Chronos 2 electronic timers - 17.5 mm

- Multi-function or mono-function
- Multi-range (7 ranges, available options)
- Multi-voltage
- SPDT relay output: 10A - 250V
- Screw or spring terminals
- 1 LED status indicator
- Option of connecting a small cord to the control input
- 3-wire sensor control option

### Technical specifications

#### Timing
- Repetition accuracy (with constant parameters): \( \pm 0.5\% \) (CEI 1812-1)
- Drift:
  - Temperature: \( \pm 0.05\% / {}^\circ C \)
  - Voltage: \( \pm 0.2\% / V \)
- Display precision according to IEC 1812-1: \( \pm 10\% / 25^\circ C \)
- Minimum pulse duration:
  - Typically (relay version): 30 ms
  - Typically (solid state version): 50 ms
  - Typically under load (relay version): 100 ms
- Maximum reset time by de-energisation:
  - Typically (relay version): 100 ms
  - Typically (solid state version): 350 ms
- Immunity to breaks in supply voltage: typically >10 ms

#### Power supply
- Multi-voltage power supply: depending on version, see pages 6/2, 6/3
- Frequency: 50/60 Hz
- Operating range:
  - 85 to 110 % 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 VA / 80 W
  - Maximum breaking current: 10 A AC 10 A DC
  - Minimum breaking current: 10 mA / 5 VDC
  - Voltage breaking capacity: 250VAC/VDC
  - Electrical life: 100\(^6\) operations
  - Mechanical life: 3 x 10^6 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, wave 1.2 / 50 \( \mu \)s

#### Display
- State displayed by 1 LED:
  - Flashing green when on
  - Green LED operation indicator
    - Pulses:
      - 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

### Other information

For special features, functions etc. please contact us.

### 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:
  - CUL listed
  - UL listed
  - CSA recognized
- Temperatures limits:
  - use: \(-20^\circ C + 60^\circ C\)
  - stored: \(-30^\circ C + 60^\circ C\)
- Installation category (acc. to IEC 664-1):
  - 4 kV / 3
- Degree of protection acc. to IEC 529:
  - - terminal block
  - - casing
  - - front face (except Tk2R1)
- Vibration resistance acc. to IEC 88-2-8:
  - Mains-borne and radiated emissions acc. to IEC 1812-1, EN 50081-1/2, EN 50082-1/2, LV directives (73/23/EEC + 93/68/EEC)
  - Immunity to electrostatic fields acc. to IEC 1000-42
  - Immunity to electrostatic discharges acc. to IEC 1000-42
  - Immunity to shock waves on power supply acc. to IEC 1000-4-5
  - Immunity to radiofrequency in common mode acc. to ENV 50140/204
  - Immunity to voltage dips and breaks acc. to IEC 1000-4-11
  - Immunity to rapid transient bursts acc. to IEC 1000-4-4
  - Immunity to power supply surges acc. to IEC 1000-4-3
  - Level III (10V/m: Capacitive coupling clamp 1 KV)
  - Level III (common mode 2 KV / residual current mode 1KV)
  - Level III (100V/m: 80 MHz to 1 GHz)
  - Class B
- Electromagnetic compatibility:
  - 35 mm
  - Voltage surge category:
    - 93 %
  - Level III (Air 8 K / Contact 6 KV)
  - Level III 10V/m: 80 MHz to 1 GHz
  - Level III (direct 2KV)
- Degree of pollution:
  - 2.5 mm
  - Self-extinguishing 60 g

### Part numbers and voltage

- 24V - 24 • 240V ~
  - 88 826 105
  - 88 826 115
- 12V ~
  - 88 826 105
  - 88 826 115

### Functions

#### Multi-function
- A - At - B - C - H - Ht - A - At
- Di - D - Ac - Bw

#### Bifunction
- A - At

### Nominal current

- 10 A
- 10 A

### Timing ranges (7 ranges)

- 1A - 10 s - 1 min - 10 min - 1 h - 10 h - 100 h
Functions:

- **Function A**: Delay on Make
  - 1 relay

- **Function H**: Interval
  - 1 relay

- **Function Li**: Repeat Cycle
  - On Time First

- **Function C**: Delay on Break
  - 1 relay

- **Function At**: Accumulative Delay on Make
  - 1 relay

- **Function Ht**: Accumulative Interval
  - 1 relay

- **Function B**: Single Shot
  - 1 relay

- **Function L**: Repeat Cycle
  - Offtime First

- **Function Di**: Repeat Cycle
  - Equal On/Off Time
  - On Time First

- **Function Ac**: Combo Delay on Make/Delay on Break
  - Equal On/Off Time

Connections (Y1 = C, Function diagrams)

Dimensions

To order, specify:

1. **Type**
2. **Part number**

Example: Chronos 2 Timers MUR1 88 826 105
Chronos 2 electronic timers - 17.5 mm

Solid state output

- Multi-function or mono-function
- Multi-range (7 ranges, available options)
- Multi-voltage
- Solid state output: 0.7 A - 250 V (0.5 A UL)
- Screw or spring terminals
- 1 LED status indicator

Technical specifications

Timing
- Repetition accuracy (with constant parameters)± 0.5 % (CEI 1812-1)
- Drift
  - Temperature± 0.05 % / °C
  - Voltage± 0.2 % / V
- Display precision according to IEC 1812-1±10 % / 25 °C
- Minimum pulse duration
  - Typically (relay version) 30 ms
  - Typically (solid state version) 50 ms
  - Typically under load (relay version) 100 ms
- Maximum reset time by de-energisation
  - Typically (relay version) 100 ms
  - Typically (solid state version) 350 ms
- Immunity to breaks in supply voltage: typically >10 ms

Power supply
- Multi-voltage power supply depending on version, see page 6/5
- Frequency50/60 Hz
- Operating range85 to 110 % Un
  (85 to 120 % Un for 12V AC/DC)
- Load factor100 %
- Maximum power consumption0.6 W 24V AC/DC
  1.5 W 230V AC
  32 VA 230V AC

Output elements: Solid state output
- Rated power0.7 A AC/DC
  20 °C (0,5A UL)
- Derating5 mA / °C
- Maximum admissible current20 A ± 10 ms
- Minimum breaking current10 mA
- Off-state leakage< 5 mA
- Voltage breaking capacity250V AC/VDC
- Maximum voltage drop at terminals3 fls 4V - 2 fls 8V
- Electrical life10⁵ operations
- Mechanical life10⁵ operations
- Breakdown voltage acc. to IEC 664, IEC 255-52.5 kV to 1 mA / 1 min

Display
- State displayed by 1 LED
  - Flashing green when on
- 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

Other information

For special features, functions etc. please contact us.
Products and specifications subject to change without notice. Consult factory for application assistance.

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