

Relays and Timers Specifications

Bulletin Number 700

Торіс	Page
General Purpose Relays	2
Timing Relays	41
NEMA Industrial Relays	81
IEC Control Relays	93
Solid State Relays	109

Additional Resources

These documents contain additional information concerning related products from Rockwell Automation.

Resource	Description	
Industrial Automation Wiring and Grounding Guidelines, publication 1770-4.1	Provides general guidelines for installing a Rockwell Automation industrial system.	
Product Certifications website, http://www.ab.com	Provides declarations of conformity, certificates, and other certification details.	

You can view or download publications at http://www.rockwellautomation.com/literature/. To order paper copies of technical documentation, contact your local Allen-Bradley distributor or Rockwell Automation sales representative.



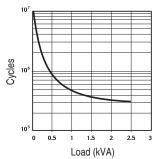


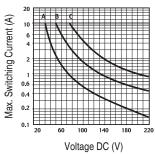


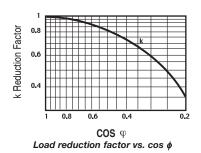
		Cat. No. 700-HA				
		Electrical Ratings				
Pilot Duty Rating‡		NEMA B300				
Rated Thermal		HA = 10 A - 120V, 240V				
Current (I _{th})		· · · · · · · · · · · · · · · · · · ·	HAX = 6 A - 120V, 240V			
Rated Insulation Voltage (Ui)		250V IEC - 300V UL/CSA				
	Inductive	Make	Break	Нр		
		▶][◀	◄][▶			
Contacts	120V AC	30 A	3 A	1/3		
Contacts	240V AC	15 A	1.5 A	1		
	General Purpose	10 A, 240V AC				
	Resistive	10 A, 30V DC	10 A, 30V DC			
Min. Low Energy Permissible	e Load	HA = 10V, 5 mA HAX = 5V, 2 mA				
Permissible Coil Voltage Variation		Pickup: 80110% of Nominal Voltage at 50 Hz 80110% of Nominal Voltage at 60 Hz 80110% of Nominal Voltage at DC				
	AC Coils	50 Hz	60 Hz			
Call Canaumanting 1400/	Inrush	3.3 VA	2.85 VA			
Coil Consumption ±10%	Sealed	2.2 VA	1.9 VA			
	DC Coils	1.3 W	/ _/m\			
Must Dropout Voltage		20% of nominal V AC	20% of nominal V AC			
Max. Contact Resistance			10% of nominal V DC 50 MΩ (700-HA and 700-HAB)			
		Design Specification/Test Re	quirements			
			quirentents			
2.1.1.2.1		Electrical				
Pole-to-Pole		2000V				
Contact to Coil		2000V				
Electrical Life (Operating)		100 000 min.				
		Mechanical				
Degree of Protection (Open Type) IEC 529		IP 40	IP 40			
Mechanical Life Cycles (AC/	DC)	$> 20 \times 10^6 / 50 \times 10^6$				
Switching Frequency Operat	ions	3600/HR	3600/HR			
Coil Voltages		See Product Selection				
Operating Time	Max. Pickup	10 ms				
operating fille	Max. Dropout	10 ms				
Maximum Operating Rate		4 Ops/s				
/ibration	Endurance	5 G				
/ibration	Operational	2.5 G				
DI I.	Endurance	50 G				
Shock	Operational	9 G				
		Environmental				
	Operating	AC/DC	−40+70 °C			
Temperature	Storage	AC/DC	-40+100 °C			
Altitude	1	2000 m (6560 ft)				
		Construction				
nsulating Material		Molded High-Dielectric N	Material			
Enclosure		Transparent Dust Cover	**			
Contact Material		700-HA:	10 A– AgNi			
		700-HAX:	6 A-Bifurcated/Gold Plati	ina AaNi		
Terminal Markings on Socket			In accordance with EN50 0005			
Sockets		8-Pin Socket — 700-HN	8-Pin Socket — 700-HN100, -HN125, -HN204 11-Pin Socket — 700-HN101, -HN126, -HN205			
000.1010	Certifications		v (∪ (, -			
), cULus Listed when used with ide NLDX/NLDX7), CE Marked, CS		

[‡] NEMA Rating Chart is in publication 700-SG003*

700-HA Relay Performance Graphs







- Load (kVA)

 Contact life vs. AC1 load at 1,800 cycles/h
- $\label{eq:VoltageDC} \mbox{Voltage DC (V)} \\ \mbox{\it Breaking capacity for DC1 load at 1,800 cycles/h.} \\$

- A = load applied to one contact
 B = load applied to two contacts in series
 C = load applied to three contacts in series

		Time Module Cat. No. 700-HT3		
		Electrical Ratings		
Operating Voltage Range		12240V AC (50/60 Hz) 12240V DC		
Power Consumption		0.1 W (12V) 1.0 W (230V)		
		Mechanical		
Degree of Protection	of Input (B1) Terminal	IP 20 (Guarded Terminal)		
Input Terminal Wire Range		1.0 x 0.2 mm ² 2.5 mm ² (24 AWG14 AWG) 2.0 x 0.2 mm ² 1.5 mm ² (24 AWG16 AWG)		
Input Terminal Torque Range		0.450.8 Nm (47 lb-in.)		
LED Indicator		Red		
Repeat Accuracy‡		±1%		
Recovery Time		<50 ms		
Selectable Timing Ranges		Three DIP switches, seven ranges (set from 5100% of range): 1 s, 10 s, 100 s, 10 min, 100 min, 10 h, 100 h		
Selectable Timing Modes		Three DIP switches, eight modes: 1. Power On–Delay 2. Power On One-Shot 3. Power On Repeat Cycle, On Start 4. Signal On-Delay and Signal Off-Delay 5. Signal Off-Delay 6. Signal On-One-Shot 7. Signal Off-One-Shot 8. Signal On and Signal Off Watchdog Monitor		
Adjustable Trimmer Scale Accuracy		±5% of Time Range		
		Environmental		
Temperature	Operating	−20 °C…+50 °C (−4 °F…+122 °F)		
remperature	Storage	–55 °C+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-HN204 (8-Pin with Plug) 700-HN205 (11-Pin with Plug)		
Certifications		cURus Recognized (File No. E14843, Guide NRNT2/NRNT8), CE Marked		
Standards		UL508, CSA C22.2 No. 14, EN 61810-1		

[‡] At constant voltage and temperature.