Mustang™ Series
XEL-051R LED Driver Family

5~55W, 1% Dimming, NFC/Wired Programmable Driver

PRELIMINARY SPECIFICATION

Nominal Input Voltage (Vin)	Family Output Power Range (W)	Output Voltage Range (Vout)	Output Current Range (A)	Max Efficiency (%)	UL Max Case Temp. TC (°C)	THD (%)	Power Factor	Dimming Method	Dimming Range (%)
120~277Vac	5~55W MAX	20~51Vdc	0.11~1.40A	≤ 87% (typical)	90°C	< 20%	> 0.9	0-10V (Isolated Sink / Source)	1-100% (% of Iout)

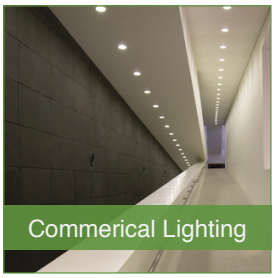
- **Driver Optimized for COB Based Designs**
- **Ideal for Ambient, Recessed & Down Lighting**
- **1% Dimming with Dim-to-Off or Continuous Mode**
- **Programmable Via NFC or Wired Interface**
- **Serial Port Model supports Live Configuration, Control & Reporting**
- **Universal AC input (108~305Vac)**
- **Enables DLC compliant fixtures**
- Turn on/off in less than 500 miliseconds
- Built-in Commercial grade Surge Protection
- Integrated over voltage & open load, over current, short circuit & temperature protection
- Turn on & Full power operation between -30°C to +55°C ambient[1]
- 5 Year Warranty[2]
- Auxiliary Always-On Output (Serial port models only)
- Risk free upgrade path to Zigbee or Bluetooth Control
- UL Class P & Class 2 Output Driver
- Class A Noise Rating
- Complies to FCC CFR Title 47 Part 15 Class B

See product specific data pages for details.

Variants available:

ALTERNATE PACKAGES		WHITE TUNING SERIES	
XEL-051T	XEL-071T	XEL-052R	XEL-072T

Typical Applications



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Dimensions & Installation

(not to scale)

CASE

Material	Painted White Steel
Unit Weight	See variant pages for details
Dimensions	126.5mm x 60.5mm x 30mm / 5.0” x 2.4” x 1.2”

WIRING

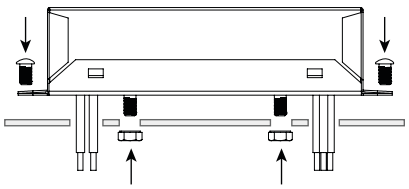
Input Wires	18AWG (UL1569) (**L**:Black, **N**:White)
Output Wires	18AWG (UL1569) (**LED+**:Red, **LED-**:Blue)
Socket	RJ11 - Not on Standard Models, contact sales.
DIM Wires	22AWG (UL1430) (**DIM+**:Violet, **DIM-**:Gray)
Program Wire*	22AWG (UL1430)
Wire Lengths**	152.4mm (±3mm) / 6” (±0.12”)
Strip Lengths	9.5mm (±0.5mm) / 0.375” (±0.02”)

**Only for Wired Programming Variant*
*** Programming Wire Length: 89mm (3.5”)*
‘XenerQi Driver Configuration & programming Tools Manual’ available on request

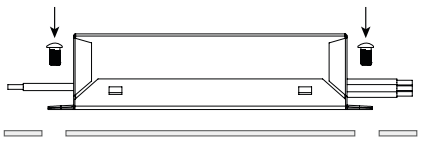
MOUNTING & INSTALLATION

Fixings 2x M6*8mm / 12-24*5/15” Fastners / 2x M4 Nuts

REU (Bottom Exit)



RBU (Side Exit)



WARNING: TO REDUCE THE RISK OF FAILURE / INJURY
DRIVER CASE MUST BE ELECTRICALLY GROUNDED.
DRIVER MUST BE INSTALLED IN LUMINAIRE IN ACCORDANCE WITH THE LOCAL CODES.
FAILURE TO DO SO MAY RESULT IN SERIOUS INJURY AND/ OR DAMAGE TO THE SYSTEM.

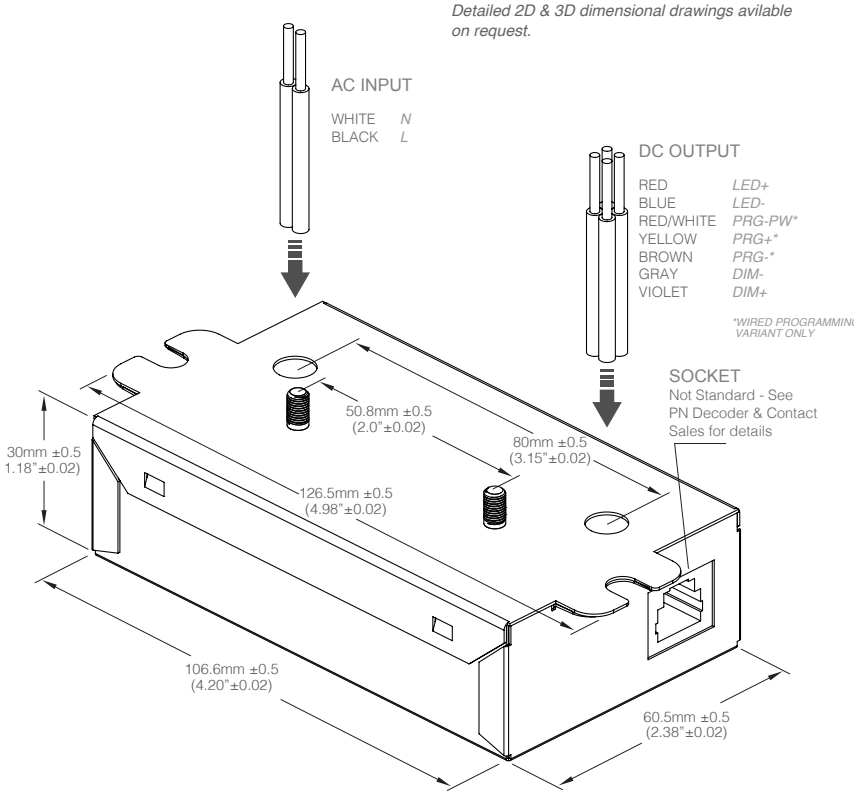
LABELS

Example Label

BOTTOM EXIT WIRE PACKAGE (REU)

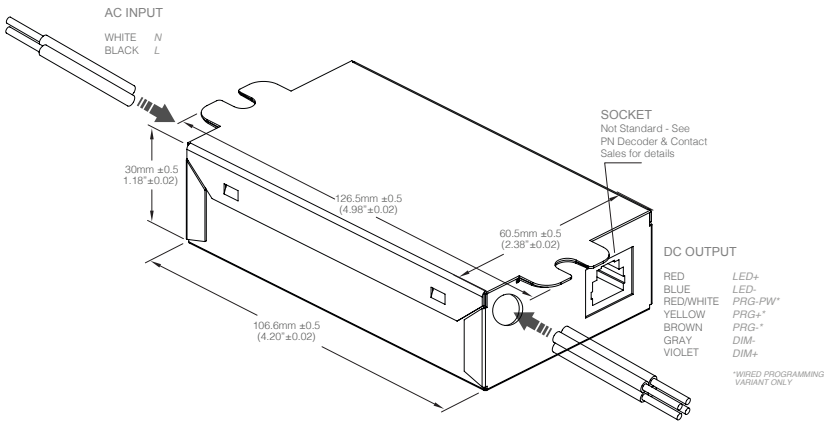
ORDER CODE: **XEL-051REU**

Detailed 2D & 3D dimensional drawings avilable on request.



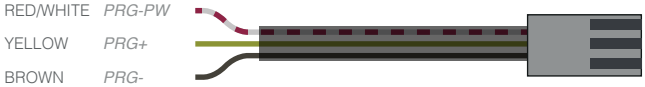
SIDE EXIT WIRE PACKAGE (RBU)

ORDER CODE: **XEL-051RBU** (Non-IC Rated)



PROGRAMMING WIRE

(WIRED PROGRAMMING VARIANT ONLY)



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Specification Data

Output[3]	Programmable Power Range	5~55W MAX (See Available Models for variant specific data)
	Variant Power Ranges	5~12.5W (CX375D), 9.2~23W (CX600D), 12~30W (C1X05D), 22~55W (C1X40D)
	Programmable Current Range	0.11~1.40A (See Available Models for variant specific data)
	Output Voltage Range	20~51Vdc
	Line Regulation[3]	<3.5%
	Load Regulation[3]	<3.5%
	Turn On/Off Time	< 500ms (at full load)
	Stand-by Power	< 1.0W
Input	Voltage Range[4]	120 ~ 277Vac Nominal (108 ~ 305Vac Operational)
	Variant Max Input Power	15.6W (CX375D), 27.9W (CX600D), 36.8W (C1X05D), 65.5W (C1X40D)
	Frequency Range	47 ~ 63 Hz
	Power Factor	PFC > 0.9 at ≥ 40% of full programmed power[4]
	THD	THD < 20% at ≥ 40% of full programmed power[4]
	Typical Inrush Current	<10A @120V (per ANSI test method. Compliant with NEMA410-2015) <20A @277V (per ANSI test method. Compliant with NEMA410-2015)
Programming	NFC (Wireless)	Via NFC (*with standard FEIG programming wand*. Driver can be programmed at power off via NFC or while powered on in the dim to off state)
	Wired	Via Output programming wires
	Factory Set	Factory Programmed (Based on Custom User Configuration File)
Dimming[8]	Modes	DC Analog Dimming control: 0-10Vdc (1%) Sink / Source
	Source Current	100µA (Isolated)
	Compatibility	IEC Compliant. Linear curve
	Dim-to-Off (Default Setting)	Off-to-on: V > 0.85V; On-to-off: V < 0.65V
	Continuous Mode	Dim-to-off is disabled (Driver would remain at lowest DIM level)
Protection	Short Circuit	Auto-restart (after fault removed)
	Over Voltage & Open Load	Vout < 60V (Class-2)
	Over Current	Inherently limited over operational range
	Over Temperature	Current foldback at hotspot greater than 85°C (shut down at <100°C)[5]
Environment	Working Temperature	-30°C ~ 55°C ambient[1] (Tc rated for 90°C)
	Operating Life	50,000 Hours (at 95% max power, Tc < 75C) (*Higher Operating Temperature Model Available - Contact Sales)*
	Working Humidity	20% ~ 90% RH non-condensing
	UL Rating	Dry / Damp location use
	IC Rating	Bottom Wire Exit (REU) version only. *(RBU non-IC rated)*
	Storage Temperature	-40°C ~ 85°C ambient
	Storage Humidity	10% ~ 90% RH non-condensing
	Vibration & Impact Resistance	3 ~ 50Hz 1g (for 30 minutes) / 1 g/s (Impact Resistance)
Safety & EMC	Safety Standards	UL8750, Class 2 (UL1310), Class P rated, NOM
	Noise Rating	Class A (Less than 24dB measured at 1 meter) [3,7]
	EMI Conduction & Radiation	Compliant with FCC CFR Title 47 Part 15 Class B (Class A @ 277V) CAN ICES (A) (B @ 277V) / NMB-005 (A) (B @ 277V)
	EMC Susceptibility	EN61000-4-3, EN61000-4-2, EN61000-4-4
	Transient Immunity	2kV/1kA Combination, 2.5kV Ringwave Modes: L-N, L-G, N-G *For applications with higher surge protection requirements, pair with XenerQi's lighting optimized surge protectors:* 10K Surge Protection: XEL-PA10S-277 / XEL-SU10C-277 20K Surge Protection: XEL-PA20S-277 / XEL-SU20C-277

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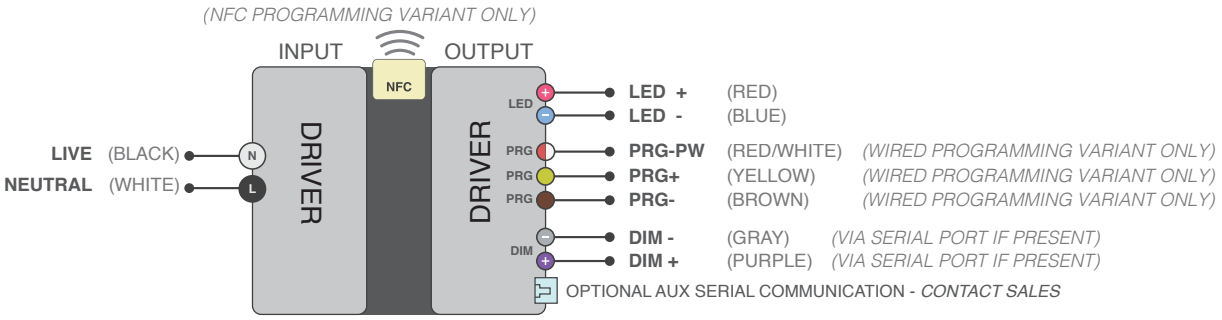
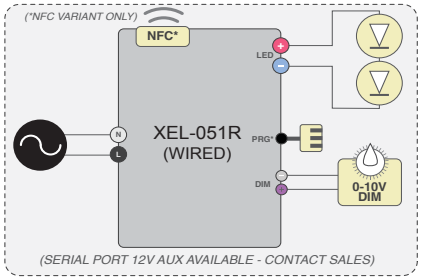
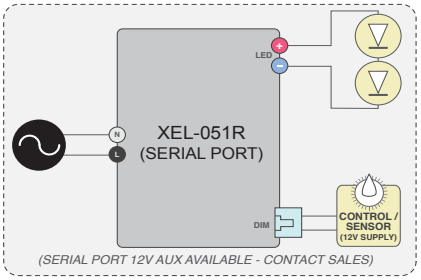
Typical Application & Wiring Diagram







Ordering Codes & Available Models

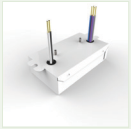
ORDER CODE ('**X**' indicates type/feature selection)

XEL-051R**X**U-C**AAAAA**B-**XZ**ANM-A01

- **E**: Bottom Exit Wires Case
- **B**: Side Exit Wires Case
- **Current Rating** (see model table below)
- *USED ONLY FOR 'FIXED' VARIANTS*
- **W**: NFC Programmable (Wireless)
- **P**: Wired Programmable
- **F**: Factory Set
- **U**: Serial Port Socket & AUX (Contact Sales)*
- **Z**: 0-10V Communication
- **(Wired Programmable Varaint Only)*

CASE OPTIONS:

BOTTOM / SIDE EXIT WIRES

XEL-051R**E**	XEL-051R**B**
	

	Part Number / Ordering Codes (Replace X with case choice)	Programmable Output Current Range (mA)	Min Programmable Current (for 1% Dim)	Output Voltage Range (V)	Maximum Efficiency [6,7]	Max Output (W)
NFC Programmable Variants	XEL-051R**X**U-C1X40D-WZAN-A01*	420~1400	600	20 ~ 51	87.4%	55.0W
	XEL-051R**X**U-C1X05D-WZAN-A01*	315~1050	450	20 ~ 51	86.6%	30.0W
	XEL-051R**X**U-CX600D-WZAN-A01*	180~600	250	20 ~ 51	85.9%	23.0W
	XEL-051R**X**U-CX375D-WZAN-A01*	110~375	150	20 ~ 51	84.0%	12.5W
FACTORY Fixed Variants	XEL-051REU-C1X05D-FZANJ-A01	1050	-	20 ~ 51	TBC	53.6W
	XEL-051REU-CX700D-FZANJ-A01	700	-	20 ~ 51	TBC	35.7W
	XEL-051REU-CX500D-FZANG-A01	500	-	20 ~ 51	TBC	25.5W
	XEL-051REU-CX350D-FZANE-A01	350	-	20 ~ 51	TBC	17.9W
	XEL-051REU-CX250D-FZANC-A01	250	-	20 ~ 51	TBC	12.8W

* Drivers are preset to the maximum programmable current / Replace 'X' with required feature alphanumeric when ordering. Customized Variants available upon request.

[1] Ambient is estimated. Actual temperatures determined by trigger point temperature at driver hotspot. Assumed case is correctly mounted on flat surface.
[2] Warranty refers to operation for conditions listed under "Operating Life". For specific warranty details refer to XenerQi published warranty document.
[3] Parameters guaranteed only over nominal input range.
[4] Shutdown requires power cycle to recover.
[5] Units optimized for LED load Vf as per "Optimized Vf" value in specification data. If not value is specified 36 or 42Vf nom is assumed.
[6] Tested under two conditions: with & without dimmer connected.
[7] Value listed is family maximum or minimum best case value as appropriate & can vary depending on part number.
[8] Driver is designed to meet the 2019 flicker recommendations from IEEE/NEMA with an emphasis on human factors engineering. When the driver is utilized with the appropriate LED load and conditions, the Luminaire should be able to meet IEEE-1789 recommendations for Green/Low-Risk.

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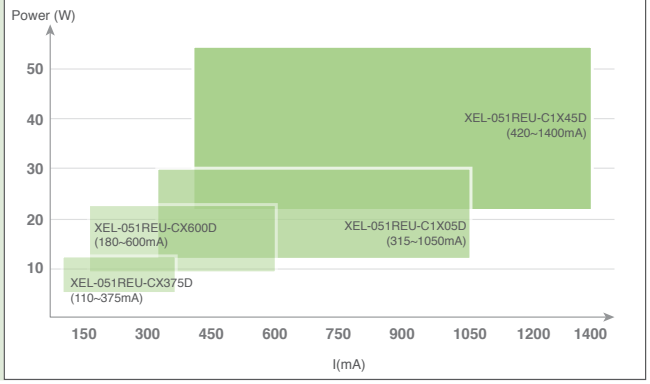
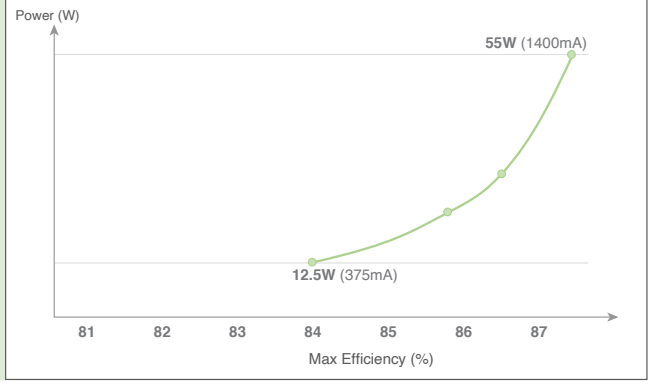
Operation Performance-Family

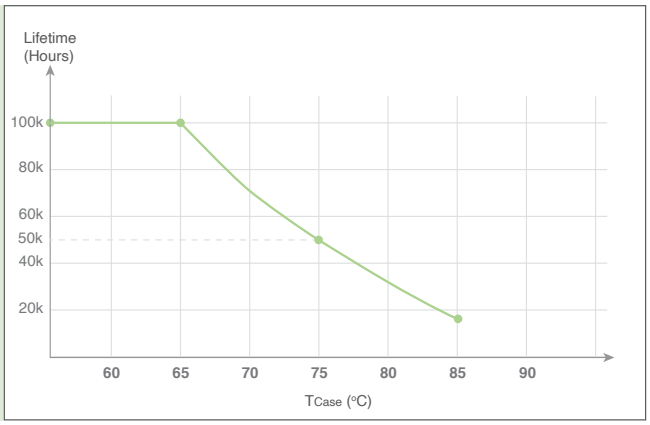
Power / Driver Output Current



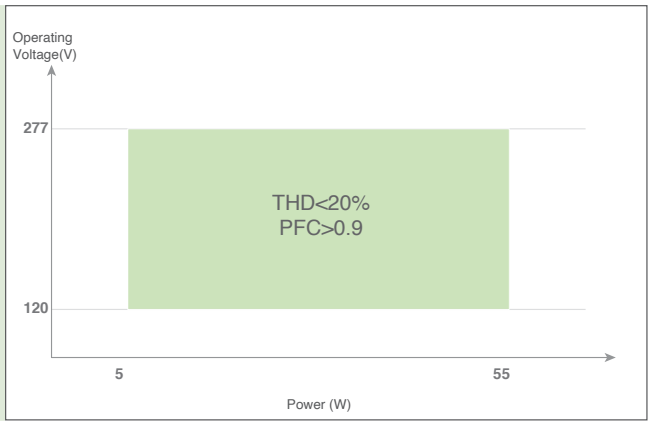
Power (W) Vs Efficiency (%)



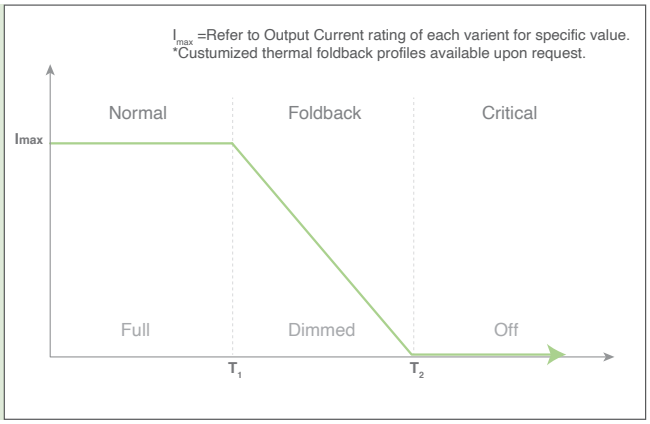
Lifetime Temperature Deteriation



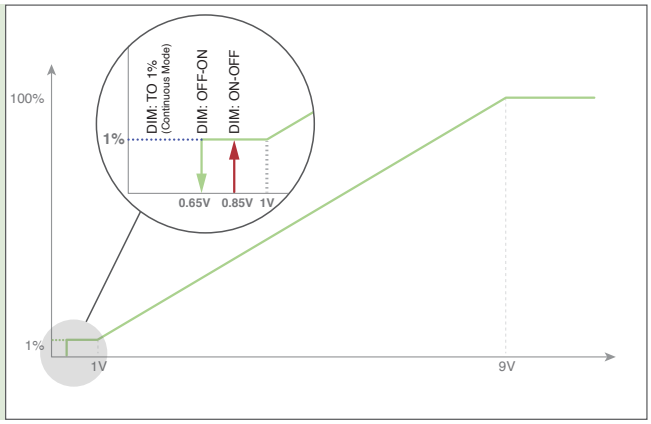
Power Factor / THD Range



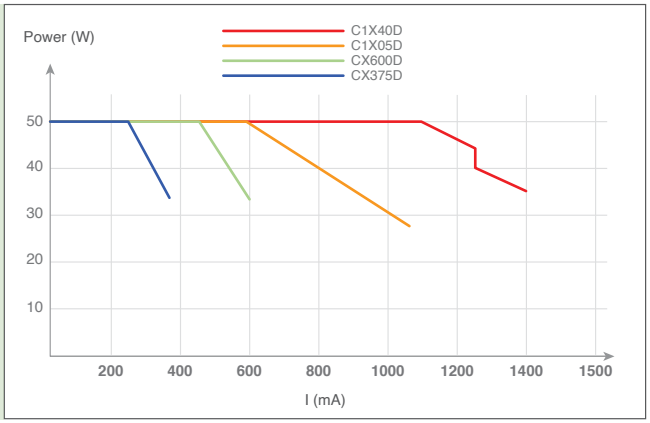
Output Current Vs Temperature[1]



0-10V Dimming Curve



Safe Operating Area



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