


# Interposing/Isolation Relays

## Product Overview/Catalog Number Explanation/Product Selection

	<p><b>Bulletin 700-HLF — Terminal Block Timing Relay</b></p> <ul style="list-style-type: none"> <li>• Relay and socket assembled modules for high-density applications</li> <li>• Screw terminal bases</li> <li>• 6 A relay, choice of silver or gold contacts</li> <li>• SPDT (relay)</li> <li>• Four timing functions</li> <li>• Time range from 0.1 sec...6 hr</li> <li>• Built-in retainer clip and snap-in marker lever</li> <li>• Standard LED, reverse polarity protection, and surge protection ♣</li> <li>• Externally replaceable relay modules</li> </ul>	<p><b>Table of Contents</b></p> <p>Product Selection ..... this page</p> <p>Accessories..... 9-55</p> <p>Specifications..... 9-56</p> <p>Approximate Dimensions..... 9-57</p> <p><b>Standards Compliance and Certifications</b></p> <p>See Specification table in this section, page 9-56.</p>
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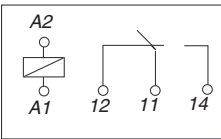
### Catalog Number Explanation

<b>700</b>	<b>- HL</b>	<b>F</b>	<b>1</b>	<b>U24</b>	<b>X*</b>
Bulletin Number	Series Type	Relay Type	Terminal Type	Supply Voltage	Gold-Plated Contact Option

<b>a</b>	<b>c</b>	<b>e*</b>														
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\* For Gold-plated contacts: Add the letter "X" at the end of the catalog number. Example: Cat. No. 700-HLF1U24 with gold plated contacts is catalog number 700-HLF1U24X.

### Product Selection

<p>Standard built-in Features:</p> <ul style="list-style-type: none"> <li>• LED</li> <li>• Reverse Polarity Protection for DC Inputs</li> <li>• Coil Surge Protection ♣</li> </ul>	 <p style="text-align: center;"><b>Cat. No. 700-HLF1U24</b></p>
<p>Specifications</p>	
<p>Output Type</p>	<p>SPDT (1 C/O); <math>I_{th} = 6A\ddagger</math></p>
<p>Recommended Tightening Torque</p>	<p>0.5 N•m max. (4.4 lb•in)</p>
<p>Wire Range</p>	<p>Screw Terminal: 0.14 mm<sup>2</sup>...2.5 mm<sup>2</sup> (#26...#14 AWG)</p>
<p>Approvals</p>	<p>cULus, cURus, CE</p>

Assembled Devices		
Input Voltage	Pkg. Quantity	Cat. No.
24V AC/DC	10	<b>700-HLF1U24</b>

♣ Diode surge protection provided.

Bulletin 700-HLF  
**Interposing/Isolation Relays**  
 Specifications

**Specifications**

Cat. No. 700-HLF... (Relay Output)					
Electrical Ratings					
Pilot Duty Rating	B 300, R 300				
Rated Thermal Current ( $I_{th}$ )	1-Pole — 6 A				
Rated Insulation Voltage (U <sub>i</sub> )	250V IEC, 300V UL/CSA				
Contacts	Inductive	1-Pole			
	24V AC, 1-phase	30 A	▶ ◀	5 A	
	120V AC, 1-phase	30 A		3 A	
	240V AC, 1-phase	15 A		1.5 A	
	Make, Break & Continuous V DC	24V DC		1.0 A	
		120V DC		0.2 A	
240V DC		0.1 A			
Inductive Load	AC-15 250V, 3 A N.O. Contact, 1.5 A N.C. Contact DC-13 24V, 1 A N.O. and N.C. Contact				
Min. Permissible Contact Ratings	12V, 6 mA (72 mW) for Silver Contacts, 8V, 2.5 mA (20 mW) for Gold Contacts				
Permissible Coil Voltage Variation	Pickup:	85...110% of Nominal Voltage at 50 Hz 85...110% of Nominal Voltage at 60 Hz 80...110% of Nominal Voltage at DC	Must Dropout Voltage:	10% of Nominal Voltage at AC 5% of Nominal Voltage at DC	
Power Consumption ±10%	AC/DC	0.5 VA			
Design Specification/Test Requirements					
Dielectric Withstand Voltage	Pole to Pole (VRMS)	1000V			
	Contact to Coil (VRMS)	4000V			
Input Voltage	24V AC/DC				
Impedance (Ohms)	2 K				
Mechanical					
Degree of Protection	IP20				
Mechanical Life Operations	1 x 10 <sup>7</sup>				
Electrical Life Operations	6 A Resistive: 100 000 min. 24V DC, 1 A Inductive: 200 000 min. 120V AC 1 A Inductive: 300 000 min.				
Switching Frequency Operations (no-load)	10 cycles/sec				
Coil Voltages	See Overview/Product Selection				
Timer Functions	On-Delay, One Shot, Pulse and Flasher				
Timer Settings	0.1...3 s, 3...60 s, 1...20 min, and 0.3...6 hr				
Timer Adjustments	Min and Max adjustments with Potentionmeter				
Timer Accuracy	Repeatability 1%, Recovery Time < 50 ms, Setting Accuracy Full Range 5%				
Coil Surge Protection	Per EN 61000-4.5; Surge Immunity (801-5) Class III: 2 kV common and 1 kV differential mode				
Environmental					
Temperature	Operating	-40...55 °C			
	Storage	-40...100 °C			
Altitude	2000 m (6560 ft)				
Construction					
Insulating Material	Molded High Dielectric Material				
Enclosure	Relay IP67				
Contact Material	Silver Tin Ox., AgSnO <sub>2</sub> or Silver with Gold Plating, AgSnO <sub>2</sub> + Au				
Terminal Markings on Socket	In accordance with EN50 0005				
Certifications	cULus Listed (File No. E3125, Guide NLDX/NLDX7) with Allen-Bradley socket, CE Marked				
Standards	EN60947-4-1, EN60947-5-1, CSA 22.2, UL 508, NEMA IEE MAC Compliant, ICS-2 Compliant				

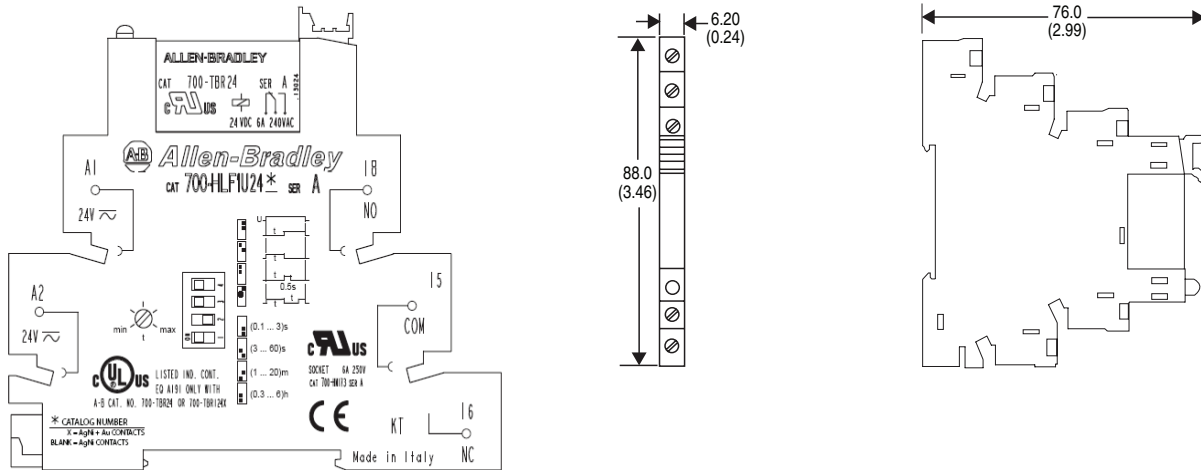
\* Performance Data – See this catalog, Important 3.

\* Product shall be installed in an enclosure providing at least IP54 protection. Provisions shall be made to prevent the rated voltage from being exceeded by transient disturbances of more than 40%.

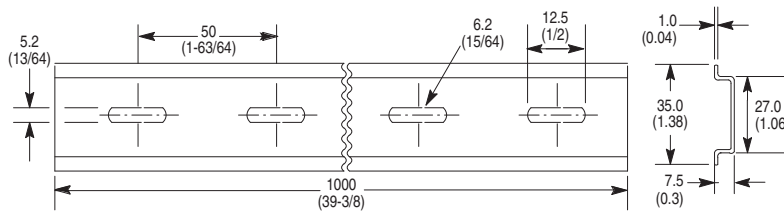


**Approximate Dimensions**

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



**Bulletin 700-HLF Screw Terminal Design**  
 Single Wire: 0.14 mm<sup>2</sup>...2.5 mm<sup>2</sup> (#26 AWG... 14 AWG)  
 Double Wire: 2 x 0.14 mm<sup>2</sup>...2 x 1.5 mm<sup>2</sup> (2 x #26 AWG...2 x 16 AWG)  
 Wire Type: Solid or stranded, copper only  
 Strip Length: 9 mm (11/32 in.). Torque: 0.5 N•m (4.4 lb•in)



**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 lb) (10/pkg)
199-DR4	35 (1-3/8)	27 (1-1/16)	15 (19/32)	2.3 (3/32)	3.68 kg (8 lb) (5/pkg)