

# BIMETALLIC OVERLOAD RELAYS



## SERIES 320 PRODUCT PROFILE

c3controls Series 320 Overload Relays provide thermal Trip Class 10 overload protection for single and three phase motors, and phase loss protection for three phase motors. Other features like IP20 guarded terminals with dual terminal markings, integral stop button, and direct mounting will help you reduce your total installed costs and enhance the features and performance of your equipment.



### DELIVERING SUPERIOR PRODUCT QUALITY AND MANUFACTURING EXCELLENCE

✓ <b>Proven</b>	Our Series 320 Overload Relays are UL Listed and CE marked meeting global standards requirements.
✓ <b>Reliability</b>	Trip Class 10 for reliable and accurate protection against overload conditions. Trips within 10 seconds when carrying a current of 720%.
✓ <b>Trip Indication</b>	Visible trip indication to provide clear indication of what device tripped, simplifies troubleshooting in panels.
✓ <b>Visible Markings</b>	High visibility labels and markings; dual IEC and NEMA terminal markings for ease of wiring anywhere in the world.
✓ <b>Modular Design</b>	Modular design allows Series 320 Overload Relays to be direct mounted onto Series 300 Contactors.
✓ <b>Visible Certifications</b>	Our product certifications and electrical ratings are clearly marked on the outside of the devices for easy reference during installation.
✓ <b>Added Safety</b>	IP20 guarded terminals with dual terminal markings prevent accidental contact with live parts.
✓ <b>Lifetime Warranty*</b>	Every product is backed by our lifetime warranty—unmatched in the industry—bringing you quality components that perform in the most demanding applications.
✓ <b>Guaranteed Same-Day Shipping*</b>	Product availability reduces inventory, and improves cash-flow—saving you money. With c3controls any order for standard catalog items received by 6:00pm ET is guaranteed to ship same-day.
✓ <b>Advantage Pricing</b>	Our approach to product development, manufacturing, and focus on servicing the OEM and Electrical Equipment Builder reduces cost. The result—the best value in the industry.

\*See c3controls Terms & Conditions

### MULTIPLE FUNCTION ADVANTAGES

#### High Fault SCCR

- High fault short circuit current rating of 100kA @ 480V and 600V with Class J fuses, provides safety and reliability in high fault applications.

#### Adjustable Current Setting

- Full load current adjustment ratio of approximately 1:1.5 enables overload relay to be set to exact FLA of motor.

#### Phase Loss Sensitivity

- Single phase sensitivity to protect motors against damaging phase loss conditions.

#### Selectable Reset Mode

- Manual or automatic reset and test modes, and stop button all in a single device for convenient control circuit wiring.

#### Seamless Compatibility

- Series 320-B2 Overload Relays direct mount onto all Series 300 Non-Reversing and Series 310, 9A to 25A AC/DC, Reversing Contactors and Series 320-B1 Overload Relays direct mount onto all Series 300/310 Miniature Non-Reversing and Reversing Contactors.

#### Trip Test Function

- Trip test function standard on all c3controls Series 320-B2 to 320-B5, allows for easier installation, testing, and troubleshooting.

LIFETIME WARRANTY SAME-DAY SHIPPING ADVANTAGE PRICING

c3controls®

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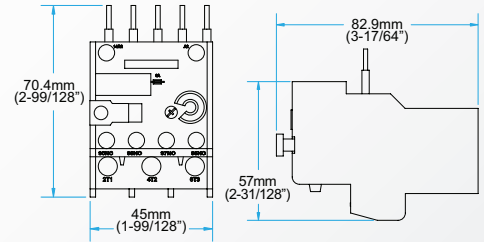
## SPECIFICATIONS

		320-B1	320-B2	320-B3	320-B4	320-B5
<b>UNITS</b>						
<b>ELECTRICAL GENERAL</b>						
Current Setting Range	A	0.28 ~ 17	0.28 ~ 32	25 ~ 50	40 ~ 80	63 ~ 112
Operating Frequency	Hz	0 ~ 400				
Power Dissipation per Pole	W	0.9 ~ 1.4	1.3 ~ 2.0	1.3 ~ 2.0	1.9 ~ 4.8	3 ~ 4.8
<b>ELECTRICAL UL/CSA APPLICATIONS</b>						
<b>MAIN CIRCUITS</b>						
Rated Operating Voltage, Ue	VAC	600				
Standard Short Circuit Current	kA	5	5	5	10	10
Max. Fuse Size *	A	60	90	125	200	250
High Fault Short Circuit Current	kA	100				
Max. Fuse Size * (Class J)	A	30	60	60	100	150
<b>CONTROL CIRCUITS</b>						
Pilot Duty Rating		AC: C600		DC: R300		
<b>ELECTRICAL IEC APPLICATIONS</b>						
<b>MAIN CIRCUITS</b>						
Rated Insulation Voltage, Ui	V	690				
Rated Impulse Voltage, Uimp	kV	6				
Rated Operating Voltage, Ue	VAC	690				
Max. Rated Operating Current, Ie	A	17	32	50	80	112
Max. Fuse Size *	A	40	63	100	125	250
<b>CONTROL CIRCUITS</b>						
Rated Insulation Voltage, Ui	V	690				
Rated Operating Current, Ie						
@ 24V	A	AC-15 : 4		DC-13 : 1		
@ 48V	A	AC-15 : 3.5		DC-13 : 0.5		
@ 60V	A	AC-15 : 3.5		DC-13 : 0.5		
@ 110V	A	DC-13 : 0.25				
@ 120V	A	AC-15 : 3				
@ 220V	A	DC-13 : 0.1				
@ 230V	A	AC-15 : 2				
@ 250V	A	DC-13 : 0.1				
@ 400V	A	AC-15 : 1.5				
@ 500V	A	AC-15 : 0.5				
@ 690V	A	AC-15 : 0.3				
Max. Fuse Size (gL/gG)	A	6				
<b>ENVIRONMENTAL</b>						
Ambient Operating Temp.	°C / °F	-25 to +60 / -13 to +140				
Ambient Storage Temp.	°C / °F	-40 to +70 / -40 to +158				
Altitude	m / ft.	2,000 / 6,562				
<b>CONSTRUCTION</b>						
Number of Poles	uL	3				
Trip Class	uL	10				
<b>ROHS COMPLIANCE</b> For RoHS compliance documentation by product, refer to <a href="http://www.c3controls.com">www.c3controls.com</a> .						
* Varies by current adjustment range of overload relay.						

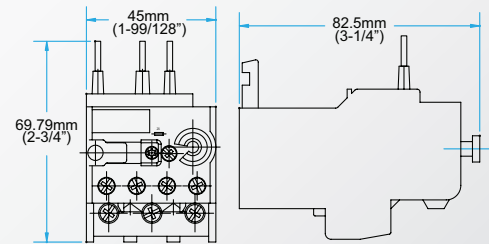
For complete ratings and detailed specifications refer to [www.c3controls.com](http://www.c3controls.com).

## DIMENSIONS

Series 320-B1

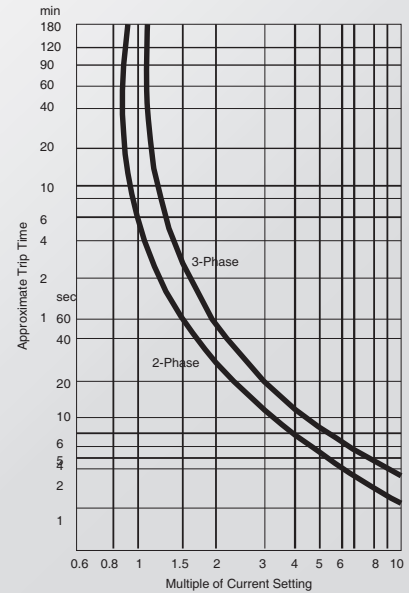


Series 320-B2



## TRIP CHARACTERISTICS

For Series 320-B1, 320-B2, 320-B3, & 320-B4.



## PROVEN

**Conformity to Standards:**  
 UL 508, 60947-4-1A  
 CSA C22.2 No. 14  
 IEC 60947-1, 60947-4-1

**Certifications:**  
 UL File #: E68568 (Guide NKCR, NKCR7)  
 CE Marked (per EU Low Voltage Directive 2006/95/EC and RoHS Directive 2011/65/EU)



Visit [c3controls.com](http://c3controls.com) to download product certifications.

