

# FOUNDATION SERIES ED DRIVERS

PRELIMINARY (Subject to Change)

#### **30W (RECTANGULAR)** CASE STYLES

## PROGRAMMABLE CONSTANT CURRENT LED DRIVERS

## **FEATURES**

- Programmable Class 2 Output
- High Power Density
- Excellent Thermal Management
- Tri-Dim Capability (1% for Triac, ELV and O-10V)
- Dim-to-off Capability
- Universal Input Range 120V-277V
- Dry & Damp Location Rated
- Bottom Feed Option (FTY SKU)



## PROGRAMMING

- Foundations LED drivers are software programmable using the Foundations Programming Portal accessed with the Google Chrome browser on Windows based PCs or Android devices when attached with the Foundation USB Connector. The LED driver does not need to be powered on during programming.
- The Foundations Programming Portal is a secure cloud-based application requiring customer registration. The Portal provides a simple interface to set parameters on the LED drivers for output current and dimming parameters including dim-to-off. Profiles can be generated and stored for the manufacturing environment with easy recall in the menu system. The Portal also provides data records to supplement manufacturing quality systems with model number, date of programming, programmed parameters, and serial number.
  - The Foundation USB Connector gives the physical interface between the Foundations LED Driver and the programming device which can be a Windows based PC or an Android device. The Foundation USB Connector is powered by the USB port on the PC or Android device and uses a common USB-A connection to the PC or Android device and a common USB-C cable to attach the Foundation USB Connector to the Foundations LED Driver.



## **APPROVALS / CERTIFICATIONS**





Patents Pending

## ELECTRICAL CHARACTERISTICS

Max. Power	Programmable Current Range	Output Voltage (VDC)	Input Voltage	Dimming Type	Part Number
30W	350-700mA	20-42	120-277 VAC	Tri-Dim (TRIAC, ELV and 0-10V)	FTX/FTY30-0700T-42-UNV



#### INPUT SPECIFICATIONS

	FTX/FTY30-0700T-42-UNV		
Input Voltage	90-305 VAC (120 / 277 VAC Nominal)		
Input Frequency	47-63Hz (50 / 60 Hz Nominal)		
Input Current (120 / 277)	0.28 / 0.12 A		
Power Factor (120 / 277)	0.99 / 0.98		
THD (120 / 277)	6.9% / 9.3%		
Efficiency (120 / 277)	85.5% / 85.6%		

Input Characteristics: Nominal Input Voltage, Max Load, No Dimmer

## OUTPUT SPECIFICATIONS

	FTX/FTY30-0700T-42-UNV	Notes		
Output Current Programmable Range	350 - 700mA			
Output Voltage Range	20 - 42VDC			
Output Current Load Regulation	2%	Nominal input voltage, full programmed current range		
Output Current Line Regulation	2%	Max load voltage, full programmed current range		
Output Current Overshoot	10%	<500ms		
Start Up Time	<500ms			
Standby Power (120 / 277)	0.21 / 0.80 W			

Start Up Time: 120V; Power Supply for O-10V, SLV-600P for FWD Phase, SELV300P for Rvrs Phase

## PROTECTIONS

Output Overcurrent Protection: Hiccup Mode with Auto Recovery. When the load current exceeds the programmed current by 15%, the output will go into hiccup mode and will auto-recover when the fault is removed.

Output Short Circuit Protection : Hiccup Mode with Auto Recovery. When the output leads are shorted, the output will go into hiccup mode and will auto-recover when the fault is removed.

Over Temperature Protection: Fold Back with Auto Recover. When the internal temperature sensor senses the LED driver above the rated Tc by 60C, the output current will fold back below the programmed current output and will recover when the temperature stabilizes to the normal value.

## ENVIRONMENTAL SPECIFICATIONS

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		Min	Nom	Max	Notes
Max Case Temp				85°C	At Tc Location
Storage Temp		-40°C		85°C	
Humidity				95%	Non-condensing
Acoustic Noise	Class A		<25dB		
MTBF (Hrs)				350,000	At Max Load and Tc <70°C

## SIZING INFORMATION - in [mm]





FTY





## SAFETY & EMC COMPLIANCE

UL, cUL	UL8750, Class P		
FCC 47CFR Part 15	ANSI C63.4:2009 Class B (Consumer Limits) @120VAC, Class A (Commercial) @277		

#### WIRING INFORMATION

Input	AWM 1430 6" Black (L); 6" White (N); 18AWG
Output	AWM 1569 6" Red (+); 6" Blue (-); 18AWG
Dimming	AWM 1430 6" Purple (+); 6" Pink (-); 24AWG

## PACKAGING INFORMATION

Package Weight	6.2oz		
Quantity	25pcs/carton		

## PART NUMBER DECODING



FTX/FTY30-0700T-42-UNV

#### STATEMENTS AND NOTATIONS



Hatch Foundation series source current for the O-10V dimming connections, therefore, use O-10V dimmers that sink current. The dimming is related to the programmed output current.

The dim voltage can be set for max and min to match with a preferred dimming control system. The driver is shipped with the upper voltage set to 10V and the lower voltage set to 1V. During programming, the upper voltage can be set to a value between 8V and 10V in 0.5V increments which corresponds to the voltage where the output will change from full output to dimming output. The lower voltage can be set from 0.4V to 2.0V in 0.1V increments which corresponds to when the light output will achieve the minimum dimming setting.

The driver ships with minimum dimming set at 1% and can be programmed to 5% and 10%, linear or logarithmic. Dim-to-Off can also be programmed as well as the dim-to-off voltage setting for turning off and turning on.

	Min	Typical	Max	Notations
Default Profile (V)	1		10	
Dim Range (%)	1%		100%	Default min dim 1%. Can be set via programming (1%, 5%, 10%)
Upper Voltage (V)	8	10	10	Upper voltage to achieve full light output. Adjustable in 0.5V increments
Lower Voltage (V)	0.4	1	2.0	Lower Voltage to achieve min. light output. Adjustable in increments of 0.1V
Current Supplied (mA)	0.23	0.25	0.27	Source current from driver to 0-10V control
Dim-to-Off Voltages for Turn On	0.6		1.8	Adjustable in increments of 0.1V. Must be set at least 0.2V lower than Lower Voltage
Dim-to-Off Voltage for Turn Off	0.4		1.6V	Adjustable in increments of 0.1V. Must be set at least 0.2V lower than Dim-to-Off Turn On Voltage



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## PHASE DIMMING (TRIAC & ELV)

There are two types of phase dimmers - Leading Edge and Trailing Edge

Forward Phase and TRIAC are leading edge dimming

Reverse Phase and ELV (Electronic Low Voltage) are trailing edge dimming



In forward phase dimming, After current crosses zero, the **TRIAC** component in the circuit turns off until voltage is high enough to turn it back on. This type of dimming produces an inrush current so the installer will need to calculate how many dimmers can be installed on the same circuit. This type of dimmer has a very high install base, it's very inexpensive, and easy to install with one wire.



Reverse phase dimming often uses an electronic low voltage (ELV) dimmer to sense when the waveform is approaching zero then triggers the off time. It's a very stable dimming type with low inrush current and compliments LED loads very well. This type of dimmer requires a neutral wire in the junction box.

## LEADING EDGE DIMMING



#### TRAILING EDGE DIMMING



iziti 813-288-8006

#### COMPATIBILITY

The following dimmers have been tested to confirm compatibility:

Make	Model	Make	Model
LUTRON	Diva DVSTV Series (0-10V)	Lutron	SELV-300P (TE)
???	KD 11A010V (0-10V)		
Leviton	6613-PL (LE)		
Leviton	6615-PL (TE)		
Lutron	DV-600P-WH	Lutron	MFR2-600M-H
Lutron	N600-WH	Lutron	SLV-600P-AL
Lutron	AY-600P-AL	Lutron	DVCL-153PR-WH
Lutron	S-603P-G	Lutron	AYCL-153P-WH
Lutron	DVCL-153P-WH (DUP)	Qplus	BAK-004AG
Leviton	6672-1LW	Leviton	Sureslide 6631
Leviton	TSM10-LAW	Leviton	VP106-1LE
Leviton	IPI06	Cooper	DAL06P-C5
GE	18025	GE	18020
GE	10464	Eaton	9573
Legrand	H703PTuW	Legrand	ADTP703Tu



#### LIFETIME

[Lifetime Curve – life vs tc]

#### PERFORMANCE PLOT



813-288-8006

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