

**CY1**

**Star-delta | 24 ... 60 V UC | 110 ... 240 V UC | 1 NO + 1 CO**



**Time data**

|                  |  |
|------------------|--|
| Timing functions | Y  |
| Timing range     | Star time: 0.5 s ... 6 s / 5 s ... 60 s<br>Switchover time: 50 ms / 100 ms |
| Timing scale     | 6 s / 60 s   |

**Main circuit**

|  |               |
|--|---------------|
| Number of contacts                               | ⚡ 1 NO + 1 CO |
| Contact material                                 | AgNi          |
| Rated voltage                                    | 250 V         |
| Rated current                                    | 6 A           |
| Minimum load                                     | 10 mA, 10 V   |
| Inrush current                                   | 30 A, 10 ms   |
| Rated load DC                                    | fig. 2        |
| Rated load AC-1                                  | 1500 VA       |
| Mechanical endurance (cycles)                    | 30 000 000    |
| Electrical endurance at rated load AC-1 (cycles) | fig. 3        |

**Control circuit**

|   |                 |                  |
|---|-----------------|------------------|
| Nominal voltage                             | 24 ... 60 V UC  | 110 ... 240 V UC |
| Operating voltage range                     | 20 ... 75 V UC  | 90 ... 265 V UC  |
| Power consumption AC / DC                   | 1 VA / 1 W      | 1 VA / 1 W       |
| Current consumption on supply A1-A2 AC / DC | 35 mA / 35 mA   | 10 mA / 10 mA    |
| Rated frequency                             | 0; 40 ... 60 Hz | 0; 40 ... 60 Hz  |

**Insulation**

|   |                  |
|---|------------------|
| Rated test voltage control / main circuit | 2 kV rms / 1 min |
| Rated test voltage main / main circuit    | 2 kV rms / 1 min |
| Rated test voltage open contact           | 1 kV rms / 1 min |
| Pollution degree                          | 2                |
| Overvoltage category                      | III              |

**General data**

|                                      |   |
|--------------------------------------|---|
| Ambient temperature storage (no ice) | -40 ... 85 °C                                 |
| Ambient temperature operation        | -25 ... 60 °C                                 |
| Conductor cross section              | 2.5 mm <sup>2</sup> , 2 x 1.5 mm <sup>2</sup> |
| Nominal screw torque                 | 0.4 Nm  |
| Dimensions                           | fig. 4  |
| Weight                               | 76 g  |
| Protection degree                    | IP 20   |
| Housing material                     | PC  |

**Product reference**

| Description | Type       | 24-60 | 110-240 |
|-------------|------------|-------|---------|
| UC supply   | CY1/UC...V | ✓     | ✓       |

Other voltages on request. Please contact [support@comatreleco.com](mailto:support@comatreleco.com).  
«...» list control circuit voltage to complete product references.

**Accessories**

|        |                 |
|--------|-----------------|
| Labels | BZS DIN 17.5 mm |
|--------|-----------------|



fig. 1. Wiring diagram

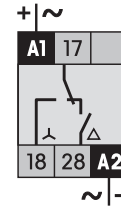


fig. 2. DC load limit curve

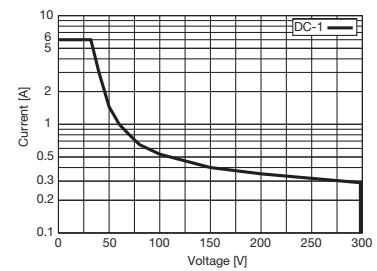


fig. 3. AC voltage endurance

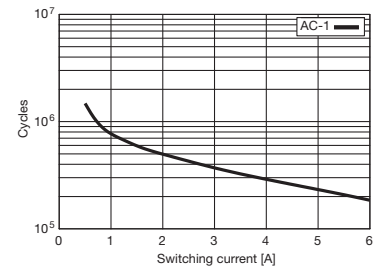
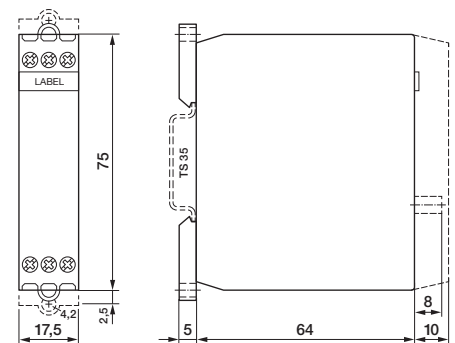


fig. 4. Dimensions (mm)

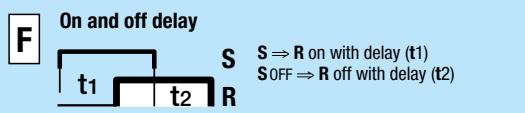
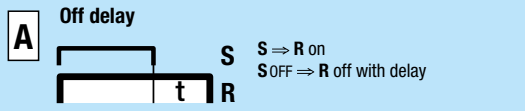
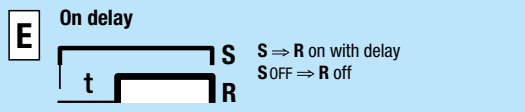


**Standards and approvals**

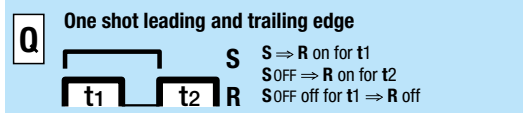
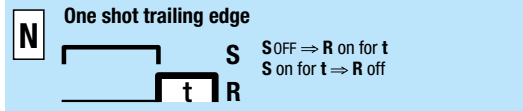
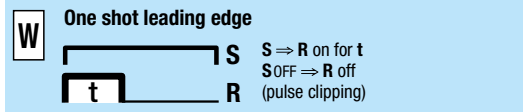
Standards IEC/EN 60947

Approvals

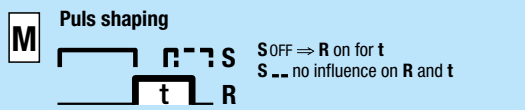
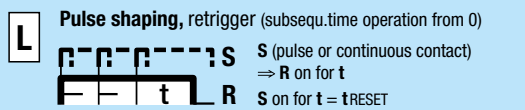
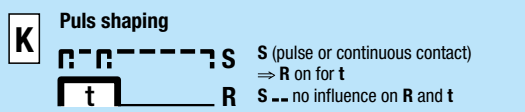
## Delay functions



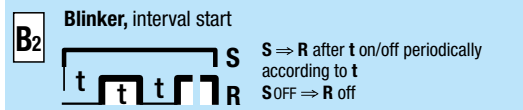
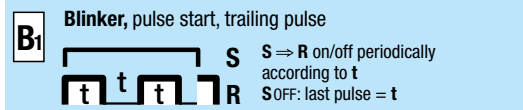
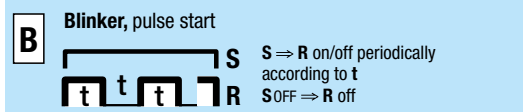
## Shot timing modes



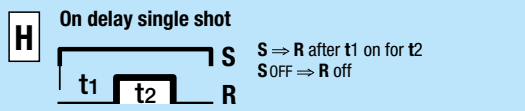
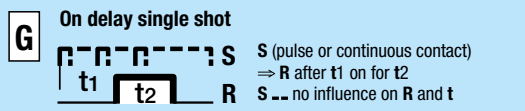
## Puls shaping



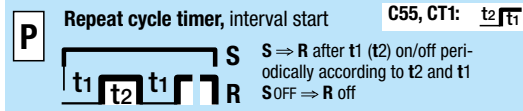
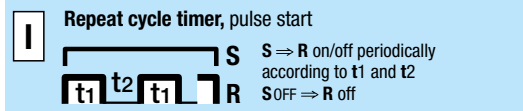
## Blinker functions



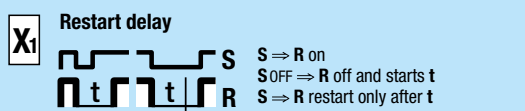
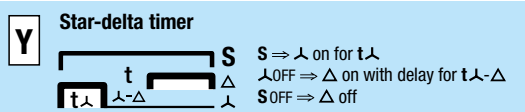
## Delayed pulse



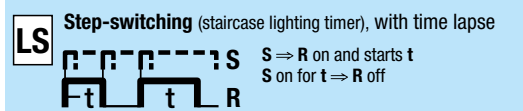
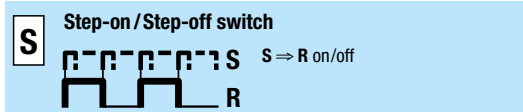
## Repeat cycle timer



## Special functions



## Special functions



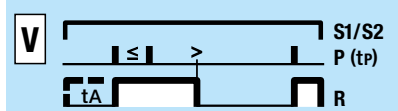
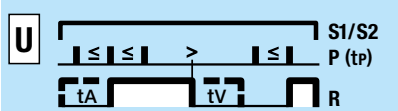
## Stop / Reset



S = Triggering  
R = Output circuit  
⇒ = switches...



## Pulse sequence monitoring



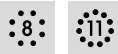
S1/S2 = Monitoring start  
P = Pulse sequence  
tP = Pulse separation

≤: Pulse separation is **smaller** than the time tP  
>: Pulse separation is **larger** than the time tP

Start with S1 = **without** start-up short-out tA  
Start with S2 = start-up short-out tA

tV = settable alarm delay  
delay (tA = tV)

**Time Cubes**



| Type      | Function |   |   |   |   |   |   |   |   |   |                |                |   |   |   |   |   | t-Stop | t-Reset | Ext. Poti | t max. |                |   |   | Page |     |     |    |    |  |  |     |     |
|-----------|----------|---|---|---|---|---|---|---|---|---|----------------|----------------|---|---|---|---|---|--------|---------|-----------|--------|----------------|---|---|------|-----|-----|----|----|--|--|-----|-----|
|           | E        | A | F | W | N | Q | K | L | M | B | B <sub>1</sub> | B <sub>2</sub> | G | H | I | P | S |        |         |           | LS     | X <sub>1</sub> | U | V |      | sec | min | h  | d  |  |  |     |     |
| CT...E 30 | •        |   |   |   |   |   |   |   |   |   |                |                |   |   |   |   |   |        |         |           |        |                |   |   |      |     |     | 30 |    |  |  | 229 |     |
| CT...A 30 |          | • |   |   |   |   |   |   |   |   |                |                |   |   |   |   |   |        |         |           |        |                |   |   |      |     |     |    | 30 |  |  |     | 229 |
| CT...K 30 |          |   |   | • |   |   | • |   |   |   |                |                |   |   |   |   |   |        |         |           |        |                |   |   |      |     |     |    | 30 |  |  |     | 229 |
| CT...B 30 |          |   |   |   |   |   |   |   |   | • |                |                |   |   |   |   |   |        |         |           |        |                |   |   |      |     |     |    | 30 |  |  |     | 229 |

**Modular plug-in Time Relays (CT-System)**



| Type    | Function |   |   |   |   |   |   |   |   |   |                |                |   |   |   |   |   | t-Stop | t-Reset | Ext. Poti | t max. |                |   |   | Page |     |     |   |   |  |     |     |     |
|---------|----------|---|---|---|---|---|---|---|---|---|----------------|----------------|---|---|---|---|---|--------|---------|-----------|--------|----------------|---|---|------|-----|-----|---|---|--|-----|-----|-----|
|         | E        | A | F | W | N | Q | K | L | M | B | B <sub>1</sub> | B <sub>2</sub> | G | H | I | P | S |        |         |           | LS     | X <sub>1</sub> | U | V |      | sec | min | h | d |  |     |     |     |
| CT32... | •        | • |   | • | • |   | • |   |   | • | •              |                |   |   |   |   |   |        |         |           |        |                |   |   |      |     |     |   |   |  |     | 60* | 233 |
| CT33... | •        | • | △ | • | • | △ | • | • |   | • | •              |                | ▲ | ▲ |   |   |   |        |         |           |        |                |   |   |      |     |     |   |   |  | 60* | 234 |     |
| CT36... |          |   |   |   |   |   |   |   |   |   |                |                |   |   | • | • |   |        |         |           |        |                |   |   |      |     |     |   |   |  | 60* | 235 |     |

**Plug-in Time Relays**



| Type    | Function |   |   |   |   |   |   |   |   |   |                |                |   |   |   |   |   | t-Stop | t-Reset | Ext. Poti | t max. |                |   |   | Page |     |     |    |   |     |     |     |
|---------|----------|---|---|---|---|---|---|---|---|---|----------------|----------------|---|---|---|---|---|--------|---------|-----------|--------|----------------|---|---|------|-----|-----|----|---|-----|-----|-----|
|         | E        | A | F | W | N | Q | K | L | M | B | B <sub>1</sub> | B <sub>2</sub> | G | H | I | P | S |        |         |           | LS     | X <sub>1</sub> | U | V |      | sec | min | h  | d |     |     |     |
| C55     | •        | • | • | • | • | • | • | • |   | • | •              |                |   | • | • | • | • |        |         |           |        | •              | • | • | •    |     |     |    |   | 60  | 210 |     |
| C55.3   | •        | • | • | • | • | • | • | • |   | • | •              |                |   | • | • | • | • |        |         |           |        | •              | • | • | •    |     |     |    |   | 60  | 211 |     |
| C55.4   | •        | • | • | • | • | • | • | • |   | • | •              |                |   | • | • | • | • |        |         |           |        | •              | • | • | •    |     |     |    |   | 60  | 212 |     |
| C56     | •        | • | • | • | • | • | • | • |   | • | •              |                |   | • | • | • | • |        |         |           |        | •              | • | • | •    |     |     |    |   | 60  | 213 |     |
| C64     | •        | ■ |   | ■ |   |   |   |   |   |   |                |                |   |   |   |   |   |        |         |           |        |                |   |   |      |     |     | 20 |   |     |     | 214 |
| CS2     | •        |   |   | • |   |   | • |   |   | • | •              |                |   |   |   |   |   |        |         |           |        |                |   | • |      |     |     |    |   | 60* | 217 |     |
| CS3     | •        | • |   | • | • |   | • |   |   | • | •              |                |   |   |   |   |   |        |         |           |        |                |   |   |      |     |     |    |   | 60* | 218 |     |
| RS 41-M | •        | • |   | • |   |   | • |   |   | • |                |                |   |   |   |   |   |        |         |           |        |                |   |   |      |     |     | 15 |   |     |     | 219 |

**Plug-in Time Relays**



| Type | Function |   |   |   |   |   |   |   |   |   |                |                |   |   |   |   |   | t-Stop | t-Reset | Ext. Poti | t max. |                |   |   | Page |     |     |   |   |     |     |
|------|----------|---|---|---|---|---|---|---|---|---|----------------|----------------|---|---|---|---|---|--------|---------|-----------|--------|----------------|---|---|------|-----|-----|---|---|-----|-----|
|      | E        | A | F | W | N | Q | K | L | M | B | B <sub>1</sub> | B <sub>2</sub> | G | H | I | P | S |        |         |           | LS     | X <sub>1</sub> | U | V |      | sec | min | h | d |     |     |
| C83  | •        | • | △ | • | • | △ | • | • |   | • | •              |                | ▲ | ▲ |   |   |   |        |         |           |        |                |   |   |      |     |     |   |   | 60* | 215 |
| C85  |          | • |   | • |   |   |   |   |   |   |                |                | • | • | • | • |   |        |         |           |        |                |   |   |      |     |     |   |   | 60* | 216 |

**DIN Time Relays**



| Type              | Function |   |   |   |   |   |   |   |   |   |                |                |   |   |   |   |   | t-Stop | t-Reset | Ext. Poti | t max. |   |   |   | Page |     |     |        |    |     |     |     |     |
|-------------------|----------|---|---|---|---|---|---|---|---|---|----------------|----------------|---|---|---|---|---|--------|---------|-----------|--------|---|---|---|------|-----|-----|--------|----|-----|-----|-----|-----|
|                   | E        | A | F | W | N | Q | K | L | M | B | B <sub>1</sub> | B <sub>2</sub> | G | H | I | P | S |        |         |           | LS     | Y | U | V |      | sec | min | h      | d  |     |     |     |     |
| AA2 - AA2M        | •        |   |   |   |   |   |   |   |   |   |                |                |   |   |   |   |   |        |         |           |        |   |   |   |      |     |     | 1,5/12 |    |     |     | 170 |     |
| AE2 - AE2M        | •        |   |   |   |   |   |   |   |   |   |                |                |   |   |   |   |   |        |         |           |        |   |   |   |      |     |     | 1,5/12 |    |     |     | 171 |     |
| AL1               |          |   |   |   |   |   |   | • |   |   |                |                |   |   |   |   |   |        |         |           |        |   |   |   |      |     |     |        |    |     |     | 195 |     |
| AL3               |          |   |   |   |   |   |   | • |   |   |                |                |   |   |   |   | • | •      |         |           |        |   |   |   |      |     |     |        |    | 60  |     |     | 196 |
| AL4               |          |   |   |   |   |   |   | • |   |   |                |                |   |   |   |   | • | •      |         |           |        |   |   |   |      |     |     |        |    | 60  |     |     | 197 |
| AL5               |          |   |   |   |   |   |   |   |   |   |                |                |   |   |   |   |   | •      |         |           |        |   |   |   |      |     |     |        |    |     |     |     | 198 |
| AM1               | •        |   |   | • |   |   |   |   |   | • | •              |                |   |   |   |   |   |        |         |           |        |   |   |   |      |     |     |        |    | 60  |     |     | 199 |
| AM2               | •        | • |   | • |   |   | • |   |   |   |                |                |   |   |   |   |   |        |         |           |        |   |   |   |      |     |     |        |    | 60  |     |     | 200 |
| AM3 <sup>1)</sup> | •        | • |   | • |   |   | • |   |   |   |                |                |   |   |   |   |   |        |         |           |        |   |   |   |      |     |     |        | 60 |     |     | 201 |     |
| CM2               | •        | • |   | • |   |   | • |   |   |   |                |                |   |   |   |   |   |        |         |           |        |   |   |   |      |     |     |        |    |     |     | 12  | 202 |
| CM3               | •        | • |   | • | • |   | • |   |   | • | •              |                |   |   |   |   |   |        |         |           |        |   |   |   |      |     |     |        |    | 60* |     |     | 203 |
| CMD11 A           | •        |   |   |   |   |   |   |   |   |   |                |                |   |   |   |   |   |        |         |           |        |   |   |   |      |     |     |        |    |     |     | 168 |     |
| CMD11 E           | •        |   |   |   |   |   |   |   |   |   |                |                |   |   |   |   |   |        |         |           |        |   |   |   |      |     |     |        |    |     |     |     | 169 |
| CIM1              | •        | • |   | • | • |   | • |   |   | • | •              |                |   |   |   |   |   | •      | •       |           |        |   |   |   |      |     |     |        |    |     | 60* |     | 176 |
| CIM12             | •        | • |   | • | • |   | • |   |   | • | •              |                |   |   |   |   |   | •      | •       |           |        |   |   |   |      |     |     |        |    |     | 60* |     | 178 |
| CIM13             | •        | • |   | • | • |   | • |   |   | • | •              |                |   |   |   |   |   | •      | •       |           |        |   |   |   |      |     |     |        |    |     | 60* |     | 180 |
| CIM14             | •        | • |   | • | • |   | • |   |   | • | •              |                |   |   |   |   |   | •      | •       |           |        |   |   |   |      |     |     |        |    |     | 60* |     | 182 |
| CIM2              | •        | • |   |   |   |   |   | • | • |   |                |                | • | • | • |   |   |        |         |           |        |   |   |   |      |     |     |        |    |     | 60* |     | 183 |
| CIM22             | •        | • |   |   |   |   |   | • | • |   |                |                | • | • | • |   |   |        |         |           |        |   |   |   |      |     |     |        |    |     | 60* |     | 185 |
| CIM23             | •        | • |   |   |   |   |   | • | • |   |                |                | • | • | • |   |   |        |         |           |        |   |   |   |      |     |     |        |    |     | 60* |     | 187 |
| CIM3              |          |   | • |   |   | • |   |   |   |   |                |                | • | • | • | • |   |        |         |           |        |   |   |   |      |     |     |        |    |     | 60* |     | 189 |
| CIM32             |          |   | • |   |   | • |   |   |   |   |                |                | • | • | • | • |   |        |         |           |        |   |   |   |      |     |     |        |    |     | 60* |     | 191 |
| CIM33             |          |   | • |   |   | • |   |   |   |   |                |                | • | • | • | • |   |        |         |           |        |   |   |   |      |     |     |        |    |     | 60* |     | 193 |
| CRV4              | •        | • | △ | • | • | △ | • | • | • | • | •              | •              | • | • | • |   |   |        |         |           |        |   |   |   |      |     |     |        |    | 60* |     | 205 |     |
| CSV4              | •        | • | △ | • | • | △ | • | • | • | • | •              | •              | • | • | • |   |   |        |         |           |        |   |   |   |      |     |     |        |    | 10* |     | 206 |     |
| CPF11             | •        |   |   |   |   |   | • | • |   |   |                |                |   |   |   |   |   |        |         |           |        |   |   |   |      | 0,6 |     |        |    |     |     | 204 |     |
| CY1               | •        |   |   |   |   |   |   |   |   |   |                |                |   |   |   |   |   |        |         |           |        |   |   |   |      |     |     |        |    |     |     | 208 |     |

**\* TF-60 Setting of long times**

The TF60 time setting method permits short examination of long delay time settings. Elapsing times of hours can be monitored in the sec. range.

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.

- <sup>1)</sup> alternatively with instantaneous contact
- without auxiliary voltage (relay bistable)
- without auxiliary voltage (relay monostable)

△ t<sub>2</sub> = t<sub>1</sub>

▲ t<sub>2</sub> = 0.5s