Xicato®

XAD

AC-DC Constant Current, Single Channel LED drivers

A member of the Xicato driver family, designed for circular economy, lowest carbon footprint, and smart buildings

Xicato designs and develops light sources, smart drivers, and controls electronics and software that enable architects, designers and building managers to create beautiful, smart spaces in which people love to live and work. With thousands of installations around the globe, Xicato is a leading supplier of high-quality lighting solutions.

For further information, **visit Xicato.com**

XAD Single-Channel 40- & 60-Watt CC Family

The XAD line of highly efficient AC drivers from Xicato is designed for smart lighting control with all the features expected in an industry benchmark product. It offers best-in-class dimming, reliability and durability with an industry leading 10-year warranty and standard form factors that work seamlessly with different LED luminaire designs and lighting applications. Every driver integrates a wireless port for instant upgradability to Bluetooth Mesh in the field. Combined with an Auxiliary port and Universal voltage support, the Xicato line of XAD AC drivers are the solution with universal appeal allowing customers to simplify design, inventory management and ordering process.

- Industry leading 10-year warranty supports reduce, recycle and reuse initiatives, minimizing carbon footprint
- A range of power and programmable drive currents for CC to suit most common applications
- Excellent flicker-free performance with smooth transition to dark for the most demanding applications
- Dim to 0.1% with seamless transition to off
- Superior output current control in 0.1% steps allows fine tuning for optimal lumen control from LES
- Support 0-10V or DALI2 controls with various dimming profiles to suit the application
- Integrated wireless port, ready to upgrade to Bluetooth mesh with a XGC dongle at anytime
- Dual channel drivers for tunable white (CCT control) with Bluetooth capability
- Auxiliary output allows addition of controls devices with no other external power supply required
- Low inrush current and THD avoid stress on main electrical circuits, especially in larger installations
- High power factor and efficiency avoids wasted energy and promotes long life
- Universal AC input voltage for ease of use, single universal designs, and inventory management

XAD is Bluetooth Mesh Ready
- All drivers include a wireless port for BLE
- XGC BLE Dongle maybe installed anytime
- No updates are required to support BLE
- XAD is instantly recognized by Xicato Controls
- XGC is OTA updatable to standard BLE Mesh
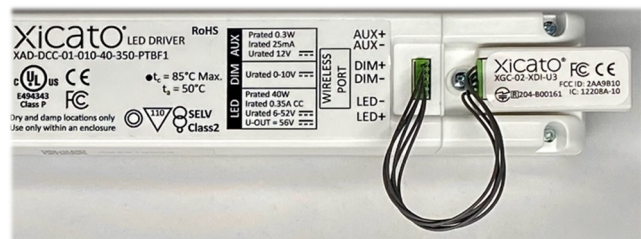
Ordering Guide

Part Numbering Convention / Order Codes

Product Family	Output	Output Channels	Control Protocol	Output Power	Output Current	Physical Design
XAD = Xicato AC (To DC) Driver	DCC = dimmable constant current	01 = 1ch	010 = 0-10V	40 = 40W	350 = 175-350mA	PTBF1 = plastic housing, terminal blocks
		01 = 1ch	DA2 = DALI2	60 = 60W	1400 = 700-1400mA	

INPUT
100-240/277V ∿
50/60Hz
0.45-0.20A
45W
λ 0.97/0.92

L
N
NC
NC

AC Mains Wires
0.75-1.5mm² ☐
18-16 AWG
10mm
3/8"

LED Wires
0.5-1.5mm² ☐
22-16 AWG
Other Wires
0.2-0.5mm² ☐
24-20 AWG
10mm
3/8"

For Connections Use Wire Rated for at Least 90C (194F) or equivalent

Xicato® LED DRIVER
XAD-DCC-01-010-40-350-PTBF1

c(UL)us CE **RoHS**
E494343
Class P FC

● t_c = 85°C Max.
t_a = 50°C

Dry and damp locations only
Use only within an enclosure

110 ▽ SELV Class2

AUX — Prated 0.3W / Irated 25mA / Urated 12V
DIM — Urated 0-10V
LED — Prated 40W / Irated 0.35A CC / Urated 6-52V / U-OUT = 56V

WIRELESS PORT

AUX+
AUX -
DIM+
DIM-
LED -
LED+

Operating Conditions

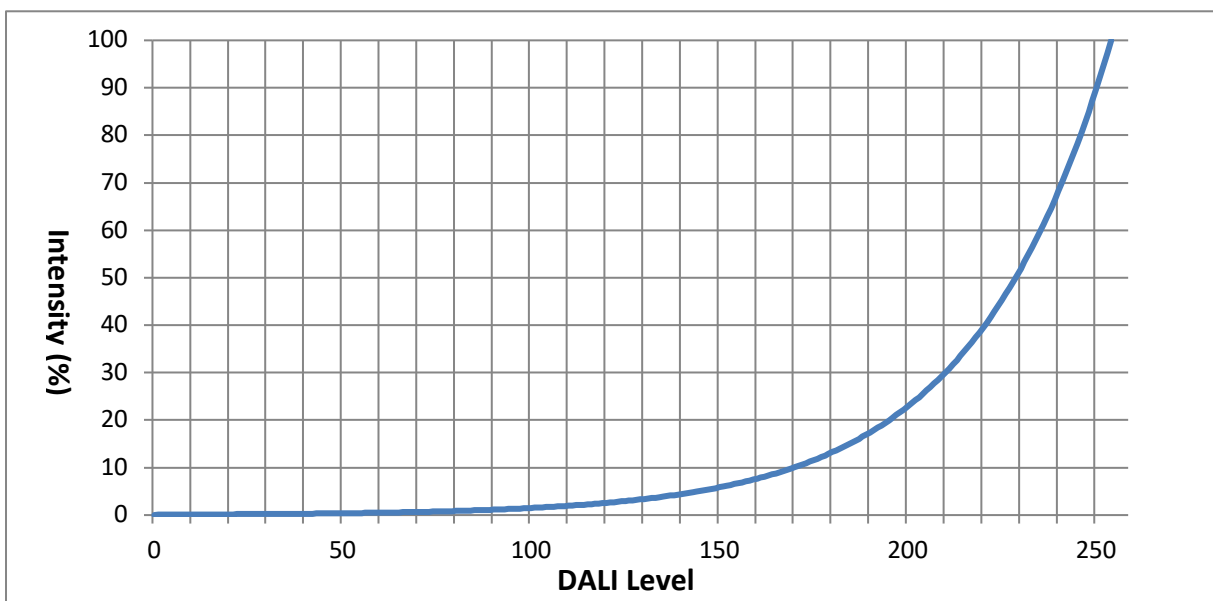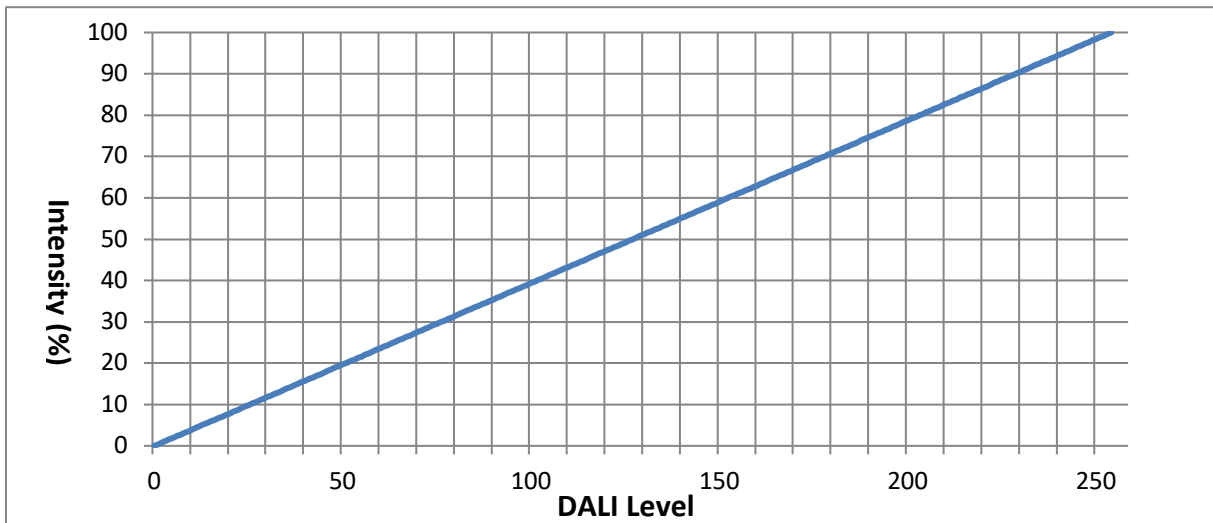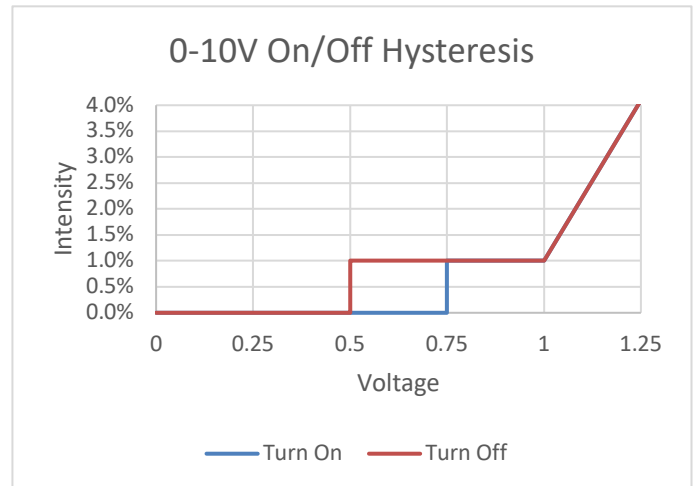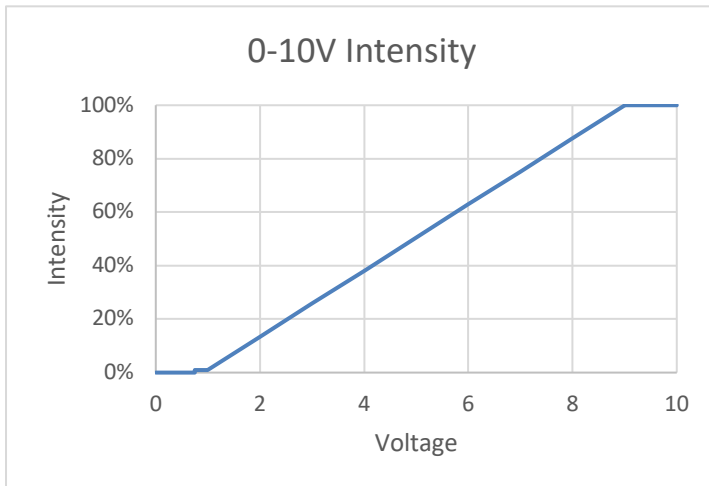| Working temperature	Max t_c	Storage temperature	IP Rating	Circuit protection	Lifetime
-20°C to +50°C (10-95% RH, non-condensing) Derated above 50°C	+85°C	-40°C to +85°C (5-95% RH, non-condensing)	IP22 Class II	Over temperature OTP @ >88°C Short Circuit (SCP) Hiccup Mode Over Power (OPP) <120%	Life expectancy >50K hours @ T_C ≤ 65°C MTBF >700K hours, Telcordia SR-332, 115/230Vac, T_C ≤ 65°C

Performance Characteristics

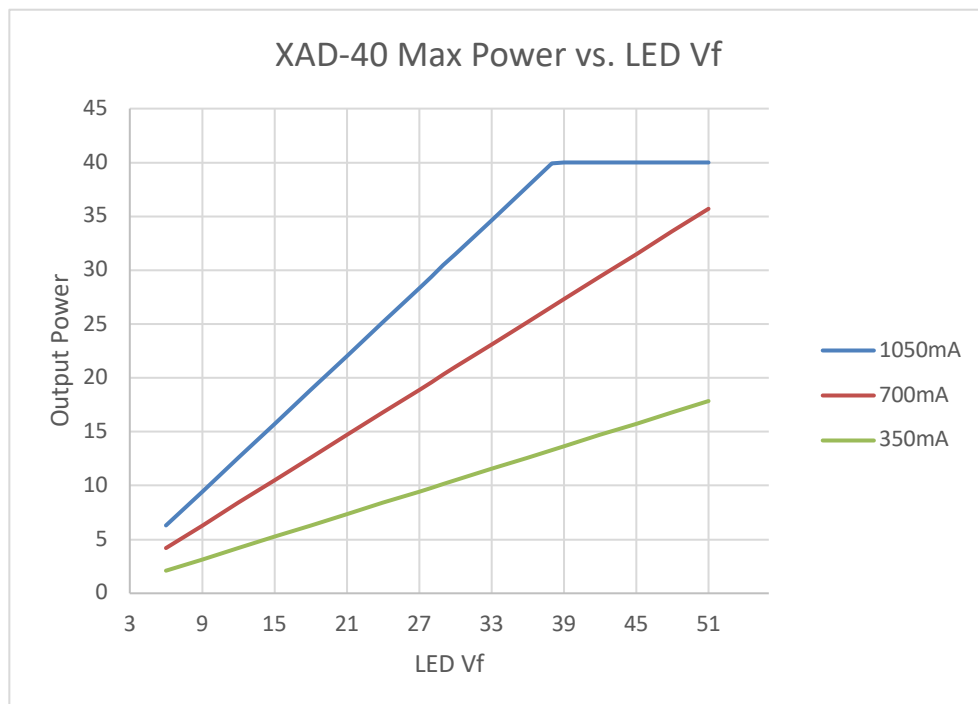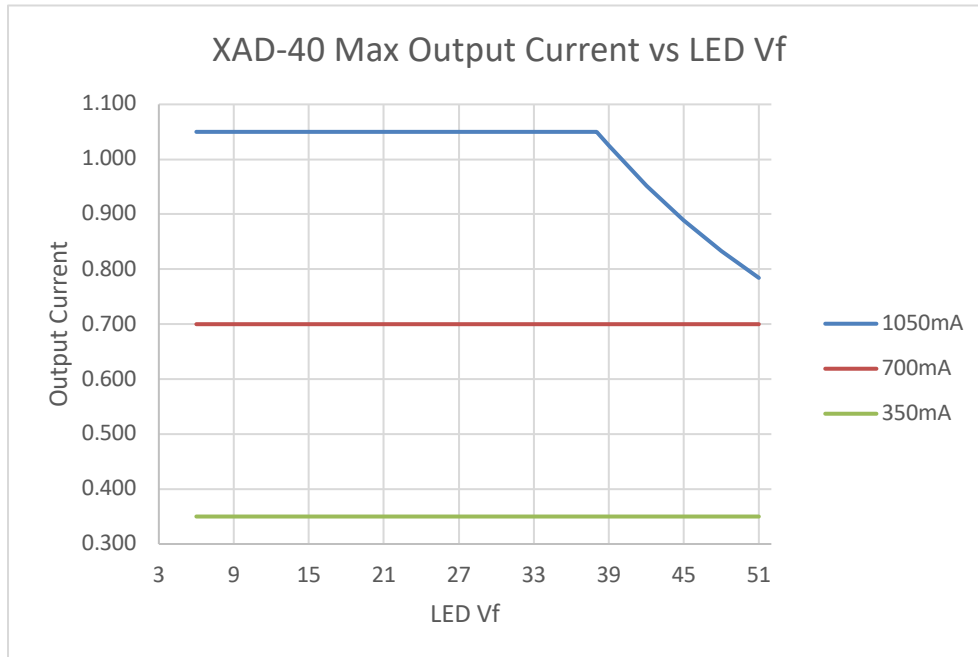| Part	40W	60W*
Part Number	XAD-DCC-01-010-40-350-PTBF1 XAD-DCC-01-010-40-700-PTBF1 XAD-DCC-01-010-40-1050-PTBF1 XAD-DCC-01-DA2-40-350-PTBF1 XAD-DCC-01-DA2-40-700-PTBF1 XAD-DCC-01-DA2-40-1050-PTBF1	XAD-DCC-01-010-60-1400-PTBF1 XAD-DCC-01-DA2-60-1400-PTBF1 *Note: Please inquire for production availability
Control protocol	0-10V or DALI2, w/BLE mesh option	
Dimming range	100% to 0.1% to smooth transition to dark	
Dimming curve options	Programmable by user as LOG, LINEAR	
Dimming method	0-10V or DALI, varies by part number	
Nominal Input voltage	100-240/277VAC	
Input frequency	50-60 Hz	
Maximum input current	0.45A @ 115Vac 0.2A @ 230/277Vac	TBD A @ 115Vac TBD A @ 230/277Vac
Efficiency @ full load	86%	
Power factor @ full load	≥0.99/115Vac, ≥0.97/230Vac, ≥0.92/277Vac	
Maximum inrush current AC	TBD	
THD @ full load	<10%	
Surge Protection	2 kV (L to N)	
Maximum standby power	< 0.5W No load on main or auxiliary output	
Maximum output power	40W	60W
Number of outputs	1	
Output Current*	Programmable range 175-350mA 350-700mA 525-1050mA	Programmable range 700-1400mA
Output Voltage (LED Vf) Range	6 to 52 Vdc	
LED Output Resolution	0.1% of maximum output current	
Output tolerance	±3% at programed output	
Auxiliary output voltage	12V DC	
Auxiliary output current	25mA	
Max auxiliary output power	0.3W	
Warranty	10 Years Refer to warranty terms at: https://www.xicato.com/resources/warranty/	

*Notes:
1. Output current will be automatically limited to ensure power rating is not exceeded.
2. The output current will be reduced automatically if driver temperature reaches a factory preset to protect against overheating and damage to driver.
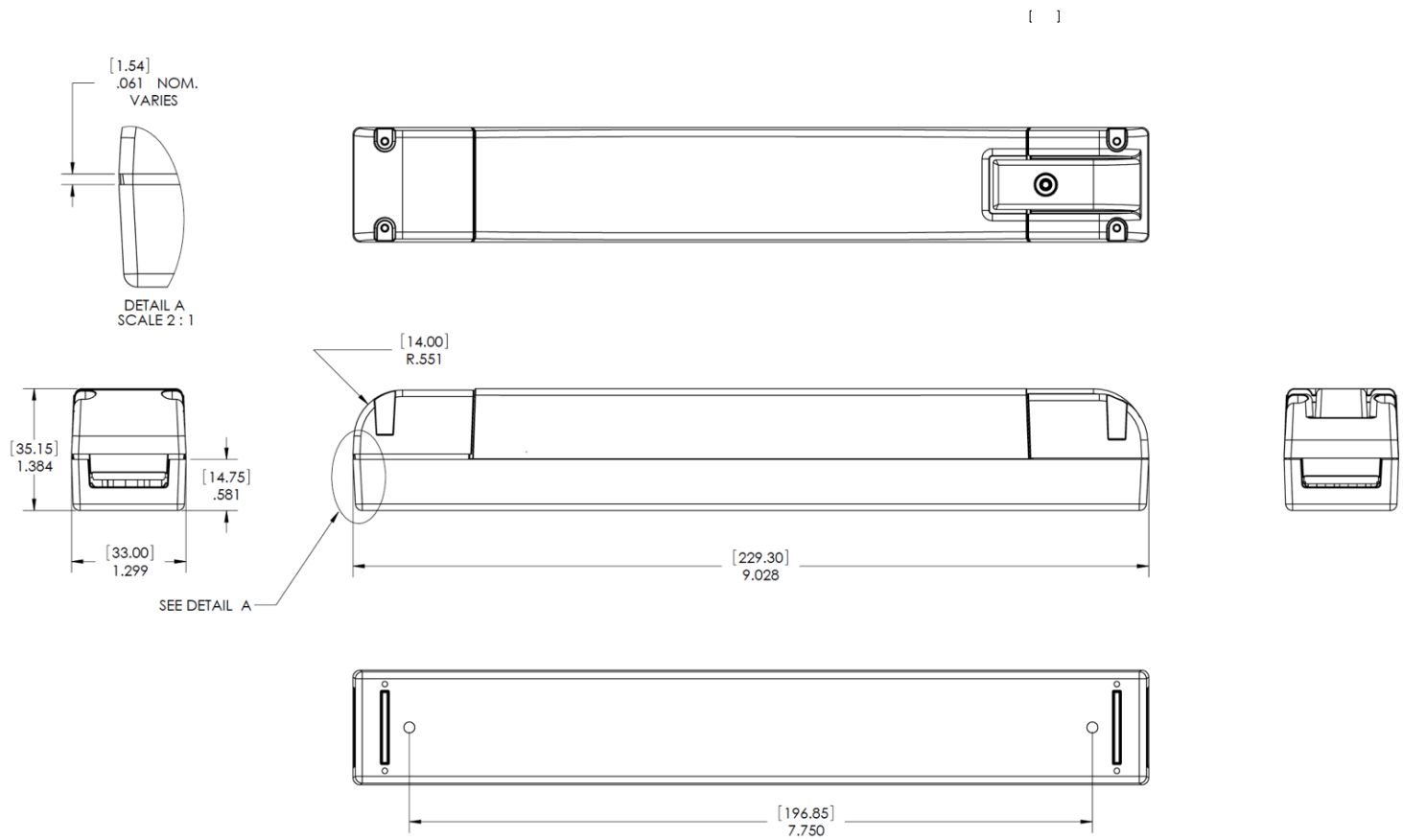
Dimming Profiles

0-10V Intensity

0-10V On/Off Hysteresis

Power Profiles

XAD-40 Max Output Current vs LED Vf

XAD-40 Max Power vs. LED Vf

Driver Protection Methods

Overload	The XAD continuously monitors the load across its outputs and will reduce power to stay within its rated output.
Short-Circuit	The XAD automatically shuts off its output if a short circuit is detected on its LED outputs. The driver will then pulse the output every ~29us and will resume normal operation once the outputs are no longer shorted.
Open Circuit	The XAD automatically shuts off its output if an open circuit is detected. To resume normal operation, it either needs to be commended to 0% (dimming set to 0%) or power cycled.
Reverse polarity	The XAD will attempt to regulate its output with very little current flowing and will resume normal operation once the problem is corrected.
Thermal Foldback & Shutoff	Internal sensors detect the temperature of the internal electronics of the XAD, ensuring long life by reducing current output in the event that the temperature exceeds the rated temperature of the components. The output current restores to its normal setting once internal temperature falls below the preset. If, however, after reducing output the temperature continues to exceed the maximum rating, the driver automatically shuts off to preserve the driver.

Note: Do not connect a LED source to an energized driver (hot plugging). Doing so may generate current spikes that can potentially damage the LED permanently.

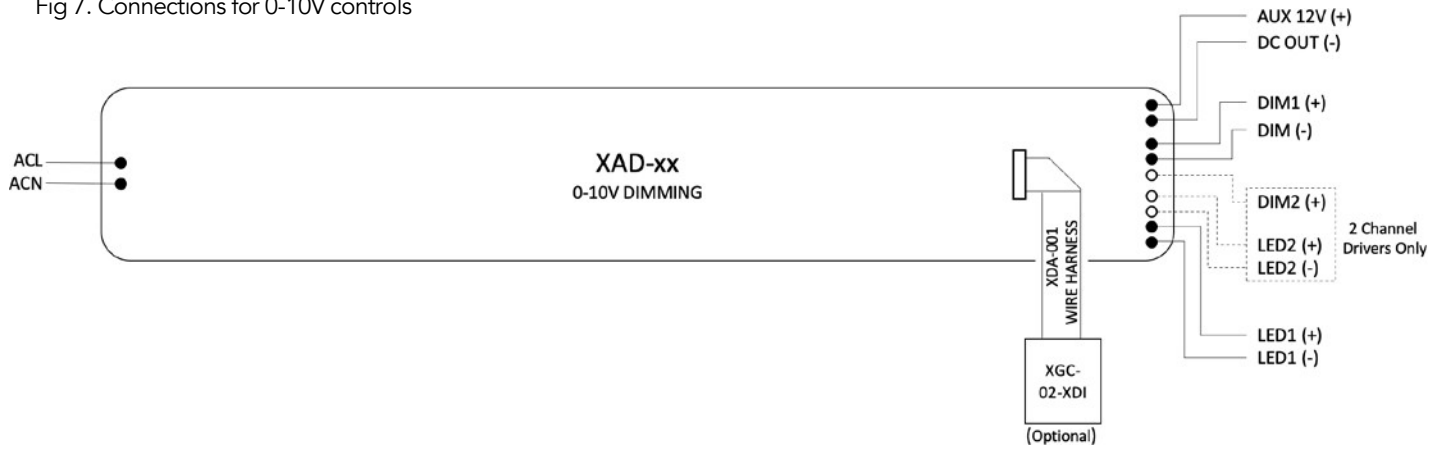# Mechanical Drawings

Fig 5. 40W AC Driver Enclosure

[1.54] .061 NOM. VARIES

DETAIL A
SCALE 2 : 1

[14.00] R.551

[35.15] 1.384

[14.75] .581

[33.00] 1.299

SEE DETAIL A

[229.30] 9.028

[196.85] 7.750

	40W	60W
Dimensions	229.3mm / 9.03" x 33.0mm / 1.3" x 35.15mm / 1.4"	
Weight	210 gm / 0.46 lb.	TBD

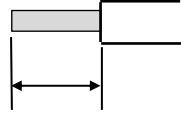# Wiring Diagram

DIM

Fig 7. Connections for 0-10V controls

DALI

Fig 8. Connections for DALI controls
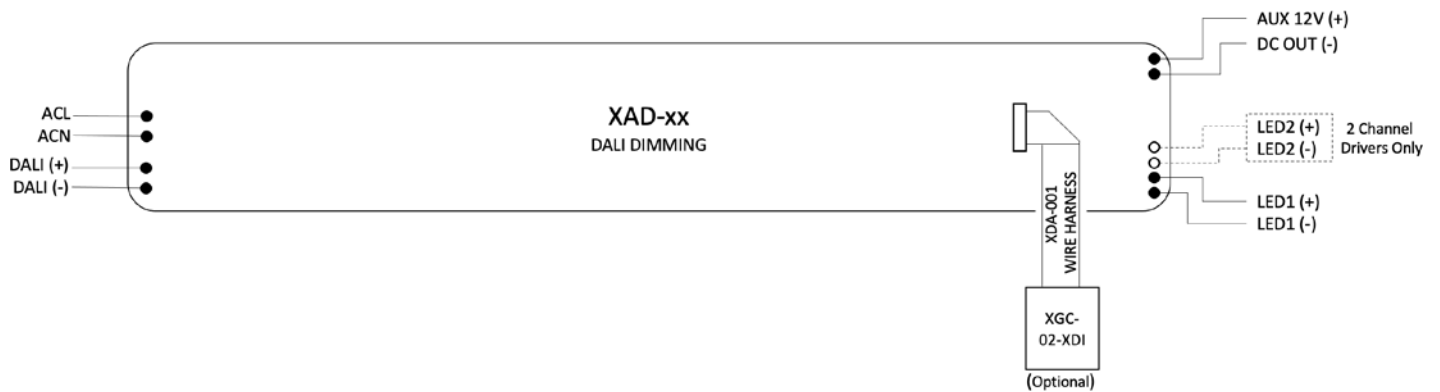
Wiring Specifications

40W

Category	Wire gauge	Wire Type	Strip Length
Mains (AC)	0.75-1.5mm^2 o 18-16 AWG	Solid or stranded copper Rated for at Least 90°C (194°F) or equivalent	
DALI	0.5-1.5mm^2 o 22-16 AWG		
LED	0.5-1.5mm^2 o 22-16 AWG		
AUX/0-10V	0.2-0.5mm^2 o 24-20 AWG		10mm 3/8"

Press Tab to Insert / Release

Wire Installation
1. Remove end covers to expose terminal blocks
2. Strip wires to specified strip length
3. Press tab on top of terminal block and insert wire
4. Release tab to clamp wire in place
5. Install and screw down covers for protection and strain relief

Wire Removal
1. Remove end covers if installed
2. Press tab on top of terminal block to release wire clamp and remove wire from terminal block
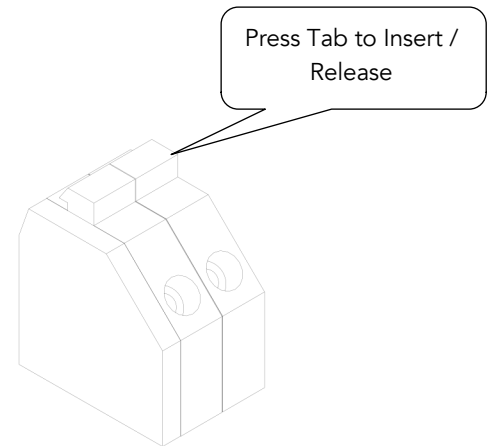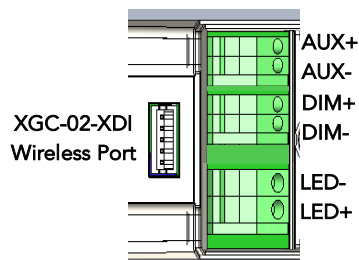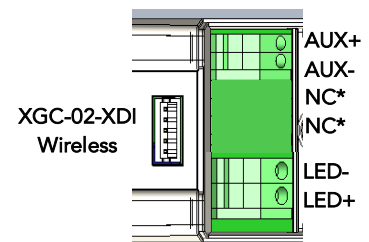
Input Connections

AC/L
AC/N

DALI+/ NC*
DALI- / NC*
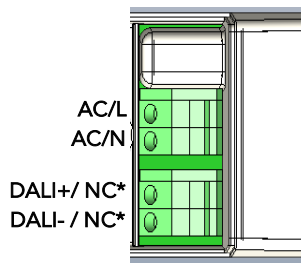
(*) DALI Input for DALI models, No Connect for 0-10V models.

Output Connections (0-10V)

XGC-02-XDI Wireless Port

AUX+
AUX-
DIM+
DIM-

LED-
LED+

Output Connections (DALI)

XGC-02-XDI Wireless

AUX+
AUX-
NC*
NC*

LED-
LED+

(*) DIM (0-10V) control terminal block is not installed for DALI models.

# Regulatory Information

Electrical Safety, Emissions, Handling

Safety	UL	UL8750	Class P Listed Class 2 Output
	CE (CB Scheme) ENEC	IEC 61347-2-13:2014, AMD1:2016 IEC61347-1:2015, AMD1:2017	

	Parameter	Standard	Notes
Emissions	Conducted	EN/BS EN55015:2013+A1:2015, CISPR 15:2018	
		FCC PART 15 SUBPART B	Class B at 120Vac, 240Vac, Class A at 277Vac
	Radiated	EN/BS EN55015:2013+A1:2015, CISPR 15:2018	
		FCC PART 15 SUBPART B	Class B at 120Vac, 240Vac, Class A at 277Vac
	Harmonic Current	EN 61000-3-2:2014, BS EN 61000-3-2:2019+A1:2021	Class C
	Voltage Fluctuations and Flicker	EN 61000-3-3:2013, BS EN 61000-3-3:2013+A1:2019	

	Parameter	Standard	Notes
Immunity EN/BS EN 61547	ESD	EN/BS EN 61000-4-2	Level 3, 8kV air; Level 2, 4kV contact
	Radiated Disturbance	EN/BS EN 61000-4-3	Level 2
	Fast Transients	EN/BS EN 61000-4-4	Level 2
	Surge	EN/BS EN 61000-4-5	Level 2
	Conducted Disturbance	EN/BS EN 61000-4-6	Level 2
	Magnetic Fields	EN/BS EN 61000-4-8	Level 2
	Voltage Dips and Interruptions	EN/BS EN 61000-4-11	Class 2

Class P
Class 2

E494343

SELV

110
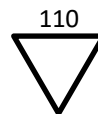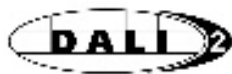
XAD Bluetooth Mesh Dongle, XGC-02

The XAD line of AC Drivers are network-ready with a wireless port integrated into every driver regardless of its wired interface protocol. This means the user can add Xicato Bluetooth Mesh capability to a driver at any time and the driver will instantly be recognized by Xicato's leading Controls devices, Control Panel software and App. The Xicato XGC-02 can be acquired with the driver or at a later time to enable wireless capability, no changes or updates are required for the driver to enable wireless capability. The XGC-02 comes with Xicato Bluetooth Mesh firmware integrated and it is OTA (Over the Air) updateable to standard Bluetooth Mesh protocol at any time with no changes required to the driver itself. The driver does not need to be directly accessed for the OTA firmware update, making field upgrades as simple as a SW update on any device. The Xicato XAD AC drivers are future proof.

Features:

- Wireless Bluetooth Dongle with integrated and widely deployed Xicato Bluetooth Mesh protocol
- Can be added to any XAD AC driver, single or dual channel, at any time to enable wireless operation
- Powered by the XAD driver, requires no external power sources to operate making filed installation a snap
- All XAD driver features including superior dimming capabilities are preserved with seamless operation
- Enables instant integration into family of Xicato Mesh controls hardware and software
- OTA updateable to add new features or standard Bluetooth Mesh protocol for compatibility to 3rd party devices that are also supporting the standard
- Supports off-the-shelf wiring harness between 2" to 12" that can be acquired from Xicato or open market. Please contact Xicato for wire lengths longer than 12" if your installation requires it.

XGC-02 installation:

- The XAD needs to be powered down before installation of the XGC-02
- Remove the protective cap from the wireless port on top of the driver. Please save this cap for possible future re-use.
- Insert the wiring harness connector firmly into the XAD port on one end and the XGC-02 on the other end
- Turn the power back on and check operation with Xicato App or Control Panel software (XCP)
- Please note as in any wireless device, the dongle should not be contained in a solid metal box along with the driver if that is the preferred way of installation. The dongle can be positioned outside of the box for optimal signal transmission. Transmission range is affected by thick solid mass in the transmission path and should be avoided when possible. Please contact Xicato for consultation and support with any questions.

XGC-02 Ordering Information

| Part	Description	Part Number	JST P/N
XGC-02	Bluetooth Mesh Dongle for XAD	XGC-02-XDI-U3	N/A
Wiring Harness 2"	2" / 51 mm wire length	Inquire	JST-A05ZR05ZR28H51A_(2in)
Wiring Harness 4"	4" / 102 mm wire length	Inquire	JST-A05ZR05ZR28H102A_(4in.)
Wiring Harness 6"	6" / 152 mm wire length	XDA-002	JST-A05ZR05ZR28H152A_(6in)
Wiring Harness 4"	8" / 203 mm wire length	Inquire	JST-A05ZR05ZR28H203A_(8in)
Wiring Harness 10"	10" / 254 mm wire length	Inquire	JST-A05ZR05ZR28H254A_(10in)
Wiring Harness 12"	12" / 305 mm wire length	Inquire	JST-A05ZR05ZR28H305A_(12in)

Please note that the wiring harness, XDA-002, is a separate part and needs to be ordered along with XGC-02. Alternately, customer may choose to order only the XGC-02 and obtain the wiring harness in open market via the JST part numbers.

XGC-02 and Wiring Harness Diagram

The XGC-02 maybe mounted on the driver body by removing/re-using the existing screw for the port cover or left loose with the wiring harness attached to position freely. Avoid straining the wire as it can damage it, the driver and/or the dongle.
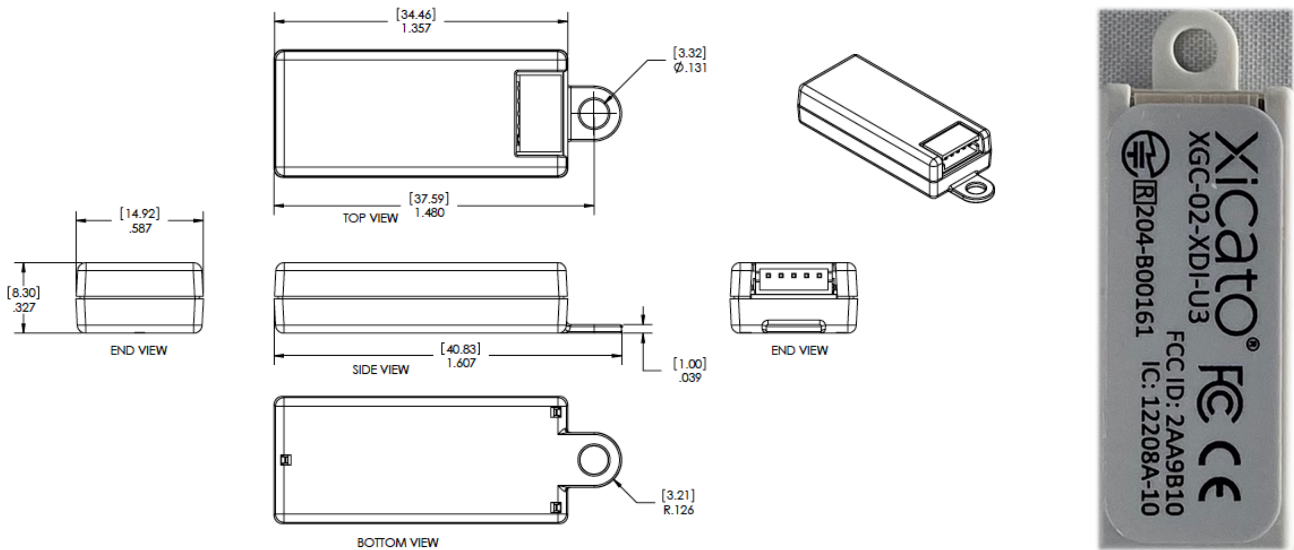
The XDA-002 wiring harness is available from Xicato at a 6" length (152mm).
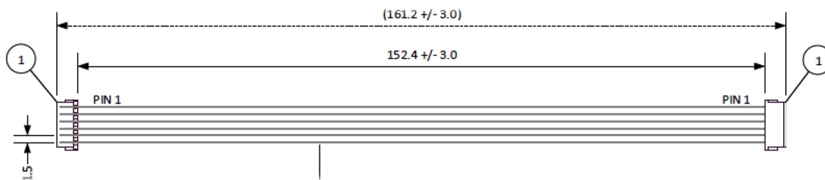
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