

Dr.Timer

TEMPERATURE DEPENDING TIMER

Input measuring outdoor temperature

Outputs 4 relays + 1 relay for alarm

Communication port RS485

Functions

- * 4 timers -channels- runs a specified number of seconds (**RUNTIME**) every number of minutes specified by **CYCLE**.
- * **CYCLE** may be set to 2, 5, 10, 20, 30 or 60 minutes, common for all channels.
- * Actual **RUNTIME** (=OUTPUT%) varies depending on outdoor temperature.
- * High and low temperature is specified, where runtime should be - also specified - maximum and minimum.
- * The four timers shares the time to prevent water pressure to go too low. i.e. a maximum of 25% each. Though, if exceeded, they just run simultaneously.
- * Manual ON/OFF function: push **OUTPUT%** and then **START STOP** . Then use arrow buttons to switch on and off.
- * High and low alarm for outdoor temperature and alarm for broken and shortcut cable.
- * Period for active/inactive function. Two hours can be set to specify sleepmode in the nighttime. Can be set individually for each timer.
- * Outdoor temperature is logged, and may be displayed later. Data may be transferred to PC to be shown in diagrams.
- * Communication and remote control can be provided through Dr.Bell SPEECH COMPUTER, enabling controlling through telephone.

Individual/common data

There is a button for each of the four timers.

A red light show which button is the active - concerning the value in the display.

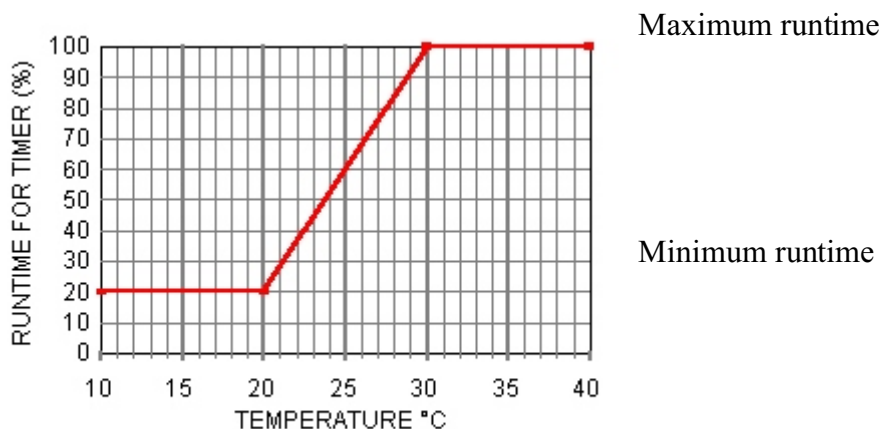
Temperature settings, all four runtime values, daycounter, period is separately for each timer. Cycle is common.

Please note, if buttons should be pressed more than once, this is written with a small figure in high position: **TEMP²** means **TEMP** pressed twice.

The outdoor temperature influence

TEMP²	Temperature, above which runtime is maximum
TEMP³	Temperature, below which runtime is minimum

In between these values the timer runs proportional according to the above values



Runtime

Runtime is specified in seconds.

RUNTIME	Maximum runtime in seconds
RUNTIME²	Minimum runtime in seconds

Automatic change day by day

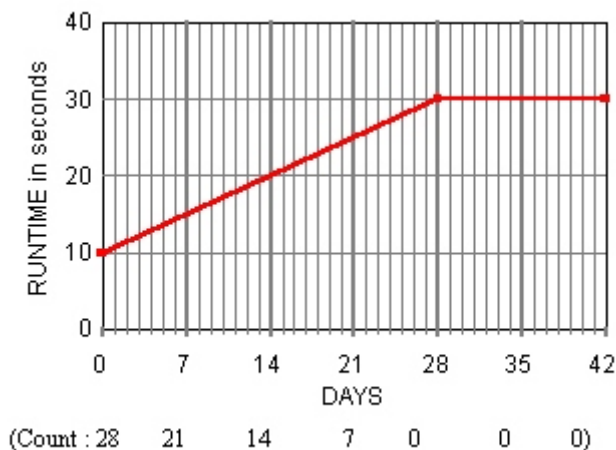
Specify number of days for automatic change of both maximum runtime and minimum runtime:

DAYS	Number of days for automatic change of runtime.
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Also to benefit of this function, the future runtime values must be specified:

RUNTIME³	Maximum runtime in seconds, when DAYS have passed
RUNTIME⁴	Minimum runtime in seconds, when DAYS have passed

When **DAYS** are "0" nothing happens and these future values have no effect.



The counter for **DAYS** counts downwards so in the above example you enter the value "28". When 28 days have passed, **DAYS** displays "0", and nothing further happens.

Cycle

CYCLE	Cycle time in minutes. How often is runtime activated ?
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CYCLE may be set to 2, 5, 10, 20, 30 or 60 minutes, common for all channels.

Cycle is locked to actual **TIME**.

To test you may alter **TIME** to the next starting hour, see next paragraph.

Actual runtime

Actual runtime can be displayed in % and in seconds by pressing **OUTPUT%** button

OUTPUT%	Actual runtime in % of CYCLE
OUTPUT%²	Actual runtime in seconds
OUTPUT%³	Starting hour for next cycle

Period

PERIOD	Hour, where after timer function is active
PERIOD²	Hour, where after timer function is inactive (sleepmode)

* *Default values is 7.00 og 22.00, meaning that timers do not work at night.*

* *Red light flashes in the **PERIOD**- button, when function is inactive.*

Historic

To activate historic mode press arrow down, only when **TEMP** is active. Use **ARROW** - buttons to go back/forward in time. When in this mode you may also press **STATUS**, **TIME** and **DATE** to see the corresponding values for alarm status and time.

Overview

PRESS	DESCRIPTION	Default value	MIN-MAX limits
TEMP	Temperature, outdoor	-	-
TEMP²	Temperature, above which runtime is maximum	30.0	0.0-40.0
TEMP³	Temperature, below which runtime is minimum	20.0	0.0-40.0
RUNTIME	Maximum runtime in seconds	20	0-9999
RUNTIME²	Minimum runtime in seconds	0	0-9999
RUNTIME³	Max.runtime in seconds, when DAYS have passed	20	0-9999
RUNTIME⁴	Min. runtime in seconds, when DAYS have passed	0	0-9999
DAYS	Number of days for automatic change of runtime	0	0-999
CYCLE	Cycle minutes	10	2-60
MAX	When TEMP is active (enters historic mode): Maximum temperature last 24 hours	-	-
MIN	Minimum temperature last 24 hours	-	-
OUTPUT%	Actual runtime in % of CYCLE	-	-
OUTPUT%²	Actual runtime in seconds	-	-
OUTPUT%³	Starting hour for next cycle	-	-
PERIODE	Hour, where after timer function is active	7.00	00.00-
PERIODE²	Hour, where after timer function is inactive (sleepmode)	22.00	23.59
DATE	Date		
RETURN	Returns to displaying temperature, resets SHIFT - mode		
START	When OUTPUT% is active: enters manual mode	-	-
STOP	Other buttons active: toggle alarm supervision		
STATUS	Alarm status code	-	-
STATUS²	Low temperature alarm	-40.0	-40.0-40.0
STATUS³	High temperature alarm	40.0	-40.0-40.0
SHIFT	Enters shift mode for accessing service registers		

Hour counter

OUTPUT % TIME	Hour counter. Separate for each timer	0	0 - 9999
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Service registers

Press SHIFT and then	DESCRIPTION	Default setting	MIN-MAX indtastning
1- 4	Station number. For communication	251-254	0-999
TEMP	Offset. Adjustment of temperature	0.0	10.0
STATUS	Tests alarm relay		
ARROW UP	Shows version No.		
ARROW DOWN	Binary code for dipswitch setting		