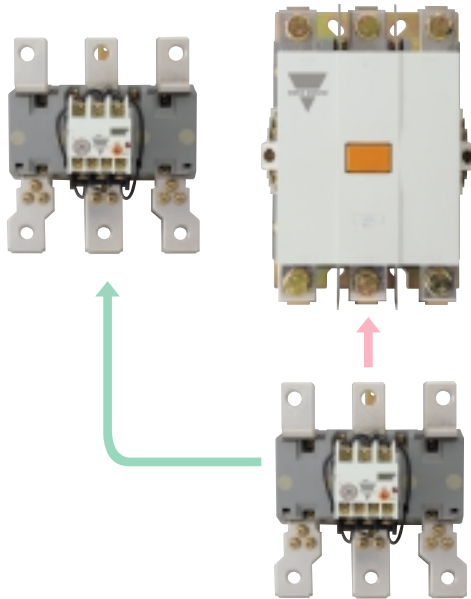


Overload Relays

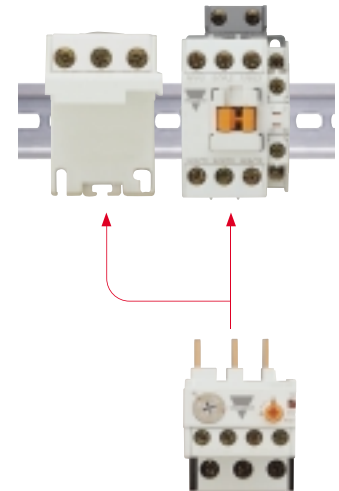
Thermal (Bimetallic) style up to 800A

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

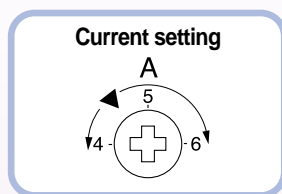


Relays frame current over 80A
Separate mount on panel with screws.
Bracket is required by type.

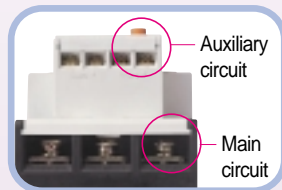
Relays frame current up to 80A
Optional bases are used to mount the relays separately either on 35mm DIN rail or on panel with screws.



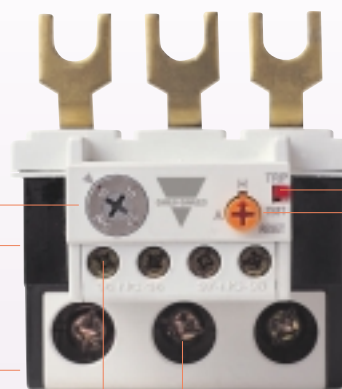
Overload relay structure



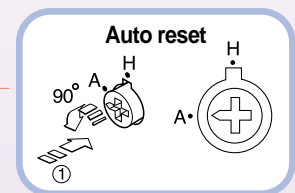
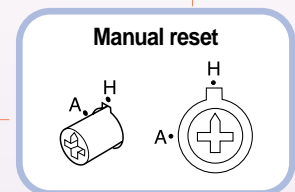
Finger proof design



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

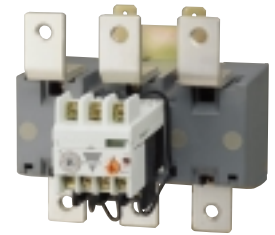
Setting range selection guide



CGT-22



CGT-125



CGT-220

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 | 0.5 | • | 0.75 | 1 | 1.5 | | | | | | | | |
| 0.5 | 1 | 1.1 | 1.5 | 1.5 | 2 | 1~1.6 | | | | | | | |
| 0.75 | 1.5 | 1.5 | 1.5 | 2.2 | 3 | 1.6~2.5 | | | | | | | |
| 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 | 5.5 | 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 | | 24~36 | 24~36 | | | | | |
| 10 | 20 | 20 | 20 | 25 | 30 | | | | | | | | |
| • | 15 | • | • | 18.5 | • | | 28~40 | 28~40 | | | | | |
| 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 | | | | 65~100 | 65~100 | 70~100 | | |
| 35 | 70 | 75 | 80 | 85 | 125 | | | | | | | | |
| 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 | | | | | 100~150 | 100~160 | 100~160 | |
| 60 | 110 | 110 | 125 | 135 | 175 | | | | | | | | |
| 55 | 90 | 100 | 110 | 110 | 160 | | | | | | 120~180 | 120~180 | |
| 75 | 125 | 135 | 150 | 150 | 220 | | | | | | | | |
| 63 | 110 | 129 | 140 | 160 | 200 | | | | | | 160~240 | 160~240 | |
| 85 | 150 | 175 | 190 | 220 | 270 | | | | | | | | |
| 80 | 150 | 160 | 160 | 200 | 257 | | | | | | | | |
| 110 | 205 | 220 | 220 | 270 | 350 | | | | | | | 200~300 | 200~300 |
| 110 | 185 | 200 | 220 | 257 | 335 | | | | | | | 260~400 | 260~400 |
| 150 | 250 | 270 | 300 | 350 | 455 | | | | | | | | |
| 180 | 315 | 355 | 375 | 425 | 500 | | | | | | | | 400~600 |
| 245 | 430 | 480 | 510 | 580 | 680 | | | | | | | | |
| 220 | 400 | 425 | 450 | 500 | • | | | | | | | | 520~800 |
| 300 | 545 | 580 | 610 | 680 | • | | | | | | | | |
| 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

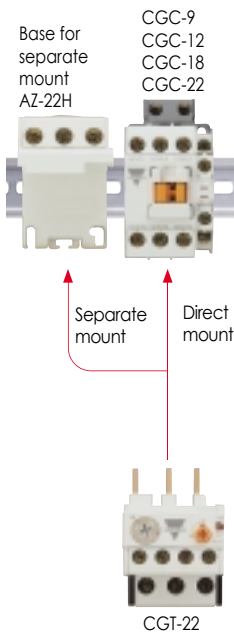
22A

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



CGT-22



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 | 85 | gL/gG 200A | 690V/5kA |
| CGT(H)-125 | | 65 | gL/gG 150A | 690V/5kA |
| CGT(H)-150 | 200 | 125 | gL/gG 225A | 690V/5kA |
| CGT(H)-150 | | 100 | gL/gG 200A | 690V/5kA |
| CGT(H)-220 | 260 | 150 | gL/gG 250A | 690V/10kA |
| CGT(H)-220 | | 150 | gL/gG 250A | 690V/10kA |
| CGT(H)-400 | 420 | 240 | gL/gG 355A | 690V/10kA |
| CGT(H)-400 | | 300 | gL/gG 400A | 690V/10kA |
| CGT(H)-800 | 800 | 400 | gL/gG 630A | 690V/18kA |
| CGT(H)-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 | | Contactor terminal | Coil terminal | Principal main | Aux. |
| | | MIN | MAX | | | | |
| 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 | Contactor 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

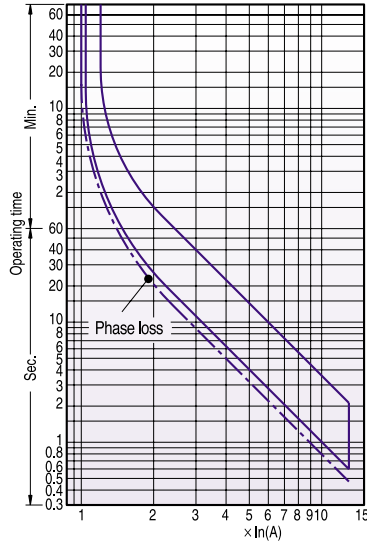
| Type | Setting range | Cable selection | | Torque (Nm) | Tornillo screw size | |
|------------|---------------|-----------------|--------------------|-------------|---------------------|-----|
| | | AWG /MCM | ISOmm ² | | | |
| CGT(H)-22 | 0.1~0.16 | 18AWG | 1,5 | 2,3 | M4 | |
| | 0.16~0.25 | 18AWG | 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 | |
| 24~36 | | 10AWG | 4,0-10 | 5,1 | M6 | |
| CGT(H)-85 | 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 | |
| | CGT(H)-125 | 54~80 | 4AWG | 16-25 | 9 | M8 |
| | | 65~100 | 2AWG | 25-35 | 9 | M8 |
| | | 85~125 | 1AWG | 35-50 | 9 | M8 |
| | | 34~50 | 6AWG | 10-16 | 9 | M8 |
| | CGT(H)-150 | 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 | |
| 65~100 | | 2AWG | 25-35 | 15 | M10 | |
| 85~125 | | 1AWG | 35-50 | 15 | M10 | |
| CGT(H)-220 | 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 | |
| CGT(H)-400 | 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 | |
| | 260~400 | 500AWG | 150-240 | 57 | M16 | |
| | CGT(H)-800 | 400~600 | N°2 40×5 | 150-185 | 57 | M16 |
| 520~800 | | N°2 60×5 | 185-240 | 57 | M16 | |

Technical informations

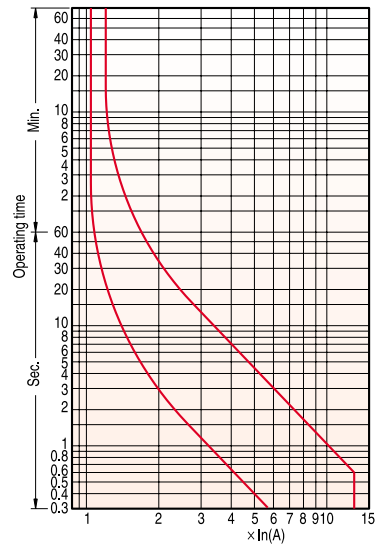
Trip curves for thermal overload relays

CGT(H)-22

Cold state

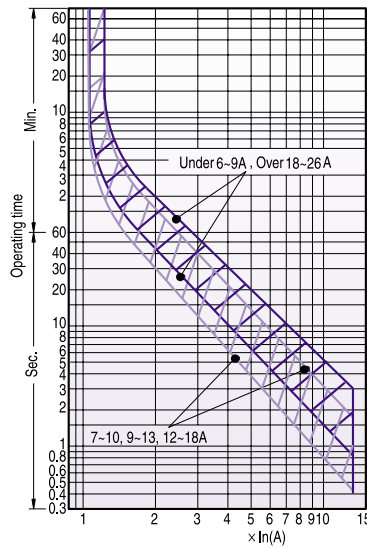


Hot state

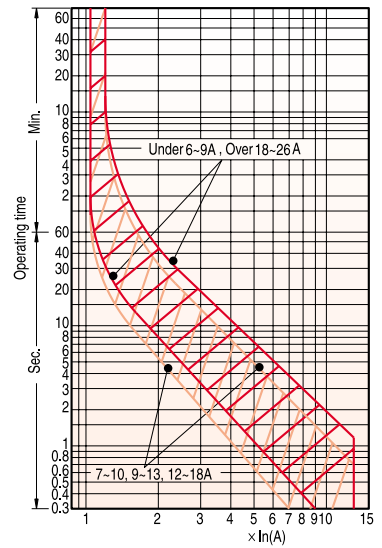


CGT(H)-40

Cold state

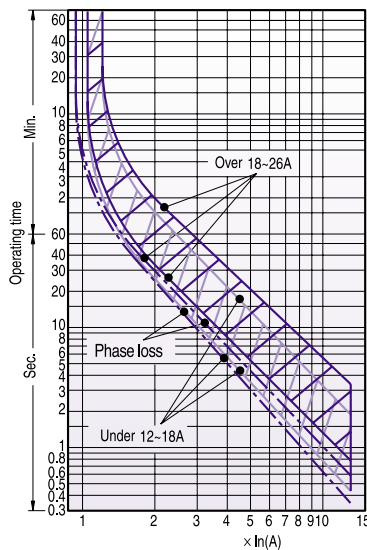


Hot state

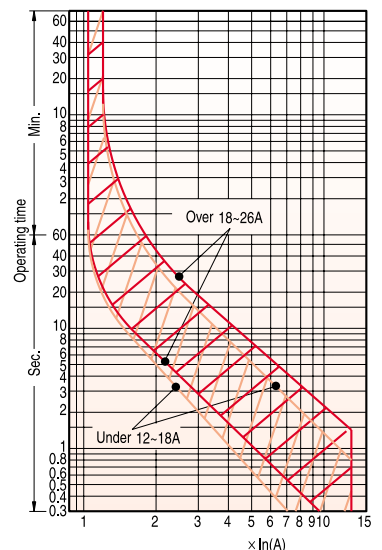


CGT(H)-85

Cold state



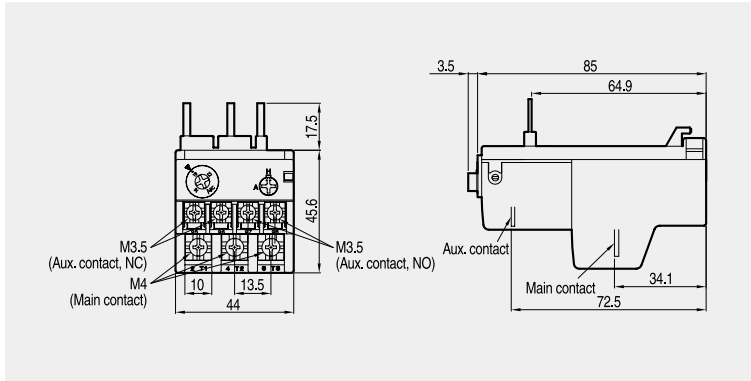
Hot state



Thermal overload relays



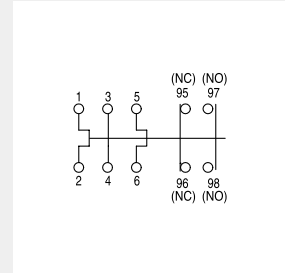
- CGTH-22
- CGT-22
- CGTH-22/3



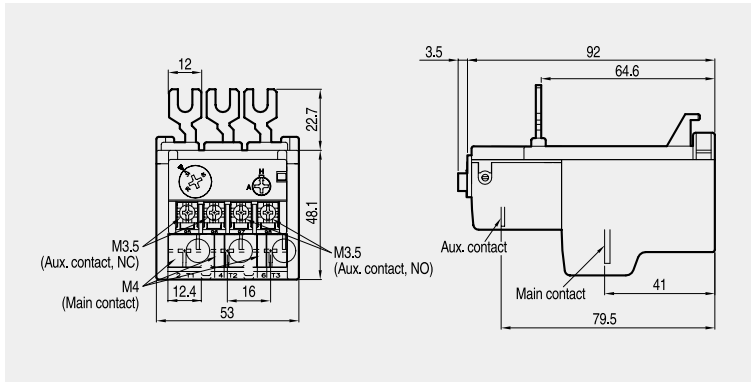
0.11kg

Diagrams

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

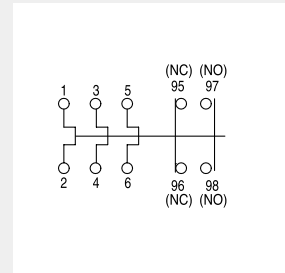


- CGTH-40
- CGT-40
- CGTH-40/3

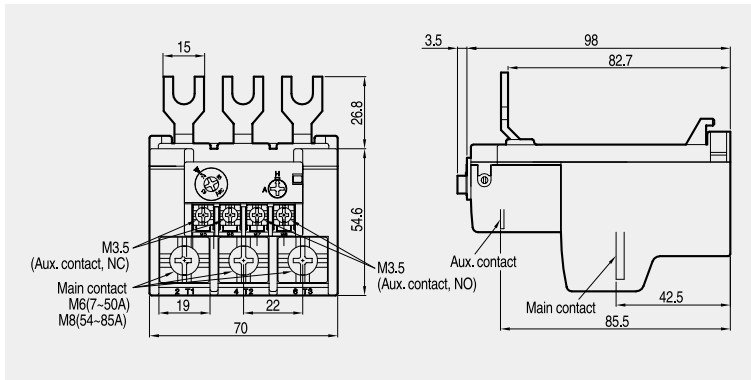


0.17kg

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



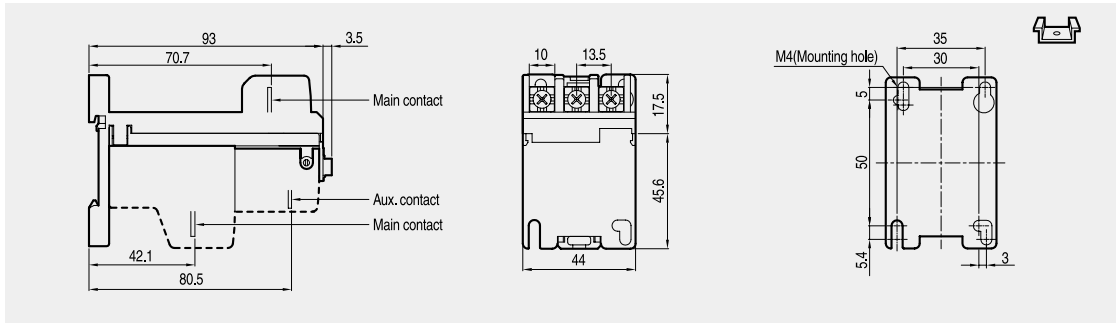
- CGTH-85
- CGT-85
- CGTH-85/3



0.3kg

Separate mounting units for overload relays

- AZ-22H
- for use with
overload relay
CGT(H)-22



44g