



**finder**<sup>®</sup>  
SWITCH TO THE FUTURE

# Plug-in timers 8 A



Drying kilns



Industrial furnaces and ovens



Industrial washing machines



Hoists and cranes



Wood-processing machines



Medical and dentistry

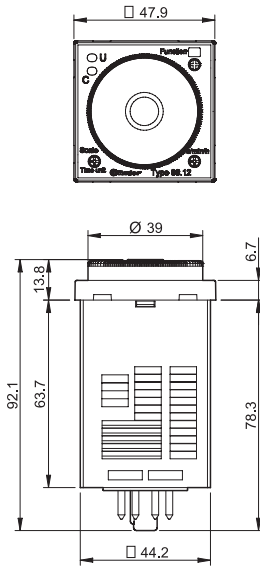


**88**  
SERIES



**Multi-voltage and multi-function timer range**  
**Front panel or socket mount**

- 8 and 11 pin plug-in versions available
- Time scales from 0.05 s to 100 h
- "1 delayed contact + 1 instantaneous contact" version available (type 88.12)
- Front panel mounting fixing included
- 90 series sockets

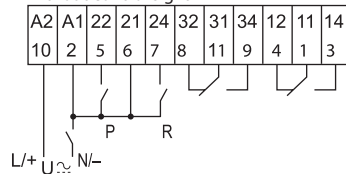


**88.02**

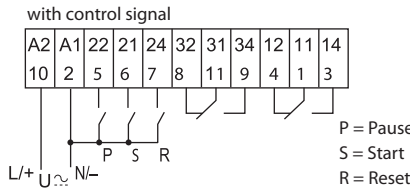


- Multi-function
- 11 pin
- Plug-in for use with 90 series sockets

- AI:** On-delay  
**DI:** Interval  
**GI:** Pulse delayed  
**SP:** Symmetrical flasher (starting pulse off) without control signal



- BE:** Off-delay with control signal  
**CEa:** On- and off-delay with control signal  
**DE:** Interval with control signal on with control signal

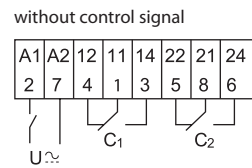


**88.12**



- Multi-function
- 8 pin, 2 timed contacts or 1 timed + 1 instantaneous contact
- Plug-in for use with 90 series sockets

- AI a:** On-delay (2 timed contacts)  
**AI b:** On-delay (1 timed + 1 instantaneous contact)  
**DI a:** Interval (2 timed contacts)  
**DI b:** Interval (1 timed + 1 instantaneous contact)  
**GI:** Pulse delayed  
**SW:** Symmetrical flasher (starting pulse on)



**Contact specification**

Contact configuration		2 CO (DPDT)	2 CO (DPDT)
Rated current/Maximum peak current	A	8/15	8/15
Rated voltage/Maximum switching voltage	V AC	250/400	250/400
Rated load AC1	VA	2000	2000
Rated load AC15 (230 V AC)	VA	400	400
Single phase motor rating (230 V AC)	kW	0.3	0.3
Breaking capacity DC1: 30/110/220 V	A	8/0.3/0.12	8/0.3/0.12
Minimum switching load	mW (V/mA)	300 (5/5)	300 (5/5)
Standard contact material		AgNi	AgNi

**Supply specification**

Nominal voltage (U <sub>n</sub> )	V AC (50/60 Hz)	24...230	24...230
	V DC	24...230	24...230
Rated power AC/DC	VA (50 Hz)/W	2.5 (230 V)/1 (24 V)	2.5 (230 V)/1.5 (24 V)
Operating range	V AC	20.4...264.5	20.4...264.5
	V DC	20.4...264.5	20.4...264.5

**Technical data**

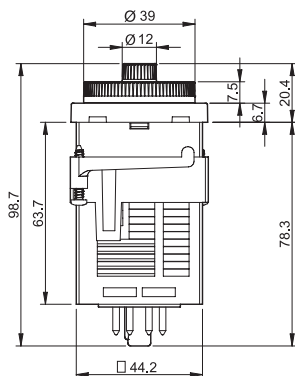
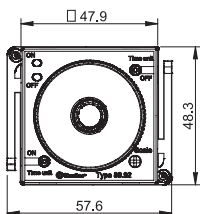
Specified time range		(0.05 s...5 h) - (0.05 s...10 h) - (0.05 s...50 h) - (0.05 s...100 h)	
Repeatability	%	± 1	± 1
Recovery time	ms	300	200
Minimum control impulse	ms	50	—
Setting accuracy-full range	%	± 3	± 3
Electrical life at rated load AC1	cycles	100 · 10 <sup>3</sup>	100 · 10 <sup>3</sup>
Ambient temperature range	°C	-10...+55	-10...+55
Protection category		IP 40	IP 40

**Approvals** (according to type)



**Multi-voltage and mono-function timer range**  
**Front panel or socket mount**

- Asymmetrical flasher The ON and OFF time are independently adjustable
- 8 pin plug-in
- Time scales from 0.05 s to 300 h
- 2 contacts
- Front panel mounting fixing included
- 90 series sockets



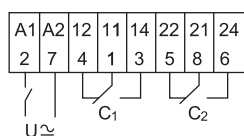
**88.92 - 0000**



- Mono-function
- 8 pin, 2 timed contacts
- Plug-in for use with 90 series sockets

**PI:** Asymmetrical flasher (starting pulse OFF)

without control signal



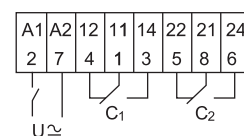
**88.92 - 0001**



- Mono-function
- 8 pin, 2 timed contacts
- Plug-in for use with 90 series sockets

**LI:** Asymmetrical flasher (starting pulse ON)

without control signal



**Contact specification**

Contact configuration		2 CO (DPDT)	2 CO (DPDT)
Rated current/Maximum peak current	A	8/15	8/15
Rated voltage/ Maximum switching voltage	V AC	250/400	250/400
Rated load AC1	VA	2000	2000
Rated load AC15 (230 V AC)	VA	400	400
Single phase motor rating (230 V AC)	kW	0.3	0.3
Breaking capacity DC1: 30/110/220 V	A	8/0.3/0.12	8/0.3/0.12
Minimum switching load	mW (V/mA)	300 (5/5)	300 (5/5)
Standard contact material		AgNi	AgNi

**Supply specification**

Nominal voltage (U <sub>N</sub> )	V AC (50/60 Hz)	12...240	12...240
	V DC	12...240	12...240
Rated power AC/DC	VA (50 Hz)/W	2.5 (230 V)/1.5 (24 V)	2.5 (230 V)/1.5 (24 V)
Operating range	V AC	10.8...264.5	10.8...264.5
	V DC	10.8...264.5	10.8...264.5

**Technical data**

Specified time range		See "Time Scale" page 5	See "Time Scale" page 5
Repeatability	%	± 1	± 1
Recovery time	ms	200	200
Minimum control impulse	ms	—	—
Setting accuracy-full range	%	± 1	± 1
Electrical life at rated load AC1	cycles	100 · 10 <sup>3</sup>	100 · 10 <sup>3</sup>
Ambient temperature range	°C	-10...+55	-10...+55
Protection category		IP 40	IP 40

**Approvals** (according to type)



### Ordering information

Example: 88 series multi-function timer, 2 CO (DPDT) 8 A contacts, (24...230)V AC (50/60 Hz) and (24...230)V DC supply.

<b>8</b>	<b>8</b>	<b>.</b>	<b>0</b>	<b>.</b>	<b>2</b>	<b>.</b>	<b>0</b>	<b>.</b>	<b>2</b>	<b>3</b>	<b>0</b>	<b>.</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2</b>
<b>Series</b>			<b>Type</b>			<b>No. of poles</b>			<b>Special versions</b>							
0 = Functions AI, DI, GI, SP, BE, CEa, DE, 11 pin			0 = Functions AI, DI, GI, SP, BE, CEa, DE, 11 pin			2 = 2 pole			0 = Functions PI (starting pulse OFF) for 88.92 1 = Functions LI (starting pulse ON) for 88.92 2 = Standard							
1 = Functions AI a, AI b, DI a, DI b, GI, SW, 8 pin			1 = Functions AI a, AI b, DI a, DI b, GI, SW, 8 pin						<b>Supply voltage</b>							
9 = Functions LI, PI, 8 pin			9 = Functions LI, PI, 8 pin						230 = (24...230)V AC/DC for 88.02, 88.12 240 = (12...240)V AC/DC for 88.92							
<b>Supply version</b>			0 = AC (50/60 Hz)/DC						<b>Codes</b>							
									88.02.0.230.0002 88.12.0.230.0002 88.92.0.240.0000 88.92.0.240.0001							

### Technical data

#### EMC specifications

Type of test	Reference standard	88.02/88.12	88.92
Electrostatic discharge	contact discharge	EN 61000-4-2	4 kV
	air discharge	EN 61000-4-2	8 kV
Radio-frequency electromagnetic field (80 ÷ 1000 MHz)	EN 61000-4-3	10 V/m	10 V/m
Fast transients (burst) (5-50 ns, 5 kHz) on Supply terminals	EN 61000-4-4	2 kV	—
Surges (1.2/50 µs) on Supply terminals	common mode	EN 61000-4-5	2 kV
	differential mode	EN 61000-4-5	1 kV
Radio-frequency common mode (0.15 ÷ 80 MHz) on Supply terminals	EN 61000-4-6	3 V	—

### Selection of: function, time scale and units

	88.02	88.12	88.92 - 0000	88.92 - 0001
<b>Function</b>	AI, DI, GI, SP, BE, CEa, DE	AI a, AI b, DI a, DI b, GI, SW	PI	LI
<b>Time scale</b>	0.5, 1, 5, 10		1.2, 3, 12, 30	
<b>Unit of time</b>	s (second), min (minute), h (hour), 10 h (10 hours)		s (second), 10 s (second x 10), min (minute), 10 min (minute x 10), h (hour), 10 h (hour x 10)	

### Time scales

#### Full scale value for types 88.02, 88.12

D \ H	s	min	h	10 h
0.5	0.5 second	0.5 minute	0.5 hour	5 hour
1	1 second	1 minute	1 hour	10 hour
5	5 second	5 minute	5 hour	50 hour
10	10 second	10 minute	10 hour	100 hour

#### Full scale value for type 88.92

H \ D-E	s	10 s	min	10 min	h	10 h
1.2	1.2 second	12 second	1.2 minute	12 minute	1.2 hour	12 hour
3	3 second	30 second	3 minute	30 minute	3 hour	30 hour
12	12 second	120 second	12 minute	120 minute	12 hour	120 hour
30	30 second	300 second	30 minute	300 minute	30 hour	300 hour

NOTE: time scales and functions must be set before energising the timer.

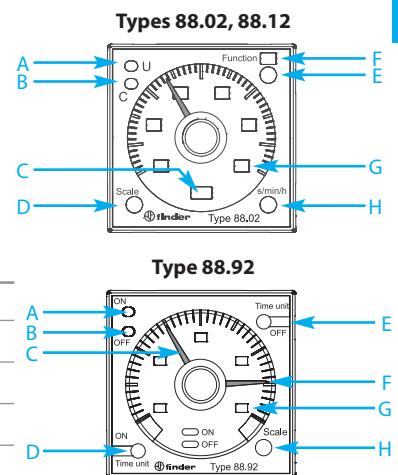
### LED/visual indication

#### Types 88.02, 88.12

<b>A</b>	Yellow LED: power ON (U)
<b>B</b>	Red LED: timing in progress (C)
<b>C</b>	Unit of time selected
<b>D</b>	Time scale selector
<b>E</b>	Function selector
<b>F</b>	Function selected
<b>G</b>	Time scale selected
<b>H</b>	Unit of time selector

#### Type 88.92

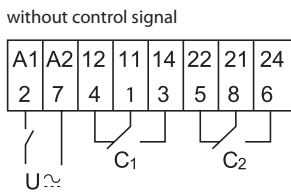
<b>A</b>	Red LED: pulse ON (T1)
<b>B</b>	Green LED: pulse OFF (T2)
<b>C</b>	Red timing regulator: T1 time setting
<b>D</b>	Unit of time selector: T1 (ON)
<b>E</b>	Unit of time selector: T2 (OFF)
<b>F</b>	Green timing regulator: T2 time setting
<b>G</b>	Time scale selected
<b>H</b>	Time scale selector



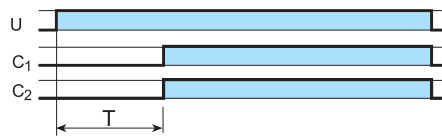


Functions for type 88.12

Wiring diagram

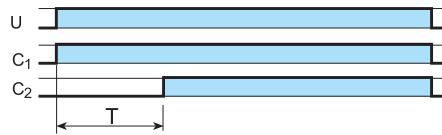


Type 88.12



**(AI a) On-delay (2 timed contacts).**

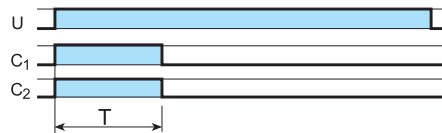
Apply power to timer.  
Contacts (C<sub>1</sub> and C<sub>2</sub>) transfer after preset time has elapsed.  
Reset occurs when power is removed.



**(AI b) On-delay**

**(1 timed contact + 1 instantaneous contact).**

Apply power to timer. Output contact (C<sub>1</sub>) transfers immediately.  
Contact (C<sub>2</sub>) transfers after the preset time has elapsed.  
Reset occurs when power is removed.



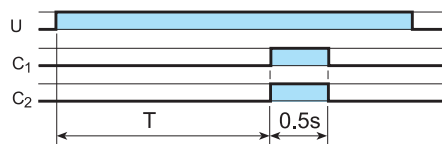
**(DI a) Interval (2 timed contacts).**

Apply power to timer.  
Output contacts (C<sub>1</sub> and C<sub>2</sub>) transfer immediately.  
After preset time has elapsed, the contacts reset.



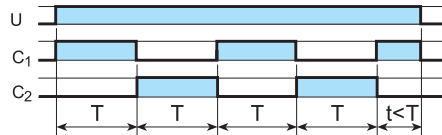
**(DI b) Interval (1 timed contact + 1 instantaneous contact).**

Apply power to timer. Output contacts (C<sub>1</sub> and C<sub>2</sub>) transfer immediately. After preset time has elapsed, the contact (C<sub>2</sub>) resets.  
Contact (C<sub>1</sub>) resets when power is removed.



**(GI) Pulse delayed.**

Apply power to timer. Output contacts transfer after preset time has elapsed. Reset occurs after a fixed time of 0.5 s.



**(SW) Symmetrical flasher (starting pulse on).**

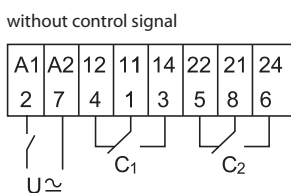
Apply power to timer. Output contacts transfer immediately and cycle between ON and OFF for as long as power is applied.  
The ratio is 1:1 (time on = time off).

Functions for type 88.92

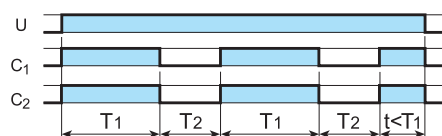
U = Supply Voltage

	LED ON (red)	LED OFF (green)	Supply voltage	Contact	
				Open	Closed
_____	_____	_____	OFF	11 - 14 21 - 24	11 - 12 21 - 22
█	█	_____	ON	11 - 12 21 - 22	11 - 14 21 - 24
_____	_____	█	ON	11 - 14 21 - 24	11 - 12 21 - 22

Wiring diagram

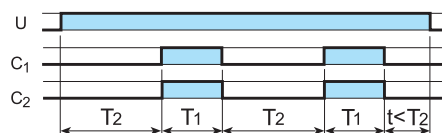


Type 88.92



**(LI) Asymmetrical flasher (starting pulse ON).**

Apply power to timer. Output contacts transfer immediately and cycle between ON and OFF for as long as power is applied. The ON and OFF times are independently adjustable.



**(PI) Asymmetrical flasher (starting pulse OFF).**

Apply power to timer. Output contacts transfer after time T<sub>2</sub> has elapsed and cycle between OFF and ON for as long as power is applied. The ON and OFF times are independently adjustable.

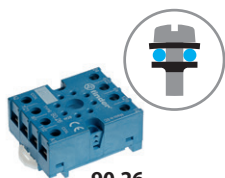
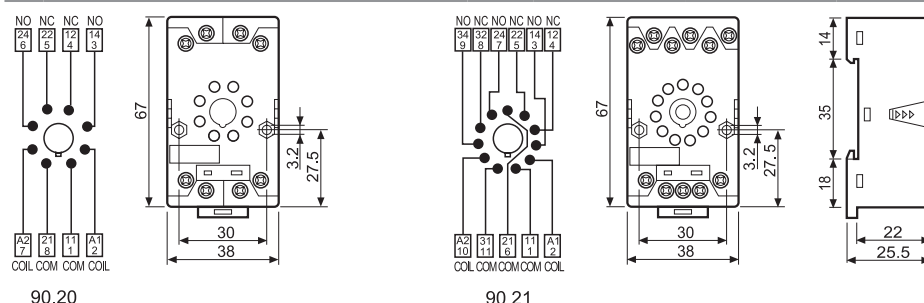


90.21

Approvals  
(according to type):



Screw terminal (Box clamp) socket panel or 35 mm rail (EN 60715) mount	90.20 Blue	90.20.0 Black	90.21 Blue	90.21.0 Black
For timer type	88.12, 88.92		88.02	
<b>Technical data</b>				
Rated values	10 A - 250 V			
Dielectric strength	2 kV AC			
Protection category	IP 20			
Ambient temperature	°C -40...+70			
Screw torque	Nm 0.5			
Wire strip length	mm 10			
Max. wire size for 90.20 and 90.21 sockets	solid wire		stranded wire	
	mm <sup>2</sup>	1 x 6 / 2 x 2.5		1 x 6 / 2 x 2.5
	AWG	1 x 10 / 2 x 14		1 x 10 / 2 x 14

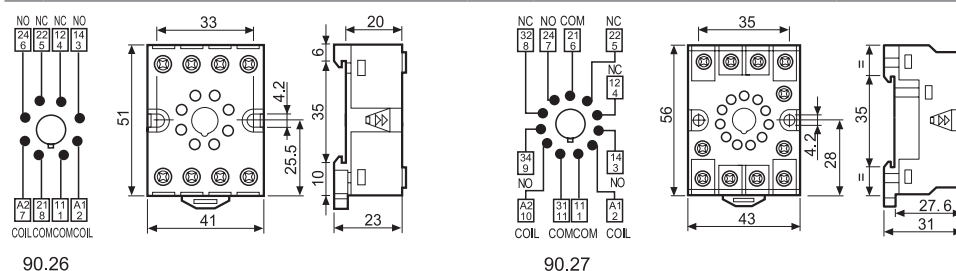


90.26

Approvals  
(according to type):



Screw terminal (Box clamp) socket panel or 35 mm rail (EN 60715) mount	90.26 Blue	90.26.0 Black	90.27 Blue	90.27.0 Black
For timer type	88.12, 88.92		88.02	
<b>Technical data</b>				
Rated values	10 A - 250 V			
Dielectric strength	2 kV AC			
Protection category	IP 20			
Ambient temperature	°C -40...+70			
Screw torque	Nm 0.8			
Wire strip length	mm 10			
Max. wire size for 90.26 and 90.27 sockets	solid wire		stranded wire	
	mm <sup>2</sup>	1 x 4 / 2 x 2.5		1 x 4 / 2 x 2.5
	AWG	1 x 12 / 2 x 14		1 x 12 / 2 x 14

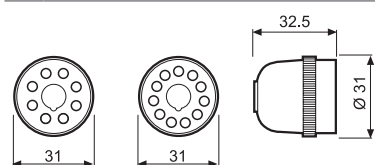


90.13.4

Approvals  
(according to type):



Sockets 8-11 pin backwired with solder terminals	90.12.4 (black)	90.13.4 (black)
For timer type	88.12, 88.92	
<b>Technical data</b>		
Rated values	10 A - 250 V	
Dielectric strength	2 kV AC	
Ambient temperature	°C -40...+70	



90.12.4

90.13.4