



**Contact characteristics**

Number of poles	Nr.	3
Rated insulation voltage $U_i$ IEC/EN	V	690
Rated impulse withstand voltage $U_{imp}$	kV	6
Operational frequency	min	Hz 25
	max	Hz 400
IEC Conventional free air thermal current $I_{th} \leq 40^\circ\text{C}$	A	20
Operational current $I_e$	AC-1 ( $\leq 40^\circ\text{C}$ )	A 20
	AC-1 ( $\leq 55^\circ\text{C}$ )	A 18
	AC-1 ( $\leq 70^\circ\text{C}$ )	A 15
	AC-3 ( $\leq 440\text{V} \leq 55^\circ\text{C}$ )	A 9
	AC-4 (400V)	A 4
Rated operational power AC-3 ( $T \leq 55^\circ\text{C}$ )	230V	kW 2.2
	400V	kW 4
	415V	kW 4.3
	440V	kW 4.5
	500V	kW 5
	690V	kW 5
Rated operational power AC-1 ( $T \leq 40^\circ\text{C}$ )	230V	kW 8
	400V	kW 14
	500V	kW 16
	690V	kW 22
IEC max current $I_e$ in DC1 with $L/R \leq 1\text{ms}$ with 1 poles in series	$\leq 24\text{V}$	A 12
	48V	A 10
	75V	A 4
	110V	A 3
	220V	A –
IEC max current $I_e$ in DC1 with $L/R \leq 1\text{ms}$ with 2 poles in series	$\leq 24\text{V}$	A 15
	48V	A 14
	75V	A 9
	110V	A 8
	220V	A –
IEC max current $I_e$ in DC1 with $L/R \leq 1\text{ms}$ with 3 poles in series	$\leq 24\text{V}$	A 16
	48V	A 16
	75V	A 10
	110V	A 10
	220V	A 2
IEC max current $I_e$ in DC1 with $L/R \leq 1\text{ms}$ with 4 poles in series		

	≤24V	A	16
	48V	A	16
	75V	A	10
	110V	A	10
	220V	A	2
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IEC max current I <sub>e</sub> in DC3-DC5 with L/R ≤ 15ms with 1 poles in series	≤24V	A	7
	48V	A	6
	75V	A	2
	110V	A	1
	220V	A	–
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IEC max current I <sub>e</sub> in DC3-DC5 with L/R ≤ 15ms with 2 poles in series	≤24V	A	8
	48V	A	8
	75V	A	5
	110V	A	4
	220V	A	–
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IEC max current I <sub>e</sub> in DC3-DC5 with L/R ≤ 15ms with 3 poles in series	≤24V	A	10
	48V	A	10
	75V	A	6
	110V	A	5
	220V	A	0,8
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IEC max current I <sub>e</sub> in DC3-DC5 with L/R ≤ 15ms with 4 poles in series	≤24V	A	10
	48V	A	10
	75V	A	6
	110V	A	5
	220V	A	0,8
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Short-time allowable current for 10s (IEC/EN60947-1)		A	96
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Protection fuse	gG (IEC)	A	20
	aM (IEC)	A	10
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Making capacity (RMS value)		A	92
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Breaking capacity at voltage	440V	A	72
	500V	A	72
	690V	A	72
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Resistance per pole (average value)		mΩ	10
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Power dissipation per pole (average value)	I <sub>th</sub>	W	4
	AC-3	W	0.81
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Tightening torque for terminals	min	Nm	0.8
	max	Nm	1
	min	I <sub>bin</sub>	9
	max	I <sub>bin</sub>	9
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Tightening torque for coil terminal	min	Nm	0.8
	max	Nm	1
	min	I <sub>bin</sub>	9
	max	I <sub>bin</sub>	9
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Max number of wires simultaneously connectable		Nr.	2

Conductor section			
AWG/Kcmil		max	12
Flexible w/o lug conductor section			
		min	mm <sup>2</sup> 0.75
		max	mm <sup>2</sup> 2.5
Flexible c/w lug conductor section			
		min	mm <sup>2</sup> 1.5
		max	mm <sup>2</sup> 2.5
Flexible with insulated spade lug conductor section			
		min	mm <sup>2</sup> 1.5
		max	mm <sup>2</sup> 2.5
Power terminal protection according to IEC/EN 60529			IP20 when properly wired
<b>Mechanical features</b>			
Operating position			
		normal allowable	Vertical plan ±30°
Fixing			Screw / DIN rail 35mm
Weight		g	200
<b>Auxiliary contact characteristics</b>			
Thermal current I <sub>th</sub>		A	10
IEC/EN 60947-5-1 designation			A600 - Q600
Operating current AC15			
	230V	A	3
	400V	A	1.9
	500V	A	1.4
Operating current DC12			
	110V	A	2.9
Operating current DC13			
	24V	A	2.9
	48V	A	1.4
	60V	A	1.2
	110V	A	0.6
	125V	A	0.55
	220V	A	0.3
	600V	A	0.1
<b>Operations</b>			
Mechanical life		cycles	20000000
Electrical life		cycles	500000
<b>Safety related data</b>			
Performance level B10d according to EN/ISO 13489-1			
	rated load	cycles	500000
	mechanical load	cycles	20000000
Mirror contacts according to IEC/EN 60947-4-1 annex F			Yes
EMC compatibility			yes
<b>DC coil operating</b>			
DC rated control voltage		V	48
DC operating voltage			
pick-up			
	min	%Us	75
	max	%Us	115

drop-out

min	%Us	10
max	%Us	25

Average coil consumption  $\leq 20^{\circ}\text{C}$

in-rush	W	2.3
holding	W	2.3

**Max cycles frequency**

Mechanical operation

cycles/h 3600

**Operating times**

Average time for Us control

in AC

Closing NO

min	ms	12
max	ms	21

Opening NO

min	ms	9
max	ms	18

Closing NC

min	ms	17
max	ms	26

Opening NC

min	ms	7
max	ms	17

in DC

Closing NO

min	ms	18
max	ms	25

Opening NO

min	ms	2
max	ms	3

Closing NC

min	ms	3
max	ms	5

Opening NC

min	ms	11
max	ms	17

**UL technical data**

Rated operational voltage AC (UL)

V 600

Full-load current (FLA) for three-phase AC motor

at 480V	A	7.6
at 600V	A	6.1

Yielded mechanical performance

for single-phase AC motor

110/120V	HP	0.5
230V	HP	1.5

for three-phase AC motor

200/208V	HP	2
220/240V	HP	3
460/480V	HP	5
575/600V	HP	5

General USE

Contactors

AC current A 20

Short-circuit protection fuse, 600V

High fault

Short circuit current	kA	100
Fuse rating	A	30
Fuse class		J

Standard fault

Short circuit current	kA	5
Fuse rating	A	30
Fuse class		RK5

Contact rating of auxiliary contacts according to UL

A600 - Q600

Ambient conditions

Temperature

Operating temperature

min	°C	-50
max	°C	+70

Storage temperature

min	°C	-60
max	°C	+80

Max altitude

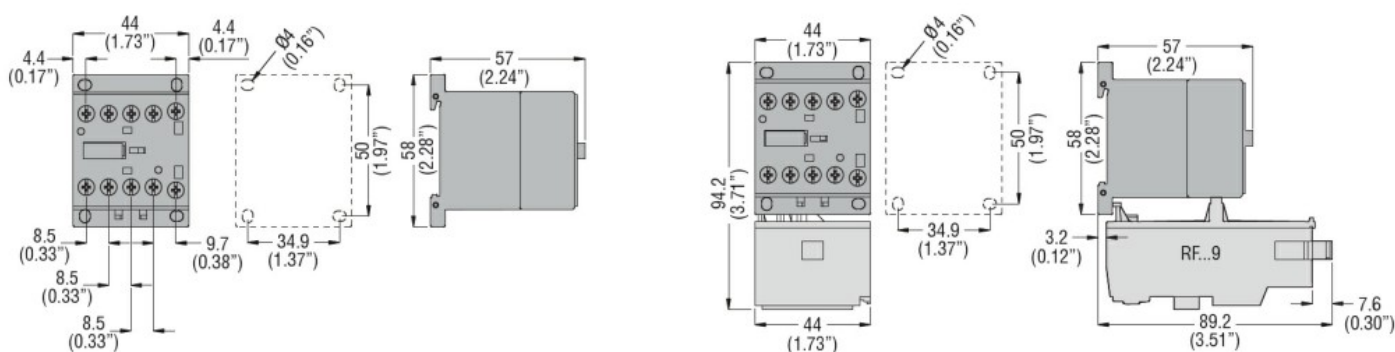
m 3000

Resistance & Protection

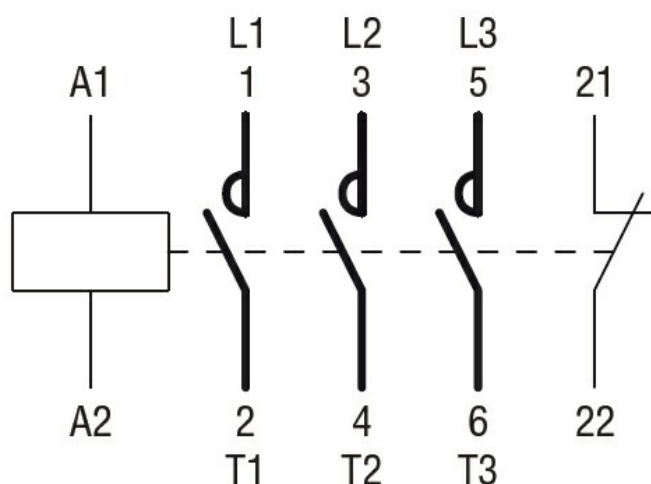
Pollution degree

3

Dimensions



Wiring diagrams



Certifications and compliance

Compliance

- CSA C22.2 n° 60947-1
- CSA C22.2 n° 60947-4-1
- IEC/EN 60335-2-89
- IEC/EN 60947-1
- IEC/EN 60947-4-1

THREE-POLE CONTACTOR, IEC OPERATING CURRENT IE (AC3) = 9A, DC COIL LOW CONSUMPTION, 48VDC, 1NC AUXILIARY CONTACT WITH MIRROR CONTACT FUNCTION

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UL 60947-1

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UL 60947-4-1

Certificates

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CCC

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CSA C22.2 n. 60335-2-40:22 LZGH A2L

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CSA C22.2 No. 60335-2-89:21 LZGH A2L

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cULus

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EAC

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UL 60335-2-40 LZGH A2L

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UL 60335-2-89 LZGH A2L

ETIM classification

ETIM 8.0

EC000066 -  
Power contactor,  
AC switching