

Mini contactors

Mini contactors providing various connections and Accessories

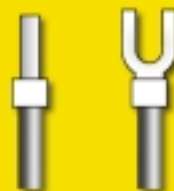
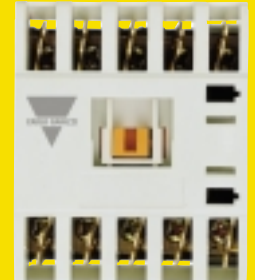
Ratings

Frame size	AC3 ratings (IEC60947-4)				AC1 rating lth
	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



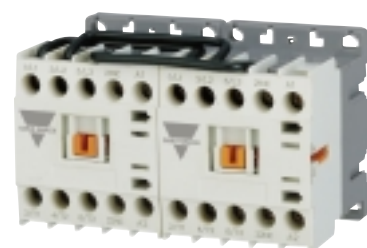
For fast-on
connections



Mini-overload relay



Overload relay
separately mounted



Reversing contactor

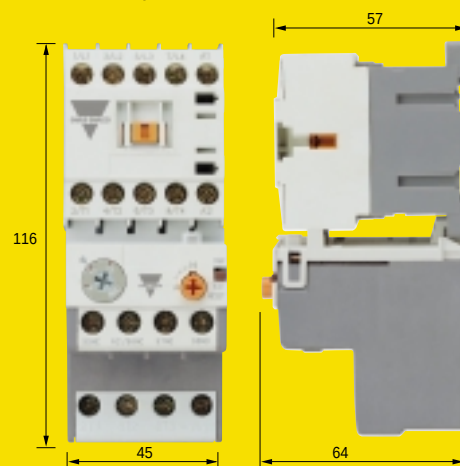
Cage clamps



Solder pins



Dimensions,mm



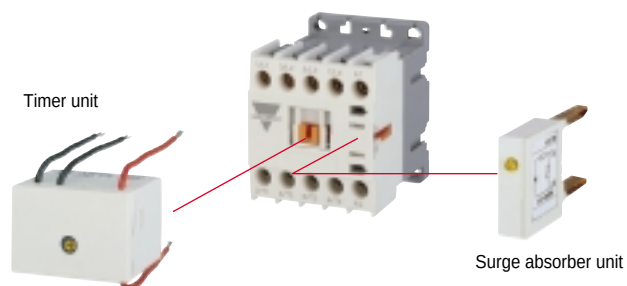
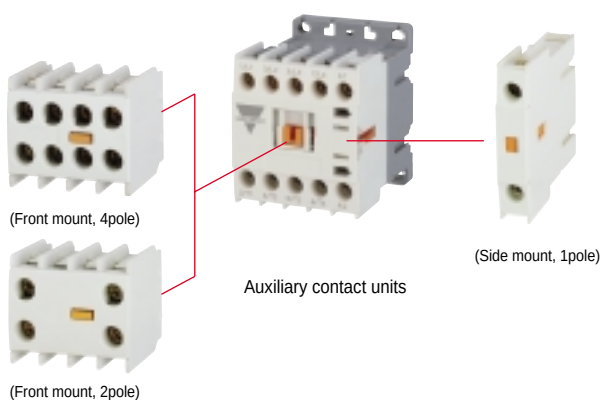
(Screw clamp type)



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 			
2-pole, Side mount		AX-1MS 		AX-1MF 		AX-1MC 			

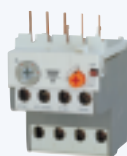
See page 30
for more details

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 lth	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 lth	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

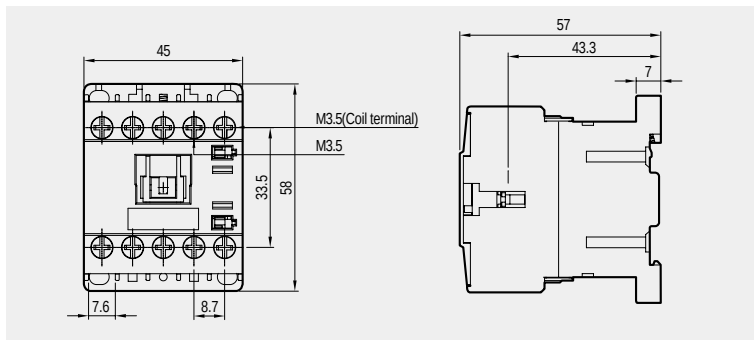
- Drawings → page 37
- Mini Contactors → page 21
- Mini Overload relays → page 27
- Optional accessories → page 29~33

Certificate
CE, ULcUL

Mini contactors

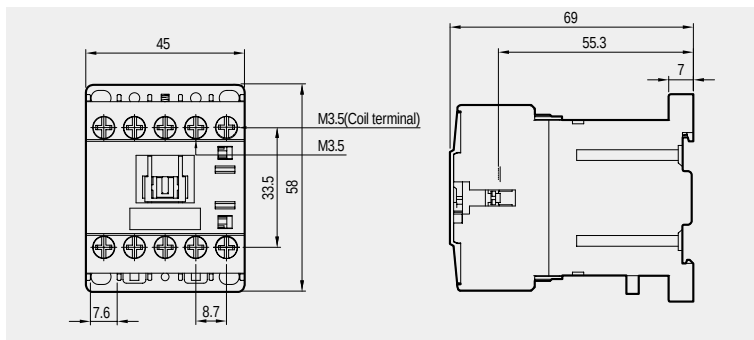
Dimensions

CGMS-12A



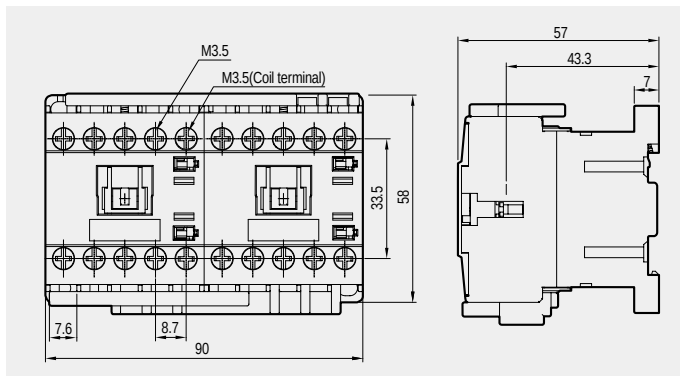
0.17kg

CGMS-12D



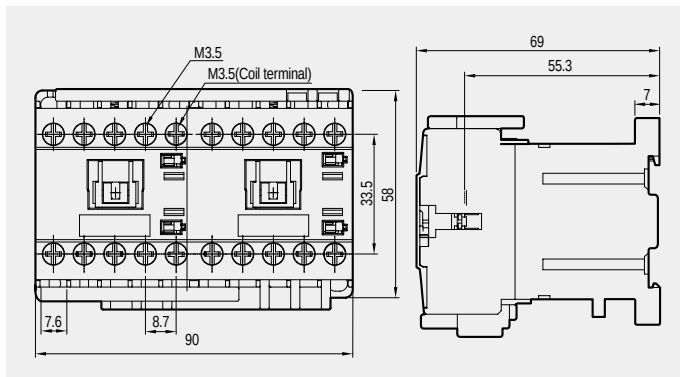
0.23kg

CGMUS-12A



0.36kg

CGMUS-12D



0.48kg

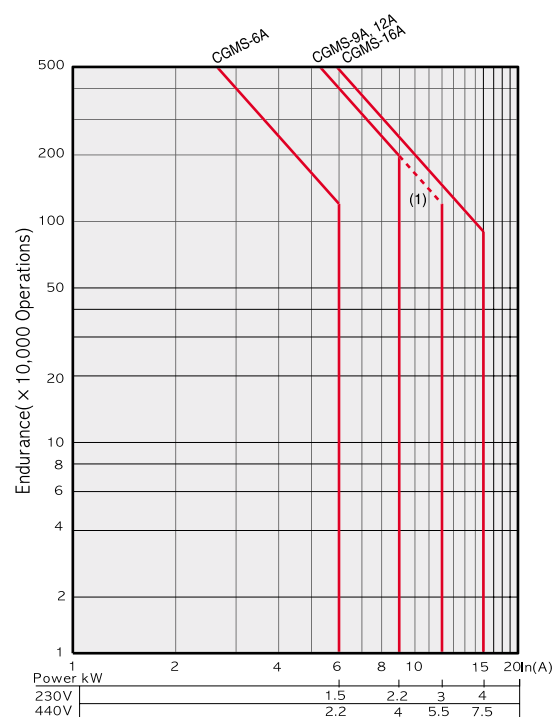
Mini contactors

Characteristic

Electrical lifespan of contactors

Use in category AC-3

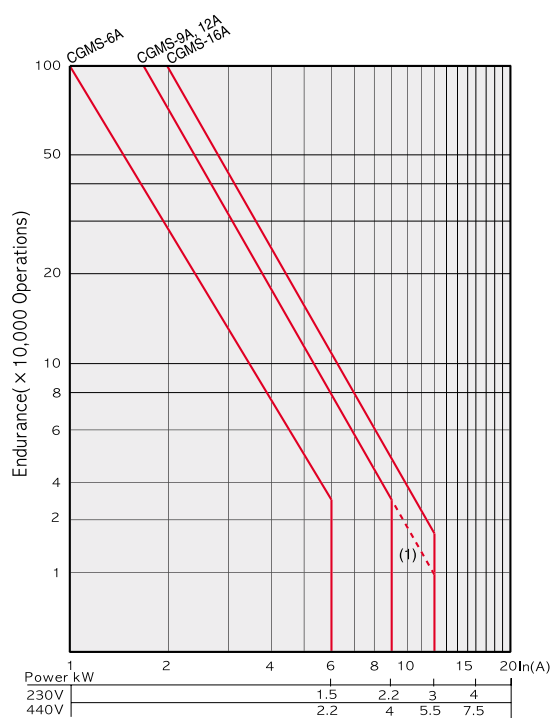
($U_e \geq 440V$)



(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.