What our TIMER Series?

For some of our customers, expensive PLCs and complex control systems are not needed. In many applications a simplified system would be sufficient or they have a very specific requirement to open and close the actuator to a certain timing schedule or simply just drive open then drive close and repeat. Our Timer series can handle all of these requirements. The Smart series of AVA actuators have onboard firmware which allows us to configure the functionality via the firmware. For the Timer series we are able to configure up to 50 actuations per day over a 7 day schedule. The actuators have proven to be very popular for agricultural applications where a 7 day timer can be used as part of an irrigation system or for pulse mode is used for a more simplistic on off application. The actuator saves the need of relays and control panels to tell the actuator to open and close, to trigger relays etc. The actuators are also available Failsafe. The two main modes are;

**PULSE MODE** -

Pulse mode allows the user to set the actuator to ‘pulse’ ON OFF ON OFF ON OFF repeat. The user can set the time they want to elapse whilst opening for example before it closes the actuator. This can be the time it takes to fully open, it could be fully open and then wait 1 hour or it could be run half the working time to achieve a half open status and then close. This mode is very popular with our customers.

**TIMER MODE** -

The Timer mode is used where the user requires the valve to open and close and certain times through the day or week. The actuator has a full 24-7 timer built in with date stamp and can be programmed to open and close up to 50 timers per day, that’s 350 movements per week. This is very popular where a customer for example wants the actuator to open for 10 minutes at 9am, 12pm, 3pm and 6pm. The actuator will open at these times and can then can stay open for however long is required. All programmable via the intuitive onboard software. **Now that’s Smart!**
Technical data

1. Time actuator clock precision: about 3‰/day
2. Built-in clock keep battery of time actuator: disposable button battery (battery type CR2032/CR1220) or rechargeable Ni-MH battery. When external power supplied, battery will not consumption. The max maintain time at power off of disposable button battery: <3 months, the max useful time: one year;
   After disposable button battery power-off, once time valve power-cut, the system clock will disappear, it need to reset clock whenever power-on.
   The max maintain time at power of rechargeable Ni-MH battery: ≤3 months, unchangeable battery!
3. Please notice to keep screw of upper and lower cover fixed tightly, after open cover to change battery, meanwhile torque of fixing screw should less than 1.5 Nm, or screw will be slip off.
5. Loop mode: [Loop_Day] loop by days, [Loop_Week] loop by weeks.
6. Time range of Mode_Pulse: 1s~1s2800s (1s~23hour).
7. The maximum array of Mode_Time: 50
8. Interval period of the Loop_Day: 0~99 days, 0: it refers to a continuous execution.
9. Loop_Week: set whether to activate the timer every day.

Notice: With the power off, the actuator will automatically perform the OFF/ON valve control command.
Menu operations — User setting mode

Long press ⑤ button to enter Timer setting mode

Clock SET
YYMD: 20YY-MM-DD
HNS: HH:MM:SS

Press ⑥

Timer_Mode:
Press K3 to select: PULSE

Select timer mode: PULSE mode or TIME mode

Press ⑧ to switch time mode

MODE_PULSE
Press M

MODE_PULSE
TON: HH:MM:SS
TOF: HH:MM:SS

MODE_TIME
Press ⑥

01 00:01:00 ON
02 00:01:00 OFF
03 00:02:00 OFF
Sum: 03

Details refer to (Time mode Operation interface instructions)

SET MODE_LOOP
Press K3

DAY: Loop by days, WEEK Loop by weeks.
When Day or Week flickering, press ⑥ to switch loop mode.
Press ⑧ to switch to the second row setting item when flickering, press ⑥ to switch current setting value.

Mode Loop: DAY
Interval: XX
XX means to loop every XX days
XX means to loop everyday

Mode Loop: Week
【XX xx xx xx xx】
Yee: loop
Noo: No loop

Press ⑥

FirstCMD: ON/OFF
Press ⑥

IdleAction: ON/OFF
Press ⑥

PDAAction: ON/OFF
Press ⑥

Timer_Run: YES/NO
Press ⑥

EXITSET: Push K3

Press ⑥

GO BACK
### Time mode operation interface instructions

<table>
<thead>
<tr>
<th>Time</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>01 00:01:00 ON</td>
<td>Serial number-time execution command</td>
</tr>
<tr>
<td>02 00:00:00 OFF</td>
<td>Start current setting</td>
</tr>
<tr>
<td>03 00:00:00 OFF</td>
<td>Cancel current setting</td>
</tr>
<tr>
<td>04 00:00:00 OFF</td>
<td>Exit current setting interface</td>
</tr>
</tbody>
</table>

- The first row exists: means the last item value before current setting item, which could only be browsed.
- The second row exists: could switch current setting item by K2.
- The third row exists: means the next item value after current setting item, which could only be browsed.

**Edition symbol**: `▼` means existing current record, while editing current time.
```
+ means the current serial number record is new addition.
```
Default: blue means current flickering item.

### Function key operation instructions

#### Modify area definition

1. When the first item of A area flickering, press M to switch to “setting loop mode interface”, press K2 to switch to second flickering item of A area.
2. When the second item of A area flickering, press M to switch among A, B, C area rapidly.
3. At B area, press M would switch to C area whenever item flickering.
4. At C area, press M would switch to A area whenever item flickering.
5. Press K2 to switch flickering position in turn, wherever at A, B, C area.
6. When current position flickering, press K3 to modify or set command of current flickering item.

#### Switching procedure

- Press ⑤ to select “SET MODE_LOOP”.
- Press ④ to select the area to be switched.

#### A area pressing operation function instructions

- If ID=Sum, ID=0, it will show current setting message, white edition symbol will indicate ▼.
- If ID=Sum, it will show setting message of ID=Sum, but control command negates, and indicate green part, while edition symbol will show ▼, which means the addition item.
- If ID->0, it will show setting message of ID=1 at first row, or the first will be blank.
- If D=1<Sum, it will show setting message of ID=1 at third row, or the third will be blank.

**Special Notes**: It could browse previous setting record rapidly by pressing ① at this position.
AVA TIMER SERIES
OVERVIEW

B area, C area existed edition time operation instructions

Add a time at B area, C area operation instructions

Special Notes: Switch rapidly by flexibly pressing @ in edition, in order to improve setting efficiency, since it could only move step by step in using @.
Mode_Pulse:

00:00:00 → 23:59:59
1 Day

00:00:00 → 23:59:59
1 Day

00:00:00 → 23:59:59
1 Day

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Mode_Time:

Start Time

00:00:00 -- 23:59:59
1 Day

T01 OFF
00:00:00

T02 ON
01:05:00

T03 OFF
01:35:10

T04 ON
04:35:10

T05 OFF
05:15:00

Txx ON
18:10:00

Txx OFF
20:15:00

Txx ON
21:35:00

Txx OFF
22:05:00

Txx ON
23:59:59

Notice: Start at 00:00:00, If T01=00:00, Sensors act T01 command, or it will act Firmware command.

Start Time

00:00:00 -- 23:59:59
1 Day

T01 OFF
00:00:00

T02 ON
01:00:00

T03 OFF
01:30:10

T04 ON
04:30:10

T05 OFF
05:10:00

Txx ON
18:10:00

Txx OFF
20:15:00

Txx ON
21:35:00

Txx OFF
22:05:00

Txx ON
23:59:59

Notice: If any time between Tx and Tx+1, act Tx command.
AVA TIMER SERIES
OVERVIEW

Loop_Day:

First day
Second day
... day

Every 00 day means continue acting

Every XX days, means timer do not loop in blue when
IdleAction=ON

XX day

Every XX days, means timer do not loop in blue when
IdleAction=OFF

XX day

Loop_Week:

Mon. Loop
Tue. Loop
Wed. Loop
Thu. Loop
Fri. Loop
Sat. Loop
Sun. Loop

Mon. Loop
Tue. No-loop
Wed. Loop
Thu. No-loop
Fri. Loop
Sat. Loop
Sun. Loop

IdleAction=OFF

Mon. Loop
Tue. No-loop
Wed. Loop
Thu. No-loop
Fri. Loop
Sat. Loop
Sun. Loop

IdleAction=OFF

Mon. Loop
Tue. No-loop
Wed. Loop
Thu. No-loop
Fri. Loop
Sat. Loop
Sun. Loop

IdleAction=ON

Mon. Loop
Tue. No-loop
Wed. Loop
Thu. No-loop
Fri. Loop
Sat. Loop
Sun. Loop

IdleAction=ON

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