

Adjustable Overloads For GH15 Series Contactors



The RTD series adjustable motor overload relays are designed for use with the GH15 Series 45 mm, 60 mm, 79 mm, 110 mm, and 145 mm contactors.

By combining the contactor with an overload relay, you have a reliable motor starter solution.

RTD32 overload relays for 45mm contactors

- 16 sizes for motor currents from 0.4 to 32 amps
- Units come with (1) N.O. and (1) N.C. auxiliary contacts
- Mount directly to 45mm contactors
- Class 10A trip class
- cULus listed, CE

RTD65 overload relays for 60mm contactors

- Four sizes for motor currents from 20 to 65 amps
- Units come with (1) N.O. and (1) N.C. auxiliary contacts
- Mount directly to 60mm contactors
- Class 10A trip class
- cULus listed, CE

RTD180 overload relays for 79mm and 110mm contactors

- 3 sizes for motor currents from 60 to 180 amps
- Units come with (1) N.O. and (1) N.C. auxiliary contacts
- Mount directly to 110mm contactors with connection links (included)
- Hard-wire connection to 79 mm contactors (No connection links available)
- Class 10A trip class
- cULus listed, CE

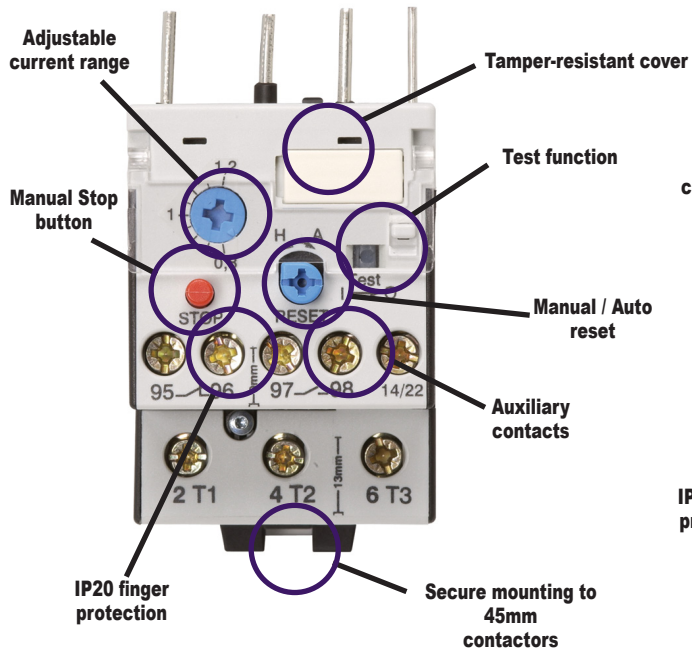
RTD320 overload relays for 145mm contactors

- 2 sizes for motor currents from 144 to 320 amps
- Units come with (1) N.O. and (1) N.C. auxiliary contacts
- Mount directly to 145mm contactors with connection links (included)
- Class 10A trip class
- cULus listed, CE



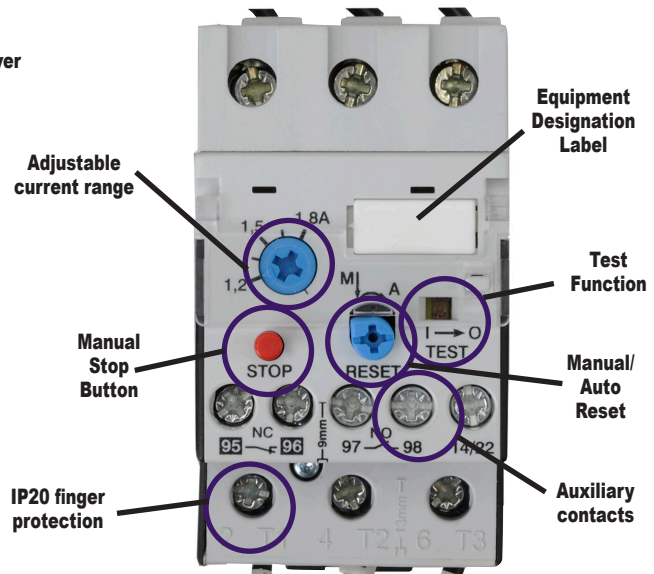
GH15 Series Adjustable Overload Relay Features

RTD32
for 45 mm Contactors



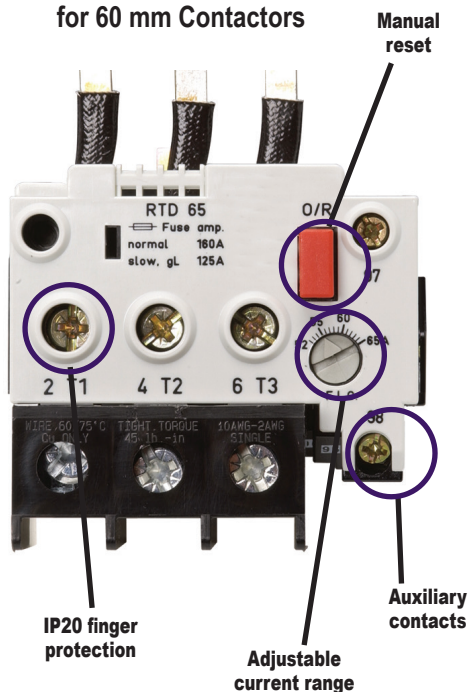
Note: Scale is 1:1 on dial.

RTD180 for 79 mm and 110 mm Contactors



Note: The secondary current for the dial adjustment of the relay is 100x the dial current. For example, for a rated load current of 120A, the relay setting should be 1.2A.

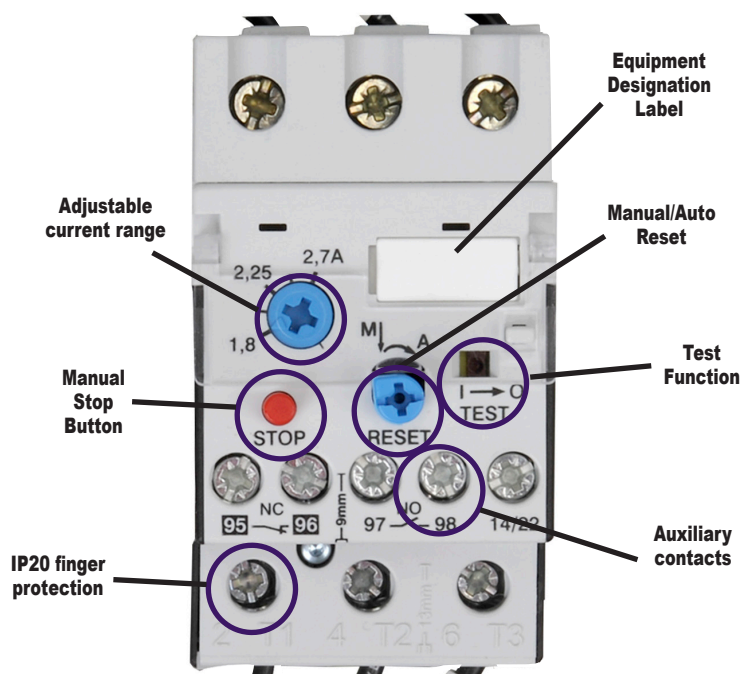
RTD65
for 60 mm Contactors



Note: Scale is 1:1 on dial.

Note: Additional Black Loadside Terminal Block is available on RTD65-5200 and RTD65-6500 only.

RTD320
for 145 mm Contactors



Note: The secondary current for the dial adjustment of the relay is 80x the dial current. For example, for a rated load current of 216A, the relay setting should be 2.7A.

GH15 Series Overload Relay Selection Guide

Step 1 Determine the motor FLA and service factor listed on the motor name plate. Next, calculate the size overload protection required based on 2005 NEC 430.32. Select your motor's FLA (Full Load Amperage) from Column A. Tripping current occurs at 125% of FLA in column A.

Step 2 Follow across to Column B to find your contactor size. Check the maximum amperage rating for that contactor. Ranges overlap and you may have to go to the next larger size.

Step 3 After selecting your contactor, follow across to Column C to find your overload relay model number.

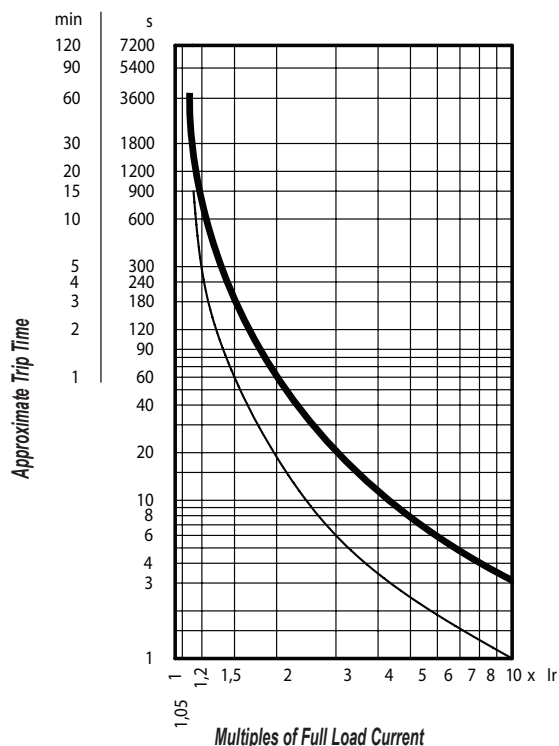
Step 4 Order the contactor and overload relay, any desired auxiliary contacts, then assemble and install your motor starter.

Motor Contactor and Overload Relay Selection Guide (When Motor FLA is Known)				
A	B	C	Price	IEC Contactor Frame Size
Current Range Motor FLA	Contactor Model	Overload Relay		
0.4 to 0.6A	GH15BN up to maximum FLA of 9A	RTD32-60	\$74.00	45mm
0.6 to 0.9A		RTD32-90	\$74.00	
0.8 to 1.2A		RTD32-120	\$74.00	
1.2 to 1.8A		RTD32-180	\$74.00	
1.8 to 2.7A		RTD32-270	\$74.00	
2.7 to 4.0A		RTD32-400	\$74.00	
4.0 to 6.0A		RTD32-600	\$74.00	
6.0 to 9.0A		RTD32-900	\$74.00	
8.0 to 11.0A	GH15CN up to 12A FLA	RTD32-1100	\$74.00	
10.0 to 14.0A		RTD32-1400	\$79.00	
10.0 to 14.0A	GH15DN up to 16A FLA	RTD32-1400	\$79.00	
13.0 to 18.0A		RTD32-1800	\$79.00	
13.0 to 18.0A	GH15ET up to 25A FLA	RTD32-1800	\$79.00	
17.0 to 24.0A		RTD32-2400	\$79.00	
22.0 to 32.0A		RTD32-3200	\$93.00	
22.0 to 32.0A	GH15FT up to 32A FLA	RTD32-3200	\$93.00	
20.0 to 28.0A	GH15GT up to 40A FLA	RTD65-2800	\$135.00	60mm
28.0 to 42.0A		RTD65-4200	\$135.00	
28.0 to 42.0A	GH15HT up to 50A FLA	RTD65-4200	\$135.00	
40.0 to 52.0A		RTD65-5200	\$168.00	
40.0 to 52.0A	GH15JT up to 63A FLA	RTD65-5200	\$168.00	
52.0 to 65.0A		RTD65-6500	\$168.00	
60.0 to 90.0A	GH15KT up to 80A FLA	RTD180-9000	\$237.00	79mm
60.0 to 90.0A	GH15LT up to 95A FLA	RTD180-9000	\$237.00	
80.0 to 120.0A	GH15MT up to 110A FLA	RTD180-12000	\$302.00	110mm
120.0 to 180.0A	GH15NT up to 150A FLA	RTD180-18000	\$324.00	
120.0 to 180.0A	GH15PT up to 175A FLA	RTD180-18000	\$324.00	145mm
144.0 to 216.0A	GH15RT up to 210A FLA	RTD320-21600	\$375.00	
144.0 to 216.0A	GH15ST up to 260A FLA	RTD320-21600	\$375.00	
216.0 to 320.0A		RTD320-32000	\$375.00	
144.0 to 216.0A	GH15TT up to 315A FLA	RTD320-21600	\$375.00	
216.0 to 320.0A		RTD320-32000	\$375.00	

GH15 Series Contactors Overload Technical Characteristics

Typical Trip Curves

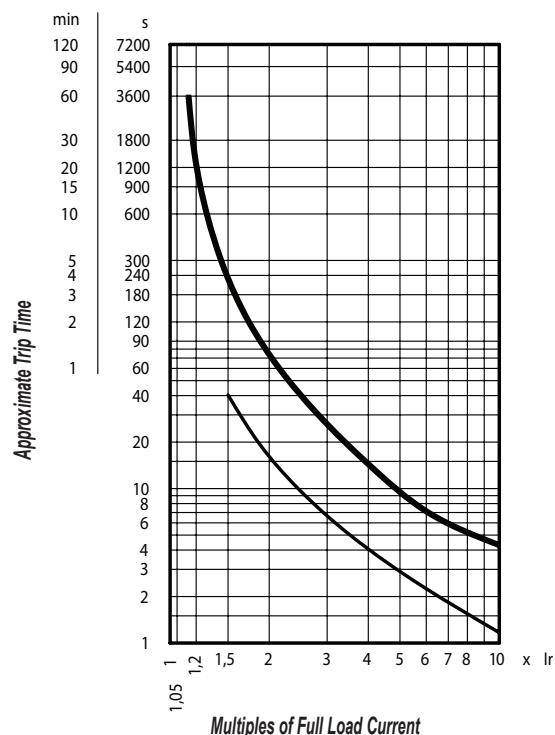
45mm and 60mm Overloads



Note: Curves show tripping time (average value) versus multiples of setting current I_r .

— Tripping starting from cold
— Tripping starting from hot

79mm, 110mm, and 145mm Overloads



GH15 Series Contactors Overload

Technical Characteristics

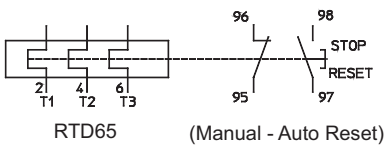
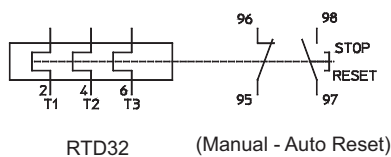
Thermal Overload Relays Specifications

	RTD32	RTD65	RTD180	RTD180-18000	RTD320
Storage temperature	-40 to +70°C (-40°F to 158°F)				
Operating temperature	-25 to +55°C (-13°F to 131°F)				
Tripping class IEC 60947-4-1	10A				
Phase loss sensitive	Yes				
Connection to contactor	Built-in links		Pass through wire	Links for direct	Links for direct
Frequency limits	0-400 Hz		50-60 Hz		
Power dissipation per phase	2.3 Watts	3.7 Watts (52-65 A) setting range: 4.5 W	3 Watts		5 Watts
Short circuit current rating 600V	5kA rms				
Aux contacts wire range	14-10 AWG				
Aux contacts tightening torque	8.1 lb-in				

Overload Aux Contact Ratings

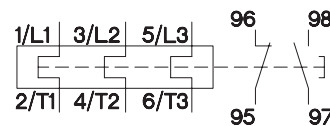
Contact Rating Code Designation	Thermal Continuous Current (Amps)	Maximum Current (Amps)			
		120 Volt	240 Volt	480 Volt	600 Volt
		Make / Break	Make / Break	Make / Break	Make / Break
95-96 (NC) B600	5	30 / 3	15 / 1.5	7.5 / 0.75	6 / 0.6
97-98 (NO) C600	2.5	15 / 1.5	7.5 / 0.75	3.75 / 0.375	3 / 0.3

IEC Terminal Designations

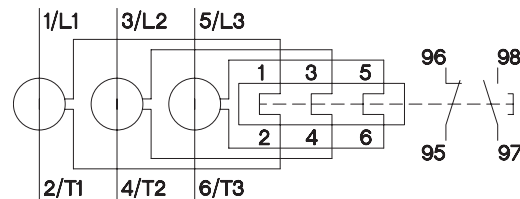


Wiring Diagrams

RTD32 / RTD65

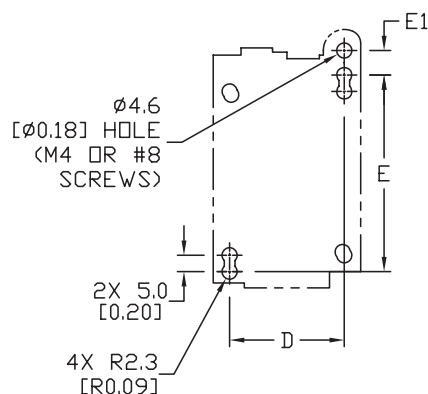
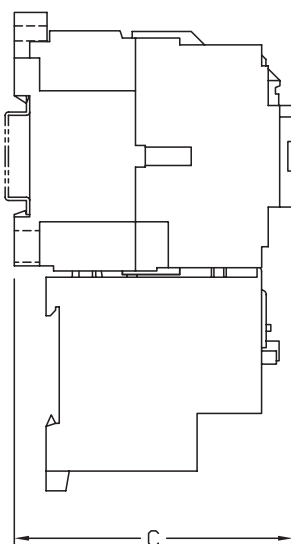
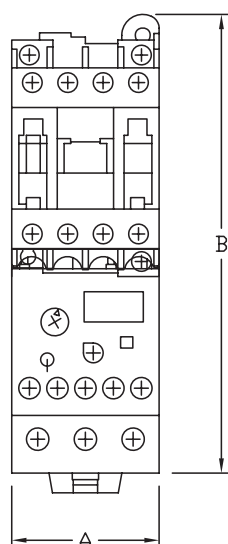


RTD180 / RTD320



GH15 Series Overload Relay Dimensions

45mm Contactor and Overload Dimensions

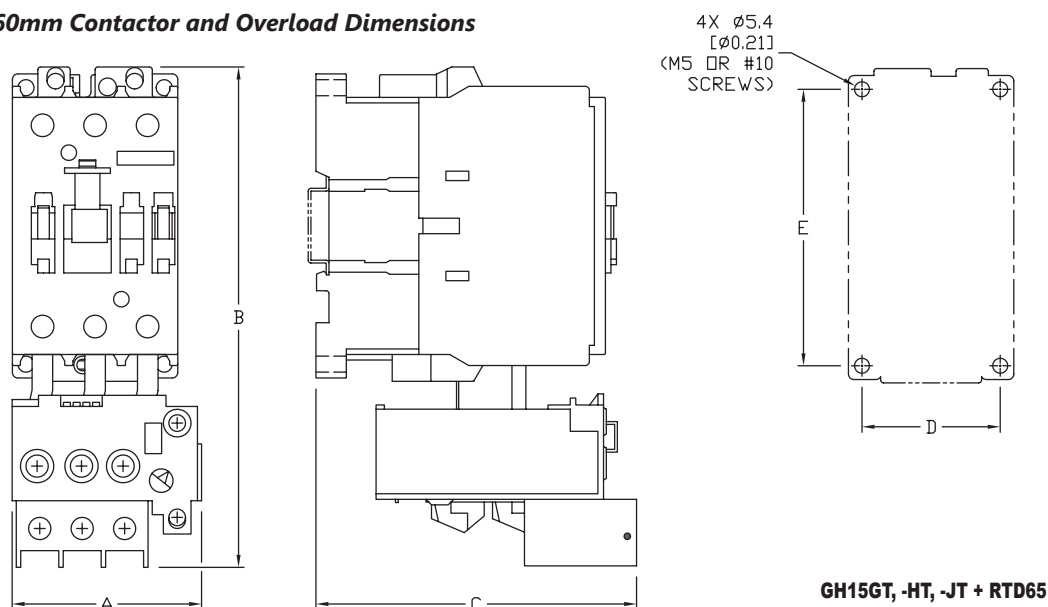


GH15BN, -CN, -DN, -ET, -FT + RTD32

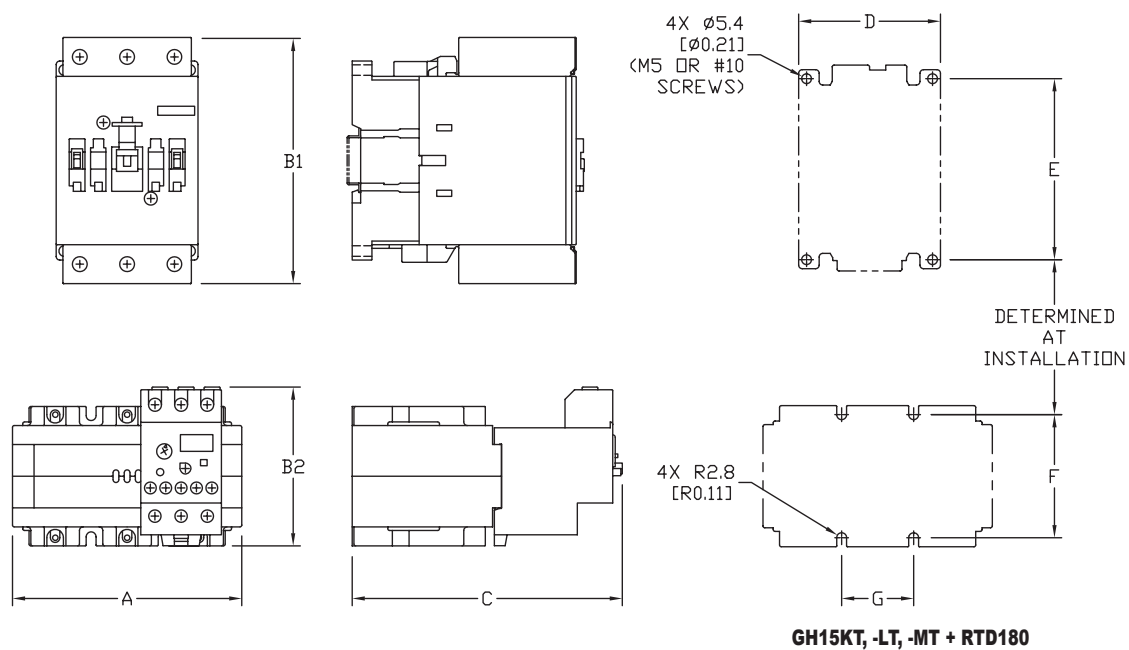
Overload Dimensions mm [in]													
Contactor Model	Overload Model	Width	Height			Depth	D	E	E1	F	G	H	I
		A	B	B1	B2	C							
GH15BN	RTD32	45.0 [1.77]	146.0 [5.75]	—	—	85.0 [3.35]	35.0 [1.38]	60.0 [2.36]	7.5 [0.30]	—	—	—	—
GH15CN													
GH15DN													
GH15ET													
GH15FT													
GH15GT	RTD65	68.5 [2.70]	169.0 [6.65]	—	—	109.0 [4.29]	50.0 [1.97]	100.0 [3.94]	—	—	—	—	—
GH15HT													
GH15JT													
GH15KT	RTD180	128.0 [5.04]	contactor and overloads do not have a link connector	137.0 [5.39]	81.0 [3.19]	130.0 [5.12]	70.0 [2.76]	100.0 [3.94]	—	—	68.0 [2.68]	40.0 [1.57]	—
GH15LT				162.0 [6.38]	81.0 [3.19]								
GH15MT													
GH15NT	RTD180-18000		290.0 [11.42]	—	—	145.0 [5.71]	100.0 [3.94]	130.0 [5.12]	—	42.5 [1.67]	68.0 [2.68]	40.0 [1.57]	—
GH15PT													
GH15RT	RTD320	145.0 [5.71]	361.0 [14.21]	—		208.0 [8.19]	120.0 [4.72]	160.0 [6.30]	—	80.0 [3.15]	68.0 [2.68]	40.0 [1.57]	96.0 [3.78]
GH15ST													
GH15TT													

GH15 Series Overload Relay Dimensions

60mm Contactor and Overload Dimensions



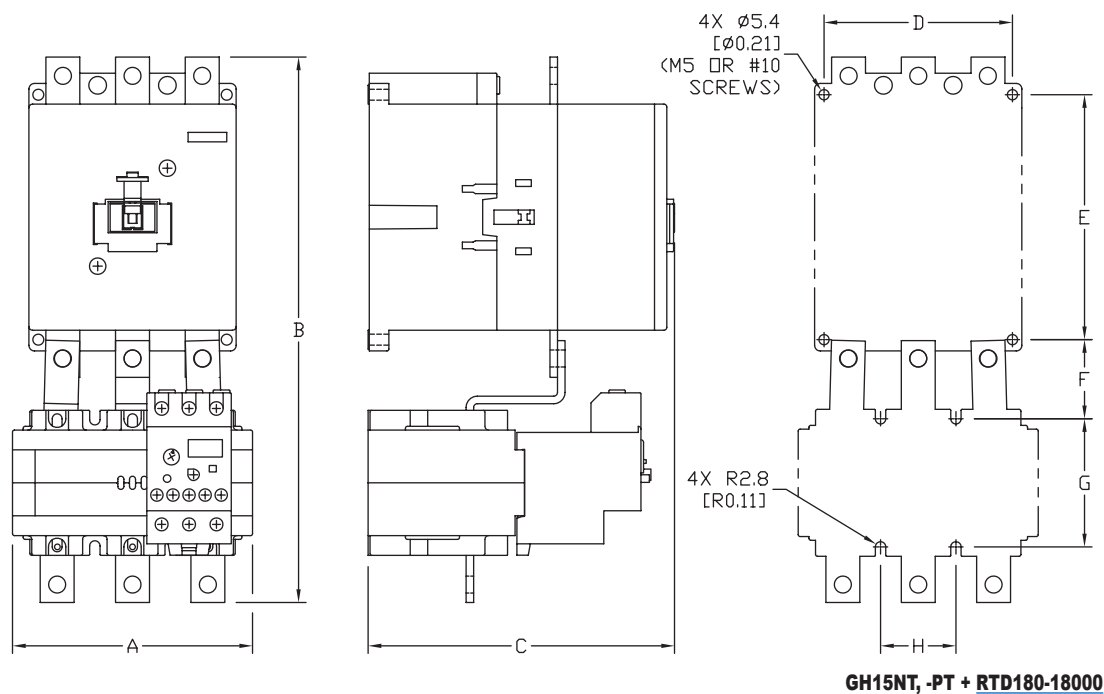
79mm Contactor and Overload Dimensions



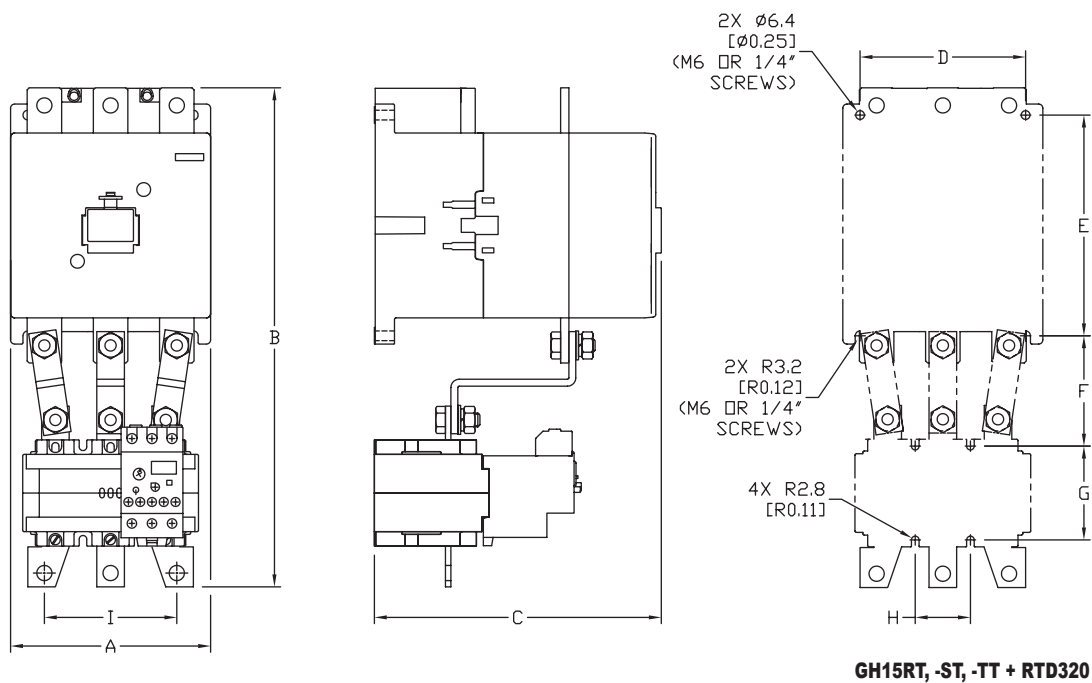
Note: See our website www.automationdirect.com for complete engineering drawings

GH15 Series Overload Relay Dimensions

110mm Contactor and Overload Dimensions



145mm Contactor and Overload Dimensions



Note: See our website www.automationdirect.com for complete engineering drawings