

In order to understand the “Smart Midnight ClockDIM” function more clearly.

Here provides the example to explain how to create the dimming plan in the “Smart Midnight ClockDIM” .

For example, some customer has dimming plan as the following table shows:

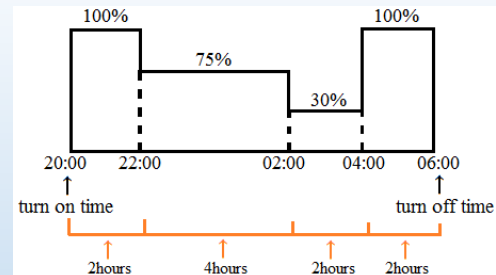
Time	Output Percentage
Turn on the driver—22:00	100%
22:00-02:00	75%
02:00-04:00	30%
04:00—until turn off the driver	100%

Generally, the turn on time of driver is 20:00, turn off time of driver is 06:00.

In order to activate the driver should be perform 3 times valid ON-OFF cycles.

① Let's analyze customer's requirement.

Time	Output Percentage
Turn on the driver—22:00	100%
22:00-02:00	75%
02:00-04:00	30%
04:00—until turn off the driver	100%



Turn on time is 20:00, Turn off time is 06:00

So according to customer's requirement,

the driver will keep 100% output for 2 hours (2hours=22:00-20:00, 20:00 is the turn on time, **it's real time**)

the driver will keep 75% output for 4hours (4hours=02:00-22:00 , **it's real time**)

the driver will keep 30% output for 2 hours (2hours=04:00-02:00 , **it's real time**)

the driver will keep 100% output for 2 hours (2hours=06:00-04:00 , **it's real time**)

② Calculate the starting point of the dimming plan according to the virtual clock formula of “Smart Midnight ClockDIM”

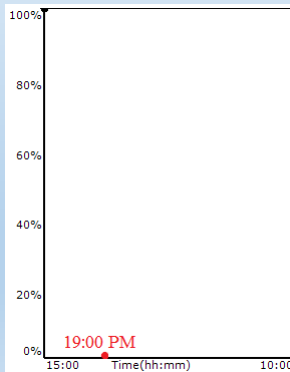
Virtual clock = 00:00 – [T-on average/2] + Mid-point shift

The Mid-point shift of Turkey equals “-10 minutes”, let’s ignore it in advance.

Turn on time is 20:00, Turn off time is 06:00; So the operating time equals 10 hours.

Virtual clock = 00:00 – 10/2 hours = 19:00 PM

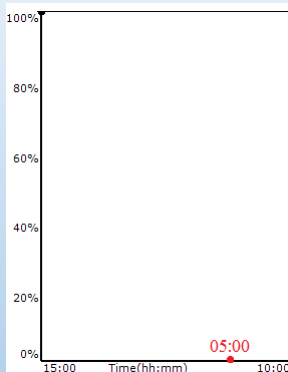
19:00PM is the starting point of the dimming plan.



③ Calculate the ending point of the dimming plan according to operating time

As previous said the starting point of the dimming plan is 19:00 PM, the operating time is 10hours, so the ending point of the dimming plan should 05:00 AM;

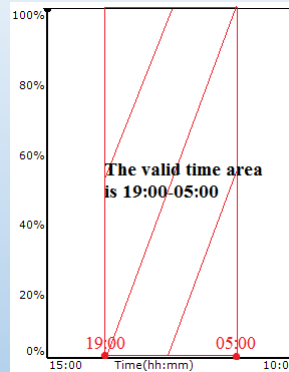
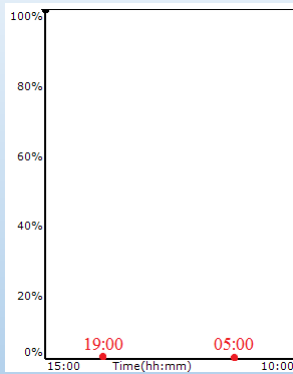
05:00 AM = 19:00 PM + 10 hours



④ Calculate the valid time area in the dimming plan

As previous said the starting point of the dimming plan is 19:00 PM, the operating time is 10hours, the ending point of the dimming plan should 05:00 AM;

So the valid time are in the dimming plan should be 19:00 PM~05:00 AM



The most important point is that 19:00 is the starting point in the dimming plan, you can regard it as turn on driver.

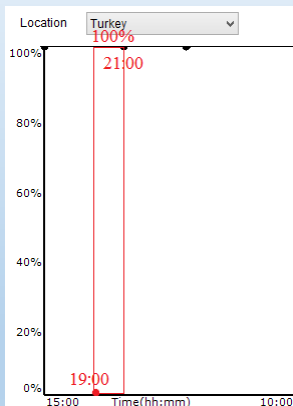
05:00 is the ending point in the dimming plan, you can regard it as turn off driver.

⑤ Draw the dimming plan for “Turn on the driver—22:00, 100% output”

As you said the turn on time is 20:00 generally. So it means the driver should keep 100% output for 2hours after turn on the driver.

Because the starting point in the dimming plan is 19:00, so we should draw 100% output during 19:00-21:00.

21:00- 19:00= 2 hours

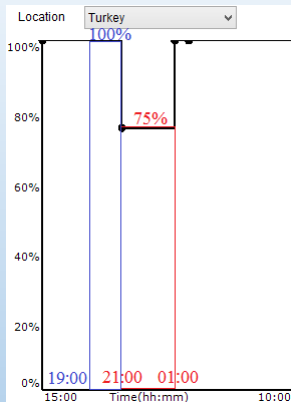


For above figure, you can regard 19:00 (starting point) as that the driver is turned on. It will keep 100% output for 2hours, so the second point should be 21:00.

21:00-19:00=2 hours

⑥ Draw the dimming plan for “22:00-02:00, 75% output”

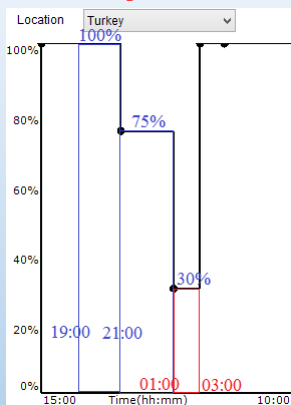
The second point in the dimming plan is 21:00, the driver should output 75% for 4hours(4hours=02:00-22:00), so the third point in the dimming plan should be 01:00.



For above figure, the driver will output 75% for 4hours, after it outputs 100% for 2hours.

⑥ Draw the dimming plan for “02:00-04:00, 30% output”

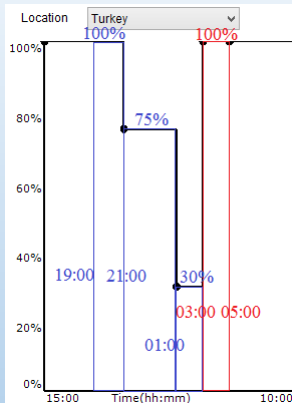
The third point in the dimming plan is 01:00, the driver should output 30% for 2hours(4hours=04:00-02:00), so the fourth point in the dimming plan should be 03:00.



For above figure, the driver will output 30% for 2hours, after it outputs 100% for 2hours, outputs 75% for 4hours

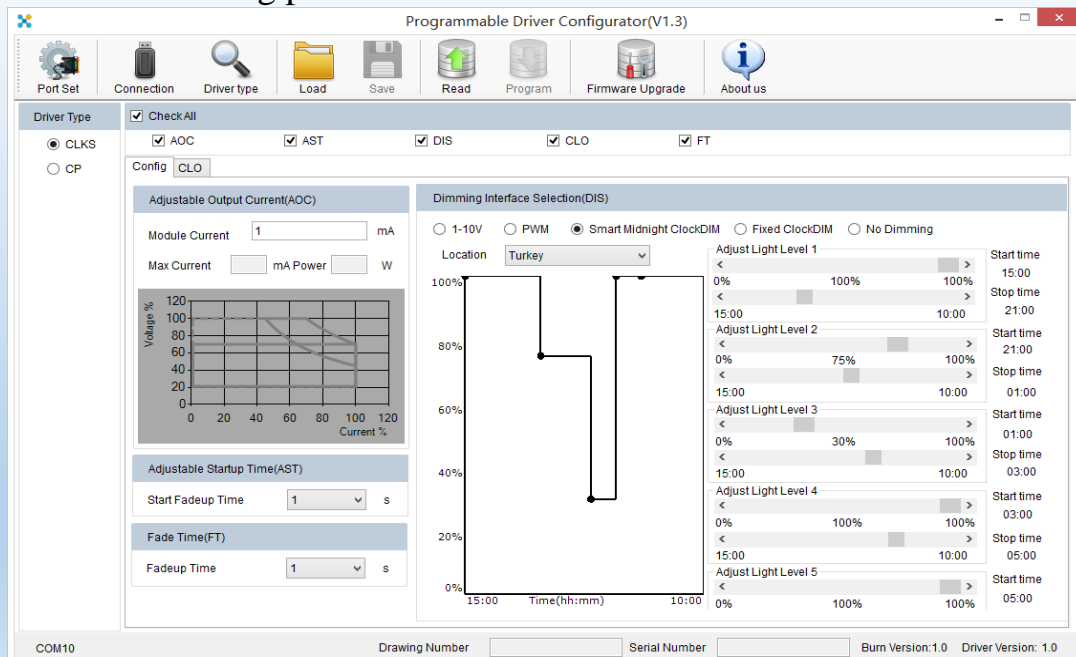
⑦ Draw the dimming plan for “04:00—until turn off the driver, 100%”

The fourth point in the dimming plan is 03:00, and then the driver should output 100% for 2hours(2hours=06:00-04:00, as you said the turn off time is 06:00 generally), so the fifth point in the dimming plan should be 05:00.



For above figure, the driver will output 100% for 2hours, after it outputs 100% for 2hours, outputs 75% for 4hours, outputs 30% for 2hours

⑧ The final dimming plan



Programmable Driver Configurator(V1.3)

Port Set Connection Driver type Load Save Read Program Firmware Upgrade About us

Driver Type

☒ Check All

☒ CLKs ☒ AOC ☒ AST ☒ DIS ☒ CLO ☒ FT

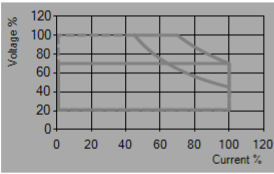
☐ CP

Config CLO

Adjustable Output Current(AOC)

Module Current mA

Max Current mA Power W



Adjustable Startup Time(AST)

Start Fadeup Time s

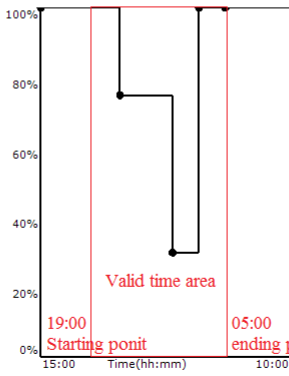
Fade Time(FT)

Fadeup Time s

Dimming Interface Selection(DIS)

☐ 1-10V ☐ PWM ☒ Smart Midnight ClockDIM ☐ Fixed ClockDIM ☐ No Dimming

Location



Adjust Light Level 1

0% 100% 100%

Start time 15:00

Stop time 21:00

Adjust Light Level 2

0% 75% 100%

Start time 21:00

Stop time 01:00

Adjust Light Level 3

0% 30% 100%

Start time 01:00

Stop time 03:00

Adjust Light Level 4

0% 100% 100%

Start time 03:00

Stop time 05:00

Adjust Light Level 5

0% 100% 100%

Start time 05:00

COM10 Drawing Number Serial Number Burn Version:1.0 Driver Version: 1.0