Time delay relays
Time cubes®
Pulse shapers
• • • Multifunctional time delay relays ECO30
New: With UC24 V also suited for AC24 V~ ...................................................

• • • Multifunctional time delay relays 162/3Hz
New: Type CM1, CM1L usable even from 162/3Hz ........................................

• • • Time cubes CT2, CT3
New: Now with only 1 time range 0,2 s - 30 min...........................................

• • • Restart delay relay
New: Type C65, C66 with function X1 ............................................................

• • • Multifunctional time delay relay C56
According to C55, but with potential free triggering ......................................
### Delay functions

- **On delay**
  - $t_1 \rightarrow S \rightarrow R \text{ on with delay}
  - $t_2 \rightarrow S \rightarrow R \text{ off with delay}

- **Off delay**
  - $S \rightarrow R \text{ on}
  - $S \rightarrow R \text{ off with delay}

- **On and off delay**
  - $t_1 \rightarrow S \rightarrow R \text{ on with delay (t1)}
  - $t_2 \rightarrow S \rightarrow R \text{ off with delay (t2)}

### Shot timing modes

- **One shot leading edge**
  - $S \rightarrow R \text{ on for t}
  - $S \rightarrow R \text{ off (pulse clipping)}

- **One shot trailing edge**
  - $S \rightarrow R \text{ on for t}
  - $S \rightarrow R \text{ off for t}

- **One shot leading and trailing edge**
  - $S \rightarrow R \text{ on for t1}
  - $S \rightarrow R \text{ off for t2}
  - $S \rightarrow R \text{ off for t1 = R off}

### Pulse shaping

- **Pulse shaping**
  - $S \rightarrow R \text{ on for t}
  - $S \rightarrow R \text{ off}

### Blinker functions

- **Blinker, pulse start**
  - $S \rightarrow R \text{ on/off periodically according to t}
  - $S \rightarrow R \text{ off}

- **Blinker, interval start**
  - $S \rightarrow R \text{ after t on/off periodically according to t}
  - $S \rightarrow R \text{ off}

### Delayed pulse

- **On delay single shot**
  - $t_1 \rightarrow S \rightarrow R \text{ on for t1}
  - $t_2 \rightarrow S \rightarrow R \text{ off for t2}

- **Repetitive cycle timer, pulse start**
  - $S \rightarrow R \text{ off periodically according to t1}
  - $S \rightarrow R \text{ off}

- **Blinker, interval start**
  - $S \rightarrow R \text{ after t on/off periodically according to t}
  - $S \rightarrow R \text{ off}

### Special functions

- **Star-delta timer**
  - $S \rightarrow R \text{ on for tA}
  - $S \rightarrow R \text{ off and starts tA}

- **Restart delay**
  - $S \rightarrow R \text{ on for tA}
  - $S \rightarrow R \text{ off and starts tA}
  - $S \rightarrow R \text{ restart only after tA}

### Stop/Reset

- $S = \text{Triggering}
  - $R = \text{Output circuit}
  - $t = \text{Switches...}
  - $t \rightarrow \text{on/off}

- $S = \text{on/off}
  - $R = \text{on/off}

### Pulse sequence monitoring

- $S1/ S2 = \text{Monitoring start}
  - $P = \text{Pulse sequence}
  - $tP = \text{Pulse separation}

- $S1/ S2 = \text{Monitoring start}
  - $P = \text{Pulse sequence}
  - $tP = \text{Pulse separation}

$\leq$: Pulse separation is smaller than the time $tP$
$\geq$: Pulse separation is larger than the time $tP$

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### DIN series

<table>
<thead>
<tr>
<th>Page</th>
<th>Type</th>
<th>Function</th>
<th>Y</th>
<th>U</th>
<th>V</th>
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<th>RESET</th>
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### Plug-in series

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</table>

| 1) alternatively with instantaneous contact |
| 2) without auxiliary voltage (relay bistable) |
| 3) without auxiliary voltage (relay monostable) |

Example for a delay time of 38h:
1. Set range switch to 60sec
2. Set 38sec on the potentiometer (e.g. check 38sec by chronometer)
3. Set range switch to 60h

The delay time now amounts to 38h.
Economy time delay relays
Only 13 or 17,5mm wide. Ideal for applications with a fixed function E, A or Y. Suits for snap-on installation in accordance with DIN 43880.

<table>
<thead>
<tr>
<th>Function</th>
<th>Time range</th>
<th>Triggering</th>
<th>Ordering no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economy time delay relay on delay</td>
<td>0.5-8s... 2-30min</td>
<td>17 18 15 18</td>
<td>AC13</td>
</tr>
<tr>
<td>Economy time delay relay off delay</td>
<td>0.3-3s... 3-30min</td>
<td>16 B1 A2 A1</td>
<td>AC13</td>
</tr>
<tr>
<td>Economy time delay relay</td>
<td>0.8s-1.5m</td>
<td>15 18 16</td>
<td>AC13</td>
</tr>
<tr>
<td>Economy time delay relay</td>
<td>0.8s-1.5m</td>
<td>15 18 16</td>
<td>AC13</td>
</tr>
<tr>
<td>Economy time delay relay</td>
<td>1 changeover contact</td>
<td>17 18 15 18</td>
<td>AC13</td>
</tr>
<tr>
<td>Economy time delay relay</td>
<td>1 changeover contact</td>
<td>17 18 15 18</td>
<td>AC13</td>
</tr>
<tr>
<td>Economy time delay relay</td>
<td>Output-LED</td>
<td>17 18 15 18</td>
<td>AC13</td>
</tr>
<tr>
<td>Economy time delay relay</td>
<td>Output-LED</td>
<td>17 18 15 18</td>
<td>AC13</td>
</tr>
</tbody>
</table>

Example of order:
Time delay relay CRE1/AC230V

Example of order:
Time delay relay AE2/UC24V

Economy time delay relay on delay, voltage controlled, LED for R.
Economy time delay relay off delay, voltage controlled, LED for R.

Example of order:
Time delay relay AE2M/UC24V

Example of order:
Time delay relay AA2M/UC24V

Star-delta time delay relay with adjustable -△ interval. Safety locking of the output.

Ordering no.

DIN time delay relays (1 function)
Multifunctional time delay relays

- **ECO30**
  - Multifunctional time delay relays
  - 22,5 mm
  - for timing functions from 0,1s up to 12 hours.

- **ECO31**
  - Economy time delay and blinker relay
  - 3 functions, voltage controlled.
  - LED for R.

- **ECO32**
  - Multifunctional time delay relay
  - 2 delay functions, 2 shot timing modes, blinker pulse shaping K.
  - LED for R.

**Triggering**

- **Function**
- **Time range**
  - TF60 setting → page 3
  - 0,5s - 20 min
  - 0,5 s ... 2-20 min
  - 0,1s - 12 h
  - 0,1 - 1,2 s ... 1-12 h

**Ordering no.**

Example of order:
- Comet timer ECO32/AC230V

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### Multifunctional time delay relays

#### C13

- **Ultra-narrow 13 mm time delay relay system** for all timing functions from 50 ms up to 60 hours. With only 13 mm fitting width especially suited for use in the industrial interface sector.

#### Crv1
- Economy time delay and blinker relay 3 functions, voltage controlled. LED for R.

#### Crv2
- Universal multifunctional time delay relay 2 delay functions, 2 shot timing modes, pulse shaping K. LED for B1 + R.

#### Csv2
- Multifunctional time delay relay like CRV2, but with solid-state output and connection for remote potentiometer. LED for B1 + R.

#### Crv3
- Double time delay relay F (E and A) or Q (W and N). 11/12 separately settable. LED for B1 + R.

#### Crt3
- Universal repeat cycle timer Pulse or pause start. 11/12 separately settable. LED for A1 + R.

#### CRV1 / CRV2 / CSV2

<table>
<thead>
<tr>
<th>Function</th>
<th>Triggering</th>
<th>Time range</th>
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</thead>
<tbody>
<tr>
<td>Economy Time Delay</td>
<td>E</td>
<td>0.5-8s ...</td>
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<tr>
<td>Blinker Relay</td>
<td>W</td>
<td>50-600ms ...</td>
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<td>B</td>
<td>5-60h</td>
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#### CRV3 / CRT3

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<td>8-100ms ...</td>
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<tr>
<td>Blinker Relay</td>
<td>W</td>
<td>0.8-10h</td>
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#### Example of order:
- Time delay relay CRV2/AC230V

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**Note:** The diagram and text provide a detailed overview of the multifunctional time delay relays, including their functions, triggering options, and time range settings. The example given demonstrates how to order a specific time delay relay for a specific application.
Multifunctional time delay relays

17,5 mm time delay relay system in compact design. Suited for snap-on installation in accordance with DIN 43 880.

AM1
- Economy time delay and blinker relay
- On delay, one shot leading edge
- 2 blinker functions
- Output-LED

AM2
- Universal time delay relay on delay, off delay
- One shot leading edge
- Pulse shaping K
- Voltage controlled
- Output-LED

AM3
- Universal time delay relay with instantaneous contact or both contacts delayed (programmable)
- Functions like type AM2
- Display of control input B1(S) in addition to the output-LED

Example of order:
Multifunctional time delay relay AM2/UC24-60V
17.5 mm time delay relay system in compact design.
(For snap-on installation in accordance with DIN 43 880, see series DINA and C13.)

**Triggering**
- Function → page 3

**Time range**
- Partial ranges

**Triggering**
- CM1
  - CM1L
- CM2
- CNR1
- CT1
- CT1L

**Example of order:**
Time delay relay CM2/UC110-240V

**Universal time delay relay**
- On delay, off delay, one shot leading edge, pulse shaping R, voltage controlled, LED for B1 and R.

**Universal time delay relay**
- Like type CM1, but with time stop and reset input as well as connection for remote potentiometer 100k. 2 heavy current contacts.

**Time delay relay, no auxiliary voltage**
- Function runs after cut off power supply. Minimum triggering time 150 ms only.

**Universal repeat cycle timer**
- Pulse or pause start, t1/t2 separately settable. LED for A1 and R.

**Function & Triggering**

**Ordering no.**

**Example of order:**
Time delay relay CM2/UC110-240V
Pulse shapers

CPF pulse shapers with the timing functions K, L and A are specialist devices for the lengthening or the limitation of control pulses. In this fully electronic design with the facility for also connecting NAMUR sensors they are the ideal interface modules in modern control systems. Always there where fast processes, high rotations, i.e. the briefest pulses, are to be evaluated, the cost-effective solution is: CPF Pulse shapers.

CPF11
- Single channel pulse shaper
- Input reversible (E–E)
- Input and output times separately settable
- 3 (6) functions to choose
- Additional free wheel diode 1A
- LED display for E and O

Function ➞ page 3

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<thead>
<tr>
<th>Settable times:</th>
<th>input pulse</th>
<th>output pulse</th>
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<td>≥ 1/5 ms</td>
<td>5 – 600 ms</td>
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CPF22
- Double channel pulse shaper
- Input/output galvanically isolated 4kV
- Input and output times separately settable
- 2 functions to choose
- LED output display for each channel

Function ➞ page 3

<table>
<thead>
<tr>
<th>Settable times:</th>
<th>input pulse</th>
<th>output pulse</th>
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<tr>
<td>≥ 0.5/2.5 ms</td>
<td>50/200 ms</td>
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Examples of order:

- Pulse shaper CPF11/DC24V
- Pulse shaper CPF22/DC24V
Plug-in
Time delay relays
Time cubes®

C80 CT.. CS.. C60 C50

This issue replaces all previous issues. Availability, errors and specifications subject to change without notice.
Multifunctional time delay relays

Motor

22.5 mm plug-in time delay relay system for all delay, shot timing and blinking functions. Double functions, repeat cycle timing and functions without auxiliary voltage.

Triggering

E 1 Triggering
Function ➔ page 3

Time range ➔ TF60 setting ➔ page 4

Ordering no. ➔ page 3

22.5 mm plug-in time delay relay system for all delay, shot timing and blinking functions. Double functions, repeat cycle timing and functions without auxiliary voltage.

Economy time delay relay on delay or blinking, voltage controlled, output-LED.

Economy time delay relay on delay, off delay, voltage controlled, output-LED.

Universal multifunctional time delay relay ➔ page 3

Time delay relay, no auxiliary voltage ➔ page 4

Double time delay relay and repeat cycle timer ➔ page 4

AC110-240V
UC24-48V

AC115V, AC230V
UC24V, UC24-240V

AC115V, AC230V
UC24V, UC24-240V

Example of order:
Time delay relay C83/UC24-240V
System socket CS-18

System socket CS-18
Figure: with inserted retaining clips
(standard delivery)
8-/11-pole plug-in time delay relay system

The simplest time delay relay system world-wide, fitting all 8 or 11-pin relay sockets (octal/sub-magnalite).

Industrial relays can be provided with the required timing functions without additional space being required. The contact connections of the relay on the socket remain through-connected.

All new types ..30 (0.2s-30min) are fully compatible with all previous types ..20, ..21 and ..25.

Example of order:
Time cube CT3-E30/H
Socket EC-11
Relay 11-pole

(→ prospectus “Industrial relays”)
Multifunction time delay relays, modular

**CT**

The Comat CT System is modular.

The time delay relays and monitoring relays consist of the plug-in CT electronic module and an 11-pole CT output relay. Both system components can be combined freely with one another. This allows the equipment to be selected optimally for specific use. Subsequent modifications, for example a change from mechanical contacts to solid-state outputs, are possible at any time by simple reconnection.

This provides the user a complete, universal system, the high flexibility of which is unique throughout the world.

The system socket C12B0 serves as a basis for the vibration-free reception of the electronic module. It has a 4-pole module slot in which the CT-module – also without output relay – locks in such a way that it is vibration-free. Contact is via twin knife contacts which ensure optimal contact reliability.

With the A2-connector C-42 plug-in flush in the socket, the neutral conductor (N →) can be connected as a 10A bus from socket to socket. This considerably reduces wiring work.

Printed terminals for cross-sections up to 4mm² and generous labelling facilities are other advantages of this practical comat system socket. As variants to the standard socket C12B0, two identical sockets, but with printed device diagram, are available (C12B/2). By clearly identifying the connections, these sockets ensure rapid, error-free and therefore economical wiring. When a service is required, they facilitate fault location.

The CT module demonstrates comat’s practical experience in the area of industrial automation and control: all connections are arranged on the front and are labelled in a self-explanatory manner for intuitive use. The values set are also clearly legible when the module has been installed.

Printed diagrams explain the functions, and the connection scheme directly indicates the appropriate terminals in the system socket. A transparent front cover provides protection from unauthorized mis-adjustment and additionally locks the module onto the output relay.

Triggering is performed with the operating voltage (L1 or L2). Hence, no potential-free contacts are required. Triggering complies with the machine standards. A parallel connection of other users to B1 is admissible.

The 2 voltage ranges UC110-240V and UC24-48V have been chosen by comat as a 10A bus from socket to socket.

The contact material AgNi permits a high number of cycles. With its high breaking capacity of up to 10A/400V, this contact is a reliable allround contact for use both in mains circuits and in the lower voltage range from 12V/10mA.

The twin contacts .2 and .4 switch every circuit with two independent reeds. Compared with single contacts, they provide up to 100 times greater safety with regard to the level of possible faulty switchings. In spite of their high breaking capacity of up to 6A/250V, these contacts are particularly suitable for low switching currents and switching voltages down to 1V/10mA.

The solid-state relays are used instead of mechanical contacts. In the standard version .5, the relay has a potential-free output which switches an AC or DC load in the same way as a mechanical contact. However, it functions without bounce or wear, withstands overloads, has short-circuit protection and has a practically unlimited lifetime even with full output load.

Preferred applications are high switching frequency, for example as repeat cycle timers, switching bars with bulb load or extreme inductive loads, for example large solenoid valves, couplings, motors, etc.

An additional protective wiring of the output or of the load is not necessary in these comat relays for any application.

They are completely insensitive in an aggressive atmosphere, for example in the chemical industry, in waste water treatment plants, etc.

**Note on use**

According to the standards «Safety of machines» e.g. EN 60204-1, EN 292-2, triggering with A2-potential (N →) is only admissible in exceptional circumstances.

For that reason the comat CT modules are triggered by A1-potential (L→). This makes them unrestrictedly suitable also for use in machines and systems which must conform with machine or CE guidelines or directives.

Order no. for individual module (without output relay):

| UC110-240V | UC115V,UC230V | UC115V,UC230V | UC110-240V |
| UC24-48V | UC24-48V | UC24-48V | UC24-48V |
| CT30 / ...,V | CT32 / ...,V | CT33 / ...,V | CT36 / ...,V |
**Time delay relay** assembled (module + output relay)

**Contact outputs**

3 changeover contacts 10A 400V~

2x1 changeover contacts (with instantan. contact) 10A 250V~

**Solid-state outputs**

Solid-state output for AC or DC load 0,8A 10-265V=

Solid-state output for DC load 5A 10-30V=

---

**Order no. for module + output relay (delivery unit):**

AC24,48,115,230V

DC24,48,110,220V

Order no. CT30.1/...V

Order no. CT32.1/...V

Order no. CT33.1/...V

Order no. CT36.1/...V

---

**Example of order:**

Timer CT32.1/AC230V

System socket C12B0

A Jumper 5-7 : R2 = R1

B Jumper 6-12 : R2 = S

---

**Order no. for individual output relay (without module):**

AC24,48,115,230V

DC24,48,110,220V

Order no. C31/...V

Order no. CT31/...V

Order no. CT33/...V

Order no. C35/...V

Order no. C37/...V

---

1) Same relay, but with twin contacts 6A 250V~

Order no. CT...2/...V

2) Same relay, but with twin contacts 5A 250V~

Order no. CT...4/...V

3) To module CT30 (without output LED)

4) To module CT32.36 (L=with output LED)

5) For relay made by Relco (instead of C31/32, or CT...1/...2):

Retaining clip S3-C

Front cover FS-R

System socket C12B0

Figure: with plug-in neutral conductor connector C-A2

---

Order no. for module + output relay (delivery unit):

AC110-240V

DC24,48,115,230V

Order no. CT30.1/...V

Order no. CT32.1/...V

Order no. CT33.1/...V

Order no. CT36.1/...V

---

*AC 50/60Hz AC/DC 10%

UC DC*
Multifunctional time delay relays

**CS C60**

11-pole plug-in time delay relay system for all delay, shot timing and blinking functions from 50 ms up to 60 hours. CS1, CS2 with connection for remote potentiometer. Front panel mounting with FZ-50.

### CS1
- Economy time delay and blinker relay
- With additional connection for remote potentiometer SP-01/1M (up to 50m).
- Replaces fully compatible CSE3, CSA3

### CS2
- Universal multifunctional time delay relay like CS1, but with 7 functions and delay times up to 60 hours.
- Replaces fully compatible CSA2, C5K2, CSN2

### CS3 (2nd contact: 6-5-7)
- Universal multifunctional time delay relay like CS2, but with 2nd contact instead of Z1-Z2 (terminal 6-5-7).
- Replaces fully compatible CSE3, CS43

### CS3 (2nd contact: 1-4-3)
- Universal multifunctional time delay relay like CS3, but with 2nd contact on terminal 1-4-3.
- Replaces fully compatible CX35, CX36

### Example of order:
- Time delay relay CS2/UC1 10-240V
- System socket C11A

### System socket C11A
- Figure: with plug-in neutral conductor connector C-A2 (standard delivery).

### Dimensions, accessories ➔ page 19

---

**Function ➔ page 3**

**Time range ➔ page 4**

**Triggering**

1. 11-pole plug-in time delay relay system for all delay, shot timing and blinking functions from 50 ms up to 60 hours. CS1, CS2 with connection for remote potentiometer. Front panel mounting with FZ-50.
2. Economy time delay and blinker relay
3. Universal multifunctional time delay relay like CS1, but with 7 functions and delay times up to 60 hours.
4. Universal multifunctional time delay relay like CS2, but with 2nd contact instead of Z1-Z2 (terminal 6-5-7).
5. Universal multifunctional time delay relay like CS3, but with 2nd contact on terminal 1-4-3.
6. Replaces fully compatible CSE3, CSA3
7. Replaces fully compatible CSA2, C5K2, CSN2
8. Replaces fully compatible CSE3, CS43
9. Replaces fully compatible CX35, CX36
10. Example of order: Time delay relay CS2/UC1 10-240V
11. System socket C11A
12. Figure: with plug-in neutral conductor connector C-A2 (standard delivery).

---

**Ordering no. ➔ page 3**

---

**Dimensions, accessories ➔ page 19**

---

**Triggering**

---

**Time range**

---

**Ordering no.**

---

**Function**

---

**Dimensions, accessories**

---

**Triggering**

---

**Time range**

---

---
**C64**

**Time delay relay without auxiliary voltage**

True off delay or one shot trailing edge after cut off power supply. Minimum triggering time 150ms only.

Replaces RS124, CSR2

- Without auxiliary voltage
- 0.1s - 20min
- 0.1-1.2s...1.7-20min

Do not connect 5-6-7!

---

**Example of order:**

Time delay relay C64/UC110-240V
System socket C11A

---

**C65 (50Hz)**  **C66 (60Hz)**

**Restart delay relay**

The C65 (50Hz) and C66 (60Hz) are special timers with no auxiliary voltage to guarantee a minimum OFF time after removal of supply. After the interruption of supply, the device will not reclose before the set time (1-6min.) has elapsed, even if there has been a new command to switch ON.

Typical application:

After a mains failure it is not possible to restart (close contacts) before the machine is at rest. Example: Motor (see diagram on the left).

---

**Function:**

- Triggering

**Time range:**

- Partial ranges

**Triggering**

---

**Ordering no.:**

ZR/02.01-2E

---

**Example of order:**

Time delay relay C65/AC230V
System socket C11A

---

System socket C11A

Figure: with plug-in neutral conductor connector C-A2 (standard delivery).
Multifunctional time delay relays

**C50**

11-pole plug-in time delay relay system for all timing modes from 10ms up to 60 days. Extremely accurate owing to quartz time base. Digital functions and residual time display. Front panel mounting with FZ-50. Test function.

**Function**

- **Partial ranges**

**Triggering C52, C53, C55**

- AC 50/60Hz
- DC 10%

ordering no.

- 19

**Example of order:**

- Time delay relay C53/UC 110-240V
- System socket C11A

**Dimensions, accessories**

- ➞ page 19

**Universal multifunctional time delay relay**

- 2 functions
- 0.1s-60min (quartz)
- 1 power changeover contact

**Universal multifunctional time delay relay**

- 10 functions
- 0.1s-60h (quartz)
- 1 power changeover contact
- Alternatively solid-state output .3 or .4

**Universal multifunctional time delay relay**

- 15 functions including U/V
- 0.01s-60 days (quartz)
- Setting step up to 60s:1ms
- 1-STOP and 1-RESET input
- 2 changeover contacts
- Alternatively solid-state output .3 or .4

**Universal multifunctional time delay relay**

- Like type C55, but with potential free triggering of START, STOP and RESET (insulation from 2-10: 2kV).

**Function**

- ➞ page 3

**Triggering**

- ➞ page 3

**Pulse sequence monitoring**

- ➞ page 3

**System socket C11A**

Figure: with plug-in neutral conductor connector C-A2 (standard delivery).
Solid-state output for C53, C55 (instead of contact)

For AC or DC load

- UC110-240V
- UC24-60V
- C53.3 / V
- C55.3 / V

For DC load

- UC24-60V
- DC24V
- C53.4 / V
- C55.4 / V

Solid-state output for C53, C55

- UC110-240V
- UC24-60V
- C53.3 / V
- C55.3 / V

Accessories for the series CS, C50, C60
DIN-rail or screw mounting

Front panel mounting

Chassis mounting

Surface mounting

Remote potentiometer

1) Packing units
2) Not to be used with FA-50
3) Not to be used with HF-50
Socket overview

**C11A**
System socket 11-pole, with white cover and plug-in connector C-A2. (standard delivery).

**EC-8**
Economy socket 8-/11-pole

**CS-8**
Economy socket 8-/11-pole

**C12B0**
System socket 11-pole, similar to C12B. Prepared for CT system (without SC-3, SD-1).

**C12B**

**C12B1**
System socket 11-pole, like C12B, but with imprinted contact diagram.

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**Socket overview**

<table>
<thead>
<tr>
<th>Socket</th>
<th>For type of device</th>
</tr>
</thead>
<tbody>
<tr>
<td>C11A</td>
<td></td>
</tr>
<tr>
<td>EC-11</td>
<td></td>
</tr>
<tr>
<td>CS-11</td>
<td></td>
</tr>
<tr>
<td>C12B0</td>
<td></td>
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<tr>
<td>C12B</td>
<td></td>
</tr>
<tr>
<td>C12B1</td>
<td></td>
</tr>
<tr>
<td>EC-8</td>
<td></td>
</tr>
<tr>
<td>CS-8</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Connector layout</th>
</tr>
</thead>
<tbody>
<tr>
<td>CT3, CT30, CT2, CT30, CT2, CT3</td>
</tr>
</tbody>
</table>

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**Connection layout (from left to right side)**

A: 9 8 7 5 4 3
B: 8 7 6 5 4

---

**Recommended**

**Usable**
The Swiss Association for Quality and Management Systems

SQS hereewith certifies that the company named below has a management system which meets the requirements of the normative bases specified below.

COMAT AG
CH-3076 Worb

Certified area
Whole Company

Field of activity
Industrial Electronics

Based on the audit result, SQS issues the


CH-3032 Zollikon, August 1, 2005
This SQS Certificate is valid up to and including July 31, 2008
Scope number 19
Registration number 12883

President SQS
Managing Director SQS

[Signatures]

X. Edelmann
T. Züger

[Seal]

21