

# Product Details and Certifications

Cross Reference RA Part Number: 700-HA33A1-4 D

 Product: **700-HA33A1-4**

Description: 700-HA General Purpose Tube Base Relay, 10 Amp Contact,  
3PDT, 120V 50/60 Hz, Pilot Light Option



Representative Photo Only (actual product may vary based on configuration sections)

## **CONTROL RELAY DATA**

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Bulletin Number	700-HA General Purpose Tube Base Relay
Contact Rating	10A Standard Contact
Contact Configuration	3PDT Contact Arrangement
Coil Voltage	120V 50/60 Hz
Relay Option	Pilot Light Option

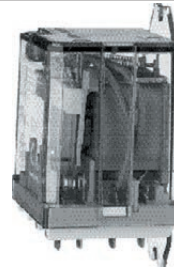
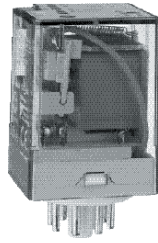
## **CERTIFICATIONS AND APPROVALS**

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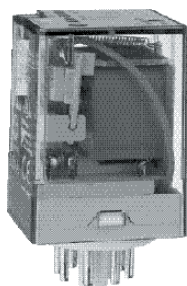
UL  
CE  
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IMQ  
ABS  
CSA

For UL Certifications Directory:

<http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm>



Bulletin No.	700-HA	700-HB	700-HD	700-HF
<b>Type</b>	General-Purpose Relay	General-Purpose Relay	General-Purpose Relay	General-Purpose Relay
<b>Features</b>	<ul style="list-style-type: none"> <li>Pin-style terminals</li> <li>Standard ON/OFF flag indicator</li> <li>Electrical schematic on face</li> <li>Clear cover for visual inspection</li> <li>Optional Push-to-test and manual override</li> <li>Optional LED</li> </ul>	<ul style="list-style-type: none"> <li>Blade-style quick connect terminals</li> <li>Standard ON/OFF flag indicator</li> <li>Electrical schematic on face</li> <li>Clear cover for visual inspection</li> <li>Optional push-to-test and manual override</li> <li>Optional LED</li> </ul>	<ul style="list-style-type: none"> <li>Flange-mounted</li> <li>Blade-style quick connection terminals</li> <li>Clear cover for visual inspection</li> </ul>	<ul style="list-style-type: none"> <li>Square-base</li> <li>Plug-in quick connect solder terminals</li> <li>Optional push-to-test and LED</li> </ul>
<b>Contact Ratings</b>				
<b>Contact Form</b>	DPDT, 3PDT	DPDT, 3PDT	DPDT, 3PDT	DPDT, 3PDT, 4PDT
<b>Contact Type</b>	Single	Single	Single	Single
<b>Contact Material</b>	AgNi, AgNi + Gold	AgCdO	AgCdO	AgCdO
<b>Max. operating current under resistive load</b>	700-HA: 10 A -HAX: 6 A	15 A	15 A	10 A
<b>Min. permissible load</b>	700-HA 10V 5 mA 700-HAB 5V 5 mA 700-HAX 6V 1mA	10V 10 mA	10V 10 mA	5V 100 mA
<b>Coil Ratings</b>				
<b>Coil Voltage</b>	<b>AC:</b> 6, 12, 24, 48, 110, 120, 208, 230, 240, 277V <b>DC:</b> 6, 12, 24, 36, 48, 60, 80, 110, 125, 140, 220V	<b>AC:</b> 6, 12, 24, 120, 240V <b>DC:</b> 6, 12, 24, 48, 110V	<b>AC:</b> 6V, 12V, 24V, 120V, 208V, 240V <b>DC:</b> 6V, 12V, 24V, 48V, 110V	<b>AC:</b> 6V, 12V, 24V, 120V, 240V <b>DC:</b> 6V, 12V, 24V, 48V, 110V
<b>Permissible Coil Voltage Variation</b>	80...110% of Nominal Voltage at 50 Hz 80...110% of Nominal Voltage at 60 Hz 80...110% of Nominal Voltage at DC	80...110% of Nominal Voltage at 50 Hz 80...110% of Nominal Voltage at 60 Hz 80...110% of Nominal Voltage at DC	80...110% of Nominal Voltage at 50 Hz 80...110% of Nominal Voltage at 60 Hz 80...110% of Nominal Voltage at DC	85...110% of Nominal Voltage at 50 Hz 85...110% of Nominal Voltage at 60 Hz 80...110% of Nominal Voltage at DC
<b>Electrical Ratings</b>				
<b>Dielectric Withstand Voltage</b>	Pole-to-pole: 2000V Contact-to-coil: 2000V Contact-to-frame: 2000V	Pole-to-pole: 2500V Contact-to-coil: 4000V Contact-to-frame: 2500V	Pole-to-pole: 2500V Contact-to-coil: 4000V Contact-to-frame: 2500V	Pole-to-pole: 1500V AC Contact-to-coil: 1500V AC Contact-to-frame: 1500V AC
<b>Electric Service Life (cycles)</b>	100 000 minimum	100 000 minimum	100 000 minimum	200 000 minimum, 500 000 minimum (DPDT)
<b>Reference</b>				
<b>Certifications</b>	CE, cULus, cURus, CSA, Lloyds	CE, cULus, cURus, CSA, Lloyds	CE, UR, CSA, Lloyds	CE, UR, CSA
<b>Socket Cat. No(s).</b>	700-HN100, 700-HN101, 700-HN125, 700-HN126, 700-HN204, 700-HN205	700-HN153, 700-HN154	—	700-HN116, 700-HN138, 700-HN139
<b>Page Number</b>	page 9-9	page 9-20	page 9-26	page 9-29



**Bulletin 700-HA — Tube Base Relay**

- 10 A contact rating
- DPDT, 3PDT
- Pin-style terminals
- Standard ON/OFF flag indicator
- Options: LED, push-to-test and manual override, socket-mounted surge suppressor module, or multi-function timer
- Contact choices: standard silver nickel, bifurcated silver nickel, or bifurcated with gold plating

**Table of Contents**

Product Selection..... this page

Accessories..... 9-11

Specifications..... 9-9

Approximate Dimensions..... 9-17

**Product Selection**

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

	Description	Contact Rating	Wiring Diagrams		Coil Voltage	Cat. No. ‡§
			U.S./Canada	International		
	DPDT 2-pole 2 Form C Single AgNi Contact	10 A B300			6V AC	<b>700-HA32A06</b>
					12V AC	<b>700-HA32A12</b>
					24V AC	<b>700-HA32A24</b>
					120V AC	<b>700-HA32A1</b>
					240V AC	<b>700-HA32A2</b>
					277V AC	<b>700-HA32A27</b> ➤
					6V DC	<b>700-HA32Z06</b>
					12V DC	<b>700-HA32Z12</b>
					24V DC	<b>700-HA32Z24</b>
					36V DC	700-HA32Z36
					48V DC	<b>700-HA32Z48</b>
					60V DC	700-HA32Z60
					80V DC	700-HA32Z80
					110V DC	<b>700-HA32Z1</b>
					125V DC	<b>700-HA32Z01</b>
					140V DC	700-HA32Z3
220V DC	700-HA32Z2 ➤					
Sockets	3PDT 3-pole 3 Form C Single AgNi Contact	10 A B300			6V AC	700-HA33A06
					12V AC	<b>700-HA33A12</b>
					24V AC	<b>700-HA33A24</b>
					120V AC	<b>700-HA33A1</b>
					240V AC	<b>700-HA33A2</b>
					6V DC	700-HA33Z06
					12V DC	<b>700-HA33Z12</b>
					24V DC	<b>700-HA33Z24</b>
					48V DC	<b>700-HA33Z48</b>
					60V DC	700-HA33Z60
					80V DC	700-HA33Z80
					110V DC	<b>700-HA33Z1</b>
					125V DC	<b>700-HA33Z01</b>
					140V DC	700-HA33Z3
					220V DC	700-HA33Z2 ➤

\* For Time Module and Surge Suppressor Module, see page 9-12.

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

‡ 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).

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

➤ LED not available for 220V DC and 277V AC coils.

Bulletin 700-HA  
**General Purpose Relays**  
**Specifications**



Cat. No. 700-HA...			
Electrical Ratings			
Pilot Duty Rating*	NEMA B300		
Rated Thermal Current ( $I_{th}$ )	HA = 10 A – 120V, 240V HAX = 6 A – 120V, 240V		
Rated Insulation Voltage (U <sub>i</sub> )	250V IEC – 300V UL/CSA		
Contacts	Inductive	<b>Make</b>	<b>Break</b>
		▶][◀	◀][▶
	120V AC	30 A	3 A
	240V AC	15 A	1.5 A
	General Purpose	10 A, 240V AC	
	Resistive	10 A, 30V DC	
Min. Low Energy Permissible Load	HA = 10V, 5 mA HAX = 5V, 2 mA		
Permissible Coil Voltage Variation	Pickup: 80...110% of Nominal Voltage at 50 Hz 80...110% of Nominal Voltage at 60 Hz 80...110% of Nominal Voltage at DC		
Coil Consumption ±10%	AC Coils	<b>50 Hz</b>	<b>60 Hz</b>
	Inrush	3.3 VA	2.85 VA
	Sealed	2.2 VA	1.9 VA
	DC Coils	1.3 W	
Must Dropout Voltage	20% of nominal V AC 10% of nominal V DC		
Max. Contact Resistance	50 MΩ (700-HA and 700-HAB) 30 MΩ (700-HAX)		
Design Specification/Test Requirements			
Electrical			
Pole-to-Pole	1000V		
Contact to Coil	3600V		
Contact to Frame	4000V		
Electrical Life (Operating)	100 000 min.		
Mechanical			
Degree of Protection (Open Type) IEC 529	IP 40		
Mechanical Life Cycles (AC/DC)	> 20 x 10 <sup>6</sup> / 50 x 10 <sup>6</sup>		
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-HAX:	6 A–Bifurcated/Gold Plating AgNi	
Terminal Markings on Socket	In accordance with EN50 0005		
Sockets	8-Pin Socket — 700-HN100, -HN125, -HN204 11-Pin Socket — 700-HN101, -HN126, -HN205		
Certifications	cURus Recognized (File No. E3125, Guide NLDX2/NLDX8), cULus Listed when used with Bulletin 700-HN sockets noted above (File No. E3125, Guide NLDX/NLDX7), CE Marked, CSA Certified, UR Certified (File 229473)		
Standards	UL508, CSA C22.2 No. 14, EN 61810-1, EN 60255-23		

\* Performance Data – See this catalog, Important- 3.  
 \* NEMA Rating Chart is in publication 700-SG003\*