# **FPD PROGRAMMING TOOL**

# LED Drivers / LED Control Gear Output current programmable VEGA Series



**User Manual V2.0.0** 



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# I. Software Requirements

### 1. FPD PROGRAMMING TOOL

To download "www.tci.it/TCI\_tools/FPD\_PROGRAMMING\_TOOL\_127098.zip" and extract the zip file into a directory of your choice. The "setup.exe" is FPD PROGRAMMING TOOL, installer you can just double click it to launch the installer.

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# 2. FTDI Driver

Install the FTDI driver for Windows. Clicking Extract & Click Next



Installation complete and click "Finish" to continue.

Completing the De Installation Wizard	vice Driver I
The drivers were successfully ins	stalled on this computer.
You can now connect your devi came with instructions, please re	ce to this computer. If your device ad them first.
Driver Name	Status
Driver Name V FTDI CDM Driver Packa V FTDI CDM Driver Packa	Status Ready to use Ready to use

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#### II. Connect the device

Step 1. Use a USB cable to connect the FPD PROGRAMMING TOOL to one of your PC's USB host ports.



PROGRAMMING TOOL

Step 2. There are "Blue" & "BLACK" two wires coming out from FPD PROGRAMMING TOOL.

The blue wire connects to LED power driver output, "LED" "-"

The black wire connects to LED power driver output, "LED" "PRG/NTC".



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III. Programming functions and interface					
Function 1:					
Output curr	ent change				
	Programmer tool Status Indicator FPD PROGRAMMING TOOL	- 🗆 X			
	Save Profile Load Profile Read Reset Operate Time Program				
LED driver	Information Interface:				
	LED Driver Module: 🧉				
LED driver ———	Output Voltage(V):       0.0 ~ 0.0       Output Current(mA):       0 ~ 0         Output Current Setting	Output Power(W):     0     Min. Dim:     0%       Module Thermal Protection			
	ModeImage: Dim to OffMin. DimMin. Dim Level (%)10Image: DimStart Dim Voltage (V)8.5Image: DimEnd Dim Voltage (V)1.2Image: Dim	Operation Time =hours         100% = 1400 mA         K Hours       0       10       20       40       60       80       90       100         %       100       100       100       100       100       100       100         %       EOL       EOL Enable       ECL Enable       ECL Enable       ECL Enable			
		FPD PROGRAMMING TOOL			
There are tw	vo status indicators:				
Programme	er Tool Status Indicator – Indicates the	connection status of programmer			
tool. <b>LED Driver Status Indicator</b> – Indicates the connection status of LED power supply.					
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STATUS INDICATOR	COLOR	DESCRIPTION
Programmer Tool	Red/Yellow Blinking	FPD PROGRAMMING TOOL not detected. Programming GUI is searching for an FPD PROGRAMMING TOOL.
	Green Solid	FPD PROGRAMMING TOOL detected. The "Interface" field shows "COM XX" for programming tool or "OBID USB Device" for NFC programming tool.
LED Driver	Red/Yellow Blinking	LED power supply not detected.
	Green Solid	LED power supply is connected. The "LED Driver Module" field shows the Model name. Programming GUI will automatically reads all the settings in the LED driver.

# The status indicators must be displayed in GREEN before starting to program.

Information		1
Interface:		
Programming Tool:		
LED Driver Module:	VEGA 100/600-1400 FPD IP67	-
Output Voltage(V):	~ 143.0 Output Current(mA): 600 ~ 1400 Output Power(W): 100 Min. Dim: 10%	

For speedy setup, to select the desired output current from the drop-down list. (50mA for each step).

Output Current Setting           Current Setting         1000 mA         Seleting	ect the "Select Current"
Select Current (mA) 1000 950 1000 1050 1050 Smart Timer Dim Show Curve	
1100     Smart Timer Dim       1150     1200       Mor     1250       1300     Dim to Off       1350     I       Min     1400	
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If default output current is not desired, you may use "Custom Setting" to change output current. Enter the desired output current value. (1mA for each step)

Output Current Setting		
Current Setting	1000 mA	Select the "Custom Setting"
O Select Current (mA)	Custom Setting (mA)	

## Function 2:

Set the Dim Function to "0~10V" or "Smart Time Dim".

# a) 0~10V Dim function

Set the min. dimming mode to "Dim to off" or "Min. Dim".

Check the box for "Dim to off" or "Min. dim" selection, this is subject to customer application and dimmer capability.

	Dim Function Se	tting				<ul> <li>Show Curve</li> </ul>	
	☑ 0~10V Dim	Smart Timer D	im	Show Curve			
(					<b>\</b>		
	Mode	Dim to Off	O Min.	Dim			
	Min Dim Lovel (%)	10					
	Will. Dilli Level (76)	10	•				
	Start Dim Voltage (V)	8.5	•				
	End Dim Voltage (V)	1.2	•				
U					J		

The output level curve can be viewed using the "Show curve" button.

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# **b)** Smart Time Dim function

0~10V Dim	Setting Smart Timer Dim	Show Curve	
Mode	Dim to Off	O Min. Dim	Chock for sotting
Min. Dim Level (%)	10 🌲		Check for setting
Start Dim Voltage (V	) 8.5		
End Dim Voltage (V)	1.2		
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A new window pops up where different parameters can be set for the smart time dim.

The 'Power on time' determines the time from which the driver starts power on.

The 'Dim Dime Level' can be set in 5 different levels during the on time.

and set the 'Dim Duration' for each Dim level (HH:MM). The max duration of any

Dim level is 4 hours.

When set the 'Output Override' for Human/Photo sensor, short the LED driver Dim+ & Dim- pin, the output Dim level will be rise to 100% (Maximum level).

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## **Function 3:**

LED Module Thermal Protection

It is disabled by default. NTC has to be connected or built in to LED module when this function is active. The max. value for "De-rating Start" is  $30k\Omega$  and De-rating End' is always less than "De-rating Start' value and greater than or equal to zero. Set the Minimum Level between 10-100%.



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Function 4: Constant Lumen Output by compensation										
Consta ✓ Enable	nt Lu	men	Outp	ut	(	Operatio	Sh on Time =	ow Curve	LED Module operation per	riod
K Hours %	0 90	10 100	20 100	30 100	40 100	50 100	60 60	100 mA 100 90		

This function s disabled by default. There are 8 segments to input on the GUI for operation time for K hours and output current percentage.

For K Hours: The first cell is '0' (zero) by default; maximum is 50(K Hours) and minimum is 1 K Hours.

For output current percentage: Maximum is 150% and minimum is 50%.

However, if the set output power is over the designed device power, system will pop up an alarm that output current is over and to decrease the output current.

When aforementioned initial setup and functions are decided, start to bring over LED driver to change the output current.

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Click the "Program" button to start programming, and all the settings will be programmed into the LED driver.

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ave Profile Load Profile Read Reset Operate Time Progr	am
Information	
Interface:	
Programming Iool:	
LED Driver Module: VEGA 100/600-1400 FPD IP67	
Output Voltage(V). 47.0 ~ 145.0 Output Current(mA).	. 600 ~ 1400 Output Power(VV). 100 Win. Dim. 10%
Output Current Setting	Module Thermal Protection
Current Setting 1050	mA Enable
	Derating Start (Kohm) 7.00
Select Current (mA)     O Custom Setting (	(mA) Derating End (Kohm) 7.00
1050 - 1050	TO TO
Dim Function Setting	Constant Lumen Output
O~10V Dim Smart Timer Dim Sho	W Curve Enable Show Curve
	Operation Time = 0 hours
Mode Dim to Off O Min. Dim	K Hours 0 15 25 35 45 55 65 75
Min. Dim Level (%) 20	% 50 55 60 65 70 75 80 85
Start Dim Voltage (V) 8.5	EOL
End Dim Voltage (V) 1.4	EOL Enable
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When the programming has started, the programming view pops up and the message "Start Programming LED Driver ......" is displayed.

FPD PROGRAMMING TOOL	– I X
Information Interface: Programming Tool: LED Driver Module: VEGA 100/600-1400 FPD IP67 Output Voltage(V): 28.5 ~ 57.0 Output Current(mA): 300 ~ 1400 Output Current Setting Current Setting Current Setting	Output Power(W): 40 Min. Dim: 10% Module Thermal Protection LED Driver
Image: Select Current (mA)       Prog. Success :       Prog. Failure :	Done
Dim Function Setting       ☑ 0~10V Dim     □ Smart Timer Dim       Made     ☑ Dim to Of	Constant Lumen Output  Enable  Operation Time = 0 hours  100% = 1400 ma
Mode	100% = 1400 mA         K Hours       0       10       20       30       40       50       60       100         %       90       100       100       100       100       100       90
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When the programming is completed, the message "Programmed successfully....!" or "Programmed Failed....!" will be displayed on the programming view, and automatically count the number of "Prog. Success" or "Prog. Failure".

FPD PROGRAMMING TOOL	5	- • ×
Save Profile Load Profile Read Reset Operate Time Program		
Information		
Interface:		
Programming Tool:		
LED Driver Module: Section VEGA 100/600-1400 FPD IP67		<u>×</u>
Output Voltage(V): 47.0 ~ 143.0 Output Current(mA): 600 ~ 140	0 Output Power(W): 100	Min. Dim: 10%
Output Current Setting	Module Thermal Protection	on
Current Setting Programmed SI	uccessfully!	Show Curve
	Connect the next LED driver **	÷
Select Current (mA)     Prog. Success: 1 pcs		
1400 Prog. Failure :	Done	
Dim Function Setting	Constant Lumen Output	
Ø 0~10V Dim ☐ Smart Timer Dim Show Curve	Enable	Show Curve
		Operation Time = 0 hours
Mode      O Dim to Off      O Min. Dim	K Hours 0 15 25 35	100% = 1400 mA
Min. Dim Level (%)	% 50 55 60 65	70 75 80 85
Start Dim Voltage (V) 8.5	EOL	
End Dim Voltage (V) 1.4	EOL Enable	
	profes	Sional led applications
	FPD	PROGRAMMING TOOL
Information Interface: Programming Tool: LED Driver Module: VEGA 100/600-1400 FPD IP67 Output Voltage(V): 28 5 ~ 57 0 Output Current(mA): 300 ~ 140	10 Output Power/W): 40	 Min Dim: 10%
	Madula Thermal Bastardia	Hin. Chi. 1070
		Show Curve
Programmed		-
Select Current (mA)	Connect the next LED driver **	
Prog. Success : Prog. Failure : 1 pcs	Done	
Dim Function Setting Show Curve	Constant Lumen Output	Show Curve
Mode      O Dim to Off     O Min. Dim		00% = 1400 mA
	K Hours 0 10 20 30	40 50 60 100
Min. Dim Level (%)	% 90 100 100 100	
Start Dim Voltage (V) 8.5	EOL	
End Dim Voltage (V) 1.2	L EOL Enable	
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If the LED driver is not connected, the programming view will display the message "Wait for LED Driver....!". At this time, you can connect the next LED driver to continue programming, or click the "Done" button to close the programming view.



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# Function 5:

Read and check

The Read function will help the user to read the parameters/profile of the LED driver and use the information.

When the LED driver is connected, click the "Read" button will start reading.

FPD PROGRAMMING TOOL	- 🗆 X
Information         Interface:         Programming Tool:         LED Driver Module:         VEGA 100/600-1400 FPD IP67         Output Voltage(V):         28.5 ~ 57.0         Output Current(mA):         300 ~ 1400	 Output Power(W): 40 Min. Dim: 10%
Output Current Setting Current Setting I400 mA Reading Dim Fu	Module Thermal Protection Enable show Curve 41% 500 1 500 1 500 1 500 1 500 1 500 1 500 1 500 1 500 1 500 1 500 1 500 50
1400     ▼       1400     €	Minimun Level (%) 50
Dim Function Setting       ☑ 0~10V Dim     □ Smart Timer Dim       Show Curve	Constant Lumen Output Enable Operation Time =hours
Mode      O Dim to Off      Min. Dim	100% = 1400 mA           K Hours         0         10         20         40         60         80         90         100           %         100         100         100         100         100         100         100
Start Dim Voltage (V)   8.5     End Dim Voltage (V)   1.2	EOL Enable
	FD PROGRAMMING TOOL
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