

Mini contactors

Mini contactors providing various connections and Accessories

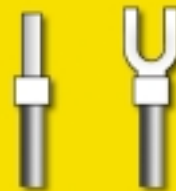
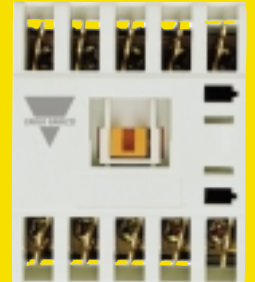
Ratings

| Frame size | AC3 ratings (IEC60947-4) | | | | AC1 rating Ith |
|------------|--------------------------|---------------|---------------|-----------|-------------------|
| | 220 ~ 240V | 280 ~ 440V | 500 ~ 550V | 690V | |
| 6A | 1.5kW 7A | 2.2kW 6A | 3kW 5A | 3kW 4A | 20A |
| 9A | 2.2kW 9A | 4kW 9A | 3.7kW 6A | 4kW 5A | 20A |
| 12A | 3kW 12A | 5.5kW 12A | 4kW 7A | 4kW 5A | 20A |
| 16A | 4kW 15A | 7.5kW 16A | 5.5kW 9A | 4kW 5A | 20A |

Screw clamps



Fast-on



For conventional
screw connections



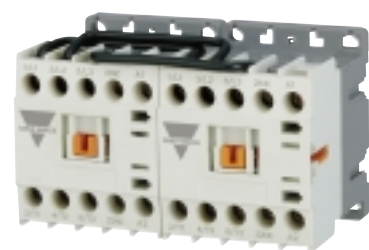
For fast-on
connections



Mini-overload relay



Overload relay
separately mounted



Reversing contactor

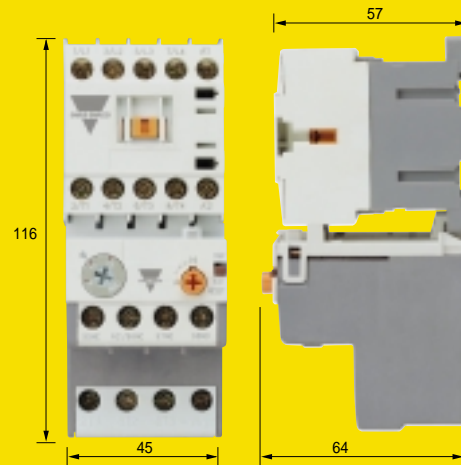
Cage clamps



Solder pins



Dimensions,mm



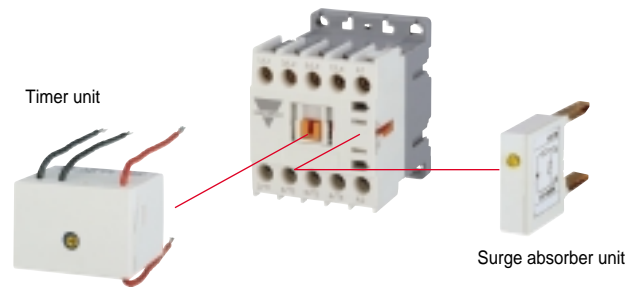
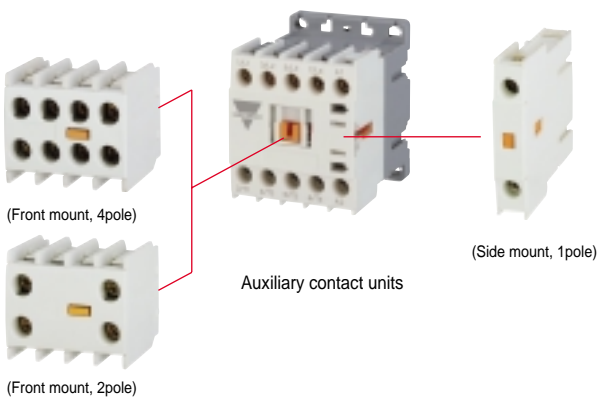
(Screw clamp type)



For screwless connections



To mount on printed circuit boards



Quick selection table

Mini contactors & overloads

Mini contactors

3NO main contacts
1 auxiliary contacts



Screw clamp type



Fast-on type



Cage clamp type



Solder pin type

| Frame size | | 6A | | 9A | | 12A | | 16A | |
|-----------------------------|-----------------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|
| Screw clamp type | AC coil | CGMS-6A | | CGMS-9A | | CGMS-12A | | CGMS-16A | |
| | DC coil | CGMS-6D | | CGMS-9D | | CGMS-12D | | CGMS-16D | |
| Fast-on type | AC coil | CGMF-6A | | CGMF-9A | | CGMF-12A | | CGMF-16A | |
| | DC coil | CGMF-6D | | CGMF-9D | | CGMF-12D | | CGMF-16D | |
| Cage clamp type | AC coil | CGMC-6A | | CGMC-9A | | CGMC-12A | | CGMC-16A | |
| | DC coil | CGMC-6D | | CGMC-9D | | CGMC-12D | | CGMC-16D | |
| Solder pin type | AC coil | CGMP-6A | | CGMP-9A | | CGMP-12A | | CGMP-16A | |
| | DC coil | CGMP-6D | | CGMP-9D | | CGMP-12D | | CGMP-16D | |
| Ratings / IEC60947-4 | | kW | A | kW | A | kW | A | kW | A |
| AC1 | | | 20 | | 20 | | 20 | | 20 |
| AC3 | 200/240V | 1.5 | 7 | 2.2 | 9 | 3 | 12 | 4 | 15 |
| | 380/440V | 2.2 | 6 | 4 | 9 | 5.5 | 12 | 7.5 | 16 |
| | 500/550V | 3 | 5 | 3.7 | 6 | 4 | 7 | 5.5 | 9 |
| | 690V | 3 | 4 | 4 | 5 | 4 | 5 | 4 | 5 |
| Ratings / UL508 | | hp | A | hp | A | hp | A | hp | A |
| continuous current | | | 20 | | 25 | | 30 | | 32 |
| single phase | 115V | 0.5 | | 0.5 | | 1 | | 2 | |
| | 230V | 1 | | 2 | | 3 | | 3 | |
| three phase | 200V | 2 | | 3 | | 5 | | 7 | |
| | 230V | 2 | | 3 | | 5 | | 7.5 | |
| | 460V | 5 | | 7.5 | | 10 | | 10 | |
| | 575V | 7.5 | | 10 | | 15 | | 15 | |
| NEMA size | | 00 | | 00 | | 00 | | 0 | |

Additional auxiliary contacts

Screw clamp type

Fast-on type

Cage clamp type

Solder pin type

2-pole, Front mount



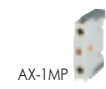
AX-2MS



AX-2MF



AX-2MC



AX-1MP

4-pole, Front mount



AX-4MS



AX-4MF



AX-4MC

AX-1MS

AX-1MF

AX-1MC

2-pole, Side mount

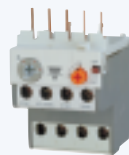
See page 30
for more details

Overload Relays

Bimetallic style

Type CGT

Class 10A



CGT-12M

Setting ranges (A)

0.1 - 0.16
0.16 - 0.25
0.25 - 0.4
0.4 - 0.63
0.63 - 1
1 - 1.6
1.6 - 2.5
2.5 - 4

4 - 6
5 - 8
6 - 9
7 - 10
9 - 13
12 - 16



Base for separate mount

See page 27
for more details

Differential

CGT-12M

Non-differential (3-heater)

CGTH-12M/3

Non-differential (2-heater)

CGTH-12M

Mini contactors

DC coil

Contactors

- For motor control
- 3 main plus 1 auxiliary contacts
- Coil voltage : D.C.



Screw clamp connection types

| Frame size | AC3 ratings (IEC60947-4) | | | | AC1 rating Ith | Auxiliary contact (standard) | Type |
|------------|--------------------------|--------------|-------------|-----------|----------------|------------------------------|----------|
| | 220 ~ 240V | 380 ~ 440V | 500 ~ 550V | 690V | | | |
| 6A | 1.5kW 7A | 2.2kW 6A | 3kW 5A | 3kW 4A | 20A | 1NO or 1NC | CGMS-6D |
| 9A | 2.2kW 9A | 4kW 9A | 3.7kW 6A | 4kW 5A | 20A | 1NO or 1NC | CGMS-9D |
| 12A | 3kW 12A | 5.5kW 12A | 4kW 7A | 4kW 5A | 20A | 1NO or 1NC | CGMS-12D |
| 16A | 4kW 15A | 7.5kW 16A | 5.5kW 9A | 4kW 5A | 20A | 1NO or 1NC | CGMS-16D |



Fast-on connection types

| Frame size | AC3 ratings (IEC60947-4) | | | | AC1 rating Ith | Auxiliary contact (standard) | Type |
|------------|--------------------------|--------------|-------------|-----------|----------------|------------------------------|----------|
| | 220 ~ 240V | 380 ~ 440V | 500 ~ 550V | 690V | | | |
| 6A | 1.5kW 7A | 2.2kW 6A | 3kW 5A | 3kW 4A | 20A | 1NO or 1NC | CGMF-6D |
| 9A | 2.2kW 9A | 4kW 9A | 3.7kW 6A | 4kW 5A | 20A | 1NO or 1NC | CGMF-9D |
| 12A | 3kW 12A | 5.5kW 12A | 4kW 7A | 4kW 5A | 20A | 1NO or 1NC | CGMF-12D |
| 16A | 4kW 15A | 7.5kW 16A | 5.5kW 9A | 4kW 5A | 20A | 1NO or 1NC | CGMF-16D |

Coil voltage, DC

- ① Standard type : 12, 20, 24, 36, 42, 48, 60, 72, 110, 120, 125, 220, 240, 250V DC
- ② Low consumption type : 12, 20, 24, 48, 72, 110, 120V DC(Low)
- ③ Wide Voltage : 12, 20, 24, 48, 72, 110, 12V DC(Wide)

Ordering information

Type, Auxiliary contact and Coil voltage

Coil characteristic

| Coil voltage | DC | | |
|----------------------|----------|-----------------|--------------|
| | Standard | Low consumption | Wide voltage |
| Coil consumption (W) | 3 | 1.2 | 2 |
| Inrush | 3W | 1.2W | 2W |
| Sealed | 3W | 1.2W | 2W |
| Closing voltage (%) | 80~110 | 80~125 | 70~125 |
| Opening voltage (%) | 10~30 | 10~30 | 10~30 |
| Closing time (ms) | 40~50 | 40~50 | 40~50 |
| Opening time (ms) | 35~45 | 35~45 | 35~45 |

Certificate
CE, ULcUL

Starters

Direct starters

Starters

- Open types
- Direct (Full voltage) types
- Coil voltage : A.C.
- Contactors : screw clamp connection types
- Overload relays : differential or non-differential types



AC coil contactor + Differential type overload relay

| Devices combined | | AC3 ratings (IEC60947-4) | | | | Auxiliary contacts | Starter Type |
|----------------------|-------------------------|--------------------------|--------------|-------------|-----------|--------------------|--------------|
| Contactors (AC coil) | Overload (differential) | 220 ~ 240V | 380 ~ 440V | 500 ~ 550V | 690V | | |
| CGMS-6A | CGT-12M | 1.5kW 7A | 2.2kW 6A | 3kW 5A | 3kW 4A | 1NO or 1NC | CGMSS-6A |
| CGMS-9A | CGT-12M | 2.2kW 9A | 4kW 9A | 3.7kW 6A | 4kW 5A | 1NO or 1NC | CGMSS-9A |
| CGMS-12A | CGT-12M | 3kW 12A | 5.5kW 12A | 4kW 7A | 4kW 5A | 1NO or 1NC | CGMSS-12A |
| CGMS-16A | CGT-12M | 4kW 15A | 7.5kW 16A | 5.5kW 9A | 4kW 5A | 1NO or 1NC | CGMSS-16A |

AC coil contactor + Non-differential type overload relay

| Devices combined | | AC3 ratings (IEC60947-4) | | | | Auxiliary contacts | Starter Type |
|----------------------|-----------------------------|--------------------------|--------------|-------------|-----------|--------------------|--------------|
| Contactors (AC coil) | Overload (Non-differential) | 220 ~ 240V | 380 ~ 440V | 500 ~ 550V | 690V | | |
| CGMS-6A | CGTH-12M/3 | 1.5kW 7A | 2.2kW 6A | 3kW 5A | 3kW 4A | 1NO or 1NC | CGMSS-6AH |
| CGMS-9A | CGTH-12M/3 | 2.2kW 9A | 4kW 9A | 3.7kW 6A | 4kW 5A | 1NO or 1NC | CGMSS-9AH |
| CGMS-12A | CGTH-12M/3 | 3kW 12A | 5.5kW 12A | 4kW 7A | 4kW 5A | 1NO or 1NC | CGMSS-12AH |
| CGMC-16A | CGTH-12M/3 | 4kW 15A | 7.5kW 16A | 5.5kW 9A | 4kW 5A | 1NO or 1NC | CGMSS-16AH |

Coil voltage, AC 50/60Hz

24, 36, 42, 48, 110, 115, 120, 127, 200 / 208, 220, 220 / 230, 230 / 240, 256, 277, 380 / 400, 400, 440, 480, 500, 550V AC

Ordering information

Type, Auxiliary contact and Coil voltage
Overload relay setting range (→ page 27)

For more information

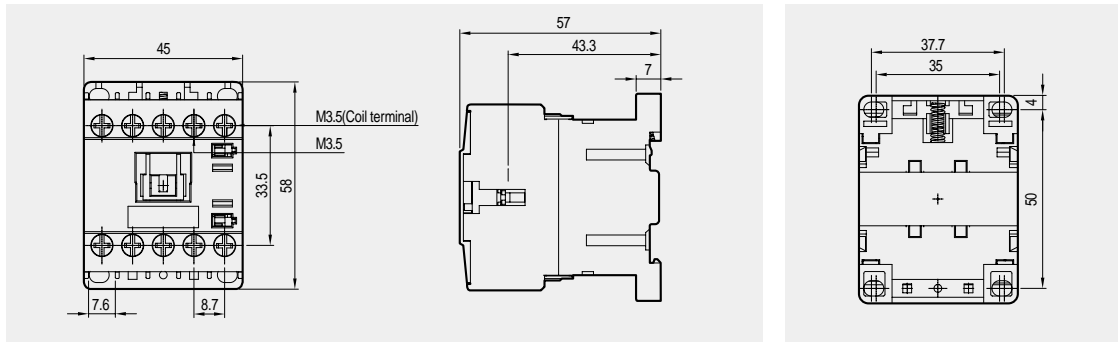
- Drawings → page 37
- Mini Contactors → page 21
- Mini Overload relays → page 27
- Optional accessories → page 29~33

Certificate
CE, ULcUL

Mini contactors

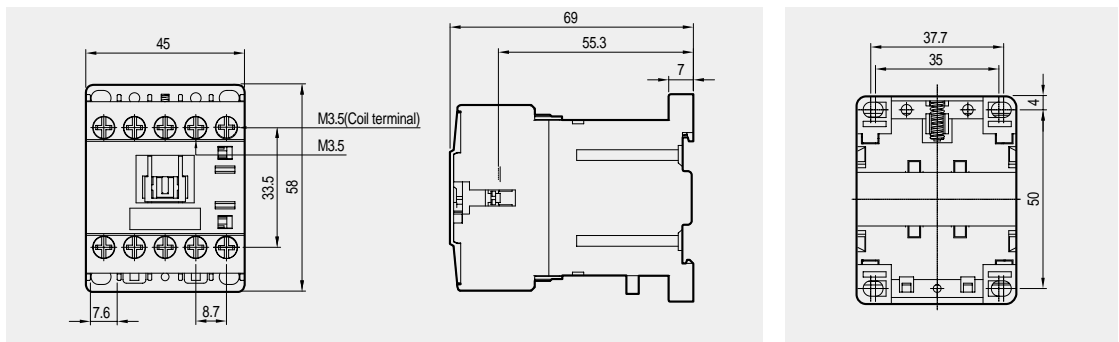
Dimensions

CGMS-12A



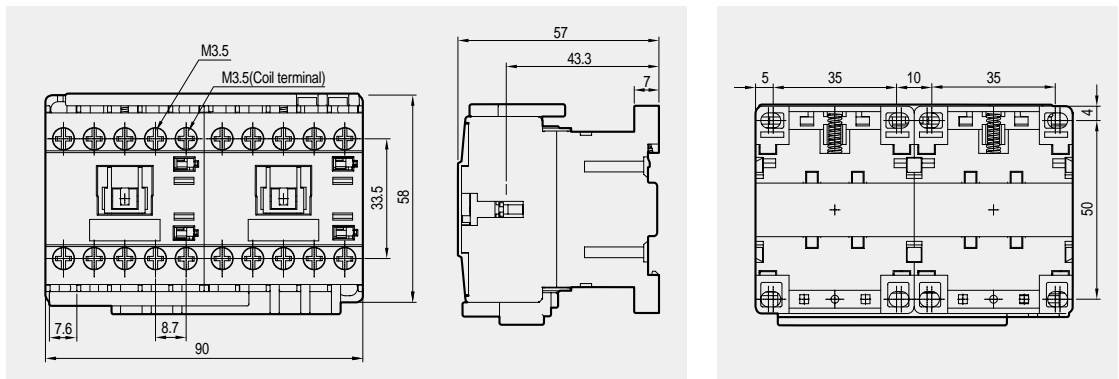
0.17kg

CGMS-12D



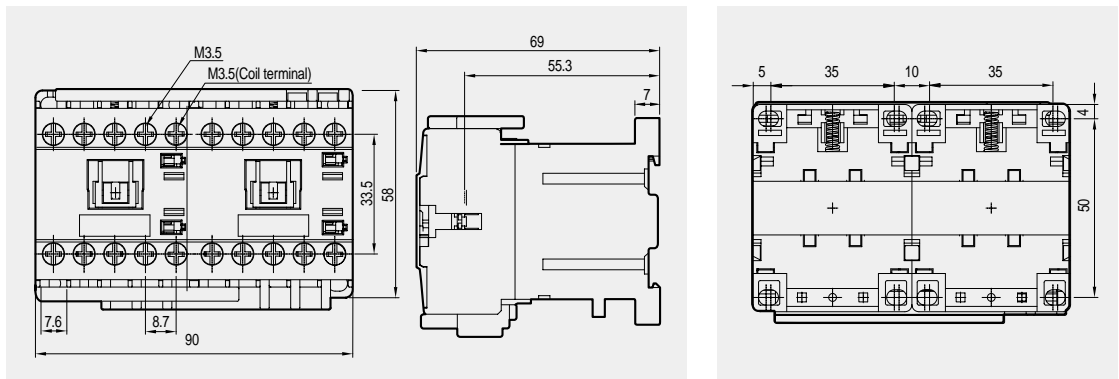
0.23kg

CGMUS-12A



0.36kg

CGMUS-12D



0.48kg

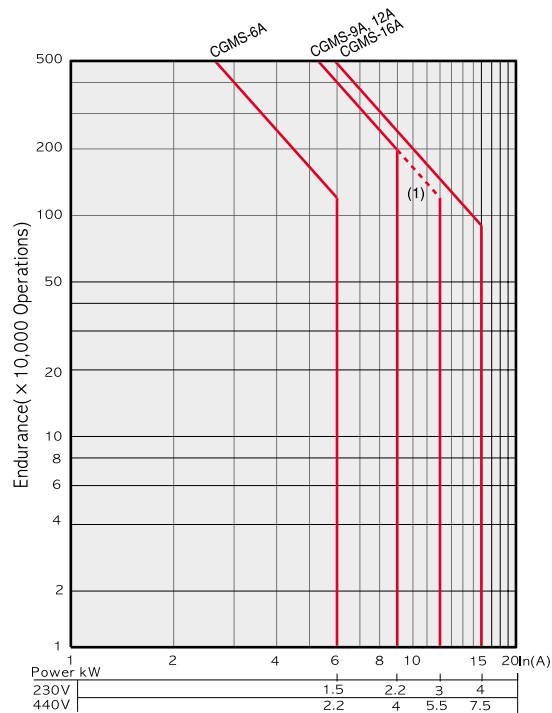
Mini contactors

Characteristic

Electrical lifespan of contactors

Use in category AC-3

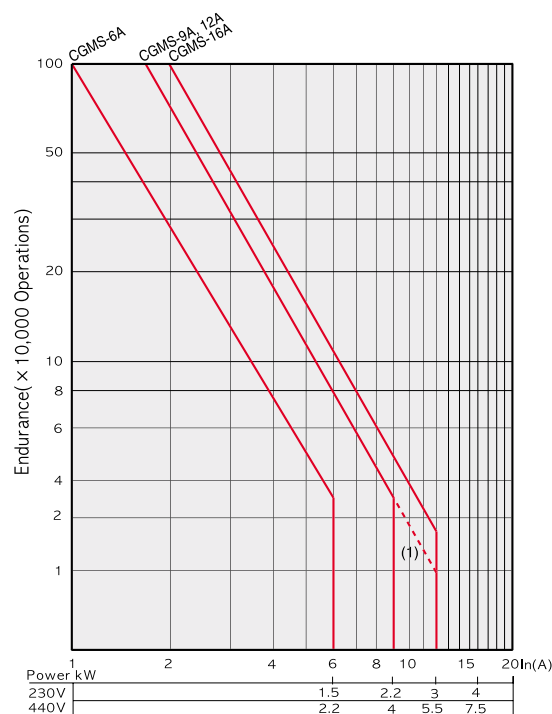
($U_e \geq 440V$)



(1) The dotted lines are only applicable to CGMS-12A contactors.

Use in category AC-4

($U_e \geq 440V$)



(1) The dotted lines are only applicable to CGMS-12A contactors.