

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)	± 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	30 ms
- Typically under load	100 ms
Maximum reset time by de-energisation	
- Typically	100 ms
Immunity to breaks in supply voltage: typically	>10 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 x 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	0.4 V

Other information

For special features, functions etc. please contact us.

Timing	0.1s • 100h
Types	
	OL2R1
Part numbers and voltage	
24V $\overline{\text{---}}$ / 24 • 240V \sim	88 867 801
12V \sim / $\overline{\text{---}}$	—
12 • 240V \sim / $\overline{\text{---}}$	—
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	

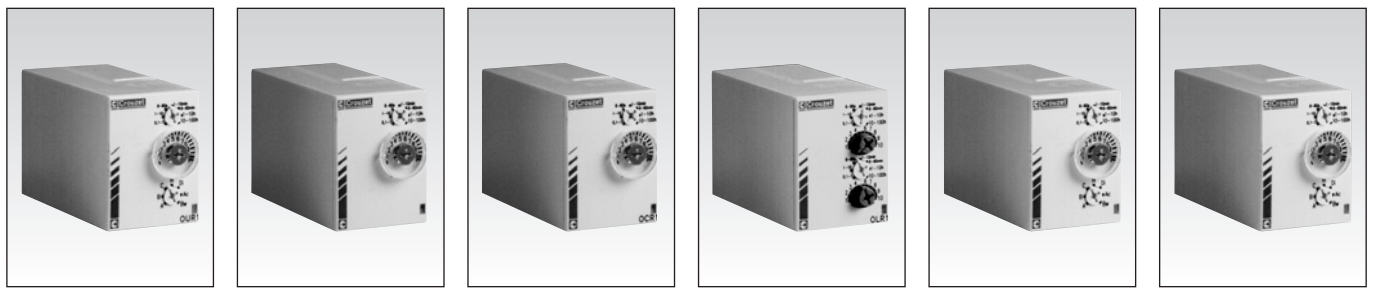
General specifications

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 °C + 60 °C
- stored	-30 °C + 60 °C
Installation category (acc. to IEC 664-1)	Voltage surge category
	4 kV / 3
Creepage distance and clearance acc. to IEC 664-1	
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	Level III (Air 8 K / Contact 6 KV)
- Immunity to electrostatic discharges acc. to IEC 1000-42	Level III 10V/m: 80 MHz to 1 GHz)
- Immunity to electrostatic fields acc. to ENV 50140/204 (IEC 1000-4-3)	Level III (direct 2kV/ Capacitive coupling clamp 1 KV)
- Immunity to rapid transient bursts acc. to IEC 1000-4-4	Level III (common mode 2 KV / residual current mode 1KV)
- Immunity to shock waves on power supply acc. to IEC 1000-4-5	Level III (10V rms: 0.15 MHz to 80 MHz)
- Immunity to radiofrequency in common mode acc. to ENV	
- 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.

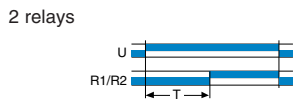
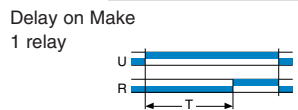
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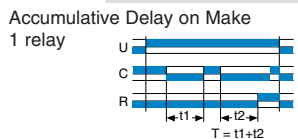
0.1s • 100h	0.1s • 100h	0.1s • 100h	0.1s • 100h	0.1s • 100h	0.1s • 100h
OUR1	OA2R1	OCR1	OLR1	OUR4	OUR3
88 867 105	88 867 215	88 867 135	88 867 155	88 867 100	88 867 103
Multi-function A - At - B - C - H - Ht - Di - D - Ac - Bw	Mono-function A	Mono-function C	Bifunction Li - L	Multi-function A - At - B - C - H - Ht - Di - D - Ac - Bw	Multi-function 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

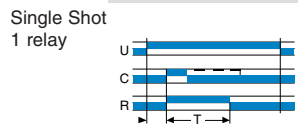
Function A



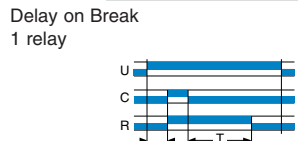
Function At



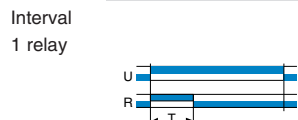
Function B



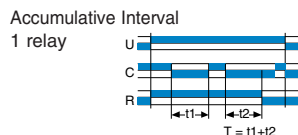
Function C



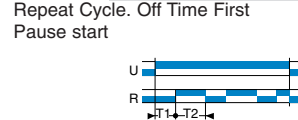
Function H



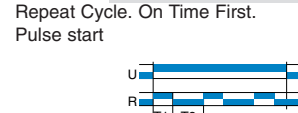
Function Ht



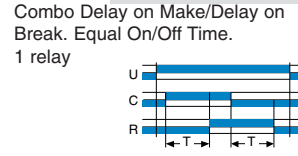
Function L



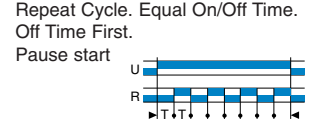
Function Li



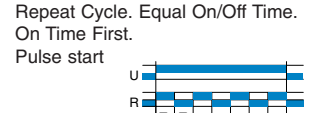
Function Ac



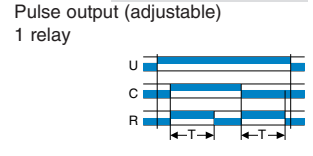
Function D



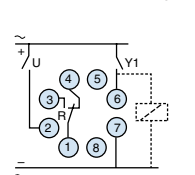
Function Di



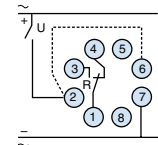
Function Bw



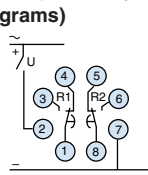
Connections: 8-pin 1 relay



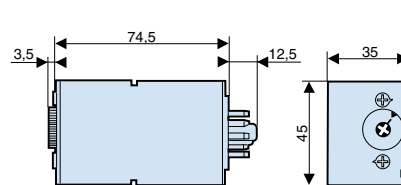
8-pin 2 relay (Y1 = C, Function diagrams)



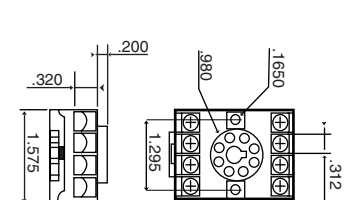
8-pin 2 relay



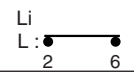
Dimensions



Accessories



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



A

To order, specify:

- 1** Type
 - 2** Part number
 - 3** Part number
- Example: Chronos 2 Timers OUR1 88 867 105 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)	± 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 6/13
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 x 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	0.4 V

Other information

For special features, functions, etc. please contact us.

Timing

Types

Part numbers and voltage

24V ≡ / 24 • 240V ~

12 V ~ / ≡

12 • 240 V ~ / ≡

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

Level III

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

(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

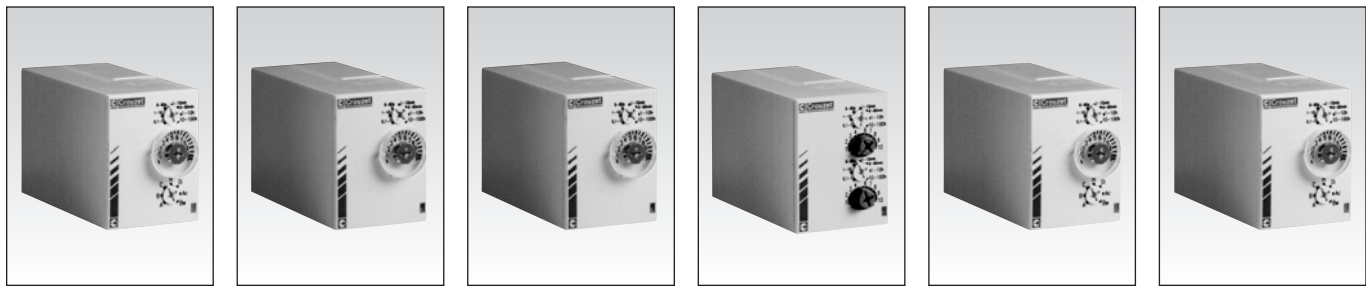
Weight: plug-in casing

Self-extinguishing
80 g

Products and specifications subject to change without notice.

Consult factory for application assistance.

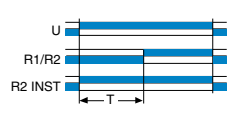
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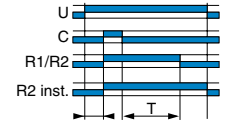
0.1s • 100h	0.1s • 100h	0.1s • 100h	0.1s • 100h	0.1s • 100h	0.1s • 100h
PU2R1	PA2R1	PC2R1	PL2R1	PU2R4	PU2R3
88 867 305	88 867 415	88 867 435	88 867 455	-	-
-	-	-	-	88 867 300	-
Multi-function	Bifunction	Mono-function	Bifunction	Multi-function	Multi-function
A - At - B - C - H - Ht - Di - D - Ac - Bw	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

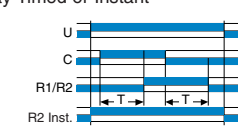
Function A
 Delay on Make
 1 Relay Timed and
 1 Relay Timed or Instant



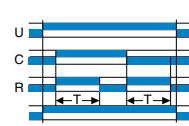
Function C
 Delay on Break
 1 Relay Timed and
 1 Relay Timed or Instant



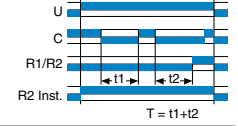
Function Ac
 Combo Delay on Make/Delay on Break. Equal On/Off Time.
 1 Relay Timed and
 1 Relay Timed or Instant



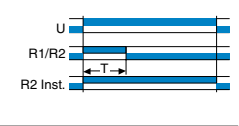
Function Bw
 Pulse output (adjustable)
 1 Relay Timed and
 1 Relay Timed or Instant



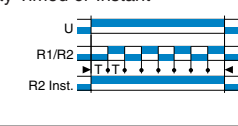
Function At
 Accumulative Delay on Make
 1 Relay Timed and
 1 Relay Timed or Instant



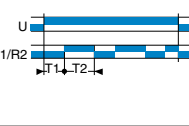
Function H
 Interval
 1 Relay Timed and
 1 Relay Timed or Instant



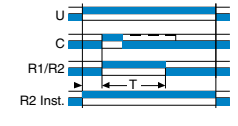
Function D
 Repeat Cycle
 Equal On/Off Time. Off Time First.
 1 Relay Timed and
 1 Relay Timed or Instant



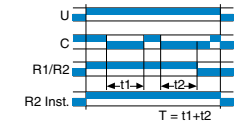
Function L
 Repeat Cycle.
 Off Time First.
 2 relays



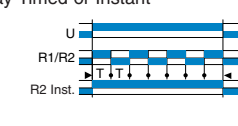
Function B
 Single Shot
 1 Relay Timed and
 1 Relay Timed or Instant



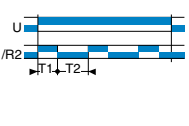
Function Ht
 Accumulative Interval
 1 Relay Timed and
 1 Relay Timed or Instant



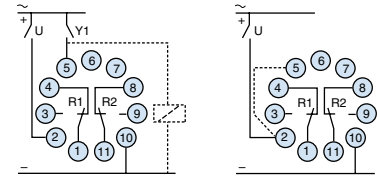
Function Di
 Repeat Cycle.
 On Time First.
 1 Relay Timed and
 1 Relay Timed or Instant



Function Li
 Repeat Cycle.
 On Time First.
 2 relays

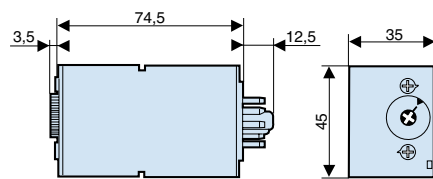


Connections (Y1 = C, Function diagrams)

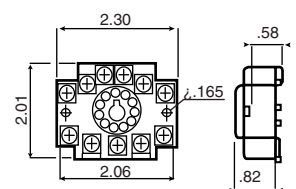


Functions:
 A - At / H - Ht / B / C
 Di - D / Ac / Bw
 Li
 L: 2 5

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

Products and specifications subject to change without notice.
 Consult factory for application assistance.

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