

Chronos 2 electronic timers - 17.5 mm - 22.5 mm - Plug-in

Technical specifications

Functions

Multi-function U : A-At - B - C - H-Ht - Di-D - Ac - Bw.
Mono-function A-At / B / C / H-Ht / Li-L / Q / K.
Depending on the version, see table page 8/9.

Timing

Multiple timing ranges : 0.1s to 100h, 7 timing ranges
- 1s - 10s - 1min - 10min - 1h - 10h - 100h
for all the range except TK2R1.
- 0.6s - 2.5s - 20s - 160s for type TK2R1.
Repetition accuracy (with constant parameters) :
- ± 0.5 % (IEC 1812-1).
Drift :
- temperature ± 0.05 % / °C
- voltage ± 0.2 % / V.
Display precision according to IEC 1812-1 : 0 +10 % / 25 °C.
Minimum pulse duration :
- typically 30 ms (relay version) / typically 50 ms (solid state version).
- typically 100 ms under load (relay version).
Maximum reset time by de-energisation :
- typically 100 ms (relay version) / typically 350 ms (solid state version).
Immunity to breaks in supply voltage : typically >10 ms.
Selectable switching time (TQR1) :
20/40/60/80/100/120/140 ms.

Power supply

Multi-voltage power supply : Depending on version, see page 8/9.
Frequency : 50/60 Hz.
Operating range : 85 to 115 % Un (85 to 120 % Un for 12V AC/DC).
Load factor : 100 %.
Maximum power consumption :
- 0.6 W 24V AC/DC - 1.5 W 230V AC - 32 VA 230V AC.

Output elements

Relay output
1 or 2 changeover relays, AgNi (cadmium-free) 2000 VA / 80 W.
Rated power : 2000 V A / 80W.
Maximum breaking current : 8 A AC 8 A DC.
Minimum breaking current : 10 mA / 5 VDC.
Voltage breaking capacity : 250V AC/VDC.
Electrical life : 10⁵ operations 8 A 250V resistive.
Mechanical life : 5 x 10⁶ operations.
Breakdown voltage acc. to IEC 1812-1 : 2.5 kV / 1 min / 1 mA / 50Hz.
Impulse voltage acc. to IEC 664-1 IEC 1812-1 :
- 5 kV, 1.2 / 50 µs wave.

Solid state output

Rated power : 0.7 A AC/DC / 20 °C (0.5A UL).
Derating : 5 mA/°C.
Maximum admissible current : 20 A ≤ 10 ms.
Minimum breaking current : 10 mA.
Off-state leakage : < 5 mA.
Voltage breaking capacity : 250V AC/VDC.
Maximum voltage drop at terminals : 3-wire, 4V - 2-wire 8V.
Electrical life : 10⁸ operations.
Mechanical life : 10⁸ operations.
Breakdown voltage acc. to IEC 664, IEC 255-5 : 2.5 kV at 1 mA / 1 min.

Display

State displayed by 1 or 2 LEDs :

- Flashing green when on
 - Relay LED yellow during timing.
- Green LED operation indicator**
▬▬▬▬ Pulsing :
- timer on, no timing in progress (except functions Di-D and Li-L).
▬▬▬▬ Flashing :
- timing in progress
▬▬▬▬ Permanently lit :
- Relay waiting, no timing in progress.

Input type :

- volt-free contact
- 3-wire PNP output control option
maximum residual voltage : 0.4 V whatever the timer power supply.

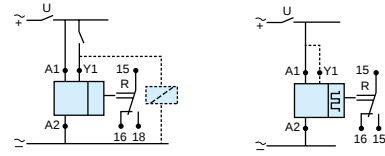
General specifications

Conforming to standards :
IEC 1812-1, EN 50081-1/2, EN 50082-1/2, LV directives (73/23/EEC + 93/68/EEC (CE marking)
+ EMC (89/336/EEC + IEC 669-2-3 (17.5 mm)
Approvals : UL - CSA - cUL pending
Temperatures limits :
- use -20 °C + 60 °C
- stored -30 °C + 60 °C
Installation category (acc. to IEC 664-1) :
- Voltage surge category
Creepage distance and clearance acc. to IEC 664-1: 4 kV / 3
Degree of protection acc. to IEC 529
- terminal block IP 20
- casing IP 40
- front face IP 50 (except Tk2R1)
Vibration resistance acc. to IEC 68-2-6 : f = 10 • 55 Hz - A = 0.35 mm
Relative humidity acc. to IEC 68-2-3 : 93 % without condensation
Electromagnetic compatibility :
- Immunity to electrostatic discharges acc. to IEC 1000-42 :
Level III (Air 8 kV / Contact 6 kV)
- Immunity to electrostatic fields acc. to ENV 50140/204 (IEC 1000-4-3) : Level III 10V/m : 80 MHz to 1 GHz)
- Immunity to rapid transient bursts acc. to IEC 1000-4-4 :
Level III (direct 2 kV / Capacitive coupling clamp 1 kV)
- Immunity to shock waves on power supply acc. to IEC 1000-4-5 :
Level III (common mode 2 kV / residual current mode 1kV)
- Immunity to radiofrequency in common mode acc. to ENV 50141 (IEC 1000-4-6) : Level III (10V rms : 0.15 MHz to 80 MHz)
- Immunity to voltage dips and breaks acc. to IEC 1000-4-11 :
30 % / 10 ms, 60 % / 100 ms >, 95 % / 5 s.
- Mains-borne and radiated emissions acc. to EN 55022 (EN 55011 Group 1) : Class B.
Fixing :
- Symmetrical 35 mm DIN rail (EN 50022)
- 8 and 11-pin plug-in bases
Connection capacity :
- without ferrule 2 x 2.5 mm²
- with ferrule 2 x 2.5 mm²
Spring terminals, 2 terminals per connection point
- 1.5 mm² flexible wire
- 2.5 mm² rigid wire
Casing material : Self-extinguishing
Weight : 22.5 mm casing : 90 g
17.5 mm casing : 60 g
Plug-in casing : 80 g

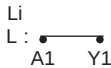
Chronos 2 electronic timers - 17.5 mm - 22.5 mm - Plug-in

Connections

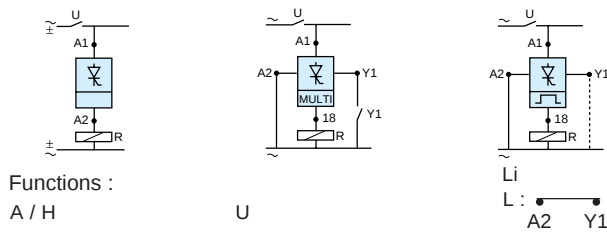
17.5 and 22.5 mm casing 1 relay



Functions :
A-At / H-Ht / B / C
Di-D / Ac / BW



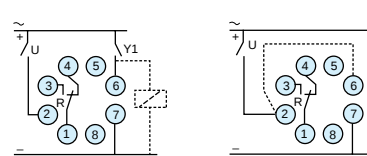
17.5 mm casing solid state output



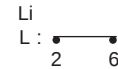
Functions :
A / H



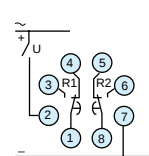
8-pin plug-in casing 1 relay



Functions :
A-At / H-Ht / B / C
Di-D / Ac / BW

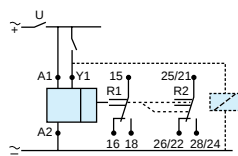


8-pin 2 relays



A

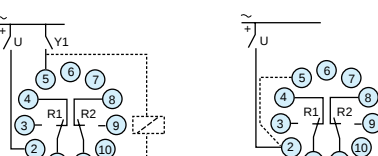
22.5 mm casing 2 relays



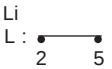
A-At / H-Ht / B / C
Di-D / Ac / BW

K

11-pin plug-in casing 2 relays

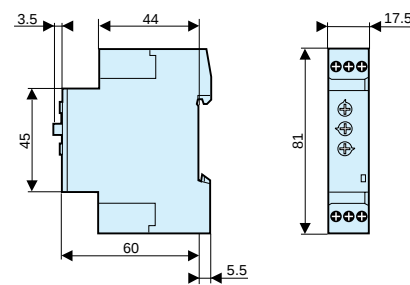


A-At / H-Ht / B / C
Di-D / Ac / BW

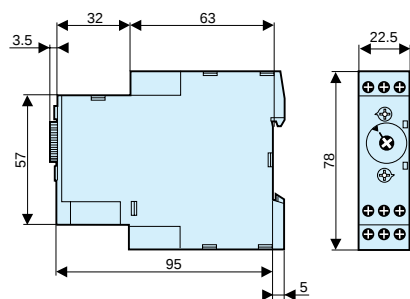


Dimensions

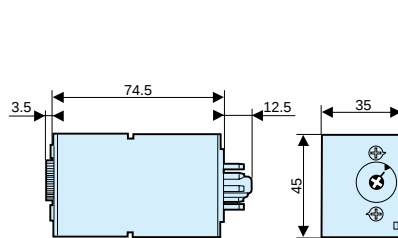
17.5 mm casing



22.5 mm casing

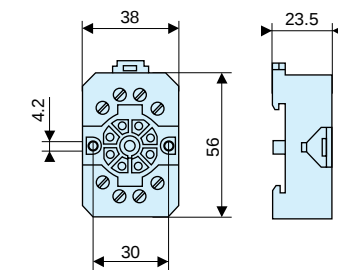


Plug-in casing



Accessories

Screw terminal block or 8-pin connector base
25 622 128



Screw terminal block or 11-pin connector base
25 622 077

