

Telemecanique
 Control relays
 part number

CA3DN31BD 214-449
 CA3DN40BD. 214-450
 LA1-DN22. 214-474

Farnell order codes

CA2-D and CA3-D

Characteristics

References:
 pages 1/498 and 1/499
 Dimensions:
 page 1/506
 Schemes:
 page 1/507

1

| Type | CA2-DN, DK, DC | | CA3-DN, DK, DC | |
|---|---|------------------------|--------------------------|--------------------------|
| Environment | | | | |
| Conforming to standards | IEC 947-1, IEC 947-5-1, NF C 63-140, VDE 0660, EN 60947-1, EN 60947-5-1 | | | |
| Product approvals | ASE, UL, CSA, DEMKO, NEMKO, SEMKO, FI, (1), SNCF approval, CA3-DN | | | |
| Protective treatment | "TH" | | | |
| Degree of protection | Protection against direct finger contact | Conforming to VDE 0106 | | Conforming to VDE 0106 |
| Ambient air temperature around the device | Storage | °C | -60...+80 | -60...+80 |
| | Operation, Conforming to IEC 255 (0.8...1.1 Uc) | °C | -5...+55 | -5...+55 |
| | For operation at Uc | °C | -40...+70 | -40...+70 |
| Maximum operating altitude | Without derating | m | 3000 | 3000 |
| Operating positions | Operation without derating in the following positions | | | |
| Shock resistance (2) semi-sinusoidal wave for 11 ms | Control relay open | | 10 gn | 8 gn |
| | Control relay closed | | 15 gn | 11 gn |
| Vibration resistance (2) 5...300 Hz | Control relay open | | 2 gn | 2 gn |
| | Control relay closed | | 4 gn | 3 gn |
| Cabling | Flexible or rigid cable with or without cable end | mm ² | Min: 1 x 1; max: 2 x 2.5 | Min: 1 x 1; max: 2 x 2.5 |

(1) Conforming to INRS requirements in association with auxiliary contacts LA1-D.
 (2) In the least favourable direction, without change of contact state, with coil supplied at Uc.

Control circuit characteristics

| | | | | | | |
|--|--|----|--|---|-----------|--------|
| Rated insulation voltage (Ui) | Conforming to IEC 947-1, IEC 947-5-1, EN 60947-1 and EN 60947-5-1 | V | 690 | 690 | | |
| | Conforming to VDE 0110 group C | V | 750 | 750 | | |
| | Conforming to CSA C22-2 n° 14 | V | 600 | 600 | | |
| Rated control circuit voltage (Uc) | | V | 12...660 | 12...600 | | |
| Permissible voltage variation | Operational | | With 50 or 60 Hz coil: 0.8...1.1 Uc With 50/60 Hz coil: 0.85...1.1 Uc | With standard coil: 0.8...1.1 Uc With wide range coil: 0.7...1.25 Uc | | |
| Voltage limits | Drop-out | | 0.3...0.6 Uc | 0.1...0.65 Uc | | |
| Average consumption at 20 °C | ~ 50 Hz | VA | Inrush: 60; Holding: 7 | - | | |
| | ~ 60 Hz | VA | Inrush: 70; Holding: 7.5 | - | | |
| | ~ 50/60 Hz (at 50 Hz) | VA | Inrush: 70; Holding: 8 | - | | |
| | With standard coil | W | - | Inrush or Holding: 9 | | |
| | With wide range coil | W | - | Inrush or Holding: 11 | | |
| Operating time (at rated control circuit voltage and at 20 °C) | Between coil energisation and - opening of the N/C contacts | ms | 6...20 | 35...43 | | |
| | - closing of the N/O contacts | ms | 12...22 | 40...48 | | |
| | Between coil de-energisation and - opening of the N/O contacts | ms | 4...12 | 6...14 | | |
| | - closing of the N/C contacts | ms | 6...17 | 11...19 | | |
| Minimum pulse time | For latching or unlatching of the CA-DK | ms | 40 | 100 | | |
| Short supply failures | Max. duration without affecting hold-in of device | ms | 2 | 2 | | |
| Maximum operating rate | In operating cycles per second | | 3 | 3 | | |
| Mechanical life at Uc (mechanical durability) | In millions of operating cycles With: 50 or 60 coil 50/60 Hz (at 50 Hz) standard == coil wide range == coil | | CA2-DN,DC | CA2-DK | CA3-DN,DC | CA3-DK |
| | | 20 | | 10 | - | - |
| | | 30 | | 10 | - | - |
| | | - | | - | 30 | 10 |
| | | - | | - | 30 | 10 |

Control relays

CA2-D and CA3-D

Characteristics

References:
pages 1/498 and 1/499
Dimensions:
page 1/506
Schemes:
page 1/507

Instantaneous contact characteristics

| | | | |
|---------------------------------------|---|--------|--|
| Number of contacts | On CAe-D | | 4 |
| Rated operational voltage (Ue) | Up to | V | 660 |
| Rated insulation voltage (Ui) | Conforming to IEC 947-1, IEC 947-5-1, EN 60947-1 and EN 60947-5-1 | V | 690 |
| | Conforming to VDE 0110 group C | V | 750 |
| | Conforming to CSA C22-2 n° 14 | V | 600 |
| Rated thermal current (Ith) | For ambient temperature ≤ 40 °C | A | 10 |
| Operating current frequency | | Hz | 25...400 |
| Minimum switching capacity | U min | V | 17 |
| | I min | mA | 5 |
| Short-circuit protection | gG fuse | A | 10 |
| Rated making capacity | I rms | A | ~ : 140, = : 250 |
| Short time rating | Permissible for | 1 s | A 100 |
| | | 500 ms | A 120 |
| | | 100 ms | A 140 |
| Insulation resistance | | MΩ | > 10 |
| Non-overlap time | Guaranteed between N/C and N/O contacts | ms | 1.5 (on energisation and on de-energisation) |
| Tightening torques | | N.m | 1.2 |

Rated operating power of contacts
Conforming to IEC 947-5

a.c. supply, categories AC-14 and AC-15

Electrical life (up to 3600 operating cycles/hour) on an inductive load such as the coil of an electromagnet: making power (cos φ 0.7) = 10 times the power broken (cos φ 0.4).

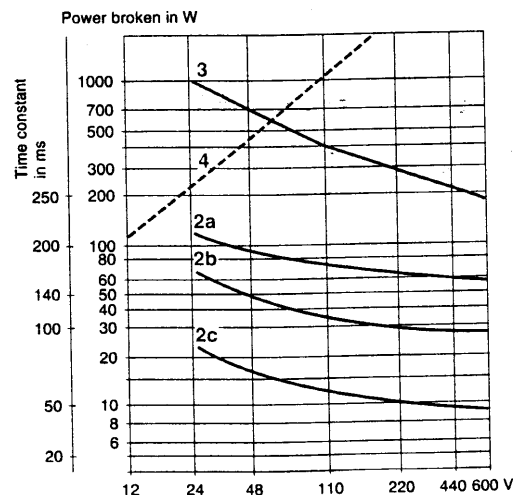
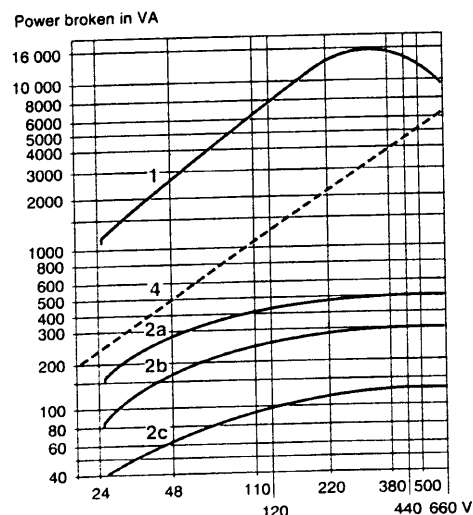
d.c. supply, category DC-13

Electrical life (up to 1200 operating cycles/hour) on an inductive load such as the coil of an electromagnet, without economy resistor, the time constant increasing with the power.

| | 24 | 48 | 110/127 | 220/230 | 380/400 | 440 | 600 | 600 | V | 24 | 48 | 110 | 220 | 440 | 600 |
|----|------|------|---------|---------|---------|--------|------|------|---|------|-----|-----|-----|-----|-----|
| VA | 150 | 300 | 400 | 480 | 500 | 500 | 500 | 500 | W | 120 | 90 | 75 | 68 | 61 | 58 |
| VA | 80 | 170 | 250 | 290 | 320 | 320 | 320 | 320 | W | 70 | 50 | 38 | 33 | 28 | 27 |
| VA | 30 | 65 | 90 | 120 | 130 | 130 | 130 | 130 | W | 25 | 18 | 14 | 12 | 10 | 9 |
| VA | 1200 | 2600 | 7000 | 13 000 | 15 000 | 13 000 | 9000 | 9000 | W | 1000 | 700 | 400 | 260 | 220 | 170 |

1 million operating cycles
3 million operating cycles
10 million operating cycles
Occasional making capacity

- Breaking limit of contacts valid for: maximum of 50 operating cycles at 10s intervals (breaking power = making power x cos φ 0.7).
- Electrical life of contacts:
 - for 1 million operating cycles (2a)
 - for 3 million operating cycles (2b)
 - for 10 million operating cycles (2c).
- Breaking limit of contacts valid for: maximum of 20 operating cycles at 10 s intervals and with current passing for 0.5 s per operating cycle.
- Thermal limit.



Control relays

CA2-D and CA3-D

Auxiliary contact blocks (without dust and damp protected contacts)

References :
pages 1/500 and 1/501
Dimensions :
page 1/506
Schemes :
page 1/507

Characteristics

Environment

| | | | |
|---|--|-----------------|---|
| Conforming to standards | | | IEC 947-1, IEC 947-5-1, NF C 63-140, VDE 0660, EN 60947-1, EN 60947-5-1 |
| Product approvals | | | ASE, UL, CSA, DEMKO, NEMKO, SEMKO, FI (1) |
| Protective treatment | | | "TH" |
| Degree of protection | Conforming to VDE 0106 | | Protection against direct finger contact |
| Ambient air temperature around the device | Storage | °C | - 60...+ 80 |
| | Operation. Conforming to IEC 255 (0.8...1.1 Uc) | °C | - 5...+ 55 |
| | Permissible for operation at Uc | °C | - 40...+ 70 |
| Maximum operating altitude | Without derating | m | 3000 |
| Cabling | Flexible or rigid cable, with or without cable end | mm ² | Min : 1 x 1; max : 2 x 2.5 |
| Tightening torque | | N.m | 1.2 |

Instantaneous and time delay contact block characteristics

| Types of contact block | | | LA1-D | LA2-D | LA3-D | LA8-D |
|--|---|----|--|---------------|---------------|-------|
| Number of contacts | | | 2 or 4 | 2 | 2 | 2 |
| Rated operating voltage (Ue) | Up to | V | 660 | | | |
| Rated insulation voltage (Ui) | Conforming to IEC 947-1, IEC 947-5-1, EN 60947-1 and EN 60947-5-1 | V | 690 | | | |
| | Conforming to VDE 0110 group C | V | 750 | | | |
| | Conforming to CSA C22-2 n° 14 | V | 600 | | | |
| Rated thermal current (Ith) | Ambient temperature ≤ 40 °C | A | 10 | | | |
| Operating current frequency | | Hz | 25...400 | | | |
| Minimum switching capacity | U min | V | 17 | | | |
| | I min | mA | 5 | | | |
| Short-circuit protection | gG fuse | A | 10 | | | |
| Rated making capacity | I rms | A | ~ : 140 ; ≡ : 250 | | | |
| Short time rating | Permissible for | | | | | |
| | 1 s | A | 100 | | | |
| | 500 ms | A | 120 | | | |
| | 100 ms | A | 140 | | | |
| Insulation resistance | | MΩ | >10 | | | |
| Non-overlap time | Guaranteed between N/C and N/O contacts | ms | 1.5 (on energisation and on de-energisation) | | | |
| Overlap time | Guaranteed between N/C and N/O contacts on LA1-DC22 | ms | 1.5 | - | - | - |
| Time delay (LA2-D and LA3-D contact blocks) Accuracy only valid for setting range indicated on front face | Ambient air temperature for operation | °C | - | - 40...+ 70 | - 40...+ 70 | - |
| | Repeat accuracy | | - | ± 2 % | ± 2 % | - |
| | Drift up to 0.5 million operating cycles | | - | + 15 % | + 15 % | - |
| | Drift depending on ambient air temperature | | - | 0.25 % per °C | 0.25 % per °C | - |
| Mechanical life | In millions of operating cycles | | 30 | 5 | 5 | 30 |
| Operational power of contacts | The same as that of the control relay : see page 1/491. | | | | | |

(1) LA1-D conforms to INRS requirements in association with a control relay CA-D.

Control relays

CA2-D and CA3-D Mechanical latch blocks

References :
pages 1/500 and 1/501
Dimensions :
page 1/506
Schemes :
page 1/507

Characteristics

Environment

| | | | |
|---|--|-----------------|---|
| Conforming to standards | | | IEC 947-1, IEC 947-5-1, NF C 63-140, VDE 0660, EN 60947-1, EN 60947-5-1 |
| Product approvals | | | ASE, UL, CSA, DEMKO, NEMKO, SEMKO, FI |
| Protective treatment | | | "TH" |
| Degree of protection | Conforming to VDE 0106 | | Protection against direct finger contact |
| Ambient air temperature around the device | Storage | °C | - 60...+ 80 |
| | Operation. Conforming to IEC 255 (0.8...1.1 Uc) | °C | - 5...+ 55 |
| | Permissible for operation at Uc | °C | - 40...+ 70 |
| Maximum operating altitude | Without derating | m | 3000 |
| Cabling | Flexible or rigid cable, with or without cable end | mm ² | Min : 1 x 1; max : 2 x 2.5 |
| Tightening torque | | N.m | 1.2 |

Mechanical latch block characteristics

| Types | | | LA6-DK1 50-60 Hz | | LA6-DK2 50-60 Hz | |
|------------------------------------|---------------------------------|----|--|----------|---------------------|----------|
| | | | == | == | == | == |
| Rated insulation voltage (Ui) | | V | 660 | 660 | 660 | 660 |
| Rated control circuit voltage (Uc) | | V | 12...660 | 12...220 | 12...660 | 12...220 |
| Power required for unlatching | | VA | 160 | - | 275 | - |
| | | W | - | 190 | - | 330 |
| Maximum operating rate | In operating cycles/hour | | 1200 | 1200 | 1000 | 1000 |
| Mechanical life (at Uc) | In millions of operating cycles | | 1 | 1 | 1 | 1 |
| Unlatching control | Pulsed or holding | | Manual or electrical | | | |
| Operating precautions | | | LA6-DK and CA-D must not be energised or held simultaneously | | | |

Auto cut-out of the coil after 15 ms. Duration of control signal > 10 ms.
Block LA6-DK2 also has 1 N/C contact which automatically cuts the supply to the contactor coil.
Signal duration = contactor operating time + 20 ms.

Control relays

CA2-D and CA3-D

Auxiliary contact blocks (with dust and damp protected contacts)

References :
pages 1/500 and 1/501
Dimensions :
page 1/506
Schemes :
page 1/507

Characteristics

| Types of contact block | | | LA1-DX | LA1-DZ | LA1-DY |
|---|---|-----------------|--|---------------------------------|------------------------------|
| Environment | | | | | |
| Conforming to standards | | | NF C 63-140, VDE 0660 | | |
| Product approvals | | | UL, CSA | | |
| Protective treatment | | | "TH" | "TH" | "TH" |
| Degree of protection | Conforming to VDE 0106 | | Protection against direct finger contact | | |
| Ambient air temperature around the device | Storage | °C | - 25...+ 70 | - 25...+ 70 | - 25...+ 70 |
| | Operation | °C | - 25...+ 70 | - 25...+ 70 | - 25...+ 70 |
| Cabling | Flexible or rigid cable with or without cable end | mm ² | Min : 1 x 1 Max : 2 x 2.5 | Min : 1 x 1 Max : 2 x 2.5 | Min : 1 x 1 Max : 2 x 2.5 |
| Number of contacts | | | 2 | 4 (2 not dust & damp protected) | 2 |

Characteristics of dust and damp protected contacts

| | | | | | |
|--|---------------------------------|----|------------------------|------------------------|---|
| Rated operational voltage (U _e) | Up to | V | 50 | 50 | 24 |
| Rated insulation voltage (U _i) | Conforming to VDE 0110 gr C | V | 250 | 250 | 250 |
| Maximum operational current (I _e) | | mA | 500 | 500 | 50 |
| Minimum switching capacity | U min | V | 17 | 17 | 3 |
| | I min | mA | 4 | 4 | 0.3 |
| Insulation resistance | | MΩ | > 10 | > 10 | > 10 |
| Mechanical life | In millions of operating cycles | | 5 | 5 | 5 |
| Materials and technology used for dust and damp protected contacts | | | Silver Single break | Silver Single break | Gold Single break with crossed bars |

Characteristics of non dust and damp protected contacts

| | | | | | | |
|---|---|--------|---|------------------|-----|---|
| Rated operational voltage (U _e) | Up to | V | - | 660 | - | |
| Rated insulation voltage (U _i) | Conforming to IEC 947-1, IEC 947-5-1, EN 60947-1 and EN 60947-5-1 | V | - | 690 | - | |
| | Conforming to VDE 0110, group C | V | - | 750 | - | |
| | Conforming to CSA C22-2, n° 14 | V | - | 600 | - | |
| Rated thermal current (I _{th}) | Ambient temperature ≤ 40 °C | A | - | 10 | - | |
| Operating current frequency | | Hz | - | 25...400 | - | |
| Minimum switching capacity | U min | V | - | 17 | - | |
| | I min | mA | - | 5 | - | |
| Short-circuit protection | gG fuse | A | - | 10 | - | |
| Rated making capacity | I rms | A | - | ~ : 140, — : 250 | - | |
| Short time rating | Permissible for | 1 s | A | - | 100 | - |
| | | 500 ms | A | - | 120 | - |
| | | 100 ms | A | - | 140 | - |
| Insulation resistance | | MΩ | - | > 10 | - | |
| Operating power of contacts | The same as those of control relay contacts : see page 1/491. | | | | | |

Control relays

CA2-D and CA3-D
Electronic serial timers

Characteristics

References :
page 1/502
Dimensions :
page 1/506
Schemes :
page 1/507

| Type | | | LA4-DT (On-delay) | LA4-DR (Off-delay) |
|---|---|-----------------|--|--------------------|
| Environment | | | | |
| Conforming to standards | | | IEC 255-5 | |
| Product approvals | | | UL, CSA | |
| Protective treatment | | | "TH" | |
| Degree of protection | Conforming to VDE 0106 | | Protection against direct finger contact | |
| Ambient air temperature around the device | Storage | °C | - 40...+ 80 | |
| | Operation | °C | - 25...+ 55 | |
| | Operation at Uc | °C | - 25...+ 70 | |
| Rated insulation voltage (Ui) | Conforming to VDE 0110 group C | V | 250 | |
| Cabling | Flexible or rigid cable with or without cable end | mm ² | Min : 1 x 1 Max : 2 x 2.5 | |

Control circuit characteristics

| | | | | |
|------------------------------------|-------------|---|----------------------------|---|
| Built-in protection | On input | | By varistor | By varistor |
| | Suppression | | By varistor | By directional peak limiting diode |
| Rated control circuit voltage (Uc) | | V | ~ or = 24...250 | ~ 24...250 |
| Permissible variation | | | 0.8...1.1 Uc | 0.8...1.1 Uc |
| Type of control | | | By mechanical contact only | By mechanical contact only, connecting cable < 10 m |

Time delay characteristics

| | | | | |
|--------------------------------|-----------------------|----|-----------------------------------|-----------------------------------|
| Timing ranges | | s | 0.1...2 - 1.5...30 - 25...500 | 0.1...2 - 1.5...30 - 25...500 |
| Repeat accuracy | 0...40 °C | | ± 3% (10 ms minimum) | ± 3% (10 ms minimum) |
| Reset time | During the time delay | ms | 100 | 225 |
| | After the time delay | ms | 50 | - |
| Immunity to micro-breaks | During the time delay | ms | 10 | 20 |
| | After the time delay | ms | 2 | - |
| Minimum control pulse duration | | ms | - | 40 |
| Indication of time delay | By LED | | Illuminates during the time delay | Illuminates during the time delay |

Switching characteristics (solid state type)

| | | | | |
|--------------------------|---------------------------------|----|------------------|------------------|
| Maximum power dissipated | | W | 2 | 3.5 |
| Leakage current | | mA | < 5 | < 5 |
| Residual voltage | | V | 3.3 | 3.3 |
| Overvoltage protection | | | 3 kV ; 0.5 joule | 3 kV ; 0.5 joule |
| Electrical life | In millions of operating cycles | | 30 | 30 |

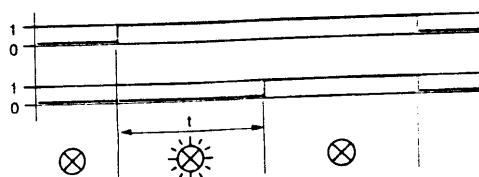
Operating diagrams

LA4-DT "on-delay" electronic timers

U supply (A1-A2)

Time delay output
Control relay coil

Red LED



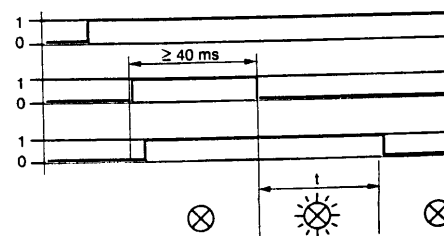
LA4-DR "off-delay" electronic timers

U supply (A1-A2)

Control (A2-B2)

Time delay output
Control relay coil

Red LED



Control relays

CA2-D and CA3-D
Interface modules

References :
page 1/502
Dimensions :
page 1/506
Schemes :
page 1/507

Characteristics

| Types of contact block | | | LA4-DFB | LA4-DFE | LA4-DLB | LA4-DLE | LA4-DWB |
|---|---|-----------------|--|---------|---------|---------|---------|
| Environment | | | | | | | |
| Conforming to standards | | | IEC 255-5 | | | | |
| Product approvals | | | UL, CSA | | | | |
| Protective treatment | Standard version | | "TH" | | | | |
| Degree of protection | Conforming to VDE 0106 | | Protection against direct finger contact | | | | |
| Ambient air temperature around the device | Storage | °C | - 40...+ 80 | | | | |
| | Operation | °C | - 25...+ 55 | | | | |
| | Operation at U _c | °C | - 25...+ 70 | | | | |
| Rated insulation voltage | Conforming to VDE 0110 group C | V | 250 | | | | |
| Cabling | Flexible or rigid cable with or without cable end | mm ² | Min : 1 x 1 Max : 2 x 2.5 | | | | |

Control circuit characteristics

| Type | | | With relay | | With relay + override | | Solid state | |
|--------------------------------|--|----|------------|---------|-----------------------|---------|----------------------------|-------|
| Built-in protection | Of the input | | By diode | | | | | |
| | Against reversed polarity | | By diode | | | | | |
| Display of input state | By integral LED which illuminates when the control relay coil is energised | | | | | | | |
| Input signals | Rated control circuit voltage (E1-E2) | V | ≡ 24 | ≡ 48 | ≡ 24 | ≡ 48 | ≡ 24 | |
| | Permissible variation | V | 17...30 | 33...60 | 17...30 | 33...60 | 5...30 | |
| | Current consumption at 20 °C | mA | 25 | 15 | 25 | 15 | 8.5 for 5 V 15 for 24 V | |
| | State "0" guaranteed for | U | V | < 2.4 | < 4.8 | < 2.4 | < 4.8 | < 2.4 |
| | | I | mA | < 2 | < 1.3 | < 2 | < 1.3 | < 2 |
| | State "1" guaranteed for | U | V | 17 | 33 | 17 | 33 | 5 |
| Association with control relay | CA2-D (~ 24...250 V) | | ● | ● | ● | ● | ● | |
| | CA3-D (≡ 24...250 V) | | ● | ● | ● | ● | - | |

● possible combination

Operational characteristics

| | | | | | | | | |
|--|---------------------------------|-----|-------|---------|---------|---------|---------|---------|
| Electrical durability at 220/230 V | In millions of operating cycles | | 10 | 10 | 3 | 3 | 20 | |
| Load factor | | | 100 % | 100 % | 100 % | 100 % | 100 % | |
| Immunity | To micro-breaks (E1-E2) | ms | 4 | 4 | 4 | 4 | 1 | |
| Load factor | A 20 °C | W | 0.6 | 0.6 | 0.6 | 0.6 | 0.4 | |
| Total operating time at U _c (1) | CA2-D | N/O | ms | 20...30 | 20...30 | 20...30 | 20...30 | 12...22 |
| | | N/C | ms | 16...24 | 16...24 | 16...24 | 16...24 | 4...12 |
| | CA3-D | N/O | ms | 48...56 | 48...56 | 48...56 | 48...56 | - |
| | | N/C | ms | 18...26 | 18...26 | 18...26 | 18...26 | - |

(1) Operating times depend on the type of electromagnet in the relay and its control mode. The closing time "C" is measured from the moment the coil supply circuit is switched on to the moment the main contacts first make contact. The opening time "O" is measured from the moment the coil supply is switched off to the moment the main contacts separate.

Control relays

CA2-D and CA3-D
Control modules, coil suppressor modules and indicators

References :
pages 1/502 and 28105/5
Dimensions :
page 1/506
Schemes :
page 1/507

Characteristics

Environment

| | | | |
|---|---------------------------------|----|--|
| Conforming to standards | | | IEC 337-1 |
| Product approvals | | | UL, CSA |
| Protective treatment | | | "TH" |
| Degree of protection | Conforming to VDE 0106 | | Protection against direct finger contact |
| Ambient air temperature around the device | Storage | °C | - 40...+ 80 |
| | Operation | °C | - 25...+ 55 |
| | For operation at U _c | °C | - 25...+ 70 |

Control modules "Auto-Man-Stop"

| | | | |
|-------------------------------|---|-----------------|---|
| Type | | | LA4-DM |
| Protection | Against electrical shocks | kV | 2 |
| Built-in protection | Contacteur coil suppressor | • | By varistor |
| Indication | By integral LED | | Illuminates when the contactor is energised |
| Electrical life | In operating cycles | | 20 000 |
| Contact block characteristics | Rated insulation voltage (U _i) (To VDE 0110 group C) | V | 250 |
| | Rated operational voltage (U _e) | V | 250 |
| Cabling | Flexible or rigid cable with or without cable end | mm ² | Min : 1 x 1 Max : 2 x 2.5 |
| Recommendation | The "Auto-Man" selector switch must only be operated with the start-stop switch in position "O" | | |

Coil suppressor modules

| | | | | | | | |
|---|--------------------------------|----|------------------|------------------|-----------------|-----|---|
| Type | | | LA4-DA1● | LA4-DE1● | LA4-DC1U | | |
| Type of protection | | | RC circuit | Varistor | Diode | | |
| Rated operating voltage (U _e) | | V | ~ 24...250 | ~ or ≡ 24...250 | ≡ 24...250 | | |
| Maximum peak voltage | | | 3 U _c | 2 U _c | No overvoltages | | |
| Natural RC frequency | | V | 24/ 48 | 50/ 127 | 110/ 240 | — | — |
| | | Hz | 400 | 200 | 150 | — | — |
| Rated insulation voltage | Conforming to VDE 0110 group C | V | 250 | | 250 | 250 | |

Indicators

| | | | | | |
|--------------------|--------|---|-------------------------------|----------|-----------|
| Type | | | LA4-DVE | LA4-DVM | LA4-DVR |
| Indication | | | Red LED | | |
| Operating range | ~ or ≡ | V | 12...72 | 72...250 | 250...440 |
| Cable | Colour | | White | Blue | Red |
| Type of connection | | | By pre-stripped flexible wire | | |

Control relays

CA2-D and CA3-D

Characteristics :
pages 1/490 and 1/491
Dimensions :
page 1/506
Schemes :
page 1/507

References

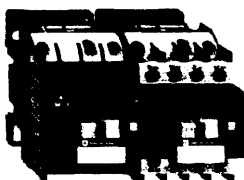


Control circuit: a.c.

| Type | Number of contacts | Composition | | Basic reference. Complete with code indicating control circuit voltage (2) | Weight |
|-------------------------|--------------------|-------------|---|--|--------|
| | | | | | |
| Instantaneous | 4 | 4 | - | CA2-DN40●● | 0.320 |
| | | 3 | 1 | CA2-DN31●● | 0.320 |
| | | 2 | 2 | CA2-DN22●● | 0.320 |
| | | 2 | 2 including 1 N/O and 1 N/C make before break | CA2-DC22●● | 0.320 |
| Mechanical latch/memory | 4 | 2 | 2 | CA2-DK22●● | 0.680 |



CA2-DN31●●



CA2-DK22●●

Specifications

| | |
|----------------------|--|
| Protective treatment | "TH" as standard |
| Fixing | On 35 mm rail or screw fixing |
| Cabling | By screw clamp terminals |
| Terminals | Protected against direct finger contact with ready-to-tighten captive screws (1) |

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

(1) Telemecanique patented system which prevents screws from tightening themselves (eg due to vibrations during transport).

(2) Standard control circuit voltages (for variable time delay, please consult your Regional Sales Office).

| Volts ~ | 24 | 42 | 48 | 110 | 220/230 | 230 | 240 | 380/400 | 400 | 415 | 440 | 500 | 680 |
|----------|----|----|----|-----|---------|-----|-----|---------|-----|-----|-----|-----|-----|
| 50 Hz | B5 | D5 | E5 | F5 | M5 | P5 | U5 | Q5 | V5 | N5 | R5 | S5 | Y5 |
| 60 Hz | B6 | - | E6 | F6 | M6 | - | U6 | Q6 | - | N6 | R6 | S6 | Y6 |
| 50/60 Hz | B7 | D7 | E7 | F7 | M7 | P7 | U7 | Q7 | V7 | N7 | R7 | S7 | Y7 |

Other versions

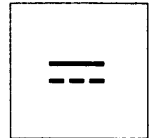
Control relays CA2-D for other c voltages between 24 and 680 V. Please consult your Regional Sales Office.

Control relays

CA2-D and CA3-D

Characteristics:
pages 1/490 and 1/491
Dimensions:
page 1/506
Schemes:
page 1/507

References

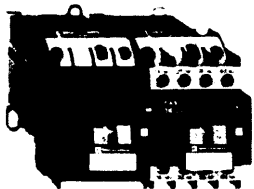


Control circuit: d.c.

| Type | Number of contacts | Composition | | Basic reference. Complete with code indicating control circuit voltage (2) | Weight kg |
|-------------------------|--------------------|-------------|--|--|--------------|
| Instantaneous | 4 | 4 | - | CA3-DN40●● | 0.580 |
| | | 3 | 1 | CA3-DN31●● | 0.580 |
| | | 2 | 2 | CA3-DN22●● | 0.580 |
| | | 2 | 2 Inc. 1 N/O and 1 N/C make before break | CA3-DC22●● | 0.580 |
| Mechanical latch memory | 4 | 2 | 2 | CA3-DK22●● | 1.100 |



CA3-DN31●●



CA3-DK22●●

Specifications

| | |
|----------------------|--|
| Protective treatment | "TH" as standard |
| Fixing | On 35 mm rail or screw fixing |
| Cabling | By screw clamp terminals |
| Terminals | Protected against direct finger contact with ready-to-tighten captive screws (1) |

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

(1) Telemecanique patented system which prevents screws from tightening themselves (eg due to vibrations during transport).

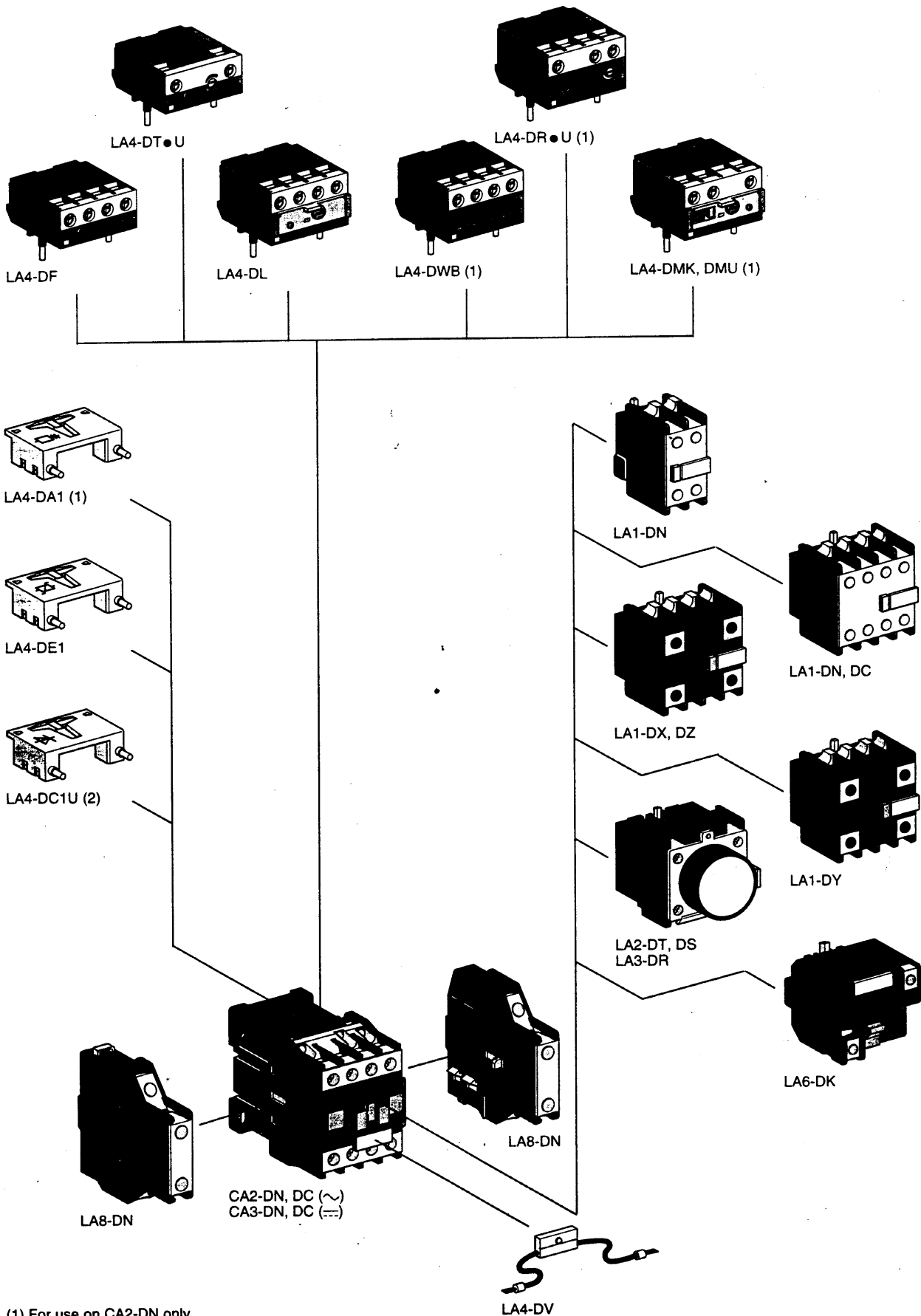
(2) Standard control circuit voltages (for variable time delay, please consult your Regional Sales Office).

| | | | | | | | | | | | |
|-----------------------|----|----|----|----|----|----|-----|-----|-----|-----|-----|
| Volts ~ | 12 | 24 | 36 | 48 | 60 | 72 | 110 | 125 | 220 | 250 | 440 |
| U from 0.8 to 1.1 Uc | JD | BD | CD | ED | ND | SD | FD | GD | MD | UD | RD |
| U from 0.7 to 1.25 Uc | JW | BW | CW | EW | - | SW | FW | - | MW | - | - |

Other versions

Control relays CA3-D for other ~ voltages between 12 and 660 V.
Please consult your Regional Sales Office

1



(1) For use on CA2-DN only.
(2) For use on CA3-DN only.

Control relays



Characteristics :
pages 1/492 and 1/494
Illustrations :
page 1/500
Dimensions :
page 1/506
Schemes :
page 1/507

CA2 and CA3-D

Add-on auxiliary contact blocks and mechanical latch blocks




References

Instantaneous auxiliary contact blocks

| Number of contacts | Maximum number per relay (1) | | Composition | | Reference | Weight kg |
|----------------------------------|------------------------------|------|---|---|-----------|--------------|
| | Clip-on mounting front | side |  |  | | |
| For standard applications | | | | | | |
| 2 | 1 | - | 1 | 1 | LA1-DN11 | 0.030 |
| | - | 2 | 1 | 1 | LA8-DN11 | 0.030 |
| | 1 | - | 2 | - | LA1-DN20 | 0.030 |
| | - | 2 | 2 | - | LA8-DN20 | 0.030 |
| | 1 | - | - | 2 | LA1-DN02 | 0.030 |
| 4 | 1 | - | 2 | 2 | LA1-DN22 | 0.050 |
| | - | - | 1 | 3 | LA1-DN13 | 0.050 |
| | - | - | 4 | - | LA1-DN40 | 0.050 |
| | - | - | - | 4 | LA1-DN04 | 0.050 |
| | - | - | 3 | 1 | LA1-DN31 | 0.050 |
| | - | - | 2 | 2 (3) | LA1-DC22 | 0.050 |
| | - | - | - | - | - | - |

214-474

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

| For use in particularly harsh industrial environments | | | | | | | |
|--|------------------------------|----------------|---|---|---|-----------|--------------|
| Number of contacts | Maximum number per relay (1) | Composition | | | | Reference | Weight kg |
| | | Front mounting |  |  |  | | |
| protected (4) | | | | | | | |
| 2 | 1 | 2 | - | - | - | LA1-DX20 | 0.040 |
| | | 2 | 2 | - | - | LA1-DY20 | 0.040 |
| 4 | 1 | 2 | - | 2 | - | LA1-DZ40 | 0.050 |
| | | 2 | - | 1 | 1 | LA1-DZ31 | 0.050 |

Time delay auxiliary contact blocks

| Number and type of contacts | Maximum number per relay (1) | Time delay | | Reference | Weight kg |
|-----------------------------|------------------------------|------------|---------------|-----------|--------------|
| | | Type | Range | | |
| 1N/C and 1N/O | 1 | On-delay | 0.1...3 s (5) | LA2-DT0 | 0.060 |
| | | | 0.1...30 s | LA2-DT2 | 0.060 |
| | | | 10...180 s | LA2-DT4 | 0.060 |
| | | Off-delay | 1...30 s (6) | LA2-DS2 | 0.060 |
| | | | 0.1...3 s (5) | LA3-DR0 | 0.060 |
| | | | 0.1...30 s | LA3-DR2 | 0.060 |
| | | 10...180 s | LA3-DR4 | 0.060 | |

(Sealing kit : see page 1/503)

Mechanical latch blocks

| Tripping control | Maximum number per relay (1) | Contact for automatic cut-out or relay-coil | Basic reference | Weight kg |
|--------------------|------------------------------|---|-----------------|--------------|
| Manual or electric | 1 | Without | LA6-DK1● | 0.070 |
| | | With | LA6-DK2● | 0.090 |

(1) Maximum mounting possibility (see below).

| Type of device | Type of coil | For guaranteed operation from | Maximum number of add-on blocks | |
|----------------|--------------|-------------------------------|---------------------------------|------|
| | | | Clip-on mounting front | side |
| CA2-D | 50 or 60 Hz | 0.8...1.1 Uc | 1 | 2 |
| | 50/60 Hz | 0.8...1.1 Uc | 1 | 2 |
| | | 0.85...1.1 Uc | 1 | 2 |
| CA3-D | --- | 0.8...1.1 Uc | 1 | 2 |
| | --- | 0.7...1.25 Uc | 1 | 2 |

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

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

(3) Including 1 N/O and 1 N/C make before break.

(4) Device fitted with 4 screening continuity terminals.

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

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

Control relays

Characteristics :
1/495 to 1/497
Illustrations :
page 1/500
Dimensions :
page 1/506
Schemes :
page 1/507

CA2-D and CA3-D

Interface, control modules and delayed capacitive opening devices

References

Electronic serial timer modules

| Type | Mounted at top on | Time delay | Reference | Weight kg |
|-----------|-------------------|------------|-----------|-----------|
| On-delay | CA2-D, CA3-D | 0.1...2 s | LA4-DT0U | 0.040 |
| | | 1.5...30 s | LA4-DT2U | 0.040 |
| | | 25...500 s | LA4-DT4U | 0.040 |
| Off-delay | CA2-D | 0.1...2 s | LA4-DR0U | 0.050 |
| | | 1.5...30 s | LA4-DR2U | 0.050 |
| | | 25...500 s | LA4-DR4U | 0.050 |

Amplifier interface modules

| Type | Mounted at top on | Supply voltage (1) of module | Control relay | Reference | Weight kg |
|--|-------------------|------------------------------|---------------|-----------|-----------|
| Relay interface | CA2-D, CA3-D | 24 V | 24...250 V | LA4-DFB | 0.050 |
| | | 48 V | 24...250 V | LA4-DFE | 0.050 |
| | | 24 V | 380...415 V | LA4-DFBQ | 0.055 |
| Relay interface with manual override switch (output forced "ON") | CA2-D, CA3-D | 24 V | 24...250 V | LA4-DLB | 0.045 |
| | | 48 V | 24...250 V | LA4-DLE | 0.045 |
| Solid state | CA2-D | 24 V | | LA4-DWB | 0.045 |

"Auto-Manual-Stop" control modules

For local override operation tests with 2-position "Auto-Man" switch and "O-I" switch

| Description | Mounted at top on | Control relay supply voltage | Reference | Weight kg |
|--|-------------------|------------------------------|-----------|-----------|
| With "O-I" switch and 2-position "Auto-Man" switch | CA2-D, CA3-D | 24/100 V | LA4-DMK | 0.040 |
| | CA2-D | 100/250 V | LA4-DMU | 0.040 |

Indicators

| Type | Clips into legend plate location on | Control relay supply voltage | Sold in lots of | Unit reference | Weight kg |
|---------|-------------------------------------|------------------------------|-----------------|----------------|-----------|
| Red LED | CA2-D, CA3-D | 12/72 V | 5 | LA4-DVE | 0.010 |
| | | 72/250 V | 5 | LA4-DVM | 0.010 |
| | | 250/440 V | 5 | LA4-DVR | 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 reference to be completed (2) | Replacement coil reference | Corresponding delayed opening device Delay time (Tr) Non adjustable | Reference | Weight kg |
|-------------------------|---|----------------------------|---|-----------|-----------|
| 110-115 V | CA3-DN●●PD | LX4-D2PD | 1...3 s | LA9-Z90F | 0.215 |
| 120-127 V | CA3-DN●●QD | LX4-D2QD | 1.5...3 s | LA9-Z90F | 0.215 |
| 220 V | CA3-DN●●TD | LX4-D2TD | 2.5...5 s | LA9-Z90M | 0.215 |
| 240 V | CA3-DN●●VD | LX4-D2VD | 3...6 s | LA9-Z90M | 0.215 |
| 380 V | CA3-DN●●WD | LX4-D2WD | 2.5...5 s | LA9-Z90Q | 0.215 |
| 415-440 V | CA3-DN●●XD | LX4-D2XD | 3.5...8 s | LA9-Z90Q | 0.215 |

Accessories (to be ordered separately)

| Description | Reference | Weight kg |
|---|--------------|-----------|
| Add-on block for doubling the time delay Example : LA9-Z90F = 1 to 3 s LA9-Z90F + LA9-Z91F = 1 to 6 s | LA9-Z91● (3) | 0.215 |

(1) For 24 V, the control relay must be fitted with a 20 V coil.

(2) See page 1/499.

(3) Replace ● in reference with required voltage code; this will be the same as the code for the delayed opening device.

1



LA4-DR0U



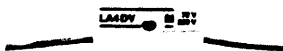
LA4-DFE



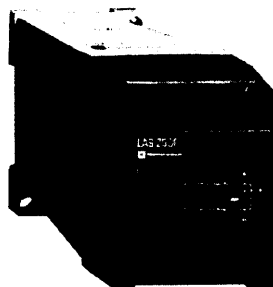
LA4-DLE



LA4-DMU



LA4-DVM



LA9-Z90F

Control relays

CA2-D and CA3-D Coil suppressor modules and accessories

Characteristics :
page 1/497
Illustrations :
page 1/500
Dimensions :
page 1/506

References

Coil suppressor modules

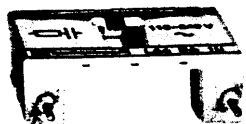
These modules clip onto the top of the control relay and the electrical connection is instantly made.
Fitting of an input module is still possible.

| RC circuits (Resistor-Capacitor) (1) | | | |
|--------------------------------------|---------------------|-----------|-----------|
| For mounting on | Operational voltage | Reference | Weight kg |
| CA2-DN (2) | ~ 24/48 V | LA4-DA1E | 0.012 |
| | ~ 50/127 V | LA4-DA1G | 0.012 |
| | ~ 110/240 V | LA4-DA1U | 0.012 |
| Varistors (peak limiting) (3) | | | |
| CA2-DN, CA3-DN (2) | ~ or = 24/48 V | LA4-DE1E | 0.012 |
| | ~ or = 50/127 V | LA4-DE1G | 0.012 |
| | ~ or = 110/250 V | LA4-DE1U | 0.012 |
| Diode (4) | | | |
| CA3-DN (2) | = 24/250 V | LA4-DC1U | 0.012 |

Accessories (to be ordered separately)

| For connection | | | |
|--|---|-----------------|----------------|
| Description | For mounting on | Reference | Weight kg |
| 4-pole connector for connection of 10 mm ² cables | CA2-DN, CA3-DN | LA9-D1260 | 0.030 |
| For marking | | | |
| For mounting on | Description | Sold in lots of | Unit reference |
| CA2-DN, CA3-DN and add-on blocks except LA1-DN (2 contacts) | Clip-in marker holder 8 x 22 mm | 100 | LA9-D92 |
| | Bad of 300 blank self-adhesive labels 7 x 21 mm | 1 | LA9-D93 |
| LA1-DN (2 contacts) | Clip-in marker holder 8 x 17 mm | 100 | LA9-D90 |
| | Bag of 400 blank self-adhesive labels 7 x 16 mm | 1 | LA9-D91 |
| For sealing | | | |
| Description | For mounting on | Reference | Weight kg |
| Sealing kit | LA2-D, LA3-D | LA9-D901 | 0.005 |

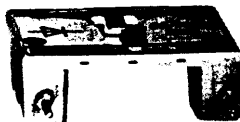
- (1) An RC circuit provides effective protection for circuits highly sensitive to high frequency interference. Voltage limited to 3 Uc maximum, oscillating frequency limited to 400 Hz maximum. Slight increase in drop-out time (1.2 to 2 times the usual time).
 (2) For satisfactory protection, a suppressor module must be fitted across the coil of each control relay.
 (3) 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).
 (4) Protection is provided by a polarised component; no overvoltage or oscillating frequency. Slight increase in drop-out time (6 to 10 times the usual time).



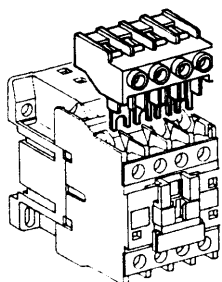
LA4-DA1e



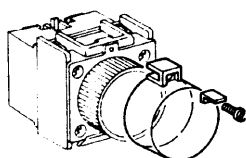
LA4-DE1e



LA4-DC1U



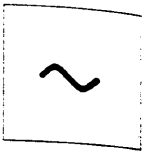
LA9-D1260



LA9-D901

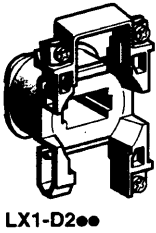
Control relays

Coils for CA2-D, a.c. control supply



References

| Control circuit voltage Uc | Average resistance at 20 °C ± 10 % | Inductance of closed circuit | Reference (1) | Average resistance at 20 °C ± 10 % | | Inductance of closed circuit | | Reference (1) | Weight |
|----------------------------|------------------------------------|------------------------------|---------------|------------------------------------|------|------------------------------|---|---------------|--------|
| | | | | Ω | H | Ω | H | | |
| | | | | 50 Hz | | 60 Hz | | | |
| V | Ω | H | | Ω | H | | | | kg |
| 21 (2) | 6.3 | 0.26 | LX1-D2Z5 | 4.98 | 0.21 | LX1-D2Z6 | | | 0.070 |
| 24 | 6.82 | 0.3 | LX1-D2B5 | 5.45 | 0.25 | LX1-D2B6 | | | 0.070 |
| 32 | 12.26 | 0.48 | LX1-D2C5 | - | - | - | | | 0.070 |
| 42 | 21.32 | 0.93 | LX1-D2D5 | - | - | - | | | 0.070 |
| 48 | 28.05 | 1.22 | LX1-D2E5 | 22.09 | 1.02 | LX1-D2E6 | | | 0.070 |
| 110 | 148.2 | 5.7 | LX1-D2F5 | 116.6 | 4.5 | LX1-D2F6 | | | 0.070 |
| 120 | - | - | - | 139.2 | 5.1 | LX1-D2G6 | | | 0.070 |
| 127 | 192.5 | 7.5 | LX1-D2G5 | - | - | - | | | 0.070 |
| 208 | - | - | - | 417.8 | 16.6 | LX1-D2L6 | | | 0.070 |
| 220 | - | - | - | 490.2 | 18.5 | LX1-D2M6 | | | 0.070 |
| 220/230 | 613.3 | 23 | LX1-D2M5 | - | - | - | | | 0.070 |
| 230 | 649.7 | 25 | LX1-D2P5 | - | - | - | | | 0.070 |
| 240 | 726.6 | 25 | LX1-D2U5 | 587.4 | 21 | LX1-D2U6 | | | 0.070 |
| 256 | 816 | 31 | LX1-D2W5 | - | - | - | | | 0.070 |
| 277 | - | - | - | 781.5 | 30 | LX1-D2W6 | | | 0.070 |
| 380 | - | - | - | 1486 | 55 | LX1-D2Q6 | | | 0.070 |
| 380/400 | 1848 | 67 | LX1-D2Q5 | - | - | - | | | 0.070 |
| 400 | 2069 | 68 | LX1-D2V5 | - | - | - | | | 0.070 |
| 415 | 2219 | 78 | LX1-D2N5 | 1826 | 69 | LX1-D2N6 | | | 0.070 |
| 440 | 2549 | 82 | LX1-D2R5 | 1892 | 71 | LX1-D2R6 | | | 0.070 |
| 480 | - | - | - | 2304 | 85 | LX1-D2T6 | | | 0.070 |
| 500 | 3285 | 107 | LX1-D2S5 | - | - | - | | | 0.070 |
| 575 | - | - | - | 3482 | 119 | LX1-D2S6 | | | 0.070 |
| 600 | - | - | - | 3678 | 135 | LX1-D2X6 | | | 0.070 |
| 660 | 5631 | 190 | LX1-D2Y5 | - | - | - | | | 0.070 |



Specifications

Average consumption at 20 °C :
 - inrush (cos φ = 0.75) 50 Hz : 60 VA; 60 Hz : 70 VA,
 - holding (cos φ = 0.3) 50 Hz : 7 VA; 60 Hz : 7.5 VA.
 Operating range (θ ≤ 55 °C) : 0.8 to 1.1 Uc

| 50/60 Hz | | | | | | | | | |
|----------|---|---|---|-------|------|--------------|--|--|-------|
| 21 (2) | - | - | - | 5.6 | 0.24 | LX1-D2Z7 | | | 0.070 |
| 24 | - | - | - | 6.19 | 0.26 | LX1-D2B7 | | | 0.070 |
| 42 | - | - | - | 19.15 | 0.77 | LX1-D2D7 | | | 0.070 |
| 48 | - | - | - | 25 | 1 | LX1-D2E7 | | | 0.070 |
| 110 | - | - | - | 130 | 5.5 | LX1-D2F7 | | | 0.070 |
| 120 | - | - | - | 159 | 6.7 | LX1-D2G7 | | | 0.070 |
| 220/230 | - | - | - | 539 | 22 | LX1-D2M7 (3) | | | 0.070 |
| 230 | - | - | - | 595 | 21 | LX1-D2P7 | | | 0.070 |
| 230/240 | - | - | - | 645 | 25 | LX1-D2U7 (4) | | | 0.070 |
| 380/400 | - | - | - | 1580 | 60 | LX1-D2Q7 | | | 0.070 |
| 400 | - | - | - | 1810 | 64 | LX1-D2V7 | | | 0.070 |
| 415 | - | - | - | 1938 | 74 | LX1-D2N7 | | | 0.070 |
| 440 | - | - | - | 2242 | 79 | LX1-D2R7 | | | 0.070 |

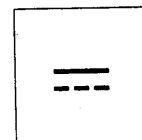
Specifications

Average consumption at 20 °C :
 - inrush (cos φ = 0.75) 50/60 Hz : 70 VA at 50 Hz,
 - holding (cos φ = 0.3) 50/60 Hz : 8 VA at 60 Hz.
 Operating range (θ ≤ 55 °C) : 0.85 to 1.1 Uc

- (1) The last two digits in the reference represent the voltage code.
 (2) Voltage for special coils fitted in contactors with serial timer modules, 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.

Control relays

Coils for CA3-D, d.c. control supply



References

| Control circuit voltage Uc | Average resistance at 20 °C ± 10 % | Inductance of closed circuit | Reference (1) | Weight |
|-------------------------------|---------------------------------------|------------------------------|---------------|--------|
| V | Ω | H | | kg |

Standard coils

| | | | | |
|--------|--------|------|----------|-------|
| 12 | 17 | 0.79 | LX4-D2JD | 0.175 |
| 21 (2) | 45.4 | 2.16 | LX4-D2ZD | 0.175 |
| 24 | 71 | 3.1 | LX4-D2BD | 0.175 |
| 36 | 149.7 | 7.1 | LX4-D2CD | 0.175 |
| 48 | 267 | 11.9 | LX4-D2ED | 0.175 |
| 60 | 422 | 19 | LX4-D2ND | 0.175 |
| 72 | 609 | 26 | LX4-D2SD | 0.175 |
| 96 | 1049 | 46 | LX4-D2DD | 0.175 |
| 100 | 1105 | 49.6 | LX4-D2KD | 0.175 |
| 110 | 1411 | 61.8 | LX4-D2FD | 0.175 |
| 125 | 1781 | 77.8 | LX4-D2GD | 0.175 |
| 155 | 2763 | 119 | LX4-D2PD | 0.175 |
| 174 | 3480 | 152 | LX4-D2QD | 0.175 |
| 200 | 4280 | 184 | LX4-D2LD | 0.175 |
| 220 | 5235 | 221 | LX4-D2MD | 0.175 |
| 250 | 6433 | 271 | LX4-D2UD | 0.175 |
| 305 | 9778 | 401 | LX4-D2TD | 0.175 |
| 348 | 12 479 | 512 | LX4-D2VD | 0.175 |
| 440 | 19 785 | 793 | LX4-D2RD | 0.175 |
| 543 | 31 785 | 1261 | LX4-D2WD | 0.175 |
| 600 | 38 982 | 1393 | LX4-D2XD | 0.175 |

Specifications

Average consumption at 20 °C : 9 W
Operating range ($\theta \leq 55$ °C) : 0.8 to 1.1 Uc

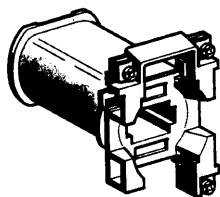
Wide range coils

| | | | | |
|-----|-------|------|----------|-------|
| 12 | 15.6 | 0.71 | LX4-D2JW | 0.175 |
| 24 | 58.7 | 2.49 | LX4-D2BW | 0.175 |
| 36 | 122.6 | 5.3 | LX4-D2CW | 0.175 |
| 48 | 234 | 9.9 | LX4-D2EW | 0.175 |
| 72 | 530 | 21.4 | LX4-D2SW | 0.175 |
| 96 | 886 | 36.6 | LX4-D2DW | 0.175 |
| 110 | 1105 | 44.4 | LX4-D2FW | 0.175 |
| 220 | 4593 | 185 | LX4-D2MW | 0.175 |

Specifications

Average consumption 20 °C : 11 W
Operating range ($\theta \leq 55$ °C) : 0.7 to 1.25 Uc

- (1) The last two digits in the reference represent the voltage code.
(2) Voltage for special coils fitted in contactors with serial timer modules, with 24 V supply.



LX4-D2**

1

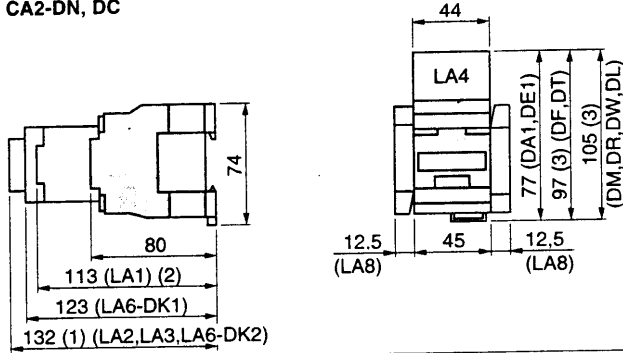
Control relays

CA2-D and CA3-D

Dimensions, mounting

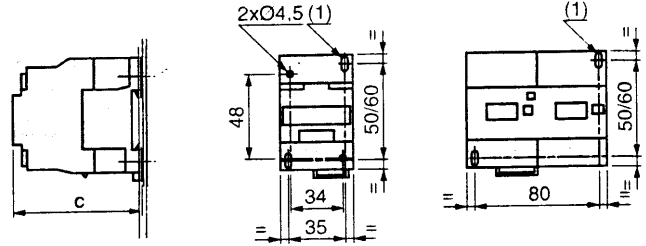
Characteristics :
pages 1/490 to 1/497
Illustrations :
page 1/500
References :
pages 1/498 to 1/503
Schemes :
page 1/507

CA2-DN, DC



- (1) + 4 mm with lead sealing kit LA9-D901
- (2) With 2 or 4 contacts
- (3) With or without combined use of coil suppressor module : LA4-DA1●, DE1● CA2-DK22

CA2, CA3-DN, DC, DK Panel mounting

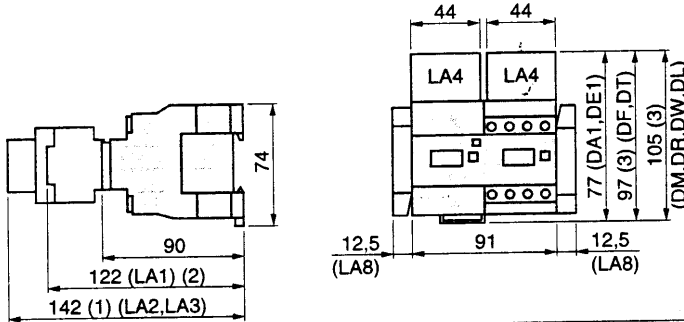


| | CA2- | | | CA3- | | |
|---|------|----|----|------|-----|-----|
| | DN | DC | DK | DN | DC | DK |
| c | 80 | 80 | 90 | 115 | 115 | 125 |

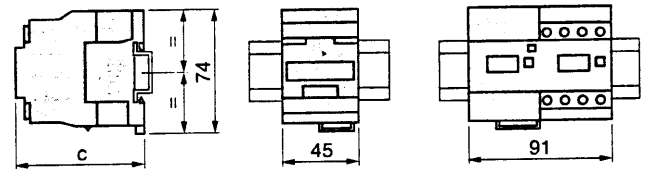
(1) 2 elongated holes 4.5 x 9

CA2, CA3-DN, DC, DK

Mounting on rail AM1-DP200 or DE200

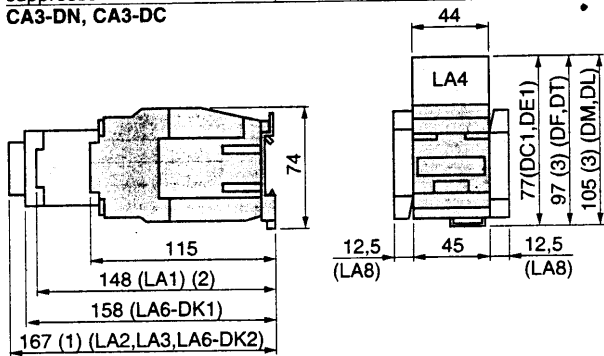


- (1) + 4 mm with lead sealing kit LA9-D901
- (2) With 2 or 4 contacts
- (3) With or without combined use of coil suppressor module LA4-DA1●, DE1● CA3-DN, CA3-DC

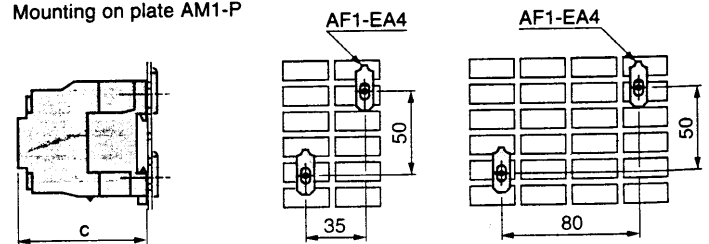


| | CA2- | | | CA3- | | |
|---------------|------|----|----|------|-----|-----|
| | DN | DC | DK | DN | DC | DK |
| c (AM1-DP200) | 82 | 82 | 91 | 117 | 117 | 127 |
| c (AM1-DE200) | 89 | 89 | 98 | 124 | 124 | 134 |

CA2, CA3-DN, DC, DK Mounting on plate AM1-P

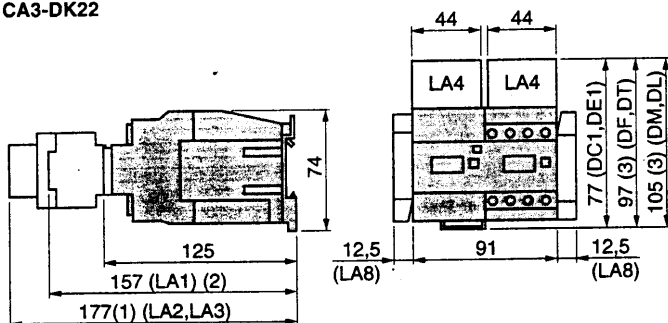


- (1) + 4 mm with lead sealing kit LA9-D901
- (2) With 2 or 4 contacts
- (3) With or without combined use of coil suppressor module LA4-DC1●, DE1● CA3-DK22

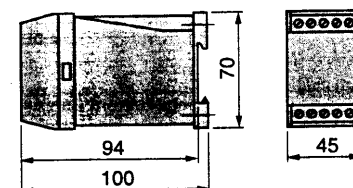


| | CA2- | | | CA3- | | |
|-----------|------|----|----|------|-----|-----|
| | DN | DC | DK | DN | DC | DK |
| c (AM1-P) | 80 | 80 | 90 | 115 | 115 | 125 |

Delayed capacitive opening devices LA9-Z90●



- (1) + 4 mm with lead sealing kit LA9-D901
- (2) With 2 or 4 contacts
- (3) With or without combined use of coil suppressor module LA4-DC1●, DE1●



Control relays

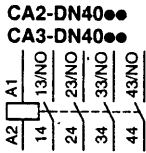
CA2-D and CA3-D

Schemes

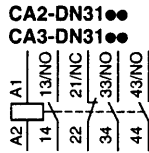
Characteristics :
pages 1/490 to 1/497
Illustrations :
page 1/500
References :
pages 1/501 to 1/503
schemes :
page 1/507

Control relays instantaneous

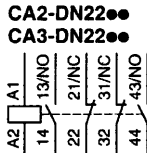
4 N/O



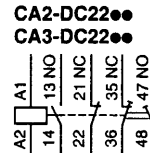
3 N/O + 1 N/C



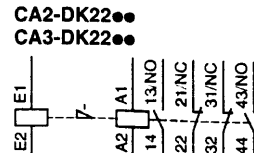
2 N/O + 2 N/C



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

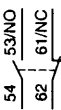


Mechanical latch
2 N/O + 2 N/C



Instantaneous auxiliary contact blocks

1 N/O + 1 N/C
LA1-DN11



LA8-DN11 (1)



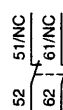
2 N/O
LA1-DN20



LA8-DN20 (1)



2 N/C
LA1-DN02

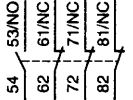


(1) The figures in brackets are for the device mounted on the RH side of the contactor.

2 N/O + 2 N/C
LA1-DN22



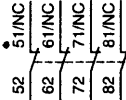
1 N/O + 3 N/C
LA8-DN13



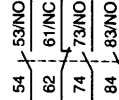
4 N/O
LA1-DN40



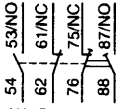
4 N/C
LA1-DN04



3 N/O + 1 N/C
LA1-DN31

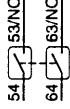


2 N/O + 2 N/C including
1 N/O + 1 N/C make before break
LA1-DC22



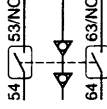
With protected contacts
2 N/O protected

LA1-DX20

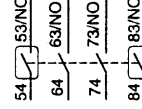


2 N/O protected (2)

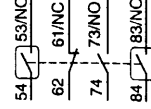
LA1-DY20



2 N/O protected +
2 N/O non protected
LA1-DZ40



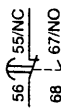
2 N/O protected +
1 N/O + 1 N/C non protected
LA1-DZ31



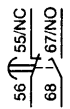
(2) Device fitted with 4 screening continuity terminals.

Time delay auxiliary contact blocks

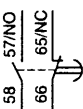
On-delay 1 N/O + 1 N/C
LA2-DT●



LA2-DS2

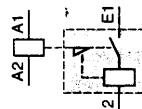


Off-delay 1 N/O + 1 N/C
LA3-DR●

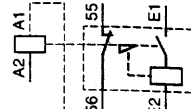


Mechanical latch blocks

LA6-DK1●

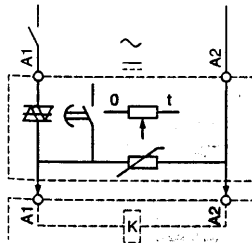


LA6-DK2●

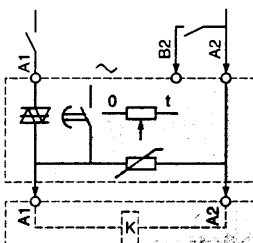


Electronic serial timer modules

On-delay
LA4-DT●U

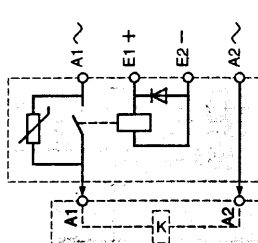


Off-delay
LA4-DR●U

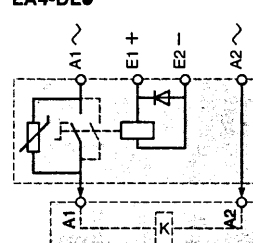


Interface modules

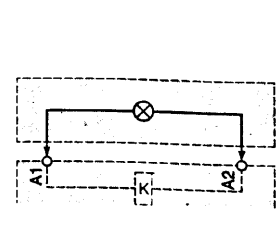
Relay interface
LA4-DF●



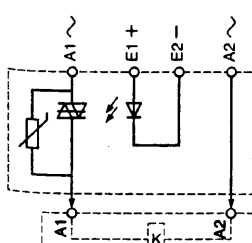
Relay interface and manual
override switch "Auto-I"
LA4-DL●



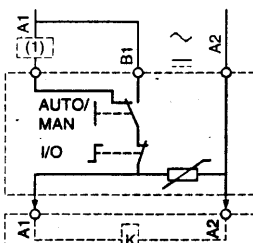
Indicator
LA4-DV●



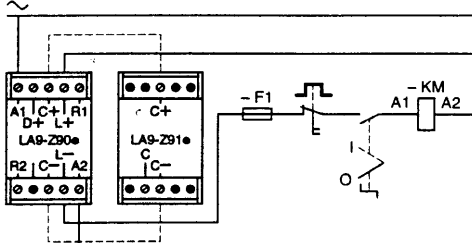
Solid state interface module LA4-DWB



"Auto-Man-Stop" control module LA4-DM●



Delayed capacitive opening devices LA9-Z90●



(1) PLC

Terminal C + : ≥ 380 V
Terminal C - : < 380 V