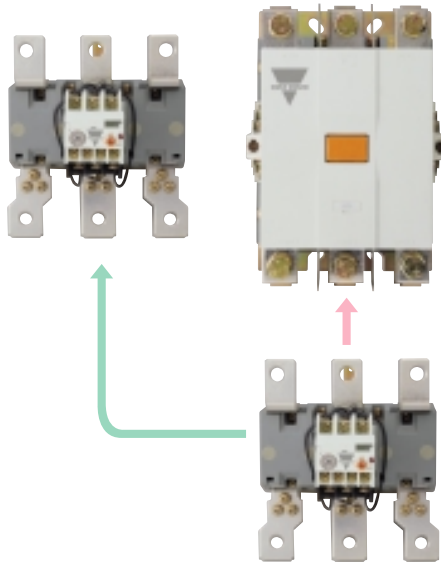


Overload Relays

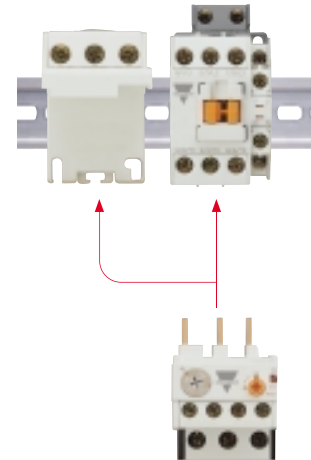
Thermal (Bimetallic) style up to 800A

CGT type overload relays are designed for the easy mounting directly to contactors or separately by using additional bases or brackets.

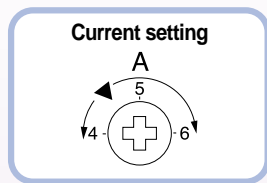


Relays frame current over 80A
Separate mount on panel with screws.
Bracket is required by type.

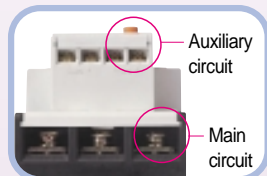
Relays frame current up to 80A
Optional bases are used to mount the relays separately either on 35mm DIN rail or on panel with screws.



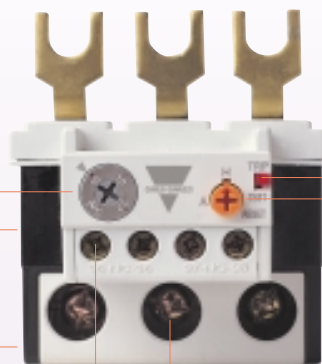
Overload relay structure



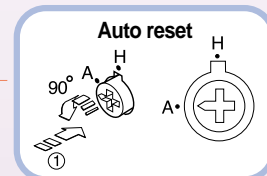
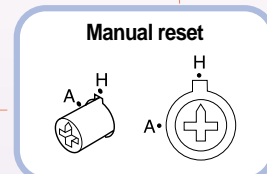
Finger proof design



Main and auxiliary terminals are arranged to keep people from wrong wiring for the low current frame relays.



The bar indicator to be protruded by 2~3mm to indicate trip status visibly. Push it to reset the relay in the case of using manual reset mode.



To set "Auto reset" mode push the orange bar and rotate it 90 degrees count clockwise.

Thermal overload relays

Setting range selection guide



Class 10A

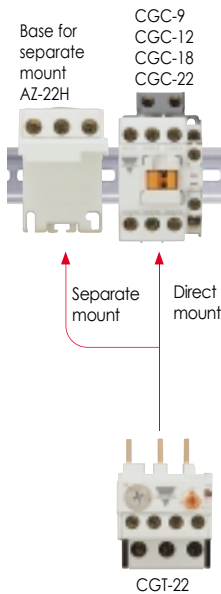
Three phase (4 pole) motor max. power						CGT(H)-22	CGT(H)-40	CGT(H)-85	CGT(H)-125	CGT(H)-150	CGT(H)-220	CGT(H)-400	CGT(H)-800
220V KW	380V KW	415V KW	440V KW	550V KW	660V KW								
•	•	•	•	•	•	0.1~0.16							
•	•	•	•	•	•	0.16~0.2							
•	•	•	•	•	•	5							
•	•	•	•	•	0.37	0.25~0.4							
•	•	•	•	0.37	0.55	0.4~0.63							
•	0.37	•	0.55	0.75	1.1	0.63~1							
0.37	0.75	1.1	1.1	1.1	1.5	1~1.6							
0.5	1	1.5	1.5	1.5	2	1.6~2.5							
0.75	1.5	1.5	1.5	2.2	3								
1	2	2	2	3	4								
1.1	2.2	2.2	2.2	3	4	2.5~4	4~6						
1.5	3	3	3	4	5.5								
1.5	3	3.7	3.7	4	5.5	4~6	5~8						
2	4	5	5	5.5	7.5								
•	•	4	4	•	•	5~8	6~9						
2.2	4	5.5	4	5.5	7.5	6~9	7~10	7~10					
3	5.5	5.5	5.5	7.5	10								
3	5.5	5.5	5.5	7.5	10	7~10	9~13	9~13					
4	7.5	7.5	7.5	10	13.5								
4	7.5	9	9	10	15	9~13	12~18	12~18					
5.5	10	12	12	13.5	20								
5.5	11	11	11	•	•	12~18	16~22	16~22					
7.5	15	15	15										
5.5	11	11	11	15	18.5	16~22	18~26	18~26					
7.5	15	15	15	20	25								
7.5	15	15	15	18.5	22								
10	20	20	20	25	30		24~36	24~36					
•	15	•	•	18.5	•		28~40	28~40					
	20			25									
11	22	25	25	30	37			34~50	34~50	34~50			
15	30	35	35	40	50								
15	25	30	30	37	45			45~65	39~57	39~57			
20	35	40	40	50	60								
18.5	30	37	37	45	55			54~75	43~65	43~65			
25	40	50	50	60	75								
22	37	45	45	55	63			63~85	54~80	54~80			
30	50	60	60	75	85								
25	51	55	59	63	90								
35	70	75	80	85	125				65~100	65~100	70~100		
30	59	59	63	80	110								
40	80	80	85	110	150			85~125	85~125	85~125	85~125		
45	80	80	90	100	129								
60	110	110	125	135	175					100~150	100~160	100~160	
55	90	100	110	110	160								
75	125	135	150	150	220						120~180	120~180	
63	110	129	140	160	200								
85	150	175	190	220	270						160~240	160~240	
80	150	160	160	200	257								
110	205	220	220	270	350								200~300
110	185	200	220	257	335								260~400
150	250	270	300	350	455								260~400
180	315	355	375	425	500								400~600
245	430	480	510	580	680								400~600
220	400	425	450	500	•								520~800
300	545	580	610	680	•								520~800
Applied contactors for direct starters						CGC-9A(D) CGC-12A(D) CGC-18A(D) CGC-22A(D)	CGC-32A(D) CGC-40A(D)	CGC-50A(D) CGC-65A(D) CGC-75A(D) CGC-85A(D)	CGC-100A(D) CGC-125A(D)	CGC-150A(D)	CGC-180 CGC-220	CGC-300 CGC-400	CGC-600 CGC-800

Thermal overload relays, Class 10A

22A



CGT-22



Description

- Direct mount on the CGC-9, 12, 18, 22 contactors (9, 12, 18, 22A frames)
- DIN rail or screw mountable with the optional base AZ-22H
- Small physical size : 44 mm wide
- 1NO+1NC trip contacts
- Trip class 10A
- Differential current/Phase failure protection : CGT types
- Non-differential CGTH types are available for the economic solution
- Ambient compensated -5 to 40°C
- Manual/Automatic reset
- Trip free design
- Bimetallic style

Catalog No.

Setting ranges(A)	Differential type	Non-differential type	
	3-heater	3-heater	2-heater
0.1 - 0.16	CGT-22 · 0.16	CGTH-22/3 · 0.16	CGTH-22 · 0.16
0.16 - 0.25	CGT-22 · 0.25	CGTH-22/3 · 0.25	CGTH-22 · 0.25
0.25 - 0.4	CGT-22 · 0.4	CGTH-22/3 · 0.4	CGTH-22 · 0.4
0.4 - 0.63	CGT-22 · 0.63	CGTH-22/3 · 0.63	CGTH-22 · 0.63
0.63 - 1	CGT-22 · 1	CGTH-22/3 · 1	CGTH-22 · 1
1 - 1.6	CGT-22 · 1.6	CGTH-22/3 · 1.6	CGTH-22 · 1.6
1.6 - 2.5	CGT-22 · 2.5	CGTH-22/3 · 2.5	CGTH-22 · 2.5
2.5 - 4	CGT-22 · 4	CGTH-22/3 · 4	CGTH-22 · 4
4 - 6	CGT-22 · 6	CGTH-22/3 · 6	CGTH-22 · 6
5 - 8	CGT-22 · 8	CGTH-22/3 · 8	CGTH-22 · 8
6 - 9	CGT-22 · 9	CGTH-22/3 · 9	CGTH-22 · 9
7 - 10	CGT-22 · 10	CGTH-22/3 · 10	CGTH-22 · 10
9 - 13	CGT-22 · 13	CGTH-22/3 · 13	CGTH-22 · 13
12 - 18	CGT-22 · 18	CGTH-22/3 · 18	CGTH-22 · 18
16 - 22	CGT-22 · 22	CGTH-22/3 · 22	CGTH-22 · 22

Connection

Main	Screw(M4) clamp terminal
(Load)	Cable capacity : 1.25~5.5mm ² / ϕ 1.6~2.6
Auxiliary	Screw(M3.5) clamp terminal

Ordering information

Specify catalog number

For more information

- Technical specification → page 122~133
- Drawings → page 147
- Contactors → page 40
- Starters → page 81
- Separate mounting unit → page 147
- Electronic overload relay → page 76
- Operating curves → page 134

Certificate

CE, ULcUL, Lloyd,
CCC(China)

Thermal overload relays with protection fuses

Type	AC1(A)	690V AC3 Ie(A)	Short-circuit test	
			Fuse available fault current 100,000A	Ue / "I"
CGT(H)-22	32	1.6	gL/gG 4A	690V/1kA
CGT(H)-22		2.5	gL/gG 6A	690V/1kA
CGT(H)-22		4	gL/gG 10A	690V/1kA
CGT(H)-22		22	gL/gG 50A	690V/3kA
CGT(H)-40	60	6	gL/gG 16A	690V/1kA
CGT(H)-40		8	gL/gG 20A	690V/1kA
CGT(H)-40		9	gL/gG 20A	690V/1kA
CGT(H)-40		40	gL/gG 80A	690V/3kA
CGT(H)-85	135	18	gL/gG 35A	690V/3kA
CGT(H)-85		22	gL/gG 50A	690V/3kA
CGT(H)-85		26	gL/gG 63A	690V/3kA
CGT(H)-85		36	gL/gG 80A	690V/3kA
CGT(H)-85		40	gL/gG 80A	690V/3kA
CGT(H)-85		50	gL/gG 100A	690V/3kA
CGT(H)-85		65	gL/gG 160A	690V/5kA
CGT(H)-85		75	gL/gG 160A	690V/5kA
CGT(H)-125	150	65	gL/gG 150A	690V/5kA
CGT(H)-125		125	gL/gG 225A	690V/5kA
CGT(H)-150	200	100	gL/gG 200A	690V/5kA
CGT(H)-150		150	gL/gG 250A	690V/10kA
CGT(H)-220	260	150	gL/gG 250A	690V/10kA
CGT(H)-220		240	gL/gG 355A	690V/10kA
CGT(H)-400	420	300	gL/gG 400A	690V/10kA
CGT(H)-400		400	gL/gG 630A	690V/18kA
CGT(H)-800	800	400	gL/gG 630A	690V/18kA
CGT(H)-800		630	gL/gG 800A	690V/18kA
CGT(H)-800		800	gL/gG 1400A	690V/30kA

Note) Tables are based on a combination of tests on a previous range and technical comparison.

Technical informations

Cabling and tightening torque

3-pole Contactors

Type	Cable section			Screw size		Torque(Nm)	
	AWG /MCM	ISOmm ²		Contacto terminal	Coil terminal	Principal main	Aux.
CGC-9A	10 AWG	1,5	4	M4	M3.5	2,3	2,3
CGC-12A	10 AWG	1,5	4	M4	M3.5	2,3	2,3
CGC-18A	10 AWG	1,5	6	M4	M3.5	4	2,3
CGC-22A	8 AWG	2,5	10	M4	M3.5	4	2,3
CGC-32A	6 AWG	4	16	M5	M3.5	4	2,3
CGC-40A	6 AWG	4	16	M5	M3.5	4	2,3
CGC-50A	4 AWG	6	25	M6	M3.5	5	2,3
CGC-65A	2 AWG	10	35	M8	M3.5	5	2,3
CGC-75A	2 AWG	10	35	M8	M3.5	5	2,3
CGC-85A	0 AWG	10	50	M8	M3.5	5	2,3
CGC-100	00 AWG	25	70	M8	M4	9	2,3
CGC-125	00 AWG	25	70	M8	M4	9	2,3
CGC-150	0000 AWG	35	95	M8	M4	9	2,3
CGC-180	250 MCM	50	120	M10	M4	15	2,3
CGC-220	300 MCM	70	150	M10	M4	15	2,3
CGC-300	500 MCM	95	240	M12	M4	23	2,3
CGC-400	N° 2 30×5		150	M12	M4	23	2,3
CGC-600	N° 2 50×5		240	M16	M4	57	2,3
CGC-800	N° 2 60×5		240	M16	M4	57	2,3

4-pole Contactors

Type	Cable section		Screw size		Torque(Nm)	
	AWG/MCM	ISOmm ²	Contacto terminal	Coil terminal	Principal main	Aux.
CGC-9A/4	10 AWG	4	M3.5	M3.5	2,3	2,3
CGC-12A/4	10 AWG	4	M3.5	M3.5	2,3	2,3
CGC-18A/4	8 AWG	6	M4	M3.5	4	2,3
CGC-22A/4	8 AWG	10	M4	M3.5	4	2,3
CGC-32A/4	6 AWG	16	M5	M3.5	4	2,3
CGC-40A/4	6 AWG	16	M5	M3.5	4	2,3
CGC-50A/4	4 AWG	25	M6	M3.5	5	2,3
CGC-65A/4	2 AWG	35	M8	M3.5	5	2,3
CGC-75A/4	2 AWG	35	M8	M3.5	5	2,3
CGC-85A/4	0 AWG	50	M8	M3.5	5	2,3
CGC-100/4	00 AWG	70	M8	M4	9	2,3
CGC-125/4	00 AWG	70	M8	M4	9	2,3
CGC-150/4	0000 AWG	95	M8	M4	9	2,3
CGC-180/4	250 MCM	120	M10	M4	15	2,3
CGC-220/4	300 MCM	150	M10	M4	15	2,3
CGC-300/4	500 MCM	240	M12	M4	23	2,3
CGC-400/4	N° 2 30×5	150	M12	M4	23	2,3
CGC-600/4	N° 2 50×5	240	M16	M4	57	2,3
CGC-800/4	N° 2 60×5	240	M16	M4	57	2,3

Thermal overload relays

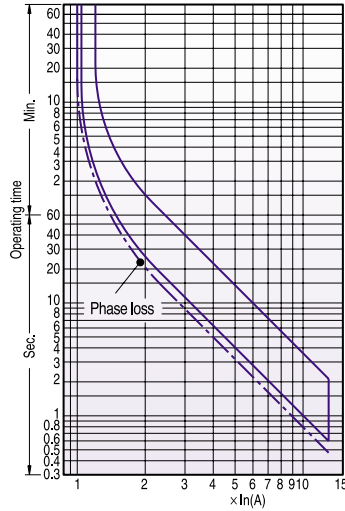
Type	Setting range	Cable selection		Torque (Nm)	Tornillo screw size	
		AWG /MCM	ISOmm ²			
CGT(H)-22	0.1~0.16	18AWG	1,5	2,3	M4	
	0.16~0.25	18AWG	1,5	2,3	M4	
	0.25~0.4	18AWG	1,5	2,3	M4	
	0.4~0.63	18AWG	1,5	2,3	M4	
	0.63~1	18AWG	1,5	2,3	M4	
	1~1.6	18AWG	1,5	2,3	M4	
	1.6~2.5	18AWG	1,5	2,3	M4	
	2.5~4	18AWG	1,5	2,3	M4	
	4~6	18AWG	1,5	2,3	M4	
	5~8	16AWG	1,5	2,3	M4	
	6~9	16AWG	1,5	2,3	M4	
	7~10	16AWG	1,5	2,3	M4	
	9~13	14AWG	1,5-2,5	2,3	M4	
	12~18	12AWG	2,5	2,3	M4	
	16~22	10AWG	2,5-4,0	2,3	M4	
CGT(H)-40	4~6	18AWG	1,5	4	M5	
	5~8	16AWG	1,5	4	M5	
	6~9	16AWG	1,5	4	M5	
	7~10	16AWG	1,5	4	M5	
	9~13	14AWG	1,5-2,5	4	M5	
	12~18	12AWG	2,5	4	M5	
	16~22	10AWG	2,5-4,0	4	M5	
	18~26	10AWG	2,5-6,0	4	M5	
	24~36	10AWG	4,0-10	4	M5	
	28~40	10AWG	6,0-10	4	M5	
	7~10	16AWG	1,5	5,1	M6	
	9~13	14AWG	1,5-2,5	5,1	M6	
	12~18	12AWG	2,5	5,1	M6	
	16~22	10AWG	2,5-4,0	5,1	M6	
	18~26	10AWG	2,5-6,6	5,1	M6	
CGT(H)-85	24~36	10AWG	4,0-10	5,1	M6	
	28~40	10AWG	6,0-10	5,1	M6	
	34~50	6AWG	10-16	5,1	M6	
	45~65	4AWG	10-25	5,1	M8	
	54~75	4AWG	16-25	5,1	M8	
	63~85	3AWG	16-35	5,1	M8	
	34~50	6AWG	10-16	9	M8	
	39~57	6AWG	10-16	9	M8	
	43~65	4AWG	10-25	9	M8	
	54~80	4AWG	16-25	9	M8	
	65~100	2AWG	25-35	9	M8	
	85~125	1AWG	35-50	9	M8	
	CGT(H)-125	34~50	6AWG	10-16	9	M8
		39~57	6AWG	10-16	9	M8
		43~65	4AWG	10-25	9	M8
54~80		4AWG	16-25	9	M8	
65~100		2AWG	25-35	9	M8	
85~125		1AWG	35-50	9	M8	
100~150		00AWG	35-70	9	M8	
CGT(H)-150		65~100	2AWG	25-35	15	M10
		85~125	1AWG	35-50	15	M10
		100~160	00AWG	35-70	15	M10
		120~180	000AWG	50-95	15	M10
		160~240	250AWG	70-120	15	M10
		85~125	1AWG	35-50	23	M12
		100~160	00AWG	35-70	23	M12
		120~180	000AWG	50-95	23	M12
	160~240	250AWG	70-120	23	M12	
	200~300	400AWG	95-185	23	M12	
	260~400	500AWG	150-240	23	M12	
	200~300	400AWG	95-185	57	M16	
	CGT(H)-800	260~400	500AWG	150-240	57	M16
		400~600	N° 2 40×5	150-185	57	M16
		520~800	N° 2 60×5	185-240	57	M16

Technical informations

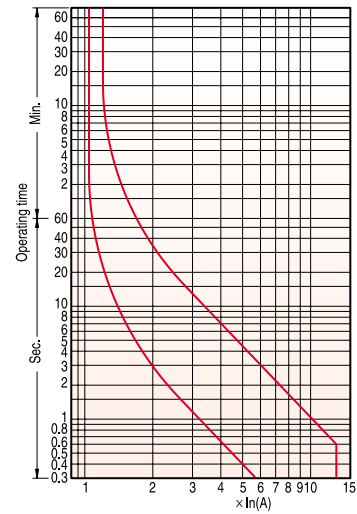
Trip curves for thermal overload relays

CGT(H)-22

Cold state

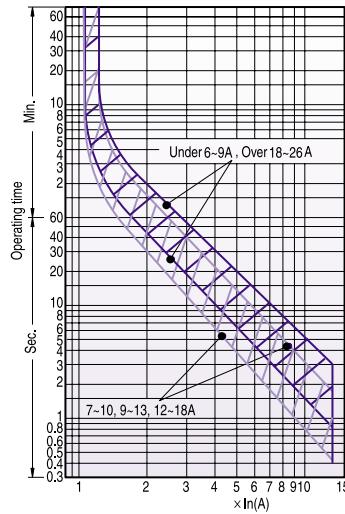


Hot state

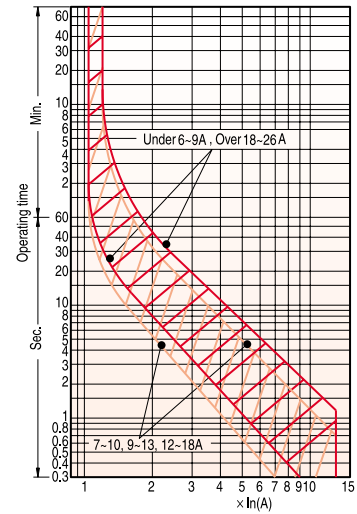


CGT(H)-40

Cold state

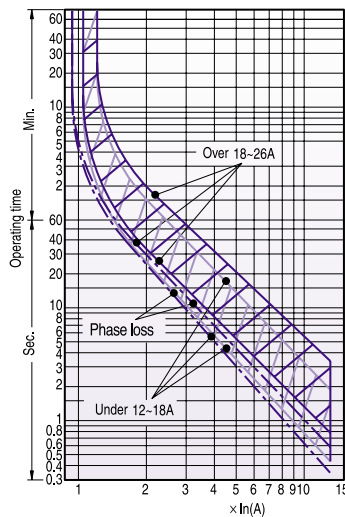


Hot state

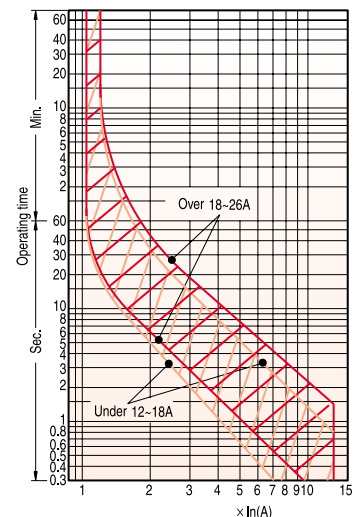


CGT(H)-85

Cold state



Hot state



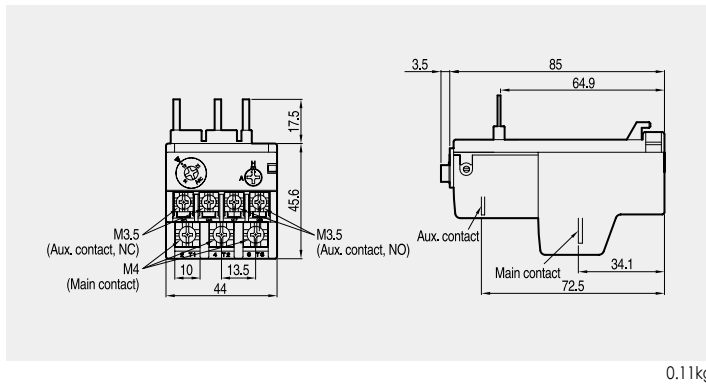
Thermal overload relays

CARLO GAVAZZI

CGTH-22

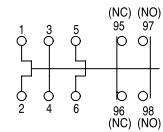
CGT-22

CGTH-22/3



Diagrams

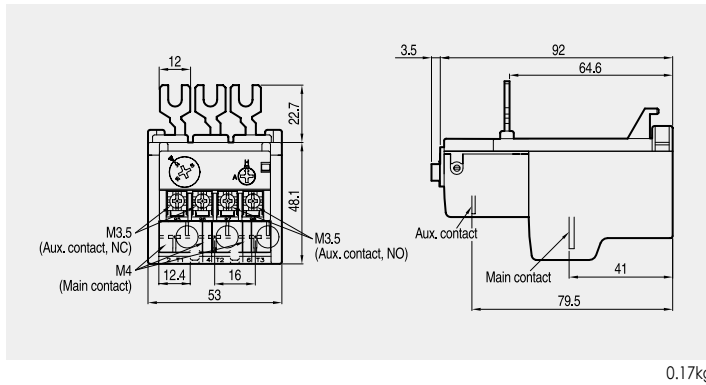
CGTH-22, 40, 85
(2 heater types)



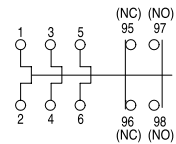
CGTH-40

CGT-40

CGTH-40/3



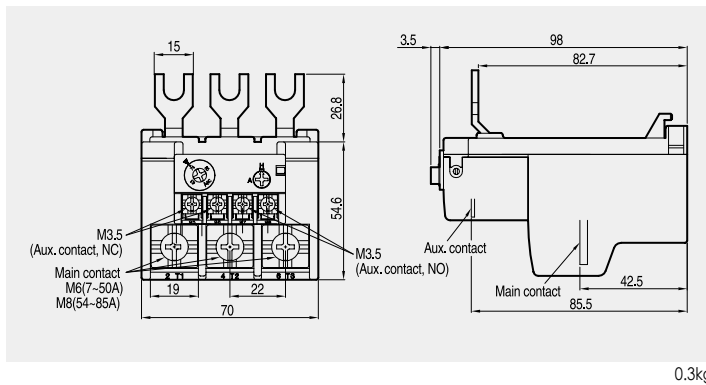
CGTH-22/3, 40/3, 85/3
CGT-22, 40, 85
(3 heater types)



CGTH-85

CGT-85

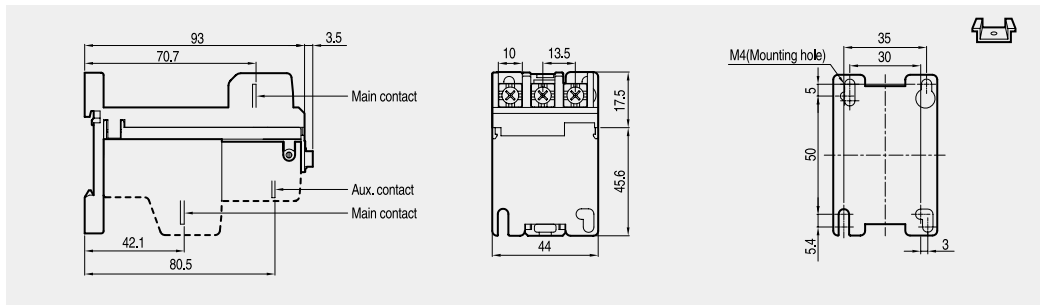
CGTH-85/3



Separate mounting units for overload relays

AZ-22H

for use with
overload relay
CGT(H)-22



44g