



GH Series Contactor/Overload Selection Guide

Step 1 Select your motor's FLA (Full Load Amperage) from 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.

- Company Information
- Systems Overview
- Programmable Controllers
- Field I/O
- Software
- C-more & other HMI
- Drives
- Soft Starters
- Motors & Gearbox
- Steppers/ Servos
- Motor Controls**

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	<--->	45 mm frame size
0.6 to 0.9A		RTD32-90	<--->	
0.8 to 1.2A		RTD32-120	<--->	
1.2 to 1.8A		RTD32-180	<--->	
1.8 to 2.7A		RTD32-270	<--->	
2.7 to 4.0A		RTD32-400	<--->	
4.0 to 6.0A		RTD32-600	<--->	
6.0 to 9.0A		RTD32-900	<--->	
8.0 to 11.0A	GH15CN up to 12A FLA	RTD32-1100	<--->	
10.0 to 14.0A		RTD32-1400	<--->	
10.0 to 14.0A	GH15DN up to 16A FLA	RTD32-1400	<--->	
13.0 to 18.0A		RTD32-1800	<--->	
13.0 to 18.0A	GH15ET up to 25A FLA	RTD32-1800	<--->	
17.0 to 24.0A		RTD32-2400	<--->	
22.0 to 32.0A		RTD32-3200	<--->	
22.0 to 32.0A	GH15FT up to 32A FLA	RTD32-3200	<--->	
20.0 to 28.0A	GH15GT up to 40A FLA	RTD65-2800	<--->	60 mm frame size
28.0 to 42.0A		RTD65-4200	<--->	
28.0 to 42.0A	GH15HT up to 50A FLA	RTD65-4200	<--->	
40.0 to 52.0A		RTD65-5200	<--->	
40.0 to 52.0A	GH15JT up to 63A FLA	RTD65-5200	<--->	
52.0 to 65.0A		RTD65-6500	<--->	

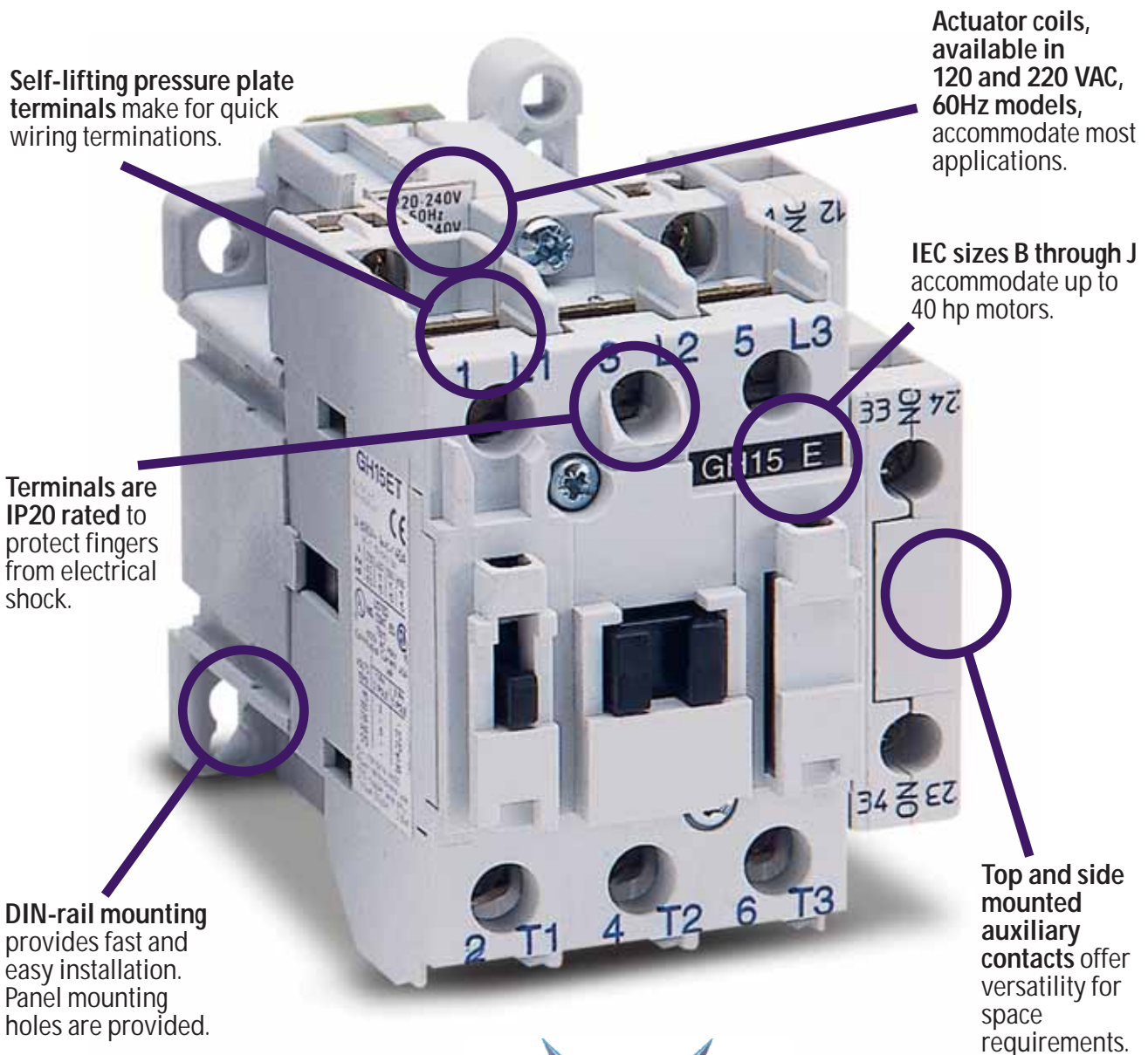
- Proximity Sensors
- Photo Sensors
- Limit Switches
- Encoders
- Current Sensors
- Pressure Sensors
- Temperature Sensors
- Pushbuttons/ Lights
- Process
- Relays/ Timers
- Comm.
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GH Series IEC Motor Controls

The GH series of IEC contactors and bi-metallic overload relays are manufactured by Europe's leading maritime contactor company. Contactors for ocean-going vessels are built to the most rigid specifications. This same design technology carries over to this line of industrial motor controls.

We offer individual components that allow you to use the contactor alone or to assemble your motor starter using our thermal overload relays. You can also combine a manual motor starter/protector for all-in-one protection.

Use contactors wherever you need a heavy-duty switching device with up to three poles. Add up to eight auxiliary contact blocks for interlocks and feedback. Or use the optional mechanical interlock to create an inexpensive reversing contactor.





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GH Series Contactor Configurations

Contactor Part Numbers										
IEC FRAME SIZE	Contactor Model	Part Number	Price	Number of Contacts			Coil Voltage and Frequency	Additional Contacts		
				Main	Auxiliary Contacts Included			Maximum Contact Block Arrangement	Type of Additional Contact Block	
					N.O.	N.C.				
45 mm	GH15BN	<i>GH15BN-3-10A</i>	<-->	3	1		110-120VAC 50-60 Hz	<p>Up to 8 auxiliary contacts may be added to the contactor by utilizing the side mount and top mount contact block assemblies. Though referred to as a top mount assembly, the GH15T mounts to the front of the contactor.</p> <p>Note: If using the BMOH mechanical interlock, the use of auxiliary contacts are prohibited on that side of each contactor. This does not pertain to the auxiliary contact built into the GH15BN, GH15CN and GH15DN contactors.</p>	<p>Top mount GH15T11 (1 NO & 1 NC) GH15T40 (4 NO) GH15T31 (3 NO & 1 NC) GH15T22 (2 NO & 2 NC)</p> <p>Side mount GH15S11 (1 NO & 1 NC)</p> <p>Note: Auxiliary contact blocks work with all frame sizes.</p>	
		<i>GH15BN-3-01A</i>	<-->	3			1			110-120VAC 50-60 Hz
		<i>GH15BN-3-10B</i>	<-->	3	1					220-240VAC 50-60 Hz
		<i>GH15BN-3-01B</i>	<-->	3			1			220-240VAC 50-60 Hz
	GH15CN	<i>GH15CN-3-10A</i>	<-->	3	1					110-120VAC 50-60 Hz
		<i>GH15CN-3-01A</i>	<-->	3			1			110-120VAC 50-60 Hz
		<i>GH15CN-3-10B</i>	<-->	3	1					220-240VAC 50-60 Hz
		<i>GH15CN-3-01B</i>	<-->	3			1			220-240VAC 50-60 Hz
	GH15DN	<i>GH15DN-3-10A</i>	<-->	3	1					110-120VAC 50-60 Hz
		<i>GH15DN-3-01A</i>	<-->	3			1			110-120VAC 50-60 Hz
		<i>GH15DN-3-10B</i>	<-->	3	1					220-240VAC 50-60 Hz
		<i>GH15DN-3-01B</i>	<-->	3			1			220-240VAC 50-60 Hz
	GH15ET	<i>GH15ET-3-00A</i>	<-->	3						110-120VAC 50-60 Hz
		<i>GH15ET-3-00B</i>	<-->	3						220-240VAC 50-60 Hz
	GH15FT	<i>GH15FT-3-00A</i>	<-->	3						110-120VAC 50-60 Hz
		<i>GH15FT-3-00B</i>	<-->	3						220-240VAC 50-60 Hz
60 mm	GH15GT	<i>GH15GT-3-00A</i>	<-->	3			120VAC 60 Hz			
		<i>GH15GT-3-00B</i>	<-->	3			240VAC 60 Hz			
	GH15HT	<i>GH15HT-3-00A</i>	<-->	3			120VAC 60 Hz			
		<i>GH15HT-3-00B</i>	<-->	3			240VAC 60 Hz			
	GH15JT	<i>GH15JT-3-00A</i>	<-->	3			120VAC 60 Hz			
		<i>GH15JT-3-00B</i>	<-->	3			240VAC 60 Hz			

GH Series 45 mm Contactor Specifications

45 mm Contactor Specification Guide								
Contactor Model			GH15BN	GH15CN	GH15DN	GH15ET	GH15FT	
Insulation Voltage	AC	(V)	600 Volts AC					
Ampere Rating	Max. UL Amps (AC3) <small>note 1</small>	(A)	9	12	16	25	32	
	AC1 Thermal Current (600V) <small>note 2</small>	(A)	30	30	40	45	50	
Maximum Power (hp) of Three-Phase Motors	200V	(hp)	2	3	3	7.5	7.5	
	230/240V	(hp)	3	3	5	7.5	10	
	460/480V	(hp)	5	7.5	10	15	20	
	575V	(hp)	7.5	10	15	20	25	
Maximum Power (hp) of Single-Phase Motors	115V	(hp)	0.5	0.5	1	2	2	
	230/240V	(hp)	1	2	3	3	5	
Maximum Power (kW) of Three-Phase Motors AC3 Category <small>note 1</small>	230/240V	(kW)	2.2	3	4	6.5	7.5	
	400V	(kW)	4	5.5	7.5	11	15	
	440/480V	(kW)	4.7	6.4	9	12.5	16.5	
	500V	(kW)	5.5	7.5	10	11	15	
	690V	(kW)	5.5	7.5	7.5	11	15	
Short Circuit Protection Fuses Class J UL Rated Fuses	Type 2 Coordination <small>note 3</small>	(A)	20	25	32	40	50	
SCCR Rating (kA)		kA	5	5	5	5	5	
Auxiliary Contacts Electrical Capacity			A600 <small>note 4</small>					
Coil Voltage Operating Limits			A.C. Pick-up 85-110% rated control voltage / A.C. Drop-out 20-75% rated control voltage					
Average Coil Power Requirements / Coil current (A) = VA/Coil Voltage			A.C. Pick-Up (VA) 80-100 / A.C. Sealed (VA) 9-12					
Power Factor			Pick-up .65 / Sealed .35					
Coil Operating Time at Rated Coil Voltage			Pick-up (ms) 10-25 / Drop-out (ms) 6-18					
Maximum Operating Frequency (No-Load Operation)			3000 operations / hour					
Mechanical Durability			10,000,000 operations					
Electrical Durability			1,000,000 operations					
Operating Ambient Temperature			-25 to +55C (-13 to +131F)					
Electrical Protection Degree			IP20 (IP10 for power entry cables)					
Mounting			Screw or 35mm DIN rail					
Wire Sizes	Line / Load		10 AWG			8 AWG		
	Control & Auxiliary Contacts		#12-#14 AWG (stranded recommended)					

Notes:

1. AC3 type loads consist of squirrel cage three-phase motors.
2. AC1 non-inductive or slightly inductive loads. Typically resistive loads (i.e. furnaces, ovens, etc.)
3. Type 2 coordination is a protection category for IEC 60947-4-1. Section 8.2.5.1 specifies that Type 2 coordination requires that, under short circuit conditions, the contactor or starter shall cause no danger to persons or installation and shall be suitable for further use. The risk of minor contact welding is possible.
4. NEMA ICS 5-2000. For more information, refer to Control Circuit Contact Electrical Ratings, page 17-77.



GH Series 60 mm Contactor Specifications

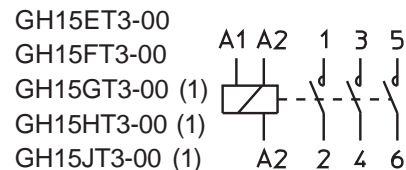
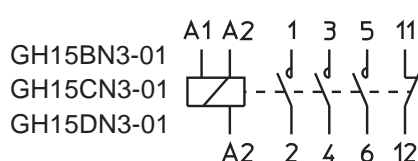
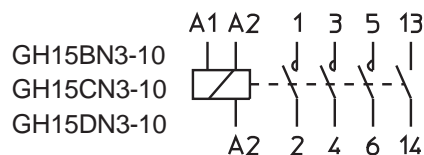
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60 mm Contactor Specification Guide					
Contactor Model			GH15GT	GH15HT	GH15JT
Insulation Voltage	AC	(V)	600 Volts AC		
Ampere Rating	Max. UL Amps (AC3) <small>note 1</small>	(A)	40	50	63
	AC1 Thermal Current (600V) <small>note 2</small>	(A)	63	80	100
Maximum Power (hp) of Three-Phase Motors	200V	(hp)	10	15	15
	230/240V	(hp)	10	15	20
	460/480V	(hp)	25	30	40
	575V	(hp)	30	40	50
Maximum Power (hp) of Single-Phase Motors	115V	(hp)	3	3	5
	230/240V	(hp)	5	7.5	10
Maximum Power (kW) of Three-Phase Motors AC3 Category <small>note 1</small>	230/240V	(kW)	11	12.5	18.5
	400V	(kW)	18.5	22	30
	440/480V	(kW)	21	25	33
	500V	(kW)	18.5	22	30
	690V	(kW)	18.5	22	30
Short Circuit Protection Fuses Class J UL Rated Fuses	Type 2 Coordination <small>note 3</small>	(A)	63	80	100
SCCR Rating (kA)		kA	5	5	5
Auxiliary Contacts Electrical Capacity			A600 <small>note 4</small>		
Coil Voltage Operating Limits			A.C. Pick-up 85-110% rated control voltage / A.C. Drop-Out 20-75% rated control voltage		
Average Coil Power Requirements / Coil current (A) = VA/Coil Voltage			A.C. Pick-up (VA) 250 / A.C. Sealed (VA) 18		
Power Factor			Pick-up .54 / Sealed .35		
Coil Operating Time at Rated Coil Voltage			Pick-up (ms) 12-30 / Drop-out (ms) 6-15		
Maximum Operating Frequency (No-Load Operation)			3000 operations / hour		
Mechanical Durability			10,000,000 operations		
Electrical Durability			1,000,000 operations		
Operating Ambient Temperature			-25 to +55C (- 13 to +131F)		
Electrical Protection Degree			IP20 (IP10 for power entry cables)		
Mounting			Screw or 35mm DIN rail		
Wire Sizes	Line / Load		#3-#12 stranded		
	Control & Auxiliary Contacts		#12 - #16 AWG (stranded recommended)		

Notes

1. AC3 type loads consist of squirrel cage three phase motors.
2. AC1 non-inductive or slightly inductive loads. Typically resistive loads (i.e. furnaces, ovens, etc.)
3. Type 2 coordination is a protection category for IEC 60947-4-1. Section 8.2.5.1 specifies that Type 2 coordination requires that, under short circuit conditions, the contactor or starter shall cause no danger to persons or installations, and shall be suitable for further use. The risk of minor contact welding is possible.
4. NEMA ICS 5-2000. For more information, refer to Control Circuit Contact Electrical Ratings, page 17-77.

Contactors



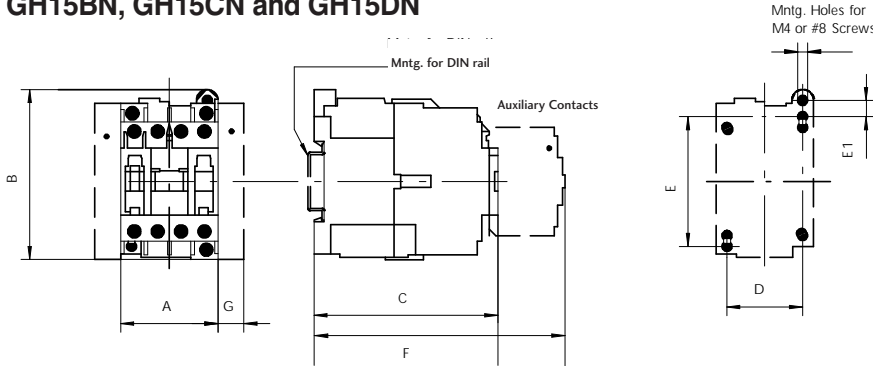
GH Series Contactor Dimensions

Dimensions (Inches)										
Product	IEC Size	Contactor Type								Shipment Weight in Pounds
		Wide		High	Deep	Mounting				
		A	B	C	D	E	E1	F		
Contactors	BN-DN	1.77	3.15	3.35	1.38	2.36	.3	4.57	.47	1.3
	ET-FT	1.77	3.15	3.58	1.38	2.36	.3	4.8	.47	1.4
	GT, HT, JT	2.36	4.49	4.29	1.97	3.94	—	5.51	.47	2.0

Contactor accessories



GH15BN, GH15CN and GH15DN



Auxiliary contacts

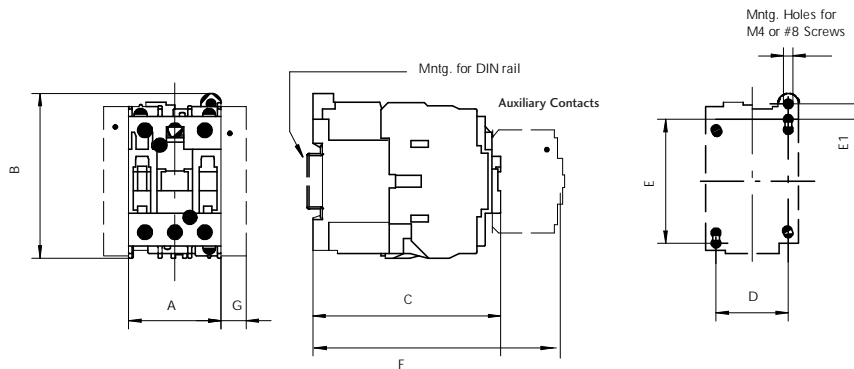
Auxiliary contacts are designed for installation on the GH series contactors. The snap-on design makes them quick and easy to install.

The bifurcated contact blocks feature silver nickel alloy contacts.

Auxiliary Contacts			
Part Number	Price	Description	Mounting
GH15T11	<--->	1 NO 1 NC	Top
GH15T22	<--->	2 NO 2 NC	Top
GH15T31	<--->	3 NO 1 NC	Top
GH15T40	<--->	4 NO	Top
GH15S11	<--->	1 NO 1 NC	Side

Contacts rated A600 per NEMA ICS 5-2000. For more info, refer to Control Circuit Contact Electrical Ratings, page 17-77.

GH15ET, GH15FT, GH15GT, GH15HT and GH15JT



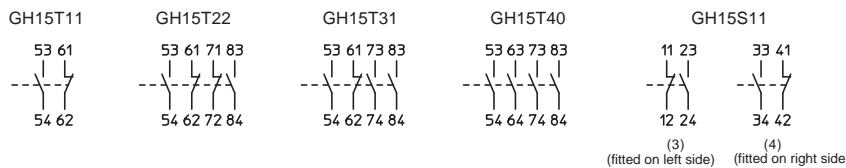
Replacement coils (for 45 mm frame only)

Replacement coils for the 110/120V and 220/240V units are available

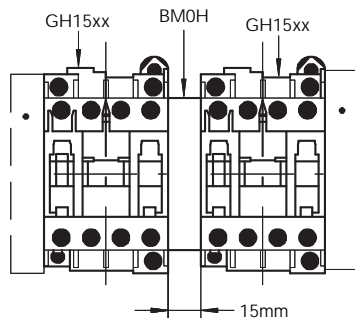
Replacement Coils		
Part Number	Price	Description
B01-A-120	<--->	110/120V 50/60 Hz
B01-B-240	<--->	220/240V 50/60 Hz

Note: These coils do not work with GH15GT, GH15HT and GH15JT.

Auxiliary Contact Blocks



BM0H



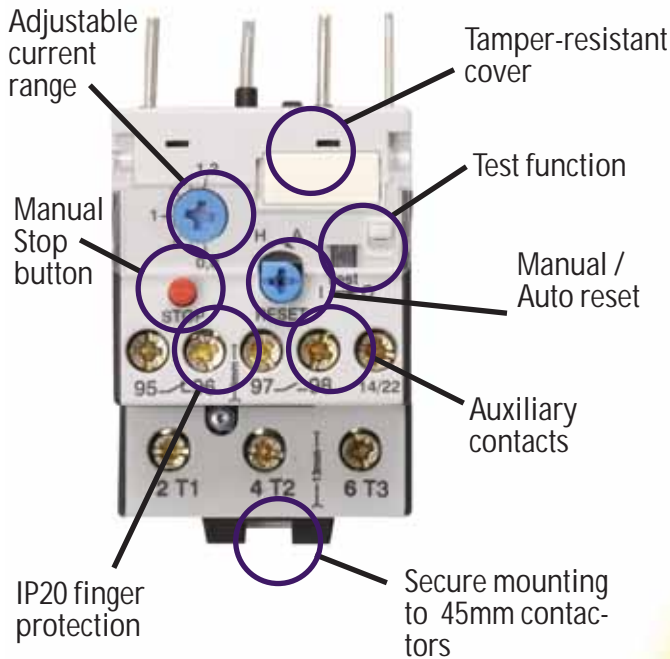
Mechanical interlock

Mechanical interlocks connect two contactors horizontally. When one contactor is energized, the other contactor is mechanically prohibited from making, even though it may be energized. The mechanical interlocks work with 45 and 60 mm contactors.

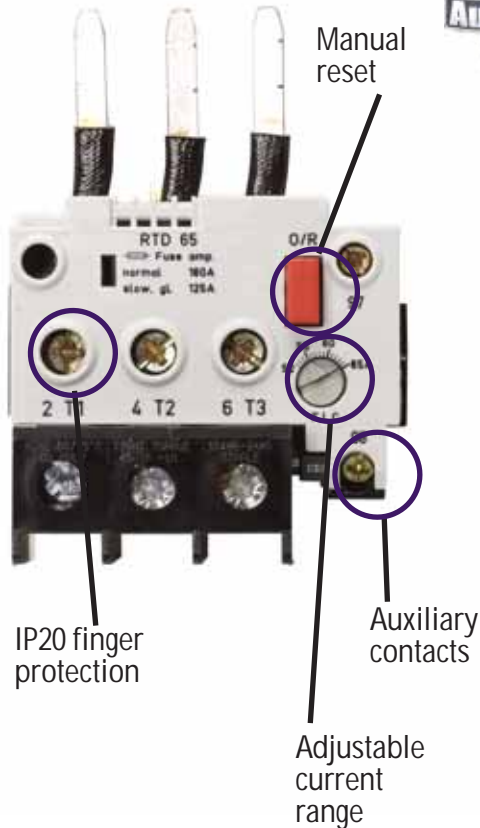
Mechanical interlock			
Part Number	Price	Description	Mounting
BM0H	<--->	Mechanical interlock	Side

Adjustable Overloads for GH Series Contactors

RTD32 for 45 mm Contactors



RTD65 for 60 mm Contactors



Adjustable overload relays for 45 mm and 60 mm contactors

The RTD32 and RTD65 adjustable motor overload relays are designed to attach directly to the GH Series 45 mm and 60 mm contactors. By combining the contactor with an overload relay, you have a motor starter solution at a fraction of the cost of the competition.

RTD65 overload relay for 60 mm contactors

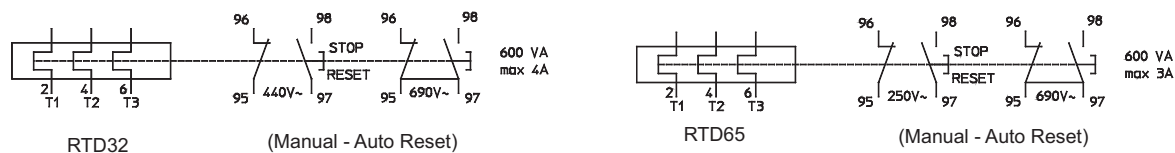
- Four sizes for motor currents from 20 to 65 amps
- Units come with N.O. and N.C. auxiliary contacts
- Mount directly to 60 mm contactors
- Class 10 trip curve
- UL/CUL listed, CE

RTD32 overload relay for 45 mm contactors

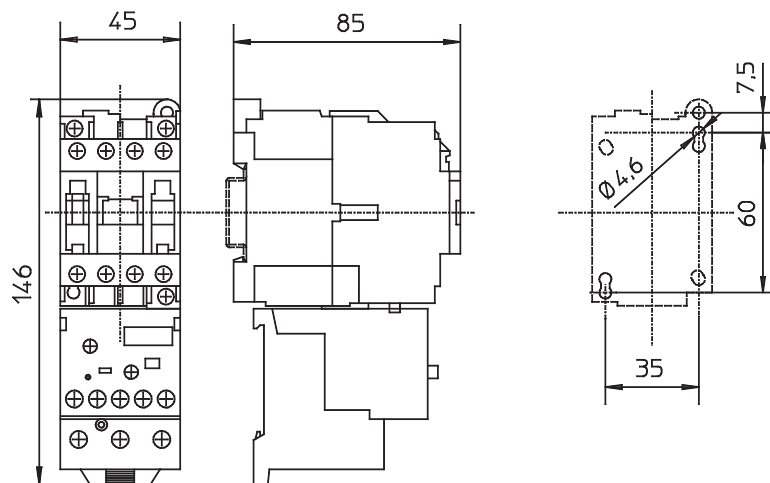
- 16 sizes for motor currents from 0.4 to 32 amps
- Units come with N.O. and N.C. auxiliary contacts
- Mount directly to 45 mm contactors
- Class 10 trip curve
- UL/CUL listed, CE

Overload Dimensions for GH Series Contactors

IEC terminal designations

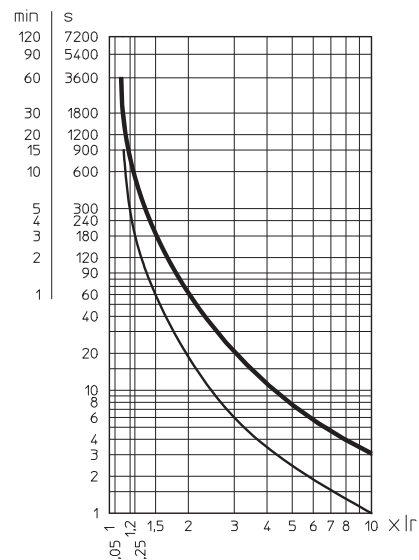


45 mm contactor and overload dimensions (mm)



GH15BN...FT + RTD32

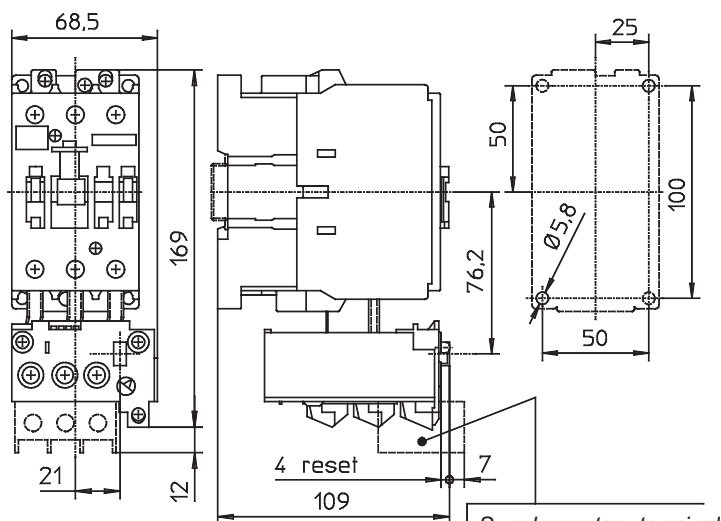
Trip curve for 45 and 60 mm overloads



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

- Tripping starting from cold
- Tripping starting from hot

60 mm contactor and overload dimensions (mm)



GH15GT ... JT + RTD65

Supplementary terminal block for 40-52A, 52-65A range only