No. 700-HN202 8-Pin Socket, or the Cat. No. 700-HN203 11-Pin Socket.

General Purpose Relays

Product Selection, Continued

Bulletin 700-HAB Tube Base Relay with PIN Terminals (Bifurcated Contacts) —

Mechanical ON/OFF Indicator included ❶

	Description	Contact Rating	Wiring Diagrams		Coil Voltage	Cat. No. ❷❸❹	Factory-stocked Item ❺
			U.S./Canada	International			
	DPDT 2-Pole 2 Form C Bifurcated AgNi Contacts Sockets	4 A			6V AC	700-HAB2A06	
					12V AC	700-HAB2A12	
					24V AC	700-HAB2A24	
					120V AC	700-HAB2A1	✓
					240V AC	700-HAB2A2	
					277V AC	700-HAB2A27 ❹	
					6V DC	700-HAB2Z06	
					12V DC	700-HAB2Z12	
					24V DC	700-HAB2Z24	✓
					36V DC	700-HAB2Z36	
					48V DC	700-HAB2Z48	
					110V DC	700-HAB2Z1	
					125V DC	700-HAB2Z01	
					140V DC	700-HAB2Z3	
	3PDT 3-Pole 3 Form C Bifurcated AgNi Contacts Sockets	4 A			6V AC	700-HAB3A06	
					12V AC	700-HAB3A12	
					24V AC	700-HAB3A24	
					120V AC	700-HAB3A1	✓
					240V AC	700-HAB3A2	
					6V DC	700-HAB3Z06	
					12V DC	700-HAB3Z12	
					24V DC	700-HAB3Z24	✓
					48V DC	700-HAB3Z48	
					110V DC	700-HAB3Z1	
					125V DC	700-HAB3Z01	
					140V DC	700-HAB3Z3	

❶ For Time Module and Surge Suppressor Module, see page 47.

❷ LED Option: Add suffix (-4) to the selected Bulletin 700-HAB Relay Cat. No., except for the 240V AC Units, add (-4L).

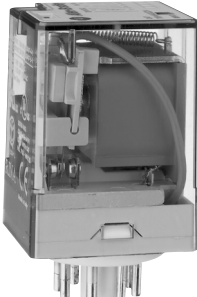
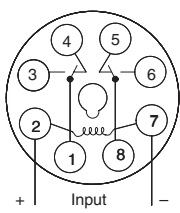
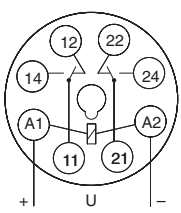
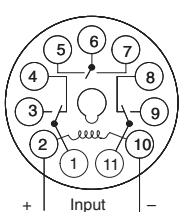
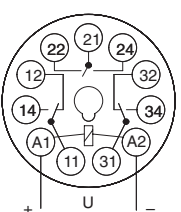
❸ Push-to-test, Manual Override & Pilot Light Option: Add suffix (-3 -4) to the selected Bulletin 700-HAB Relay Cat. No., except for the 240V AC units, add (-3 -4L).

❹ Push-to-test and Manual Override option: Add suffix (-3) to the selected Bulletin 700-HA relay.

❺ Single Pack

❻ LED not available.

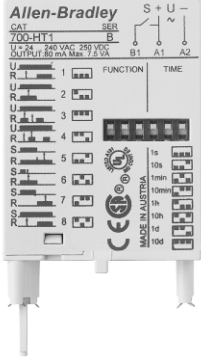
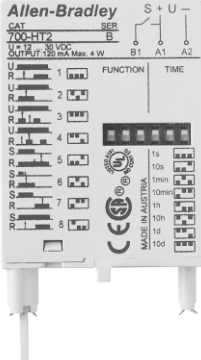
**Bulletin 700-HAX Tube Base Relay with PIN Terminals (Bifurcated Contacts with Gold Overlay) —
 Mechanical ON/OFF Indicator Included ❶**

	Description	Contact Rating	Wiring Diagrams		Coil Voltage	Cat. No. ②③④	Factory-stocked Item ⑥
			U.S./Canada	International			
	DPDT 2-Pole 2 Form C Bifurcated AgNi Contacts with Gold Overlay Sockets	4 A			6V AC	700-HAX2A06	
					12V AC	700-HAX2A12	
					24V AC	700-HAX2A24	
					120V AC	700-HAX2A1	✓
					240V AC	700-HAX2A2	
					277V AC	700-HAX2A27⑤	
					6V DC	700-HAX2Z06	
					12V DC	700-HAX2Z12	
					24V DC	700-HAX2Z24	✓
					36V DC	700-HAX2Z36	
					48V DC	700-HAX2Z48	
					110V DC	700-HAX2Z1	
					125V DC	700-HAX2Z01	
					140V DC	700-HAX2Z3	
	3PDT 3-Pole 3 Form C Bifurcated AgNi Contacts with Gold Overlay Sockets	4 A			6V AC	700-HAX3A06	
					12V AC	700-HAX3A12	
					24V AC	700-HAX3A24	
					120V AC	700-HAX3A1	✓
					240V AC	700-HAX3A2	
					6V DC	700-HAX3Z06	
					12V DC	700-HAX3Z12	
					24V DC	700-HAX3Z24	✓
					48V DC	700-HAX3Z48	
					110V DC	700-HAX3Z1	
					125V DC	700-HAX3Z01	
					140V DC	700-HAX3Z3	

- ❶ For Time Module and Surge Suppressor Module, see page 47.
 ❷ LED Option: Add suffix **(-4)** to the selected Bulletin 700-HAX Relay Cat. No., except for the 240V AC Units, add **(-4L)**.
 ❸ Push-to-test and LED Option: Add suffix **(-3-4)** to the selected Bulletin 700-HAX Relay Cat. No., except for the 240V AC units, add **(-3-4L)**.
 ❹ Push-to-test and Manual Override option: Add suffix **(-3)** to the selected Bulletin 700-HA relay.
 ❺ LED not available.
 ❻ Single pack

Bulletin 700-HA
General Purpose Relays
Accessories

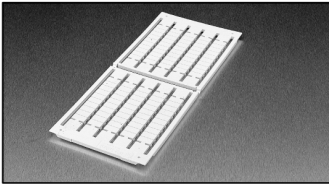
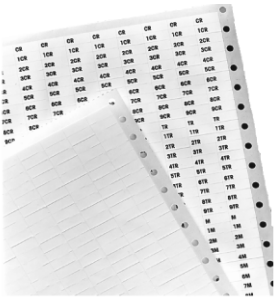
	Description	Pkg. Qty.	Cat. No.	Factory-stocked Item
 Cat. No. 700-HN100	Screw Terminal Tube Base Sockets – Panel or DIN Rail Mounting. Guarded Terminal Construction 8-pin for use with DPDT Bulletin 700-HA relays, -HX digital timing relays, -HT (ON-Delay) and -HRM, -HRC and -HV (Repeat Cycle) timing relays. Order must be for 10 sockets or multiples of 10.	10	700-HN100	✓
 Cat. No. 700-HN125	Screw Terminal Tube Base Sockets – Panel or DIN Rail Mounting Open Style Construction 8-pin for use with DPDT Bulletin 700-HA relays, -HT (ON-Delay) and -HRM, -HRC and -HV (Repeat Cycle) timing relays. Order must be for 10 sockets or multiples of 10. No retainer clip required.	10	700-HN125	✓
 Cat. No. 700-HN101	Screw Terminal Tube Base Sockets – Panel or DIN Rail Mounting. Guarded Terminal Construction 11-pin for use with 3PDT Bulletin 700-HA relays, -HR and -HT (OFF-Delay) timing relays. Order must be for 10 sockets or multiples of 10.	10	700-HN101	✓
 Cat. No. 700-HN126	Screw Terminal Tube Base Sockets – Panel or DIN Rail Mounting. Guarded Terminal Construction 11-pin for use with 3PDT Bulletin 700-HA relays, -HR and -HT (OFF-Delay) timing relays. Order must be for 10 sockets or multiples of 10.	10	700-HN126	✓
 Cat. No. 700-HN203	8-Pin Socket – Can Be Used With or Without Timing Attachment or Surge Suppressor Screw Terminal Tube Base Sockets – panel or DIN Rail mounting. Guarded terminal construction. Used with DPDT Bulletin 700-HA relays. Order must be for 10 sockets or multiples of 10.	10	700-HN202	✓
	11-Pin Socket – Can Be Used With or Without Timing Attachment or Surge Suppressor Screw Terminal Tube Base Sockets – panel or DIN Rail mounting. Guarded terminal construction. Used with 3PDT Bulletin 700-HA relays. Order must be for 10 sockets or multiples of 10.	10	700-HN203	✓
 Cat. No. 199-DR1	DIN Rail Mounting Pack Standard 35 x 7.5 mm DIN Rail, 1 meter long, 10 rails per package. Order must be for 10 rails or multiples of 10.	10	199-DR1	✓

	Description	Pkg. Qty.	Cat. No.	Factory-stocked Item
 Cat. No. 700-HSV1	MOV Suppressor Module ① Voltage Range: 24V AC 24...30V DC Order must be for 20 modules or multiples of 20.	20	700-HSV1	✓
	MOV Suppressor Module ① Voltage Range: 220...240V AC 220...300V DC Order must be for 20 modules or multiples of 20.	20	700-HSV2	✓
	MOV Suppressor Module ① Voltage Range: 110...120V AC 110...150V DC Order must be for 20 modules or multiples of 20.	20	700-HSV3	✓
 Cat. No. 700-HSMD	Diode Surge Suppressor ① Voltage Range: 6...250V DC Order must be for 20 modules or multiples of 20.	20	700-HSMD	✓
 Cat. No. 700-HT1	Multi-Function Multi-Range Time Module ① Voltage range 24...240V AC 50/60 Hz and 24...250V DC, with a voltage variation of 85...110%. Repeat accuracy of <0.5%. Reset time 150 ms. Refer to page 50 for Specifications. Eight (8) Timing Modes Eight (8) Timing Ranges: 1. 1 s 2. 10 s 3. 1 min. 4. 10 min. 5. 1 hour 6. 10 hours 7. 1 day (24 hours) 8. 10 days (240 hours) LED Indicator: 1. Steady Green (G) for power on, flashing during timing.	1	700-HT1	✓
 Cat. No. 700-HT2	Multi-Function Multi-Range Time Module ① Voltage range 12...30V DC, with a voltage variation of 90...110%. Repeat accuracy of <0.5%. Reset time 150 ms. Refer to page 50 for Specifications. Eight (8) Timing Modes (See page 51 for further details.) Eight (8) Timing Ranges: 1. 1 s 2. 10 s 3. 1 min. 4. 10 min. 5. 1 hour 6. 10 hours 7. 1 day (24 hours) 8. 10 days (240 hours) LED Indicator: 1. Steady Green (G) for power on, flashing during timing	1	700-HT2	

① Suppressors and Time Modules easily plug into sockets (Cat. Nos. 700-HN202 and 700-HN203). For use with Bulletin 700-HA relays.

ATTENTION: Cat. No. 700-HT1 Series A is wired with switch "S" connected to "A2", but 700-HT1 Series B is wired with switch "S" connected to "A1". The Time Modules must be wired correctly. Check the front of the Time Modules for the correct wiring diagrams.

Bulletin 700-HA
General Purpose Relays
Accessories, Continued

	Description	Pkg. Qty.	Cat. No.	Factory-stocked Item
 Sample Retainer Clips	Retainer Clip for Cat. Nos. 700-HN100, -HN101, -HN200, -HN201, -HN202, and -HN203 Sockets with Bulletin 700-HA Relays ❶ Secures relay in socket. Order must be for 10 clips or multiples of 10.	10	700-HN157	✓
 Snap-in markers	Relay Identification Snap-in Markers ❷ Snap-in markers fit on top of Bulletin 700-HA relay covers. The following are blank cards. Squares slip into molded slot on top of Bulletin 700-HA or 700-HB relay cover.	100	1492-SM5X12 1492-SM6X9 1492-SM6X12 1492-SM8X9 1492-SM8X12 1492-MP-Blank	❸
	Pre-printed identification tags – contains 10 sheets of pre-printed and blank tags. Each sheet contains 13 sets of the markings CR...9CR, TR...9TR, M...9M, F, R, 1S, and 117 blank tags. Tags are peel-off with sticky backing for easy placement on relays.	10	700-N40	
	Blank identification tags – contains 10 sheets of blank identification tags for customer specialized printing. Each sheet contains 546 blank tags. Tags are peel-off with sticky backing for easy placement on relays.	10	700-N41	

❶ See Bulletin 700-HA Relay, Socket, and Retainer Clip Reference Chart

❷ Refer to terminal block marking systems within the Industrial Control Catalog, publication A114

❸ For pre-printed marker cards, turn to the following 1492 sections: 1492-SM5X12_, 1492-SM6X9_, 1492-SM8X9_, 1492-SM8X12_, 1492-MP_

Relay Type	Socket	Retainer Clip
700-HA32	700-HN100	700-HN157
700-HAB2	700-HN125	Not Required ❹
700-HAX2	700-HN202	700-HN157
	700-HN200	700-HN157
700-HA33	700-HN201	700-HN157
700-HAB3	700-HN101	700-HN157
700-HAX3	700-HN126	Not Required ❹
	700-HN203	700-HN157

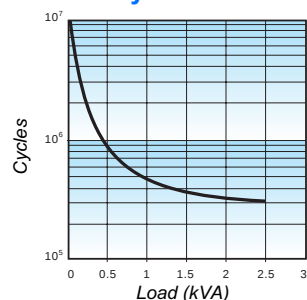
❹ Design of these sockets holds the relays securely and does not require retainer clips.

		Cat. No. 700-HA...		
Electrical Ratings				
Pilot Duty Rating ②		NEMA B300		
Rated Thermal Current (<i>I</i> _{th})		HA = 10 A – 120V, 240V HAB/HAX = 6 A – 120V, 240V		
Rated Insulation Voltage (<i>U</i> _i)		250V IEC – 300V UL/CSA		
Contacts	Inductive	Make	Break	Hp
	120V AC	► ◄	◄ ►	0.33
	240V AC	30 A	3 A	1
	DC	15 A	1.5 A	
		30V DC, 10 A		
Min. Low Energy Permissible Load		HA = 10V, 50 mA HAB= 6V, 30 mA HAX = 6V, 1 mA		
Permissible Coil Voltage Variation		85...110% of Nominal Voltage at 50 Hz 85...110% of Nominal Voltage at 60 Hz 80...110% of Nominal Voltage at DC		
Coil Consumption ±10%	AC Coils	50 Hz	60 Hz	
	Inrush	3.3 VA	2.85 VA	
	Sealed	2.2 VA	1.9 VA	
	DC Coils	1.3 W		
Max. Allowable Leakage		25% of VA		
		10% of W		
Design Specification/Test Requirements				
Electrical				
Dielectric Withstand Voltage		2000V		
Pole-to-Pole		2000V		
Contact to Coil		2000V		
Contact to Frame		2000V		
Electrical Life (Operating)		100,000 min.		
Mechanical				
Degree of Protection (Open Type) IEC 529		IP 40		
Mechanical Life Operations (AC/DC)		> 20 x 10 ⁶ / 50 x 10 ⁶		
Switching Frequency Operations		3600/HR		
Coil Voltages		See Product Selection		
Operating Time	Max. Pickup	10 ms		
	Max. Dropout	10 ms		
Maximum Operating Rate		4 Ops/s		
Vibration	Endurance	5 G		
	Operational	2.5 G		
Shock	Endurance	50 G		
	Operational	9 G		
Environmental				
Temperature	Operating	AC/DC	–40...+70°C	
	Storage	AC/DC	–40...+100°C	
Altitude		2000 m (6560 ft)		
Construction				
Insulating Material		Molded High Dielectric Material		
Enclosure		Transparent Dust Cover		
Contact Material		700-HA: 10 A– AgNi 700-HAB: 4 A–Bifurcated AgNi 700-HAX: 4 A–Bifurcated/Gold Plating AgNi		
Terminal Markings on Socket		In accordance with EN50 0005		
Sockets		8-Pin Socket — 700-HN100, -HN125, -HN202 11-Pin Socket — 700-HN101, -HN126, -HN203		
Certifications		CE, cULus listed, IMQ, RINA, ABS		

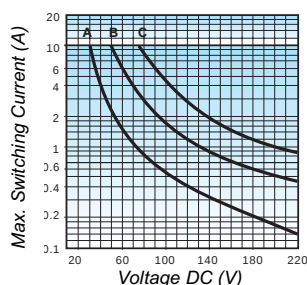
- ❶ Performance Data – See page Important-2, Industrial Controls Catalog.
❷ NEMA Rating Chart is on page 29.

Bulletin 700-HA
General Purpose Relays
Specifications, Continued ❶

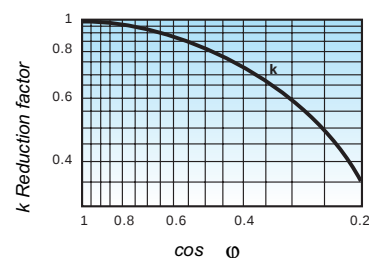
700-HA Relay Performance Graphs



Contact life vs. AC1 load at 1,800 cycles/h



Breaking capacity for DC1 load at 1800 cycles/h
A= load applied to 1 contact
B= load applied to 2 contacts in series
C= load applied to three contacts in series



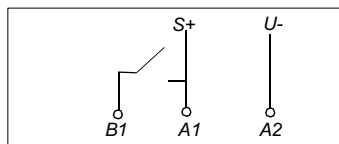
Load reduction factor vs. $\cos \phi$

		Time Module Cat. No. 700-HT1	Time Module Cat. No. 700-HT2
Electrical Ratings			
Operating Voltage Range		24...240V AC at 50/60 Hz 24...250V DC	12...30V DC
Power Consumption		24V AC/DC 70 mW 240V AC/DC 700 mW	12V DC 40 mW 30V DC 100 mW
Maximum Output Current		80 mA (2 W at 24V DC)	120 mA (2 W at 24V DC)
Maximum Output Voltage		265V AC, 275V DC	33V DC
Maximum Output Power		7.5 VA (30 mA at 240V AC)	4 W
Mechanical			
Degree of Protection of Input (B1) Terminal		IP 20 (Guarded Terminal)	
Input Terminal Wire Range		2 x 1.5 mm ² (2 # 16 AWG...1 # 20 AWG)	
Input Terminal Torque Range		0.45...0.8 Nm (4...7 lb-in.)	
LED Indicator		Steady when Power On and Flashing during Timing Period	
Repeat Accuracy ②		<0.5% or 5 ms	
Timing Change	Voltage Effect Temp. Effect	≤0.001%/V ≤0.01%/°C	≤0.001%/V ≤0.01%/°C
Reset Time		Power Reset: 150 ms Signal Reset: 50 ms AC, 30 ms DC	Power Reset: 150 ms Signal Reset: 10 ms DC
Selectable Timing Ranges		3 DIP Switches, 8 Ranges (set from 10...100% of range): 1 s, 10 s, 1 min., 10 min., 1 hr., 10 hr., 24 hr., 240 hr.	
Selectable Timing Modes		3 DIP Switches, 8 Modes: Power ON–Delay Single Shot – Power On Repeat Cycle – Starting with OFF–Delay Repeat Cycle – Starting with ON–Delay Signal OFF–Delay Single Shot – Signal is a Pulse Single Shot – Signal Off Signal ON–Delay	
Thumbwheel Scale Accuracy		≤5% of Time Range	
Environmental			
Temperature	Operating Storage	–25...+55°C (–13...+131°F) –55...+85°C (–67...+185°F)	
Altitude		2000 m (6560 ft)	
Construction			
Enclosure		Gray Plastic Housing	
Mounting with Socket Only		8- or 11-Pin Socket with Module Plug	
Sockets		700-HN202 (8-Pin with Plug) 700-HN203 (11-Pin with Plug)	
Certifications		CE, UL listed, CSA	

❶ Performance Data - See page Important-2, publication A113.

❷ At constant voltage and temperature.

Timing Charts, Cat. Nos. 700-HT1 and 700-HT2 Multi-Function Time Module (t = Time Range 0.10 s...240 h)
Cat. Nos. 700-HT1 and -HT2 Timing Modes, Time Description, Timing Charts, and DIP Switch Selections



Terms:
U is Power Input (Steady Green LED)
R is Relay Output
S Control, +A1 Socket, B1 Timer
t is the resulting Time Delay (Flashing Green LED)

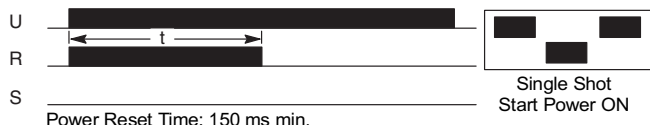
1. Power On-Delay

When the input voltage U is applied, the timing delay t begins. The relay contacts R change state after the time delay is complete. The contacts will return to their shelf state when the power U is removed. The terminal $B1$ is not used in this mode.



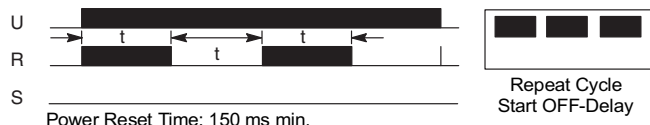
2. Single Shot — Power On

When the input voltage U is applied, the relay contacts R change state immediately and the timing cycle begins. When the time delay t is complete, the contacts return to shelf state. When the input voltage U is removed, the contacts return to their shelf state. The terminal $B1$ is not used in this mode.



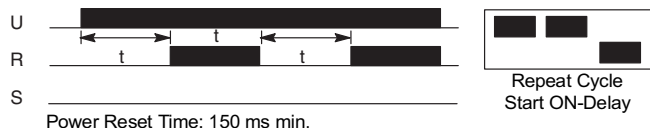
3. Repeat Cycle — Starting with Relay Energized

When the input voltage U is applied, the relay contacts R change state immediately and time delay t begins. When the time delay t is complete, the contacts return to their shelf state for time delay t . This cycle will repeat until the input voltage U is removed. The terminal $B1$ is not used in this mode.



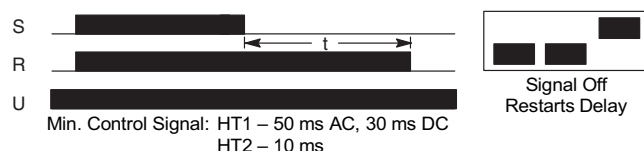
4. Repeat Cycle — Starting with On-Delay

When the input voltage U is applied, the time delay t begins. When the time delay t is complete, the relay contacts R change state for the time delay t . This cycle will repeat until the input voltage U is removed. The terminal $B1$ is not used in this mode.



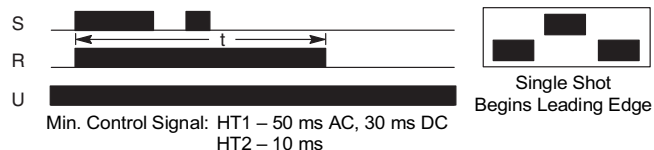
5. Signal Off-Delay

The input voltage U must be applied continuously. When the control S (wired at $B1$) is energized, the relay contacts R change state. When the control S is de-energized, the delay t begins. When delay t is complete, the contacts R return to their shelf state. If signal S is energized before the time delay t is complete, then the Time Module is reset, the delay begins again, and the relay contacts remain in their energized state. If the input voltage U is removed, the relay contacts R return to their shelf state.



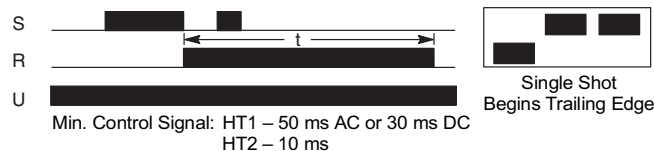
6. Single Shot — Signal Is a Pulse

The input U must be applied continuously. When the Control S (wired to $B1$ terminal) is energized, the relay contacts R change state and the time delay t begins. When the time delay t is completed, the contacts return to their shelf state. If signal S is de-energized before time t is completed, contacts R still stay in their changed state. The input signal S has control again when delay is completed or power reset. If the input voltage U is removed, the relay contacts R return to their shelf state.



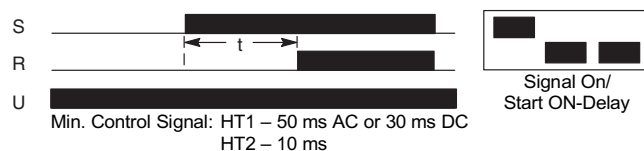
7. Single Shot — Signal Off

The input voltage U must be applied continuously. When the control S (wired at $B1$) is energized and then de-energized, the relay contacts R change state for the time delay t . If the control S is pulsed during the time period t , the relay contacts R will not be affected. If the input power is removed, the relay contacts R return to their shelf state.



8. On Delay — Pulse Controlled

The input voltage U must be applied continuously. When the control S (wired at $B1$) is energized, the time delay t begins. When the time delay t is complete, the relay contacts R change state and remain energized until the control S is de-energized. If the input power U is removed the relay contacts R return to their shelf state.

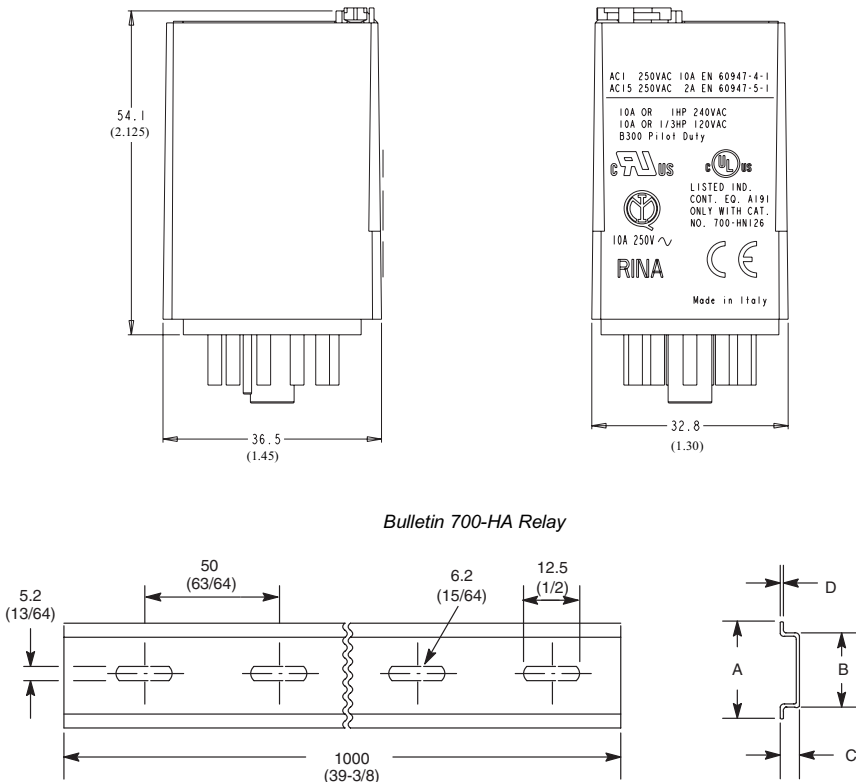


Bulletin 700-HA

General Purpose Relays

Approximate Dimensions

Dimensions are shown in millimeters (inches). Dimensions are not intended to be used for manufacturing purposes.

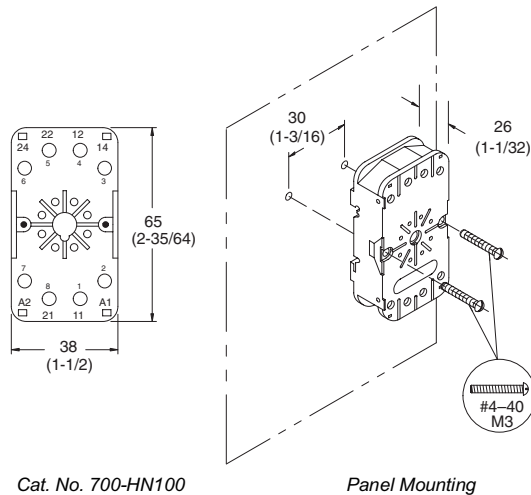


Bulletin 700-HA Relay

Cat. No. 199-DR1 DIN Mounting Rail Series B
Cat. No. 199-DR4 DIN Mounting Rail Series B Has No Mounting Holes

Cat. No.	A	B	C	D	Approx. Shipping Wt.
199-DR1	35 (1-3/8)	27 (1-1/16)	7.5 (19/64)	1.02 (1/64)	1.85 kg (4.07 lbs.) (10/pkg)
199-DR4	35 (1-3/8)	27 (1-1/16)	15 (19/32)	2.3 (3/32)	3.68 kg (8 lbs.) (5/pkg)

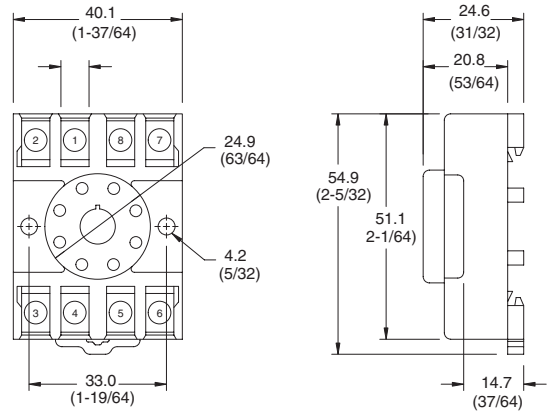
Dimensions are shown in millimeters (inches). Dimensions are not intended to be used for manufacturing purposes.



Cat. No. 700-HN100

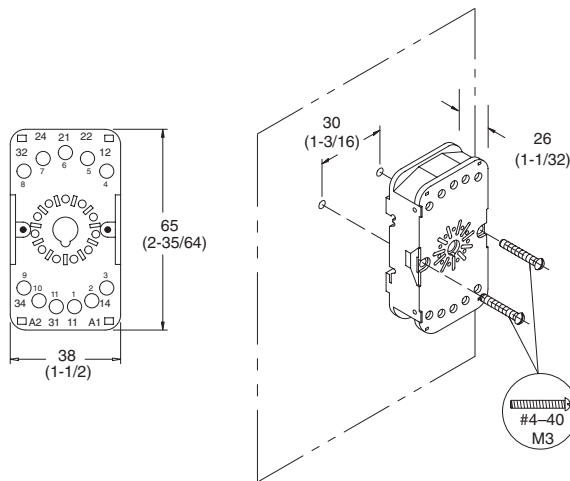
Panel Mounting

Wire Size: 2 x 2.5 mm²
 Single Wire – Up to #12 AWG
 Double Wire – 2 x 2.5 mm² (#2–14 AWG...#2–20 AWG)
 (Either Solid or Stranded)
 Strip Length: 9 mm (3/8") – Torque: 0.8 Nm (7 lb.-in.)



Cat. No. 700-HN125 ①

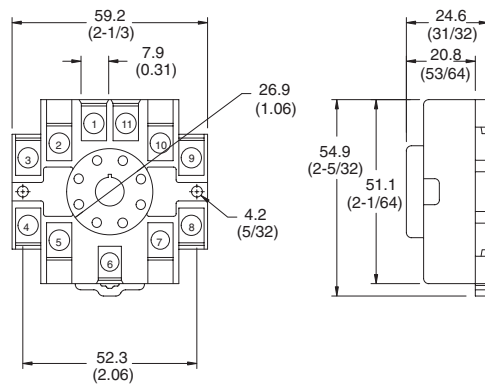
Wire Size: 2 x 2.5 mm²
 Single Wire – Up to 12 AWG
 Double Wire – 2 x 2.5 mm² (#2–#4 AWG...#2–20 AWG)
 (Either Solid or Stranded)
 Strip Length: 9 mm (3/8") – Torque: 0.8 Nm (7 lb.-in.)



Cat. No. 700-HN101

Panel Mounting

Wire Size: 2 x 2.5 mm²
 Single Wire – Up to #12 AWG
 Double Wire – 2 x 2.5 mm² (#2–14 AWG...#2–20 AWG)
 (Either Solid or Stranded)
 Strip Length: 9 mm (3/8 in.) – Torque: 0.8 Nm (7 lb.-in.)



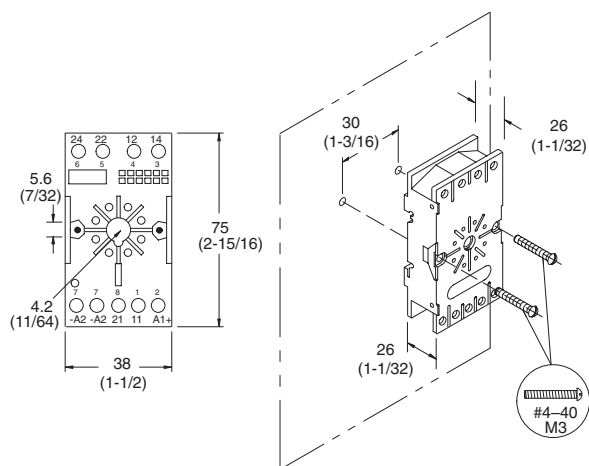
Cat. No. 700-HN126 ①

Wire Size: 2 x 2.5 mm²
 Single Wire – Up to #12 AWG
 Double Wire – 2 x 2.5 mm² (#2–#14 AWG...#2–20 AWG)
 (Either Solid or Stranded)
 Strip Length: 9 mm (3/8 in.) – Torque: 0.8 Nm (7 lb.-in.)

① Cat. No. 199-FSM Surge Suppressors fit on the coil terminals. See page 195.

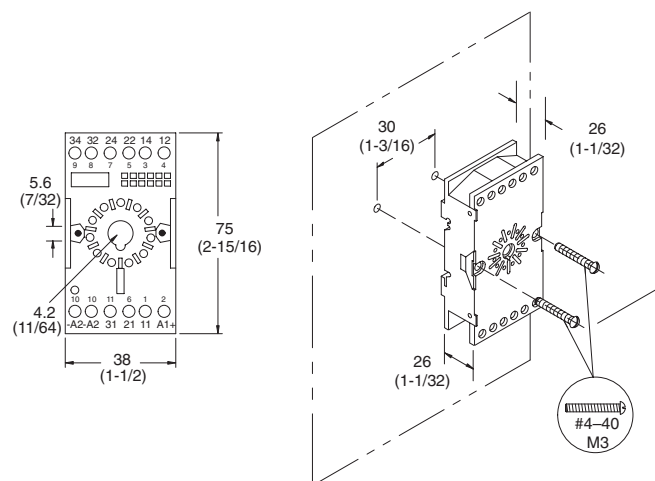
Bulletin 700-HA
General Purpose Relays
Approximate Dimensions, Continued

Dimensions are shown in millimeters (inches). Dimensions are not intended to be used for manufacturing purposes.



Cat. No. 700-HN202

Panel Mounting

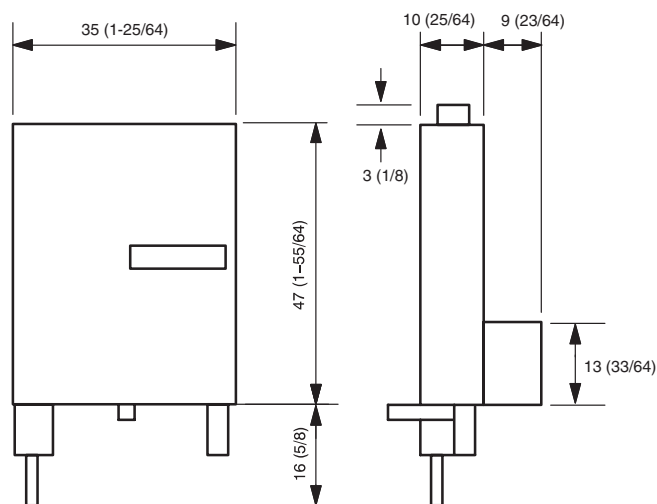


Cat. No. 700-HN203

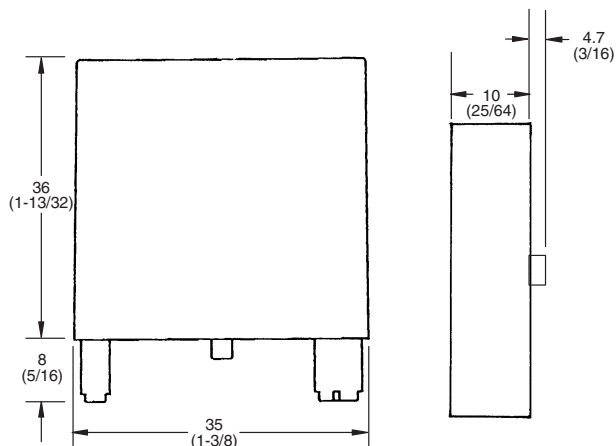
Panel Mounting

Wire Size: $2 \times 2.5 \text{ mm}^2$
 Single Wire – Up to #12 AWG
 Double Wire – $2 \times 2.5 \text{ mm}^2$ (#2–14 AWG... #2–20 AWG)
 (Either Solid or Stranded)
 Strip Length: 9 mm (3/8 in.) – Torque: 0.8 Nm (7 lb.-in.)

Wire Size: $2 \times 2.5 \text{ mm}^2$
 Single Wire – Up to #12 AWG
 Double Wire – $2 \times 2.5 \text{ mm}^2$ (#2–14 AWG ... #2–20 AWG)
 (Either Solid or Stranded)
 Strip Length: 9 mm (3/8 in.) – Torque: 0.8 Nm (7 lb.-in.)



Cat. Nos. 700-HT1 and 700-HT2



Cat. Nos. 700-HSV1, 700-HSV2, 700-HSV3, and 700-HSMD

Wire Size: $2 \times 1.5 \text{ mm}^2$ (#2 – 16 AWG... #1–20 AWG)
 (Either Solid or Stranded)
 Strip Length: 9 mm (3/8 in.) – Torque: 0.8 Nm (7 lb.-in.)