

Chronos 2 electronic timers - Plug-in 8-pin (35 mm)

- Multi-function or mono-function
- Multi-range (7 ranges, available options)
- Multi-voltage
- SPDT or DPDT relay output 10A - 250V
- Plug-in
- 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 $\pm 0.05\% / ^\circ\text{C}$

- Voltage $\pm 0.2\% / \text{V}$

Display precision according to IEC 1812-1 $\pm 10\% / 25^\circ\text{C}$

Minimum pulse duration

- Typically 30 ms

- Typically under load 100 ms

Maximum reset time by de-energisation

- Typically 100 ms

Immunity to breaks in supply voltage: typically $>10\text{ ms}$

Power supply

Multi-voltage power supply depending on version, see page 6/10, 6/11

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 V A / 80W

Maximum breaking current 10 A AC 10 A DC

Minimum breaking current 10 mA / 5 VDC

Voltage breaking capacity 250V AC/VDC

Electrical life 10^5 operations

8 A 250V resistive

Mechanical life 5×10^6 operations

Breakdown voltage acc. to IEC 1812-1 2.5 kV / 1min /

1 mA / 50Hz

Impulse voltage acc. to IEC 664-1 IEC 1812-1 5 kV, wave 1.2 / 50 μs

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.



Timing 0.1s • 100h

Types

OL2R1

Part numbers and voltage

24V $\sim$ / 24 • 240V $\sim$ 88 867 801

12 V $\sim$ / $\sim$

12 • 240 V $\sim$ / $\sim$

Functions

Monofunction

L

Nominal current

8 A

Accessories

8-pin connector base (for the whole range)

S-08

2 timers

Timing ranges (7 ranges)

0.1s - 1s - 10s - 1 min - 10 min - 1 h - 10 h - 100 h

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 cUL listed CSA recognized

Temperatures limits

- use

-20 $^\circ\text{C}$ + 60 $^\circ\text{C}$

- stored

-30 $^\circ\text{C}$ + 60 $^\circ\text{C}$

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 (except Tk2R1)

IP 50

Vibration resistance acc. to IEC 68-2-6

f = 10 • 55 Hz
A = 0.35 mm

Relative humidity acc. to IEC 68-2-3 without condensation

93 %

Electromagnetic compatibility

- Immunity to electrostatic discharges acc. to IEC 1000-42

Level III (Air 8 K / 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 2kV/ 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

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)

Fixing: plug-in bases

Class B

Casing material

8-pin

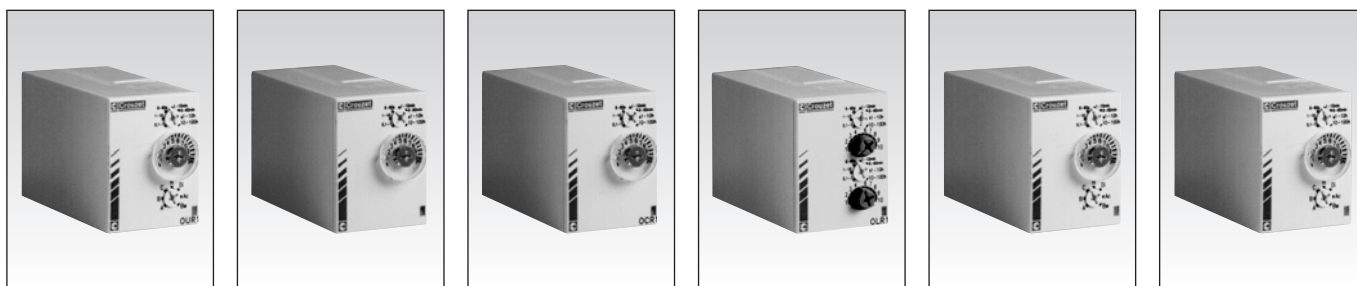
Weight: plug-in casing

Self-extinguishing
80 g

Products and specifications subject to change without notice.

Consult factory for application assistance.

204 Airline Drive, Suite 300, Coppell, Texas 75019 / Tel: (800) 677-5311 / FAX: (800) 677-3865 / www.crouzet-usa.com



0.1s • 100h	0.1s • 100h	0.1s • 100h	0.1s • 100h	0.1s • 100h	0.1s • 100h
OUR1	OA2R1	OCR1	OLR1	OUR4	OUR3
88 867 105	88 867 215	88 867 135	88 867 155	—	—
—	—	—	—	88 867 100	—
Multi-function	Mono-function	Mono-function	Bifunction	Multi-function	Multi-function
A - At - B - C - H - Ht - Di - D - Ac - Bw	A	C	Li - L	A - At - B - C - H - Ht - Di - D - Ac - Bw	A - At - B - C - H - Ht - Di - D - Ac - Bw
10 A	10 A	10 A	10 A	10 A	10 A
1 relay	2 relays	1 relay	1 relay	1 relay	1 relay

Function diagrams

Function A

Delay on Make
1 relay

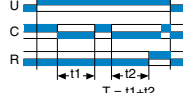


2 relays



Function At

Accumulative Delay on Make
1 relay



Function B

Single Shot
1 relay



Function C

Delay on Break
1 relay



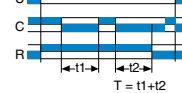
Function H

Interval
1 relay



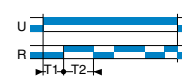
Function Ht

Accumulative Interval
1 relay



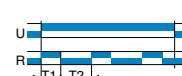
Function L

Repeat Cycle. Off Time First
Pause start



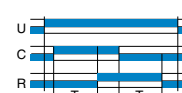
Function Li

Repeat Cycle. On Time First.
Pulse start



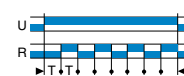
Function Ac

Combo Delay on Make/Delay on
Break. Equal On/Off Time.
1 relay



Function D

Repeat Cycle. Equal On/Off Time.
Off Time First.
Pause start



Function Di

Repeat Cycle. Equal On/Off Time.
On Time First.
Pulse start



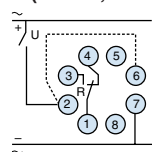
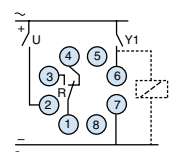
Function Bw

Pulse output (adjustable)
1 relay



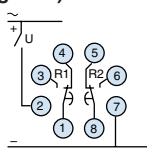
Connections: 8-pin 1 relay

(Y1 = C, Function diagrams)

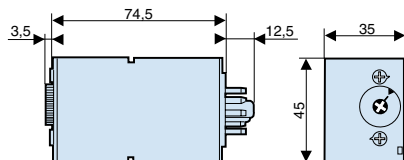


8-pin 2 relay

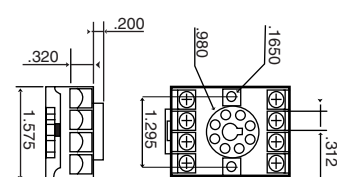
(Y1 = C, Function diagrams)



Dimensions



Accessories



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

Li
L : 2 6

A

To order, specify:

1 Type

Example: Chronos 2 Timers OUR1 88 867 105

2 Part number

3 Part number

8-pin connector base S08

Products and specifications subject to change without notice.

Consult factory for application assistance.

Chronos 2 electronic timers - Plug-in 11-pin (35 mm)

- Multi-function or mono-function
- Multi-range (7 ranges, available options)
- Multi-voltage
- DPDT Relay output 10A - 250V
- Plug-in
- 1 LED status indicator
- Option of connecting a small cord supply 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 $\pm 0.05\%$ / °C
- Voltage $\pm 0.2\%$ / V

Display precision according to IEC 1812-1 $\pm 10\%$ / 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 6/13

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 V A / 80W

Maximum breaking current 10 A AC 10 A DC

Minimum breaking current 10 mA / 5 VDC

Voltage breaking capacity 250V AC/VDC

Electrical life 10^5 operations

8 A 250V resistive

Mechanical life 5×10^6 operations

Breakdown voltage acc. to IEC 1812-1 2.5 kV / 1min /

1 mA / 50Hz

Impulse voltage acc. to IEC 664-1 IEC 1812-1 5 kV, wave 1.2 / 50 μ s

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.

Timing

Types

Part numbers and voltage

24V $\sim$ / 24 • 240V $\sim$

12 V $\sim$ / $\sim$

12 • 240 V $\sim$ / $\sim$

Functions

Nominal current

Accessories

11-pin connector base (for the whole range) **S11**

Timing ranges (7 ranges)

0.1s - 1s - 10s - 1 min - 10 min - 1 h - 10 h - 100 h

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 cUL listed CSA recognized

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 (except Tk2R1) IP 50

Vibration resistance acc. to IEC 68-2-6

f = 10 • 55 Hz
A = 0.35 mm

Relative humidity acc. to IEC 68-2-3

without condensation

93 %

Electromagnetic compatibility

- Immunity to electrostatic discharges acc. to IEC 1000-42

Level III (Air 8 K / 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 2kV/ 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

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: plug-in bases

Casing material

11-pin

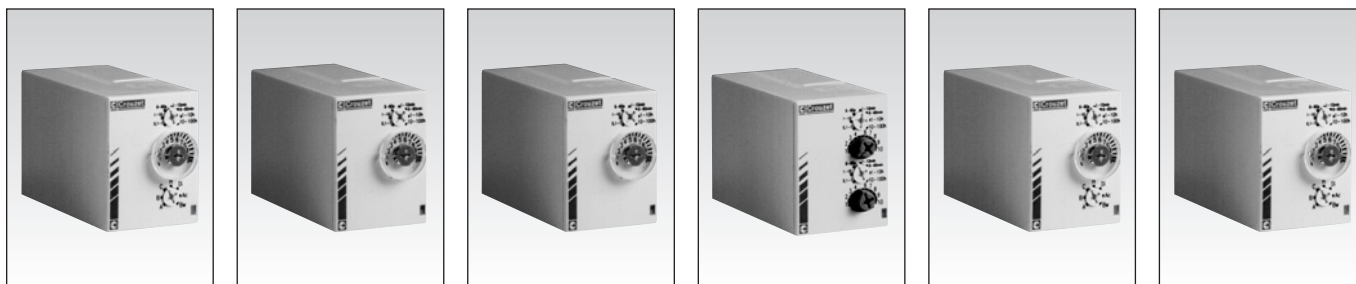
Weight: plug-in casing

Self-extinguishing
80 g

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0.1s • 100h	0.1s • 100h	0.1s • 100h	0.1s • 100h	0.1s • 100h	0.1s • 100h
PU2R1	PA2R1	PC2R1	PL2R1	PU2R4	PU2R3
88 867 305	88 867 415	88 867 435	88 867 455	-	-
-	-	-	-	88 867 300	-
Multi-function	Bifunction	Mono-function	Bifunction	Multi-function	Multi-function
A - At - B - C - H - Ht - Di - D - Ac - Bw	A - At	C	Li - L	A - At - B - C - H - Ht - Di - D - Ac - Bw	A - At - B - C - H - Ht - Di - D - Ac - Bw
10 A	10 A	10 A	10 A	10 A	10 A
1 Relay Timed and 1 Relay Timed or Instant	2 relays	2 relays	2 relays	1 Relay Timed and 1 Relay Timed or Instant	1 Relay Timed and 1 Relay Timed or Instant

Function diagrams

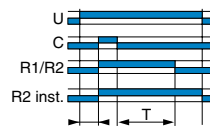
Function A

Delay on Make
1 Relay Timed and
1 Relay Timed or Instant



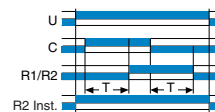
Function C

Delay on Break
1 Relay Timed and
1 Relay Timed or Instant



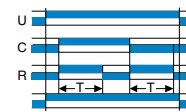
Function Ac

Combo Delay on Make/Delay on
Break. Equal On/Off Time.
1 Relay Timed and
1 Relay Timed or Instant



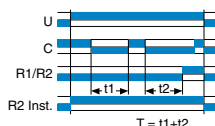
Function Bw

Pulse output (adjustable)
1 Relay Timed and
1 Relay Timed or Instant



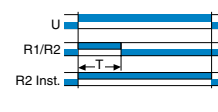
Function At

Accumulative Delay on Make
1 Relay Timed and
1 Relay Timed or Instant



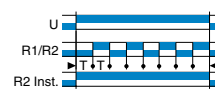
Function H

Interval
1 Relay Timed and
1 Relay Timed or Instant



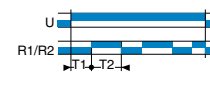
Function D

Repeat Cycle
Equal On/Off Time. Off Time First.
1 Relay Timed and
1 Relay Timed or Instant



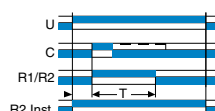
Function L

Repeat Cycle.
Off Time First.
2 relays



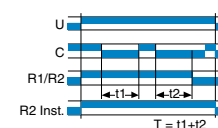
Function B

Single Shot
1 Relay Timed and
1 Relay Timed or Instant



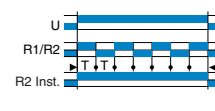
Function Ht

Accumulative Interval
1 Relay Timed and
1 Relay Timed or Instant



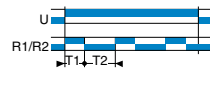
Function Di

Repeat Cycle.
On Time First.
1 Relay Timed and
1 Relay Timed or Instant

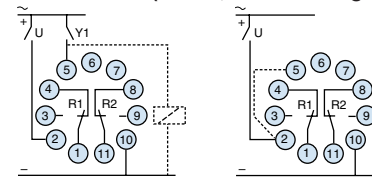


Function Li

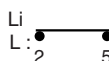
Repeat Cycle.
On Time First.
2 relays



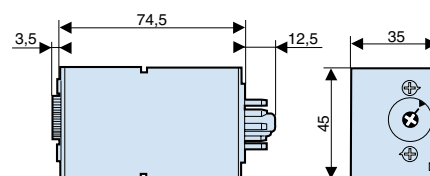
Connections (Y1 = C, Function diagrams)



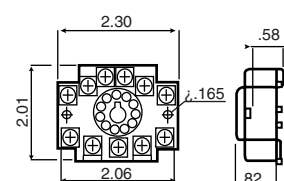
Functions:
A - At / H - Ht / B / C
Di - D / Ac / BW



Dimensions



Accessories



11-pin connector base
S11

To order, specify:

1 Type

2 Part number

3 Accessories

Example: Chronos 2 Timers PU2R1 88 867 305

11-pin connector base S11

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Consult factory for application assistance.