TGC1s Series AC Contactor (for AC-1)

1 Overview

TGC1S(09-95A) series AC contactor is mainly used in the AC 50Hz (or 60Hz) power system with the rated operating voltage up to 660V and with the rated operating current up to 95A at the rated operating voltage 380V under the AC-3 use category for remotely powering on and powering off the circuit, suitable for frequent startup and control of AC motor.

2 Type Designation

TGC1s – 09 10 N B 7

- 7: Working frequency: Default:
- B: Coil voltage AC: B:24V C:36V E:48V F:110V M:220V Q:380V V:400V N:41 5V
- N: Function code
  N: Reversible contactor
  Default: Conventional three-pole contactor
- 10: Aux. contact: 10:1 normally open 01:1 normally closed
- 09: Rated current: 09/12/18/25/32/38/40/50/65/80/95
- TGC1s: AC contactor

3 Main Technical Parameters

Rated operating current Ie	9A ～ 38A
Rated operating voltage Ue	220V/230V、380V/400V、660V/690V
Rated insulation voltage	690V
Number of poles	Three poles
Coil control method	AC
Installation method	35mm rail-mounted, screw mounted
Standard	IEC 60947-4-1
Certificaiton	CCC

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4 Working and installation conditions

Installation category	III
Pollution level	3
Housing protection grade	IP20
Ambient air temperature	Ambient temperature (around the equipment): allowable working temperature -35℃ ~ +70℃, normal working temperature -5℃ ~+40℃； When the ambient temperature is higher than +40℃, it is considered that the permissible limit temperature rise of the product will be reduced, the rated operating current (derating coefficient sees table below) must be reduced, and the number of contactors installed in the standard component shall be deceased, otherwise the product may be damaged, the service life may be shortened, the operation reliability may be reduced, and the product operation range may be affect; when the ambient temperature is below -5℃, condensation of the grease used in the insulation and lubrication may occur in the too low ambient temperature, thereby resulting in product action failure. therefore, please users are required to contact the manufacturer before design or use.
Altitude	≤2000m
Atmospheric conditions	The relative humidity of the air does not exceed 50% at a maximum temperature of +70°C, and higher relative humidity is allowed at lower temperatures, such as up to 90% at 20°C. Measures are taken for condensation occurred occasionally due to temperature changes.
Installation conditions	The inclination between the mounting surface and the vertical surface is not greater than ±22.5°
Impact and vibration	Products should be installed and used in places where there is no severe shaking, impact and vibration.

Temperature derating coefficient table:

Ambient temperature ℃	40	50	55	60	65	70
Correction coefficient	1	0.98	0.95	0.93	0.875	0.75

5 Main Performance Indicators

Model			TGC1s-09	TGC1s-12	TGC1s-18	TGC1s-25	TGC1s-32	TGC1s-38
Rated operating current (A)	220V/230V	AC-3	9	12	18	25	32	38
		AC-4	3.5	5	7.7	8.5	12	14
	380V/400V	AC-3	9	12	18	25	32	38
		AC-4	3.5	5	7.7	8.5	12	14
	660V/690V	AC-3	6.6	8.9	12	18	22	22
		AC-4	1.5	2	3.8	4.4	7.5	8.9
Resistive current of free air (A)			20	20	25	32	40	50
Rated insulation voltage (V)			690					
Rated impulse withstand voltage (kV)			6					
Controllable three-phase squirrel cage motor power (AC-3) kW	220V/230V		2.2	3	4	5.5	7.5	9
	380V/400V		4	5.5	7.5	11	15	18.5
	660V/690V		5.5	7.5	10	15	18.5	18.5

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Table, continued

Model			TGC1s-09		TGC1s-12		TGC1s-18		TGC1s-25		TGC1s-32		TGC1s-38	
Motor power under intermittent periodic duty-type		220V/230V	0.6		1.1		1.5		2.2		3		4	
		380V/400V	1.5		2.2		3.3		4		5.4		5.5	
		660V/690V	1.1		1.5		3		3.7		5.5		6	
Operation frequency (times / h)	Electrical life	AC-3	1200								600			
		AC-4	300											
Electrical life (10,000 times)		AC-3	60								50			
		AC-4	10											
Mechanical life (10,000 times)			800						500					
Model of matched fuse			RT16-00 20		RT16-00 20		RT16-00 25		RT16-00 40		RT16-00 50		RT16-00 63	
old-pressed terminal	Qty.		1	2	1	2	1	2	1	2	1	2	1	2
	Non-prefabricated terminal flexible wire	mm^2	1/4	1/4	1/4	1/4	1/4	1/4	1.5/6	1.5/6	1.5/6	1.5/6	1.5/6	1.5/6
	Prefabricated terminal flexible wire		1/4	1/2.5	1/4	1/2.5	1/4	1/2.5	1/6	1/4	1/6	1/4	1/6	1/4
	Non-prefabricated terminal hard wire		1/4	1/4	1/4	1/4	1/4	1/4	1.5/10	1.5/6	1.5/10	1.5/6	1.5/10	1.5/6
Size and tightening torque of terminal block screw (N.m)			M3.5						M4					
			0.8						1.2					
AC coil power	50Hz	Pull-in (VA)	70						70					
		Hold (VA)	7						7					
		Power (W)	2 ~ 3						2 ~ 3					
Operating range			Pull-in voltage: 85%Us ~ 110%Us; Release voltage: 20%Us ~ 75%Us											
Basic parameters of aux. contact			AC-15: 1.6A/220V, 0.95/380V; DC-13: 0.15A/220V; Ith: 10A; UI (V): 690V; Uimp (kV): 6kV; Rated limit short circuit current matching SCPD model: RT16-00, In: 10A											

Note: When the rated operating voltage is AC220V/230V, AC380V/400V, the AC-1 rated operating current is equal to the resistive current of free air.

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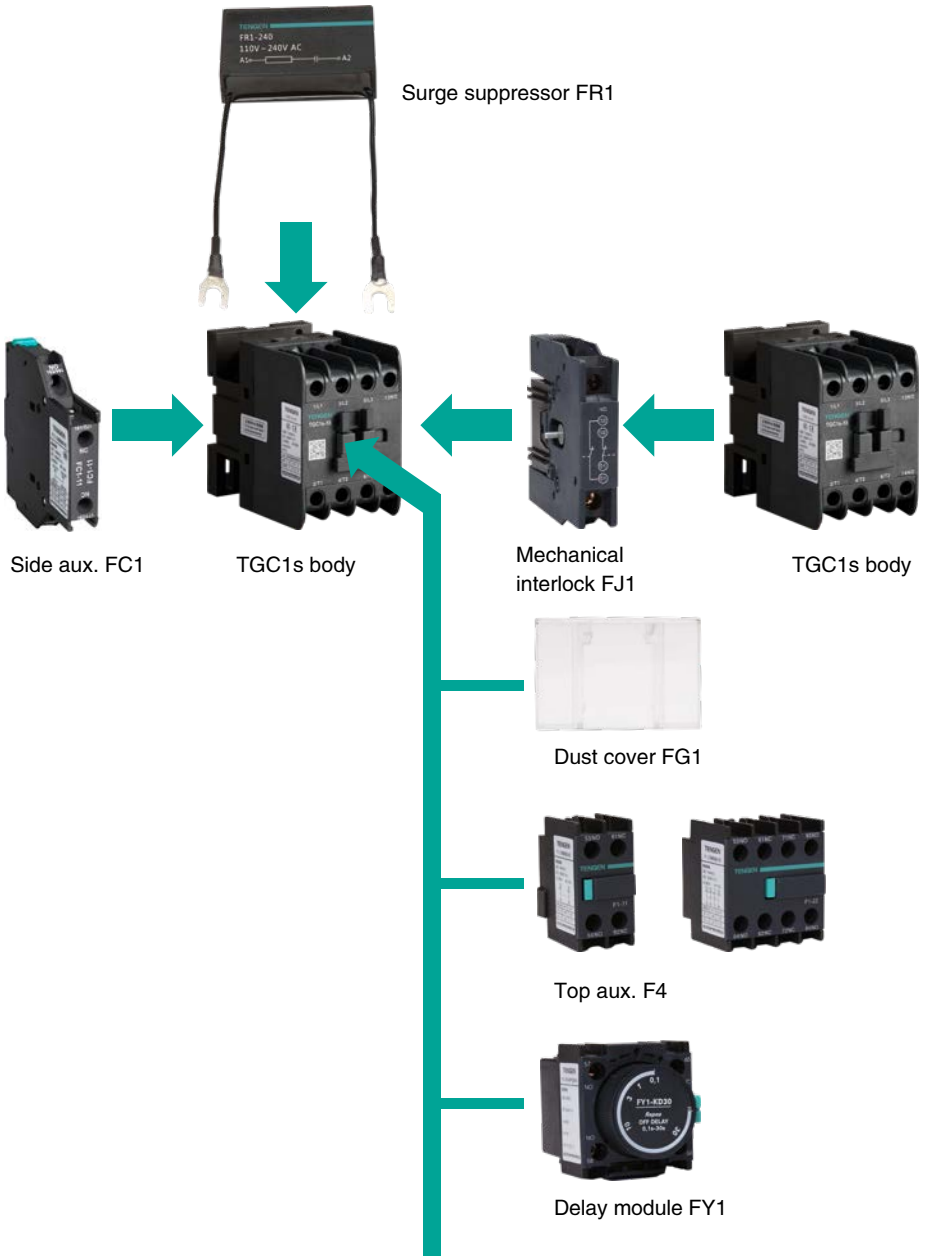
6 Accessory Installation Diagram



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7 Outline and Installation Dimensions

7.1 TGC1s-09~38

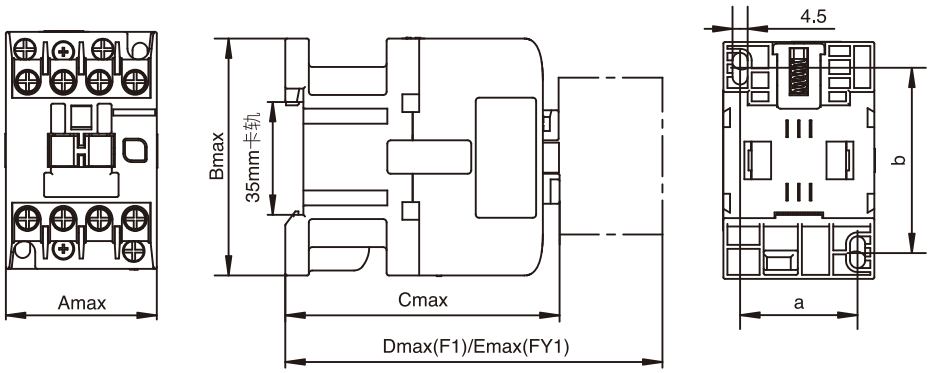

Fig. 1 TGC1s-09~38 outline and installation dimensions drawings

Unit: mm

Spec. & Model	Amax	Bmax	Cmax	Dmax	Emax	a	b	c	d
TGC1s-09 ～ 18	45	71	82	120	140	35	50/60	-	-
TGC1s-25 ～ 38	56	82.5	96	134	154	40	50/60	-	-

7.2 TGC1s-09N~38N

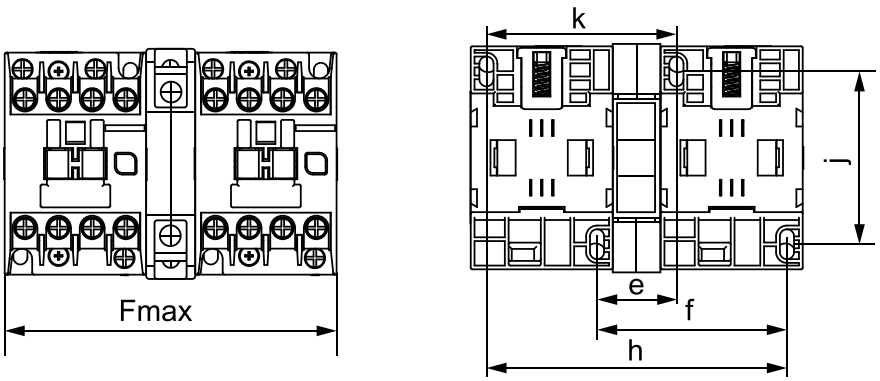

Fig. 2 TGC1s-40~95 outline and installation dimensions drawings

Unit: mm

Spec. & Model	Fmax	e	f	h	j	k
TGC1s-09N ～ 18N	106	25	60	95	50/60	60
TGC1s-25N ～ 38N	129	31.5	71	111.5	50/60	71

TGC1s Series AC Contactor (for AC-1)

7.3 TGC1s-09N~38N

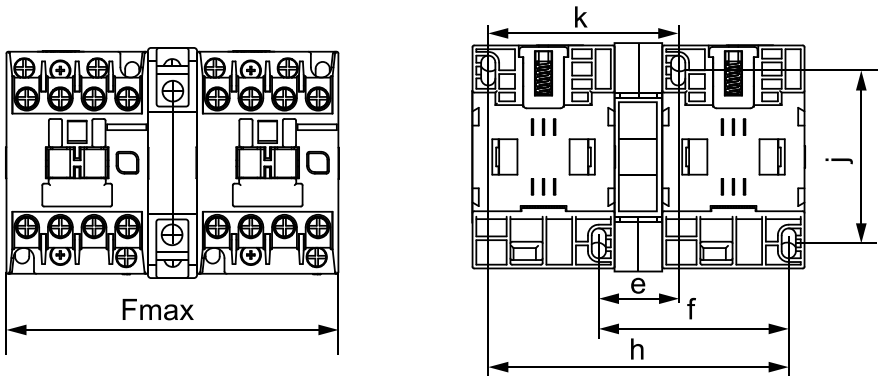

Fig. 3 TGC1s-09N~38N outline and installation dimensions drawings

Unit: mm

Spec. & Model	Fmax	e	f	h	j	k
TGC1s-09N ～ 18N	106	25	60	95	50/60	60
TGC1s-25N ～ 38N	129	31.5	71	111.5	50/60	71

7.4 TGC1s-40N~95N

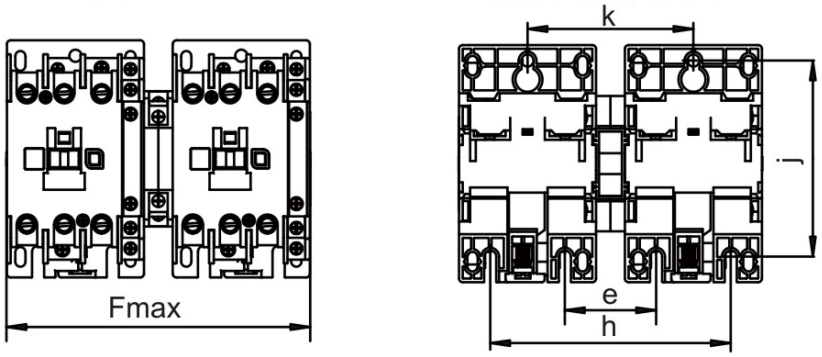

Fig. 4 TGC1s-40N~95N outline and installation dimensions drawings

Unit: mm

Spec. & Model	Fmax	e	f	h	j	k
TGC1s-40N ～ 65N	163	50	-	130	100/110	90
TGC1s-80N ～ 95N	186	60	-	140	100/110	100