



# SW3 Timer How2

**Revision 457**

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# Revision History

Version	Date	Person	Reason For Changes
001	2010-7-07	MDH	Initial
002	2014-4-10	CC	Add example
100	2121-2-21	ML	Reformat and update, add simulator

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# 1 AIM

The aim and goal of this .PDF document is to serve as addition help manual for the use of the Softcon program SoftWin 3 (SW3).

# 2 GENERAL

SW3 provides for numerous system timers (up to 65000) that generate set events on time-out. On events, timers are set to start (loads set, pre-set or current values), stop or set current values. Timers can be set or pre-set to cycle.

Typical examples:

- If operator does not accept an alarm within 60 seconds, sound a siren. If not accepted within 2 minutes, send an SMS.
- While a door is open, give an audible alarm every minute, and send an EMAIL if door remains open for longer than 10 minutes.
- After hours – if no motion is detected for more than 10 minutes, enable the alarm system.

These timers are set-up via the TIMER SETUP list editor with the data below.

Timing out and events sections describe how the system automatically changes certain data.

The (how often) timers are checked are set in the PC set-up PC\_timers, setting which PC does the checking and a delay after which the checking is started after the programs starts (allowing for events to be received that may stop / reload timers (general set-up)).

# 3 SETUP

## 3.1 PC SETUP

For the PC that will process the timers(Normally the server) under Timers Proc insert a tick, as well as set the Timers period (time between checking the timers).

If these columns not visible, right click on list header, select Properties and move these columns from left to right.

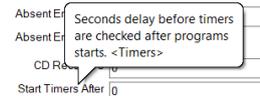
Name	IP address	Master DT	Expiry_proc	Expiry_period	TG Buzzer	Pic Wid...	Pic Hei...	Timers Period	Timers Proc
1 localhost	localhost	localhost	▼	0000-00-00 01:00	PC Buzzer 24 hr	0	0	yyyy-mm-dd hh:mm:10	▼

## 3.2 GENERAL SETUP

General Setup dialog box showing various configuration options. The 'Start Timers After' field is circled in red.

Timers are started (checked) after set seconds after client programs start.

This allows for events to be received that may stop/reload timers.





Clear cycles done.  
 Set time-out DT (of when time-out will occur, real time plus time remain).  
 DT of zero means forever (time remain negative).  
 Set status DT with real time.  
 If cycles remain=0, set status=running.  
 If cycles remain<>0, set status=cycling.  
 Generate started event (see below).

- 82 **Timer stop.** Irrespective of the current status, the system des the following (in order):  
 If time remain is not negative, update (seconds from now till time-out date-time).  
 Set status DT with real time.  
 Set status=stopped.  
 Generate Stopped event (see below).  
 Set time remain: v-2 unchanged v < -3 set to -2  
 v-3 with reload value with v.  
 Set cycle remain: x-2 unchanged x < -3 set to -2.  
 x-3 with cycle value with x.

**Current Status events:**

- 83 Timer in status. Used as event status trigger (as level 55), being true when v equals timer status (see timer status above).

The following events are automatically generated by timers, with current values loaded:

v time remain      x cycles remain      q1 time preload      q2 cycle value      q3 cycles done.

**Status changed events:**

- 85 Timer Started.      86 Timer Stopped.      87 Timer Timed-out.      88 Timer Cycling.      See timing out above.

Timer generated events are set to be logged, displayed, and printed and to trigger other events.

A corresponding time-group sets when the event is an alarm and when the timed report function is active.

See Event Reporting.

- |  |   |
|--|---|
| <p><b>Control Rep, TG</b><br/> <b>Started Rep, TG</b><br/> <b>Cycling Rep, TG</b><br/> <b>Stopped Rep, TG.</b><br/> <b>Timed-out Rep, TG.</b><br/> <b>Time-out result Rep, TG.</b></p> | <p>Control events – set, start and stop.<br/>         Started.<br/>         Cycling.<br/>         Stopped.<br/>         Timed-out.<br/>         Time-out generated event.<br/>         Event is only generated if rep is event or event-tg active (or tg 0).<br/>         Alarm or not is set in event.</p> |
| <p><b>Cycle result Rep, TG.</b></p>  | <p>Cycle generated event.<br/>         Event is only generated if rep is event or event-tg is active (or tg 0).<br/>         Alarm or not is set in event.</p>  |

## 4 EXAMPLE

This example are the settings to active output after timeout:

e.g. Covid temperature scan – on entering reception (reader1), scan body temperature (input 8) within 30 seconds or alarm (output 11).

Timer starts when Badge at Reader 4

Stops when Accept Input is pushed.

Timeout activates alarm = Output 11 (CntrP 1, output 4) for 30 seconds.

### 4.1 OUTPUT SETUP

Description	Level	Status changed	L1 Name	L2 Name	Controller	Port	L_Type	U_Type	U_Type Ref	U_Address	U_Timeout	U_TmoutR...	U_Polarity
1 Reception Lock	2	2021/02/19 09:53:33	Open	Closed	CR1 Demo Universal	1		Latch	1	0.0.1	5 Seconds		1
2 Gate Lock	2	2021/02/15 11:28:13	Open	Closed	CR1 Demo Universal	2		Latch	2	1.1.1	5 Seconds		1
3 Siren	2		Alarm	Normal	CR1 Demo Universal	3		Alarm - Alarm	1	1.1.2	30 Seconds		0
4 Beeper	2		Beep	Normal	CR1 Demo Universal	4		Alarm - Beep	2	0.0.3	0 Seconds		0
5 Reception In Green	2		On	Off	CR1 Demo Universal	5		RD LED green	1	0.0.7	0 Seconds		0
6 Reception In Yellow	2		On	Off	CR1 Demo Universal	6		RD LED yellow	2	0.0.8	0 Seconds		0
7 Reception In Red	2		On	Off	CR1 Demo Universal	7		RD LED red	1	0.0.9	0 Seconds		0
8 Reception Out Green	2		On	Off	CR1 Demo Universal	8		RD LED green	1	0.0.10	0 Seconds		0
9 Reception Out Yellow	2		On	Off	CR1 Demo Universal	9		RD LED yellow	1	0.0.11	0 Seconds		0
10 Reception Out Red	2		On	Off	CR1 Demo Universal	10		RD LED red	2	0.0.12	0 Seconds		0
11 Alarm Timer (PC)	2		Alarm	Off	CR1 Demo Universal	11	Aux Output	Aux output	2	0.0.4	30 Seconds		0

Click out Setup Editor – Output.

Either simply edit output 4 of CntrP1 in the list, or right click on the output 4 and edit in the General, level 1 and 2 tabs. For example:

Output name                      Alarm Timer (PC)  
 Output Type                      Aux Output  
 Level 1 name                      Alarm  
 Level 2 name                      Normal  
 On for (U\_Timeout)              30 seconds

### 4.2 TIMER SETUP

Name	Status	Status DT	TriggerEvent	T Reload	T Remain	TimeOut DT	TimeOut Event	StartRep	StartTg	StopRep	StopTg	ToutRep	ToutTg
1 Reception Timeout	Timed-out	2021/02/21 13:21:48	t1 n1 s22 x1 v0 a1	60	20	2021/02/21 13:19:55	t3 n5 s50 v11	EvN,Log,Dis	Sys_1 24hr	EvN,Log,Dis	Sys_1 24hr	EvN,Log,Dis	Sys_1 24hr
2 zT 2	Stopped			0	0								

Click out Setup Editor – Timer

Create a timer (e.g. Reception Timeout) that:

times out after 60 seconds (Tigger Reload)

generating TimeOut Event: Output 11 to level 1

t3 n1 15 s50 v1 (t3=output, number 5, s50=change level to v1).

As required, set Event (can tigger other events), Log (event is logged), Display and Tg for when this happens for:  
**Timer Start, Stop and Timeout.**

Note the Orange above is not setup – changed by the system.

Status changes from Stopped (via event),  
 Running (Triggered and timing out) to  
 Timed-out (was not stopped within 60 seconds after starting)

When Start Event occurs (see event below):

Timer Reload is added to the Status DT (when occurred)

saved to TimeOut DT (when timeout will occur)

TriggerEvent shows what tiggered the start

t1 (reader) n1 (number 1) s22 (entered) x1 (user 1)

## 4.3 EVENT SETUP

Two events are required:

Start Timer when Reader 1 entered

Stop Timer when Input 4 active

### Timer Start

The screenshot shows the 'EVENT' configuration window. At the top, 'Event Name' is set to 'Covid Timer Start' and 'Algorithm' is set to '10'. Below this is a table with columns: PC, Program, Type, System Item, Status, Value, Xref, Alarm, Z1, Z2, Z3. The row contains: Resolve, SCS\_Client, Timer, Reception Timeout, Timer Start, -3, 0, 0, 0, 0, 0. Below the table are 'Add' and 'Del' buttons. Underneath is the 'EVENT TRIGGERS' section with a table: Ref, Reader, Rd 1-1 Reception In, Rd-Access grant, 0, 0, 0, 0, 0. It also has 'Add' and 'Del' buttons.

Select an unused Event – Event, entering a suitable name (e.g. Covid Timer start).

Add Event Trigger and select reader that triggers the event, select Access Granted (Xref=0 is any users).

Enter the algorithm that generated the event (when trigger number occurs) = trigger 10

Add the event to be generated:

The **PC** set to resolve (this PC do the event)

For which Application (**Program**)

Event generated is:

**Type** Timer

**System** which timer

**Status** what to do (start timer)

**Value** -3 sets reload timeout

### Timer Stop

The screenshot shows the 'EVENT' configuration window. At the top, 'Event Name' is set to 'Covid Timer Stop' and 'Algorithm' is set to '11'. Below this is a table with columns: PC, Program, Type, System Item, Status, Value, Xref, Alarm, Z1, Z2, Z3. The row contains: Resolve, SCS\_Client, Timer, Reception Timeout, Timer Stop, 0, 0, 0, 0, 0, 0. Below the table are 'Add' and 'Del' buttons. Underneath is the 'EVENT TRIGGERS' section with a table: Ref, Input, Reception Accept Alarm, Level changed, 1, 0, 0, 0, 0. It also has 'Add' and 'Del' buttons.

Select an unused Event – Event, entering a suitable name (e.g. Covid Timer Stop).

Add Event Trigger and select Input that triggers the event, select Level Changed (V1 for input level 1-active).

Enter the algorithm that generated the event (when trigger number occurs) = trigger 11

Add the event to be generated:

The **PC** set to resolve (this PC do the event)

For which Application (**Program**)

Event generated is:

**Type** Timer

**System** which timer

**Status** what to do (stop timer)

## 5 SIMULATOR

To test without HW, simulate with an Event In simulator:  
 In Tools – select new Event In simulator and edit as:

To Execute the events, click on a line and select F8 (run line).  
 Run t1 – see the timer start.

Run t2 – see timer stop

Note – set input back to normal (else will not see v1 again)

```

Event Simulator: Demo.sim <<STOPPED>>
// EVENT SIMULATOR - DEMO
//-----
// USER MOVEMENT -----
t1 n1 s1022 x1 v0 // User 1 at reader 1

// INPUT CHANGED -----
t2 n4 s1050 x0 v1 // Reception Accept alarm
t2 n4 s1050 x0 v2 // Reception Accept alarm normal
  
```

## 6 EVENT MESSAGES

To see events that occur – select tools – Event messages

t1 n1 s22 x1	Reader 1,	Entered,	User 1
t7 n1 s81 v-3	Timer 1,	Start,	Reload
t7 n1 s85 v60	Timer 1,	Started,	60
t2 n4 s50 v1	Input 4,	LevelChanged	1
t7 n1 s82	Timer 1,	Stop	
t7 n1 s86	Timer 1,	Stopped	
t2 n4 s50 v1	Input 4,	LevelChanged	1
t7 n1 s81 v-3	Timer 1,	Start,	Reload
t7 n1 s85 v60	Timer 1,	Started,	60
t7 n1 s87 v60	Timer 1,	TimeOut,	60

```

Event Messages <<RUNNING>>
2021/02/21 18:51:18 t1 n1 s22 x1 v0 a1
2021/02/21 18:51:18 t7 n1 s81 x0 v-3 a0 zB1 zD1 zE22 zF1
2021/02/21 18:51:18 t7 n1 s85 x0 v60 a0 z160
2021/02/21 18:51:56 t2 n4 s50 x0 v1 a1
2021/02/21 18:51:56 t7 n1 s82 x0 v0 a0
2021/02/21 18:51:56 t7 n1 s86 x0 v22 a0 z160
2021/02/21 18:51:57 t2 n4 s50 x0 v2 a1
2021/02/21 18:52:01 t1 n1 s22 x1 v0 a1
2021/02/21 18:52:01 t7 n1 s81 x0 v-3 a0 zB1 zD1 zE22 zF1
2021/02/21 18:52:01 t7 n1 s85 x0 v60 a0 z160
2021/02/21 18:53:04 t7 n1 s87 x0 v60 a0 z160 z31
  
```