ETC

F-Drive W1/W1E

F-Drive Series

Type(s)

Project

Date

Notes

GENERAL INFORMATION

F-Drive from ETC brings a state of the art LED luminaire power solution within reach. With configurable constant current and constant voltage versions, along with the option to add dual input emergency support, F-Drive provides ETC's industry-leading low voltage power and dimming to both our in-house award winning luminaire range as well as third party fixtures.

FEATURESt

- Four individually addressable outputs
- RJ45 output connector (Constant Current, Fade to Warm, and Chroma)
- Two-position terminal connectors per output for higher gauge wire (maximum 14 AWG)
- DMX/RDM control input
- Emergency version features 40–300 V (AC or DC) sense input for detection of normal power. Forces all outputs to 100% on loss of sense for emergency egress lighting.
- Try out our F-Drive System Design Tool to see what F-Drive can do for your installation.

GENERAL INFORMATION

APPLICATIONS

- Cruise ships
- Schools
- Houses of worship
- Conference centers
- Themed environments
- Retail and hospitality spaces
- Entertainment spaces

ORDERING INFORMATION

Model Numbers

Model	Output Type	Regulatory
FDW1 - F-Drive W1 **FDW1E -** F-Drive W1 Emergency version	**CCD -** Constant Current Driver **CVD -** Constant Voltage Driver **FTWD -** Fade to Warm Driver **CHD -** Chroma Driver* *Chroma Driver not available as an Emergency version.	**(Blank) -** UL **-CE -** CE

Note: W1 Emergency drivers require a secondary power sense connection for correct operation. See Electrical section below for more information.

SPECIFICATION

Control

Protocols	DMX and RDM
RDM configuration	Yes
UI type	None
DMX footprint	See table on page 3
Local control	No
Input method	DMX-512 via terminal connections

Electrical

Power factor	> 0.9			
Output connector	RJ45 and terminal connectors			
Inrush	15 A at 120 V (first half-cycle) 27 A at 240 V (first half-cycle)			
	CCD	**FTWD**	**CVD**	**Chroma**
Voltage input	100-277 VAC 50/60 Hz		100-277 VAC 50/60 Hz	
Output	200–700 mA drive current adjustable via RDM, Auto-sensing 12–48 VDC maximum	450 mA drive current for ArcSystem Navis 100 FTW luminaires	24 VDC	48 VDC power and data
Output wattage max per circuit	33 W (up to card limit)	21.6 W (up to card limit)	50 W (up to card limit)	
Max luminaire load per driver	134 W	86 W	150 W	100 W
Output connector	RJ45 and terminal	RJ45 and terminal	Terminal connectors only	RJ45 only
Max input current per W1 unit	3.1 A	3.1 A	6.2 A	1.7 A
Max input wattage per W1 unit	170 W	170 W	170 W	170 W

Thermal

Ambient operating temperature	0°–40°C (32°–104°F)
Fan (controllable)	Convection cooled
BTUs/hour (120 V/240 V)	581 BTU/hr

Physical

Materials	Steel enclosure, fine-textured, scratch-resistant powder coat paint.
Color options	Equinox grey
Mounting options	Four mounting holes on the interior of the enclosure or external mounting strips for mounting without removing front cover
Cable cutout	Removable plate for contractor hole punching/ drilling
IP rating	IP-20 (dry location)
Humidity	5–95% non-condensing
Weight	3.03 kg (6.7 lb)

Warranty

Driver	5 years
Website	etcconnect.com/Support/Warranty.aspx

Regulatory and Compliance

Approved regulatory standards	Standard version cULus listed to UL 8750 and CSA C22.2 No. 250.13 Emergency version cULus listed to UL 8750 and CSA C22.2 No. 250.13; cULus listed to UL 924 and CSA C22.2 No. 141 Certified by Lloyd's Registry Suitable for use in air handling systems by NEC 300.22(C)(3)

DMX CONTROL

DMX is an accurate and robust control protocol that provides simple control over luminaires. As experts in DMX for decades, systems developed by ETC integrate DMX natively and give designer, integrator, installer, and user an easy, flexible, and robust control system.

F-DRIVE OUTPUT CARD - DMX Personality

DMX Channel	F-Drive Chroma Output Card with Navis RGBW Luminaires		F-Drive FTW Output Card with Navis FTW Luminaires		F-Drive CC, ArcLamp, or CV output card
	Direct (Default)	**IRGB**	**Default**	**Warm Trim**	**Default**
1	Intensity	Intensity	Intensity	Intensity	Intensity
2	Red	Red		Fade to warm scaling	
3	Green	Green			
4	Blue	Blue			
5	White				

CHROMA CONTROL FEATURES

- Default (IRGB) mode automatically integrates the luminaires White LED into all color points where it is applicable. In this mode the luminaire will always mix the brightest version of any given color point.
- In Default (IRGB) mode the native white point of an RGBW luminaire can be set to any of the following calibrated white points: 2700 K, 3000 K, 3500 K, 4000 K, 5000 K.
- Red Shift can be enabled or disabled on any RGBW luminaire using Default (IRGB) mode.
- These features are easily accessed through ETC Concert.

FTW CONTROL FEATURES

- "Warm Trim" mode enables the user to scale the intensity level at which the Red Shift color temperature changes begin to occur.

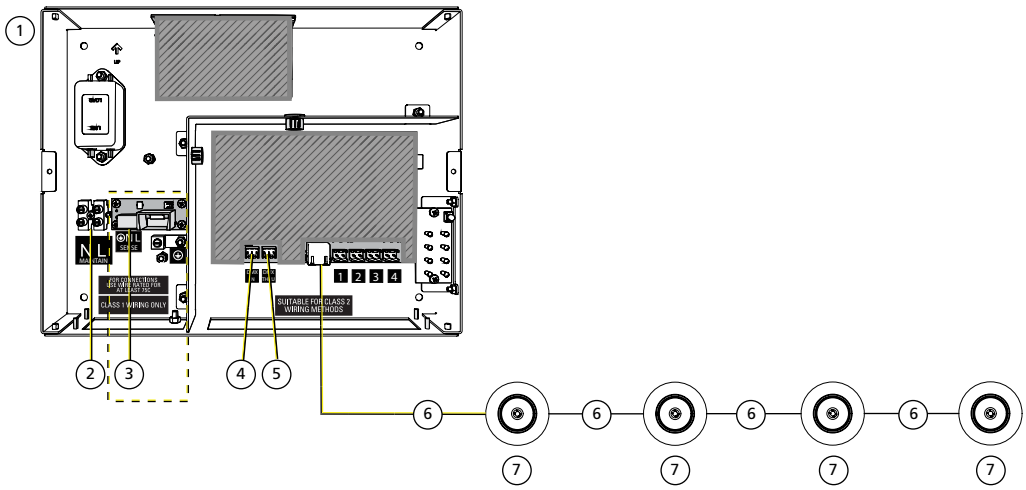
CC CONTROL FEATURES

- Intensity on CC luminaires is controlled via 8-bit DMX which gives 255 controllable levels. Internal smoothing, variable fade times, and curve controls provide even and consistent dimming for standard and customized dimming requirements.

ARCLAMP CONTROL FEATURES

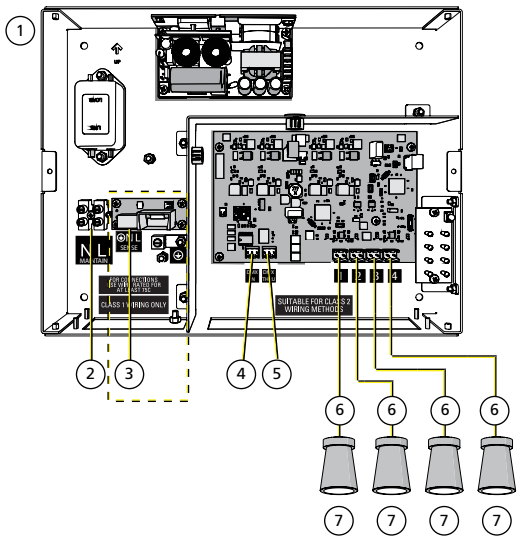
- The ArcLamp output card provides control for luminaires on a per channel basis via 8-bit intensity control with internal smoothing. Luminaire configuration via ETC Concert gives simple minimum and maximum level setting as well as control for White, Fade to warm, and Flicker ArcLamp products.

W1 AND W1E CC/FTW/CHROMA DRIVER WIRING DIAGRAMS



	DESCRIPTION	NOTES
1	F-Drive W1 Driver (CC, FTW, or Chroma)	FDW1CCD, FDW1FTWD, or FDW1CHD FDW1ECCD or FDW1EFTWD (Emergency)
2	Input power	up to 6 mm² (up to 10 AWG) line/neutral, Class 1, rated for at least 75C 2.5–10 mm² (14–6 AWG) ground 100–277 VAC, 50/60 Hz FDW1CCD, FDW1FTWD, or FDW1CHD: normal branch circuit FDW1ECCD or FDW1EFTWD: normal/emergency branch circuit from UL1008 automatic transfer switch (ATS) by others
3	Sense input power (emergency models only)	0.2–2.5 mm² (24–14 AWG) line/neutral/ground 40–300 VAC or VDC normal branch circuit (FDW1ECCD or FDW1EFTWD only)
4	DMX input from external DMX source	Belden 9729 or Cat 5e (or equivalent) with 0.2 mm2 (24 AWG) or larger conductors terminated to T568B standard
5	DMX thru to another F-Drive W1 or other device	Belden 9729 or Cat 5e (or equivalent) with 0.2 mm2 (24 AWG) or larger conductors terminated to T568B standard
6	Category-type cable with 0.25 mm² (23 AWG) or larger conductors (Belden 2412 or 2148 Cat6e)	<48 VDC for Navis 100 White or Navis 100 Fade to Warm, 48 VDC for Navis 100 RGBW. Terminals are not present on F-Drive W1 Chroma models. Terminals on F-Drive W1 CC and W1 FTW models accept 0.2–2.5 mm² (24–14 AWG) Class 2 wiring.
7	Navis luminaire*	W1CCD: Navis 100 White W1FTWD: Navis 100 Fade to Warm W1CHD: Navis 100 RGBW
***** Multiple Navis 100 luminaires directly connected to one W1 driver must be run in a daisy-chain configuration with a maximum of four Navis 100 luminaires per cable run.		
Note: The illustration is not drawn to scale.		

W1 AND W1E CV DRIVER WIRING DIAGRAM



	DESCRIPTION	NOTES
1	F-Drive W1 CV Driver	FDW1CVD FDW1ECVD (Emergency)
2	Input power	Up to 6 mm² (up to 10 AWG) line/neutral, Class 1, rated for at least 75C 2.5–10 mm² (14–6 AWG) ground 100–277 VAC, 50/60 Hz FDW1CVD: normal branch circuit FDW1ECVD: normal/emergency branch circuit from UL1008 automatic transfer switch (ATS) by others
3	Sense input power (emergency models only)	0.2–2.5 mm² (24–14 AWG) line/neutral/ground 40–300 VAC or VDC normal branch circuit (FDW1ECVD only)
4	DMX input from external DMX source	Belden 9729 or Cat 5e (or equivalent) with 0.2 mm² (24 AWG) or larger conductors terminated to T568B standard
5	DMX thru to another F-Drive W1 or other device	Belden 9729 or Cat 5e (or equivalent) with 0.2 mm² (24 AWG) or larger conductors terminated to T568B standard
6	Class 2 wiring	2.5 mm² (14 AWG) recommended* RJ45 output is not present on F-Drive W1 CV models.
7	24 VDC constant voltage load	For use with third-party constant voltage loads only. Not for use with ArcSystem Pro One-Cell or ArcSystem Navis luminaires.

***** See etcconnect.com/compatibility and contact Systems with for assistance with voltage drop calculations based on power required and run length. Visit the F-Drive System Design Tool (etcconnect.com/Products/Power-Controls/LED-Drivers/FDrive/F-Drive-System-Design-Tool.aspx) to design an F-Drive W1 driver system with different luminaires, breakout boxes, cable lengths, and other system components.

Note: The illustration is not drawn to scale.

PHYSICAL

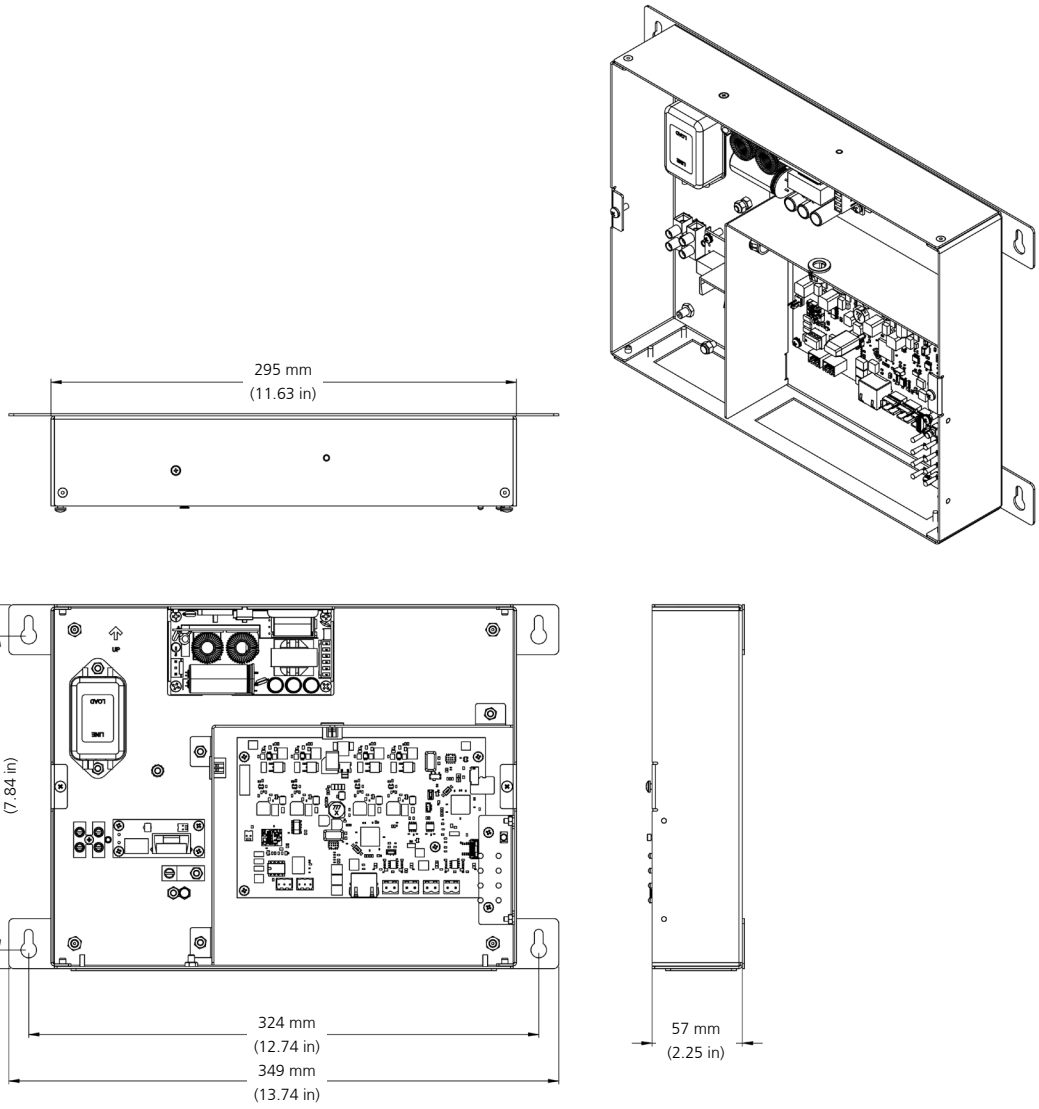
F-Drive W1 Dimensions (excluding mounting bars

MODEL	HEIGHT		WIDTH		DEPTH	
	in	mm	in	mm	in	mm
FDW1	9.09	230.8	11.63	295.4	2.25	57.19

Product Weight

MODEL	WEIGHT		SHIPPING WEIGHT	
	lb	kg	lb	kg
FDW1	6.7	3.03	7.92	3.60

F-DRIVE W1/W1E



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