

See page opposite for mounting possibilities according to control relay type and rating

# TeSys control relays

## TeSys D control relays and add-on blocks

Control circuit: a.c., d.c. or low consumption



CAD 50●●



CAD 32●●



CAD 503●●



CAD 323●●

### Control relays for connection by screw clamp terminals

Type	Number of contacts	Composition	Basic reference, to be completed by adding the control voltage code (1)	Standard voltages				Weight kg
				~	⋯	LC (2)		
Instantaneous 5	5	—	CAD 50●● (3)	B7	P7	BD	BL	0.580
	3	2	CAD 32●● (3)	B7	P7	BD	BL	0.580

### Control relays for connection by spring terminals

Instantaneous 5	5	—	CAD 503●●	B7	P7	BD	BL	0.580
	3	2	CAD 323●●	B7	P7	BD	BL	0.580

### Instantaneous auxiliary contact blocks for connection by screw clamp terminals

For use in normal operating environments

Number of contacts	Maximum number per relay		Composition	Reference	Weight kg
	Clip-on mounting front	side			
2	1	—	1 1	LAD N11	0.030
	—	1 on LH side	1 1	LAD 8N11 (6)	0.030
	1	—	2 —	LAD N20	0.030
	—	1 on LH side	2 —	LAD 8N20 (6)	0.030
	1	—	— 2	LAD N02	0.030
	—	1 on LH side	— 2	LAD 8N02 (6)	0.030
4 (4)	1	—	2 2	LAD N22	0.050
	—	—	1 3	LAD N13	0.050
	—	—	4 —	LAD N40	0.050
	—	—	— 4	LAD N04	0.050
	—	—	3 1	LAD N31	0.050
	—	—	2 2	LAD C22	0.050

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

### With dust and damp protected contacts, for use in particularly harsh industrial environments

Number of contacts	Maximum number per relay	Composition	Reference	Weight kg
2	1	2 — —	LA1 DX20	0.040
		— 2 —	LA1 DX02	0.040
		2 — 2	LA1 DY20	0.040
4 (4)	1	2 — —	LA1 DZ40	0.050
		2 — —	LA1 DZ31	0.050

### Instantaneous auxiliary contact blocks for connection by spring terminals

This type of connection is not possible for contact blocks LAD 8 and blocks with dust and damp protected contacts. For all other instantaneous auxiliary contact blocks, add the digit 3 to the end of the references selected above.  
Example: LAD N11 becomes LAD N113.

(1) Standard control circuit voltages (for other voltages, please consult your Regional Sales Office).

#### a.c. supply

Volts ~	24	42	48	110	115	220	230	240	380	400	415	440
50/60 Hz	B7	D7	E7	F7	FE7	M7	P7	U7	Q7	V7	N7	R7

#### d.c. supply (coils with integral suppression device fitted as standard)

Volts ⋯	12	24	36	48	60	72	110	125	220	250	440
U from 0.7 to 1.25 U <sub>c</sub> JD	BD	CD	ED	ND	SD	FD	GD	MD	UD	RD	

#### Low consumption (coils with integral suppression device fitted as standard)

Volts ⋯	5	12	20	24	48	110	220	250
Code	AL	JL	ZL	BL	EL	FL	ML	UL

(2) LC: low consumption.

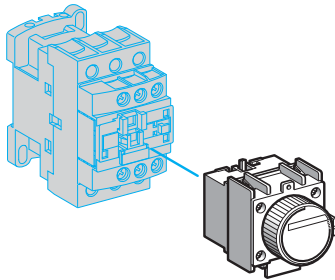
(3) To order control relays with connection by lugs, add the digit 6 to the end of the selected reference.

Example: CAD50●● becomes CAD506●●.

(4) Blocks with 4 auxiliary contacts cannot be used on low consumption control relays.

(5) Product fitted with 4 earth screen continuity terminals.

(6) These contact blocks cannot be used on low consumption control relays.



LAD T

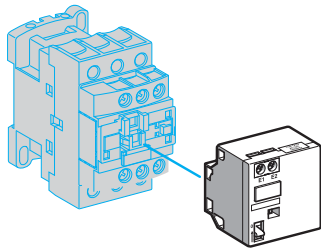
#### Time delay auxiliary contact blocks for connection by screw clamp terminals (1)

Number and type of contacts	Maximum number per relay Front mounting	Time delay		Reference	Weight kg
		Type	Range		
1 N/C and 1 N/O	1	On-delay	0.1...3 s (2)	LAD T0	0.060
			0.1...30 s	LAD T2	0.060
			10...180 s	LAD T4	0.060
		Off-delay	1...30 s (3)	LAD S2	0.060
			0.1...3 s (2)	LAD R0	0.060
			0.1...30 s	LAD R2	0.060
			10...180 s	LAD R4	0.060

(Sealing cover: see page 24511/7)

#### Time delay auxiliary contact blocks for connection by spring terminals

Add the digit 3 to the references selected above. Example: LAD T0 becomes LAD T03.



LAD 6K10

#### Mechanical latch blocks (4)

Unlatching control	Maximum number per relay Front mounting	Basic reference to be completed (5)	Weight kg
Manual or electric	1	LAD 6K10●	0.070

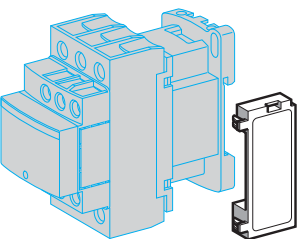
#### Suppressor modules

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)

- Effective protection for circuits highly sensitive to "high frequency" interference.
- Voltage limited to 3 Uc maximum and oscillating frequency limited to 400Hz maximum.
- Slight time delay on drop-out (1.2 to 2 times the normal time).

For mounting on	Operational voltage	Reference	Weight kg
CAD ~	~ 24...48 V	LAD 4RCE	0.012
	~ 110...240 V	LAD 4RCU	0.012



LAD 4●●

#### Varistors (peak limiting)

- Protection provided by limiting the transient voltage value to 2Uc maximum.
- Maximum reduction of transient voltage peaks.
- Slight time delay on drop-out (1.1 to 1.5 times the normal time).

CAD ~	~ 24...48 V	LAD 4VE	0.012
	~ 50...127 V	LAD 4VG	0.012
	~ 110...250 V	LAD 4VU	0.012

#### Freewheel diode

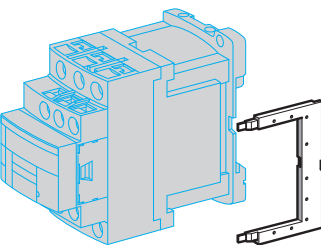
- No overvoltage or oscillating frequency.
- Increase in drop-out time (6 to 10 times the normal time).
- Polarised component.

CAD ∴	∴ 24...250 V	LAD 4DDL	0.012
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#### Bidirectional peak limiting diode

- Protection provided by limiting the transient overvoltage value to 2Uc maximum.
- Maximum reduction of transient voltage peaks.

CAD ~	~ 24 V	LAD 4TB	0.012
	~ 72 V	LAD 4TS	0.012
CAD ∴	∴ 24 V	LAD 4TBDL	0.012
	∴ 72 V	LAD 4TSDL	0.012
	∴ 125 V	LAD 4TGD	0.012
	∴ 250 V	LAD 4TUDL	0.012
	∴ 600 V	LAD 4TXDL	0.012



(1) These contact blocks cannot be used on low consumption control relays.

(2) With extended scale from 0.1 to 0.6 s.

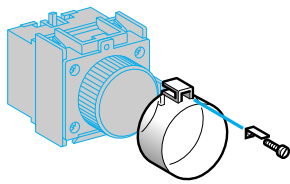
(3) With switching time of 40 ms ± 15 ms between opening of the N/C contact and closing of the N/O contact.

(4) Power should not be simultaneously applied or maintained to the mechanical latching block of the CAD N. The duration of the control signal to the mechanical latching block and the CAD N should be ≥ 100 ms.

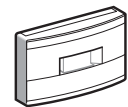
(5) Standard control circuit voltages (for other voltages, please consult your Regional Sales Office):

Volts ~ and ∴	24	32/36	42/48	60/72	100	110/127	220/240	256/277	380/415
Code	B	C	E	EN	K	F	M	U	Q

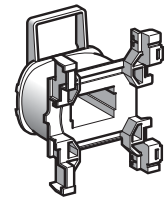
(6) CAD ●● d.c. and low consumption control relays are fitted with a built-in bi-directional peak limiting diode suppressor as standard. On control relays produced after 15th July 2004, this diode is removable. It can therefore be replaced by the user (see references LAD 4T●●● above). It can also be replaced by a freewheel diode LAD 4DDL. If a d.c. or low consumption control relay is used without suppression, the standard suppressor should be replaced with a blanking plug LAD 9DL.



LA9 D901



LAD 9ET1



LXD 1

**Accessories (to be ordered separately)**

Description	For mounting on	Sold in lots of	Unit reference	Weight kg
<b>For marking</b>				
Sheet of 64 blank legends, self-adhesive, 8 x 33 mm	CAD, LAD (4 contacts)	10	LAD 21	0.020
Sheet of 112 blank legends, self-adhesive, 8 x 12 mm	LAD (2 contacts), LAD T		LAD 22	0.020
Strips of blank, self-adhesive legends for printing by plotter (4 sets of 5 strips)	All products	35	LAD 24	0.200
"SIS Label" labelling software for legends LAD 21 and LAD 22, supplied on CD-Rom	Multi-language version: English, French, German, Italian, Spanish	1	XBY 2U	0.100
Legend holder, snap-in, 8 x 18 mm	LC1 D09...38 LC1DT20...40 LADN (4 contacts) LAD T, LAD R	100	LAD 90	0.001
<b>For protection</b>				
Sealing cover	LAD T, LAD R	1	LA9 D901	0.005
Safety cover preventing access to the moving contact carrier	CAD	1	LAD 9ET1	0.004

**Spare parts: coils****Specifications**

- Average consumption at 20 °C:
  - inrush ( $\cos \varphi = 0.75$ ) 50/60 Hz: 70 VA at 50 Hz,
  - sealed ( $\cos \varphi = 0.3$ ) 50/60 Hz: 8 VA at 60 Hz,
- Operating range ( $\theta < 60$  °C): 0.85 to 1.1  $U_c$

Control circuit voltage $U_c$	Average resistance at 20 °C $\pm 10$ %	Inductance of closed circuit	Reference (1)	Weight
V	V	H	50/60 Hz	kg
12	6.3	0.26	LXD 1J7	0.070
21 (2)	5.6	0.24	LXD 1Z7	0.070
24	6.19	0.26	LXD 1B7	0.070
32	12.3	0.48	LXD 1C7	0.070
36	–	–	LXD 1CC7	0.070
42	19.15	0.77	LXD 1D7	0.070
48	25	1	LXD 1E7	0.070
60	–	–	LXD 1EE7	0.070
100	–	–	LXD 1K7	0.070
110	130	5.5	LXD 1F7	0.070
115	–	–	LXD 1FE7	0.070
120	159	6.7	LXD 1G7	0.070
127	192.5	7.5	LXD 1FC7	0.070
200	–	–	LXD 1L7	0.070
208	417	16	LXD 1LE7	0.070
220/230	539	22	LXD 1M7 (3)	0.070
230	595	21	LXD 1P7	0.070
230/240	645	25	LXD 1U7 (4)	0.070
277	781	30	LXD 1W7	0.070
380/400	1580	60	LXD 1Q7	0.070
400	1810	64	LXD 1V7	0.070
415	1938	74	LXD 1N7	0.070
440	2242	79	LXD 1R7	0.070
480	2300	85	LXD 1T7	0.070
500	2499	–	LXD 1S7	0.070
575	3294	–	LXD 1SC7	0.070
600	3600	135	LXD 1X7	0.070
690	5600	190	LXD 1Y7	0.070

(1) The last 2 digits in the reference represent the voltage code.

(2) Voltage for special coils fitted in control relays with serial timer module with 24 V supply.

(3) This coil can be used on 240 V at 60 Hz.

(4) This coil can be used on 230/240 V at 50 Hz and on 240 V only at 60 Hz.