

# IEC Type Industrial Control Relays Control Relays CA2D and CA3D AC and DC Relays

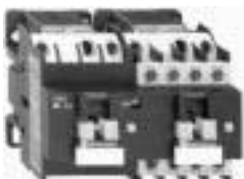


## AC Control Relays

Type	Number of contacts	Composition		Catalog Number	Weight lb/kg
Instantaneous	4	4	–	<b>CA2DN40▲</b>	.71/0.320
		3	1	<b>CA2DN31▲</b>	.71/0.320
		2	2	<b>CA2DN22▲</b>	.71/0.320
		2	2 inc. 1 N/O and 1 N/C make before break	<b>CA2DC22▲</b>	.71/0.320
Latching	4	2	2	<b>CA2DK22▲</b>	1.28/0.580



CA2DN31▲



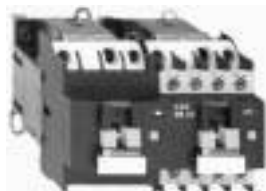
CA2DK22▲

## DC Control Relays

Type	Number of contacts	Composition		Catalog Number	Weight lb/kg
Instantaneous	4	4	–	<b>CA3DN40◆</b>	1.28/0.580
		3	1	<b>CA3DN31◆</b>	1.28/0.580
		2	2	<b>CA3DN22◆</b>	1.28/0.580
		2	2 inc. 1 N/O and 1 N/C make before break	<b>CA3DC22◆</b>	1.28/0.580
Latching	4	2	2	<b>CA3DK22◆</b>	2.43/1.100



CA3DN31◆



CA3DK22◆

### Specifications – Marking and contact positions conforming to CENELEC EN 50005, EN 50011.

Mounting	35 mm DIN 3 track or direct mount
Termination	Screw clamp terminals
Terminals	Protected against direct finger contact with ready-to-tighten captive screws. Telemecanique patented system which prevents screws from tightening themselves (eg due to vibrations during transport).
Protective treatment	"TH" as standard (Tropical Finish) See page 36.

### ▲ AC coil voltage codes (voltage range 80 to 110% U<sub>c</sub>)

Volts	21	24	42	48	110	120	208	220/230	240	277	380/400	415	440	480	500	575	600	660		
50 Hz	Z5	B5	D5	E5	F5	–	–	M5	P5	U5	–	Q5	V5	N5	R5	–	S5	–	Y5	
60 Hz	Z6	B6	–	E6	F6	G6	L6	M6	–	U6	W6	Q6	–	N6	R6	T6	–	S6	X6	–
50/60 Hz	Z7	B7	D7	–	F7	–	–	M7	P7	U7	–	Q7	V7	N7	R7	–	–	–	–	–

### ◆ DC coil voltage codes

Volts	12	24	36	48	60	72	110	125	220	250	440
U (from 80 to 110% U <sub>c</sub> )	JD	BD	CD	ED	ND	SD	FD	GD	MD	UD	RD
U (from 70 to 125% U <sub>c</sub> )	JW	BW	CW	EW	–	SW	FW	–	MW	–	–



# IEC Type Industrial Control Relays Control Relays CA2D and CA3D Auxiliary Contact Blocks / Add-on Mechanical Latch Blocks



## Instantaneous auxiliary contact blocks for standard applications

Number of contacts	Maximum number per relay ◆		Composition		Catalog Number	Weight lb/kg
	Front mounting	Side Mounting				
2	1	–	1	1	LA1DN11	.07/0.030
	–	2	1	1	LA8DN11	.07/0.030
	1	–	2	–	LA1DN20	.07/0.030
	–	2	2	–	LA8DN20	.07/0.030
4	1	–	–	2	LA1DN02	.07/0.030
	1	–	2	2	LA1DN22	.11/0.050
	–	–	1	3	LA1DN13	.11/0.050
	–	–	4	–	LA1DN40	.11/0.050
	–	–	–	4	LA1DN04	.11/0.050
	–	–	3	1	LA1DN31	.11/0.050
	–	–	2	2	LA1DC22	.11/0.050

Including 1 N/O and 1 N/C make before break.

## Instantaneous auxiliary contact blocks (with dust and damp protected contacts)

### For use in particularly harsh industrial environments

Number of contacts	Maximum number per relay ◆ Front mounting	Composition		Catalog Number	Weight lb/kg
2	1	2	–	LA1DX20	.09/0.040
		2	2	LA1DY20	.09/0.040
4	1	2	–	LA1DZ40	.11/0.050
		2	–	LA1DZ31	.11/0.050

## Pneumatic Timer Attachment

Number and type of contacts	Maximum number per relay ◆ Front mounting	Time delay Type	Timing Range	Catalog Number	Weight lb/kg
1 N/C + 1 N/O	1	On-delay	0.1 to 3 s †	LA2DT0	.13/0.060
			0.1 to 30 s	LA2DT2	.13/0.060
			10 to 180 s	LA2DT4	.13/0.060
		Off-delay	1 to 30 s ▽	LA2DS2	.13/0.060
			0.1 to 3 s †	LA3DR0	.13/0.060
			0.1 to 30 s	LA3DR2	.13/0.060
		10 to 180 s	LA3DR4	.13/0.060	

(Timer lockout cover: see page 8)

## Mechanical latch blocks

Tripping control	Maximum number per relay ◆ Front mounting	Coil clearing contact	Catalog Number	Weight lb/kg
Manual or electric	1	Without	LA6DK1◆	.15/0.070
		With	LA6DK2◆*	.20/0.090

### ◆ Mounting restrictions

Type of device	Type of coil	For guaranteed operation from	Maximum number of add-on blocks Clip-on mounting	
			front	side
CA2-D	AC 50 or 60 Hz	80 to 110% U <sub>c</sub>	1	2
		80 to 110% U <sub>c</sub>	1	2
	85 to 110% U <sub>c</sub>	1	2	
CA3-D	DC	80 to 110% U <sub>c</sub>	1	2
	DC (wide range)	70 to 125% U <sub>c</sub>	1	2

### \* Coil voltage codes

AC Voltages 50/60 Hz	24	32	–	48	–	–	–	110/115	120/127	208	220
DC Voltages	24	–	36	48	60	72	100	110	125	200	220
Code letters	B	C	CD	E	ND	SD	K	F	G	L	M
AC Voltages 50/60 Hz	230/240	256	277	380	400	415	440	480	500	575/600	660
Code letters	U	W5	W6	Q	V	N	R	T	S	X	Y

▽ With switching time of 40 ms ± 15 ms between opening of the N/C contact and closing of the N/O contact.

▲ Device fitted with 4 screening continuity terminals.

† With extended scale from 0.1 to 0.6 s.



#### Electronic serial timer modules



LA4DR0U



LA4DFE



LA4DLE



LA4DMU



LA4DVM



LA9Z90F

#### For use on control relays with 24 to 250 V supply ▶

Type	Mounted at top on	Time delay	Catalog Number	Weight lb/kg
On-delay	CA2D, CA3D	0.1 to 2 s	<b>LA4DT0U</b>	.09/0.040
		1.5 to 30 s	<b>LA4DT2U</b>	.09/0.040
		25 to 500 s	<b>LA4DT4U</b>	.09/0.040
Off-delay	CA2D	0.1 to 2 s	<b>LA4DR0U</b>	.11/0.050
		1.5 to 30 s	<b>LA4DR2U</b>	.11/0.050
		25 to 500 s	<b>LA4DR4U</b>	.11/0.050

#### Interface modules

Type	Mounted at top on	Input voltage	Catalog Number	Weight lb/kg
Relay interface	CA2D, CA3D	24 VAC or VDC	<b>LA4DFB</b>	.11/0.050
		48 VAC or VDC	<b>LA4DFE</b>	.11/0.050
Relay interface with manual override switch (output forced "ON")	CA2D, CA3D	24 VAC or VDC	<b>LA4DLB</b>	.10/0.045
		48 VAC or VDC	<b>LA4DLE</b>	.10/0.045
Solid state	CA2D	24 VAC or VDC	<b>LA4DWB</b>	.10/0.045

#### "Auto-Manual-Stop" control modules

#### For local override operation tests with 2-position "Auto-Man" switch and "Off-On" switch

Description	Mounted at top on	Control relay voltage	Catalog Number	Weight lb/kg
With "Off-On" switch and 2-position "Auto-Man" switch	CA2D, CA3D	24-100 AC/DC	<b>LA4DMK</b>	.09/0.040
	CA2D, CA3D	100-250 AC/DC	<b>LA4DMU</b>	.09/0.040

#### Indicators

Type	Clips into legend plate location on	Relay coil voltage	Sold in lots of	Catalog Number	Weight lb/kg
Red LED	CA2D, CA3D	12-72 AC/DC	5	<b>LA4DVE</b>	.02/0.010
		72-250 AC/DC	5	<b>LA4DVM</b>	.02/0.010
		250-440 AC/DC	5	<b>LA4DVR</b>	.02/0.010

#### Delayed capacitive opening devices

#### For use on control relays CA3-D to prevent inadvertent opening in the event of a brief volt drop or momentary supply failure

Supply voltage 50/60 Hz	Control relay catalog number ▲	Replacement coil catalog number	Corresponding delayed opening device Delay time (Tr) Non adjustable	Catalog Number	Weight lb/kg
110-115 V	CA3DN●●PD	LX4D2PD	1 to 3 s	<b>LA9Z90F</b>	.47/0.215
120-127 V	CA3DN●●QD	LX4D2QD	1.5 to 3 s	<b>LA9Z90F</b>	.47/0.215
220 V	CA3DN●●TD	LX4D2TD	2.5 to 5 s	<b>LA9Z90M</b>	.47/0.215
240 V	CA3DN●●VD	LX4D2VD	3 to 6 s	<b>LA9Z90M</b>	.47/0.215
380 V	CA3DN●●WD	LX4D2WD	2.5 to 5 s	<b>LA9Z90Q</b>	.47/0.215
415-440 V	CA3DN●●XD	LX4D2XD	3.5 to 8 s	<b>LA9Z90Q</b>	.47/0.215

#### Accessories (to be ordered separately)

Description	Catalog Number	Weight lb/kg
<b>Add-on block for doubling the time delay</b>		
Example : LA9Z90F = 1 to 3 s	<b>LA9Z91●◆</b>	.47/0.215
LA9Z90F + LA9Z91F = 1 to 6 s		

▶ For 24 V, the control relay must be fitted with a 21 V coil.

▲ Replace the ●● with the desired contact arrangement from page 5.

◆ Replace the ● in catalog number with appropriate voltage code (F, M, or Q); this will be the same as the code for the delayed opening device.

# IEC Type Industrial Control Relays Control Relays CA2D and CA3D Coil Suppressor Modules and Accessories



## Coil suppressor modules



LA4DA1●

These modules clip onto the top of the control relay and the electrical connection is instantly made. Fitting of an input module is still possible

### RC circuits (Resistor-Capacitor) ▲

For mounting on	Operational voltage	Catalog Number	Weight lb/kg
CA2DN ◆	24-48 VAC	LA4DA1E	.03/0.012
	50-127 VAC	LA4DA1G	.03/0.012
	110-240 VAC	LA4DA1U	.03/0.012



LA4DE1●

### Varistors (peak limiting) \*

CA2DN, CA3DN ◆	24-48 VAC or VDC	LA4DE1E	.03/0.012
	50-127 VAC or VDC	LA4DE1G	.03/0.012
	110-250 VAC or VDC	LA4DE1U	.03/0.012



LA4DC1U

### Diode ●

CA3DN ◆	24-250 VDC	LA4DC1U	.03/0.012
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▲ An RC circuit provides effective protection for circuits highly sensitive to high frequency interference. Voltage limited to 3 Uc maximum, oscillating frequency limited to 400 Hz maximum.

Slight increase in drop-out time (1.2 to 2 times the usual time).

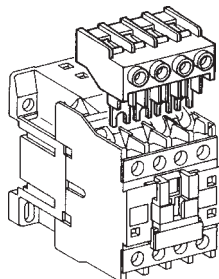
◆ For satisfactory protection, a suppressor module must be fitted across the coil of each control relay.

\* Protection is provided by limiting the transient voltage value to 2 Uc maximum. Maximum reduction of transient voltage peaks.

Slight increase in drop-out time (1.1 to 1.5 times the usual time).

● Protection is provided by a polarized component; no overvoltage or oscillating frequency. Slight increase in drop-out time (6 to 10 times the usual time).

## Accessories (to be ordered separately)



LA9D1260

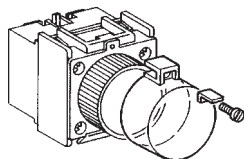
### For connection

Description	For mounting on	Catalog Number	Weight lb/kg
4-pole connector for connection of 8 AWG or 10 mm <sup>2</sup> wire	CA2DN, CA3DN	LA9D1260	.07/0.030

### For marking

For mounting on	Description	Sold in lots of	Catalog Number	Weight lb/kg
CA2DN, CA3DN and add-on blocks except LA1DN (2 contacts)	Clip-in marker holder .315 x .866 in (8 x 22 mm)	100	LA9D92	.002/0.001
	Bag of 300 blank self-adhesive labels .276 x .827 in (7 x 21 mm)	1	LA9D93	.002/0.001
LA1DN (2 contacts)	Clip-in marker holder .315 x .669 in (8 x 17 mm)	100	LA9D90	.002/0.001
	Bag of 400 blank self-adhesive labels .276 x .630 in (7 x 16 mm)	1	LA9D91	.002/0.001

For additional markers, see page 35.



LA9D901

### Timer Lockout Cover

Description	For mounting on	Catalog Number	Weight lb/kg
Timer Lockout Cover	LA2D, LA3D	LA9D901	.011/0.005



# IEC Type Industrial Control Relays Terminal Configurations

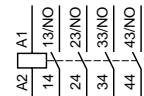


## Control relays instantaneous

4 N/O

CA2DN40●●

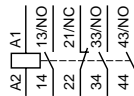
CA3DN40●●



3 N/O + 1 N/C

CA2DN31●●

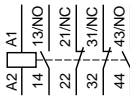
CA3DN31●●



2 N/O + 2 N/C

CA2DN22●●

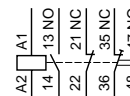
CA3DN22●●



2 N/O + 2 N/C including  
1 N/O + 1 N/C make before break

CA2DC22●●

CA3DC22●●

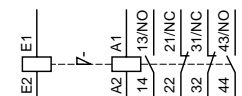


## Latching Relays

2 N/O + 2 N/C

CA2DK22●●

CA3DK22●●



## Instantaneous auxiliary contact blocks

1 N/O + 1 N/C

LA1DN11



LA8DN11 (1)

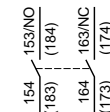


2 N/O

LA1DN20



LA8DN20 (1)



2 N/C

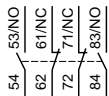
LA1DN02



(1) The figures in brackets are for the device mounted on the RH side of the relays.

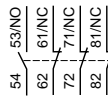
2 N/O + 2 N/C

LA1DN22



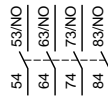
1 N/O + 3 N/C

LA1DN13



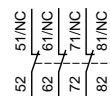
4 N/O

LA1DN40



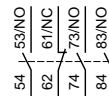
4 N/C

LA1DN04



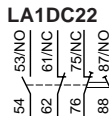
3 N/O + 1 N/C

LA1DN31



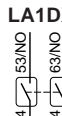
2 N/O + 2 N/C including  
1 N/O + 1 N/C make before break

LA1DC22



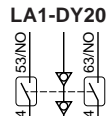
With protected contacts  
2 N/O protected

LA1DX20



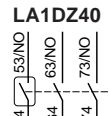
2 N/O protected (2)  
with earth connection

LA1-DY20



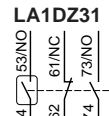
2 N/O protected +  
2 N/O non protected

LA1DZ40



2 N/O protected +  
1 N/O + 1 N/C non protected

LA1DZ31



(2) Device fitted with 4 screening continuity terminals.

## Pneumatic timer attachment

On-delay 1 N/O + 1 N/C

LA2DT●



LA2DS2



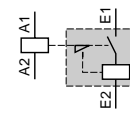
## Mechanical latch attachment

Off-delay 1 N/O + 1 N/C

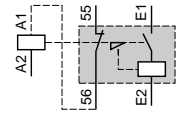
LA3DR●



LA6DK1●



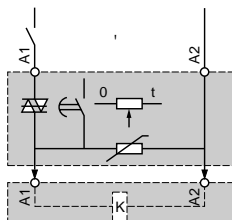
LA6DK2●



## Electronic serial timer modules

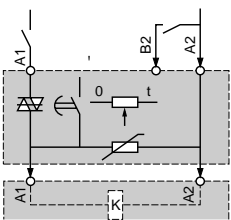
On-delay

LA4DT●U



Off-delay

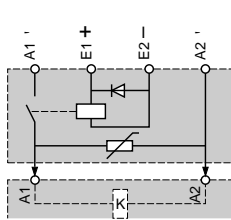
LA4DR●U



## Interface modules

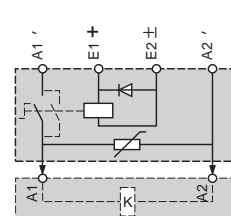
Relay interface

LA4DF●



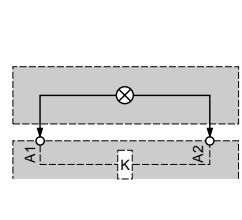
## Relay interface and manual override switch "Auto-On"

LA4DL●



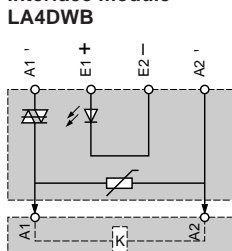
Indicator

LA4DV●



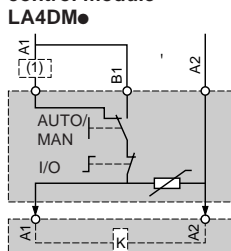
## Solid state interface module

LA4DWB



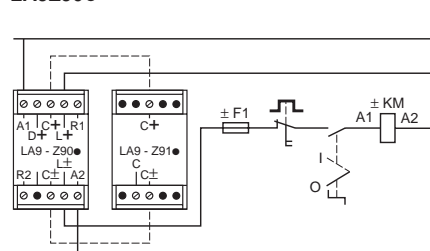
## "Auto-Stop-Man" control module

LA4DM●



## Delayed capacitive opening devices

LA9Z90●



(1) Programmable controller

Terminal C + : ≥ 380 V

Terminal C - : < 380 V

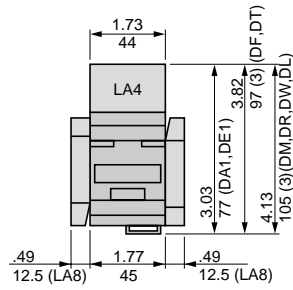
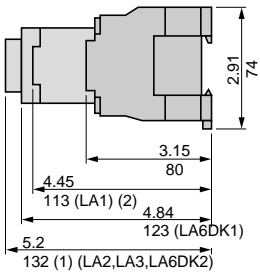


SQUARE D

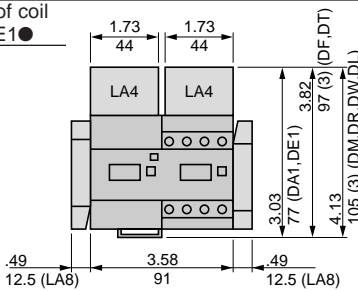
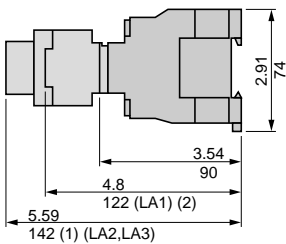
# IEC Type Industrial Control Relays Control Relays CA2D and CA3D Approximate Mounting Dimensions



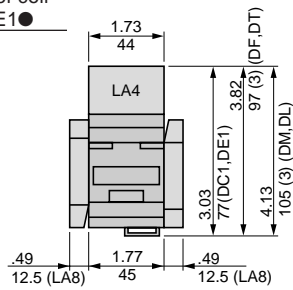
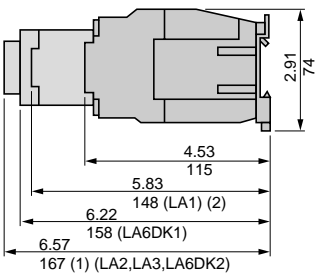
## CA2DN, DC



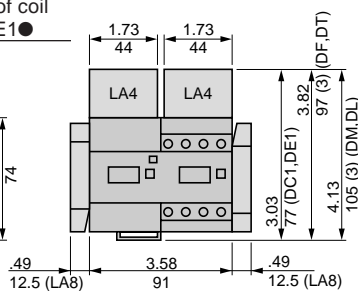
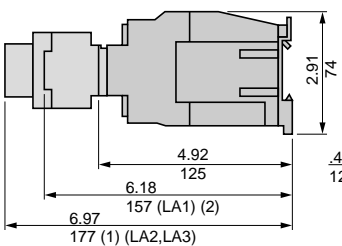
- (1) + 4 mm with lead sealing kit LA9D901
  - (2) With 2 or 4 contacts
  - (3) With or without combined use of coil suppressor module : LA4DA1●, DE1●
- CA2DK22**



- (1) + 4 mm with lead sealing kit LA9D901
  - (2) With 2 or 4 contacts
  - (3) With or without combined use of coil suppressor module : LA4DA1●, DE1●
- CA3DN, CA3DC  
CA3DN – ENC2B**

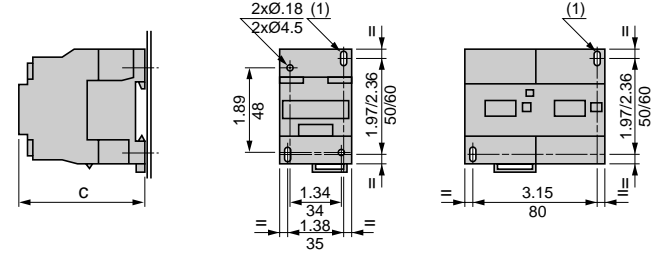


- (1) + 4 mm with lead sealing kit LA9D901
  - (2) With 2 or 4 contacts
  - (3) With or without combined use of coil suppressor module : LA4DA1●, DE1●
- CA3DK22**



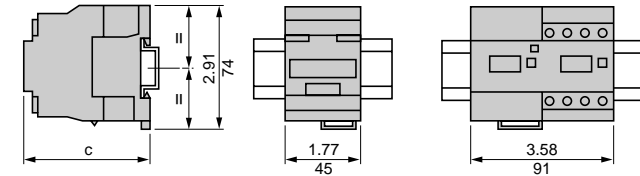
- (1) + 4 mm with lead sealing kit LA9D901
- (2) With 2 or 4 contacts
- (3) With or without combined use of coil suppressor module : LA4DA1●, DE1●

## CA2, CA3DN, DC, DK Panel mounting



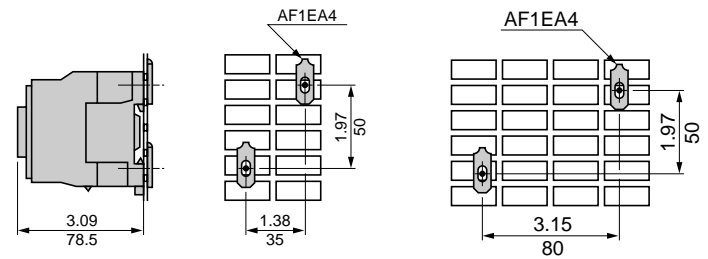
	CA2			CA3		
	DN	DC	DK	DN	DC	DK
c	3.15/80	3.15/80	3.54/90	4.53/115	4.53/115	4.92/125

(1) 2 elongated holes 4.5 x 9  
**CA2, CA3DN, DC, DK**  
Mounting on AM1DP200 or DE200 track



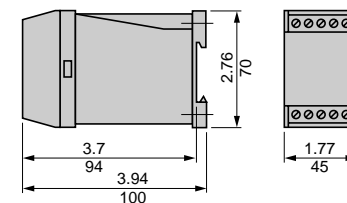
	CA2			CA3		
	DN	DC	DK	DN	DC	DK
c (AM1-DP200)	3.23/82	3.23/82	3.58/91	4.61/117	4.61/117	5/127
c (AM1-DE200)	3.5/89	3.5/89	3.86/98	4.88/124	4.88/124	5.28/134

**CA2, CA3DN, DC, DK**  
Mounting on pre-slotted plate AM1P



	CA2			CA3		
	DN	DC	DK	DN	DC	DK
c (AM1P)	3.15/80	3.15/80	3.54/90	4.53/115	4.53/115	4.92/125

## Delayed capacitive opening devices LA9Z90●



Dual Dimensions  
inches  
mm

