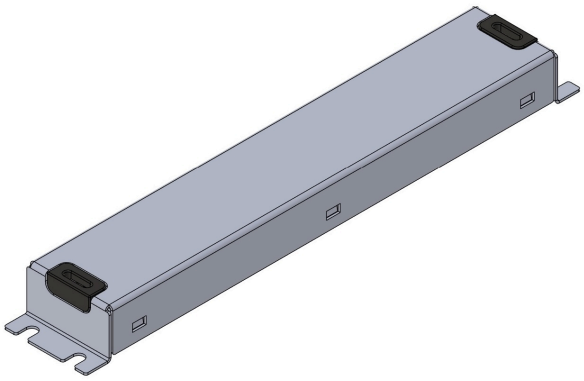
90W CC LED Driver

DOM-D-CC-3 | 2-Channel | 90W | Domatic Bus

The 90W CC LED Driver is a high-performance, 2-channel constant-current LED driver designed for premium architectural and commercial lighting applications. Powered via 48 VDC over the Domatic Bus, it delivers up to 90W of precisely controlled output with class-leading dimming resolution. Software-configurable current output and logarithmic dimming curves, managed through the Domatic PowerHub, eliminate the need for multiple driver SKUs and deliver smooth, flicker-free dimming down to 0.1% brightness.



Key Features

- ✓ 90W rated output power with 2 independent constant-current channels
- ✓ Ultra-high 112,000-step effective dimming resolution (PWM × CCR combined)
- ✓ Smooth logarithmic dimming to 0.1% brightness
- ✓ Software-configurable output current via the Domatic PowerHub
- ✓ Native Domatic Bus interface: power and data on a single 2-wire CL2 cable, up to 50 m
- ✓ Tunable white support (warm/cool channel control)
- ✓ Real-time temperature and power monitoring reported to the PowerHub
- ✓ Compact form factor: 0.45 W/cm³ power density
- ✓ NEC Class 2
- ✓ Wet-rated for indoor and outdoor installations

Electrical Specifications

Input

Input Voltage	39 – 59 VDC
Nominal Input Voltage	48 VDC
Max Input Current	2.5 A
Max Input Power	99 W
Communication	Domatic Bus (IEEE 1901 HD-PLC)

Output

Output Type	Constant Current
Output Channels	2

Channel Topology	Common Anode / Common Cathode / Independent
Output Voltage Range	12 – 59 VDC
Current per Channel	0.1 – 1.6 A
Max Total Output Current	3.2 A
Max Output Power	90 W
Steady-State Ripple	≤ 5% at max load
Efficiency	94% at max load

Dimming Performance

PWM Switching Frequency	~3 kHz
PWM Resolution	7,000 steps
Constant Current Reduction (CCR)	16:1 range
Effective Dimming Resolution	112,000 steps (PWM × CCR)
Min Brightness	0.1%
Dimming Curve	Logarithmic (configurable via the PowerHub)
Tunable White	Supported (2-channel warm/cool)
Fade Time	Configurable per circuit via the PowerHub
Soft-on / Fade-to-Black	Supported
Color Control	8-bit ratio

> **Note** Min brightness percentage is relative to the max current of 1.6 A.

Communication & Control

Network Protocol	IEEE 1901 HD-PLC, Domatic Device Protocol
Wiring	2-wire CL2 cable (power + data combined)
Max Distance from PowerHub	25 m on 18 AWG (0.82 mm²) · 50 m on 16 AWG (1.3 mm²)
Controller	Domatic PowerHub (required)
Intensity Resolution	8-bit, user-selectable from the PowerHub
Monitoring	Temperature and power usage reported to the PowerHub in real time
Configuration	Output current, dimming curve, fade time, min/max limits — all software-configurable via the PowerHub

Protection Features

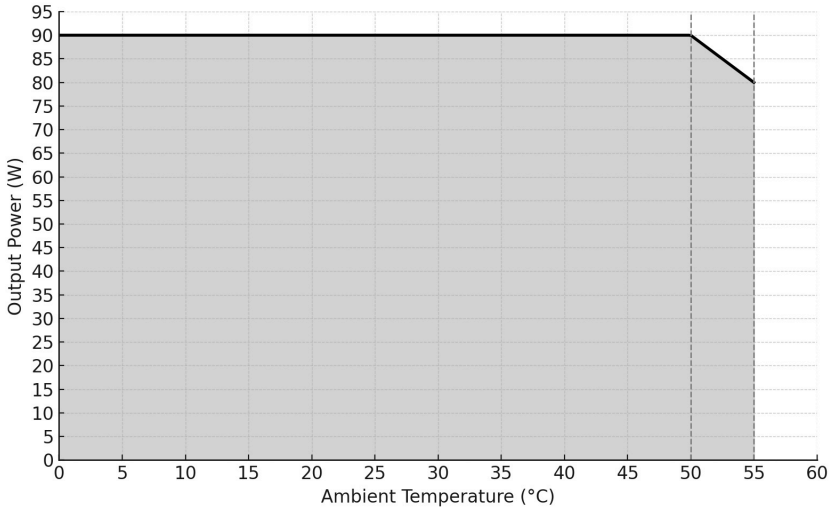
Overvoltage Protection	Yes
Overload Protection	Yes
Output Short-Circuit Protection	Yes
Over Temperature Protection	Yes

ESD Protection	Yes

Environmental Specifications

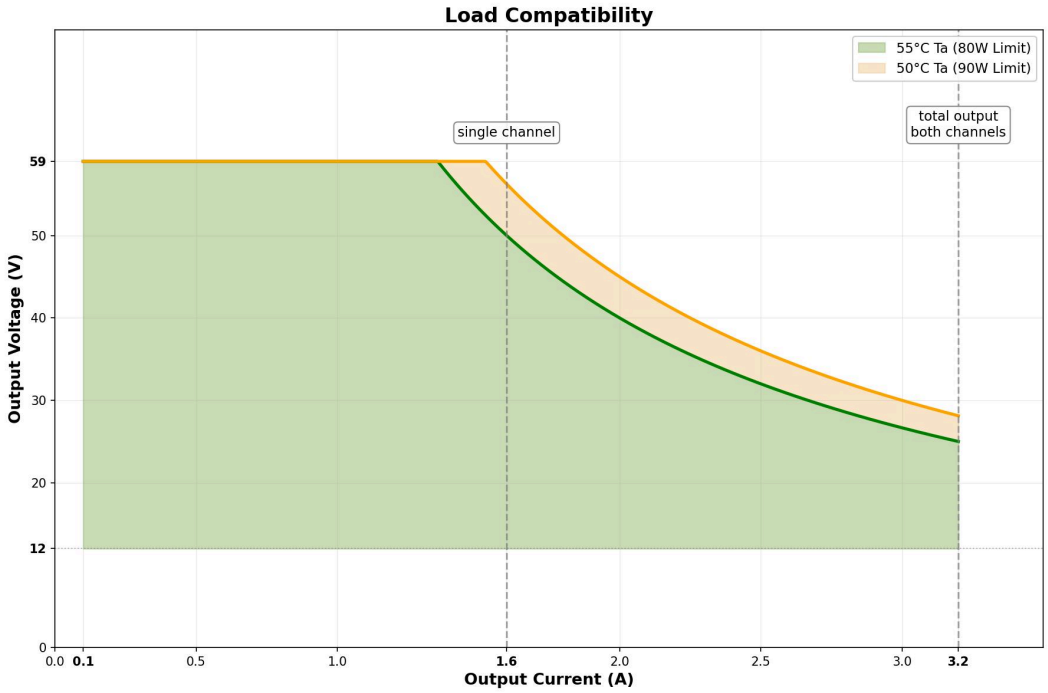
Operating Ambient Temp (T_a)	0 to 55 °C
Full Power Rating	90 W up to 50 °C T_a
Derated Power	80 W at 55 °C T_a
Max Case Temp (T_c)	~80 °C

Power Derating



Load Compatibility

Parameter	*Single Channel*	*Both Channels (Total)*
Output Current	0.1 – 1.6 A	0.1 – 3.2 A
Output Voltage Range	12 – 59 VDC	12 – 59 VDC
Max Power (at ≤ 50 °C T_a)	90 W	90 W
Max Power (at 55 °C T_a)	80 W	80 W

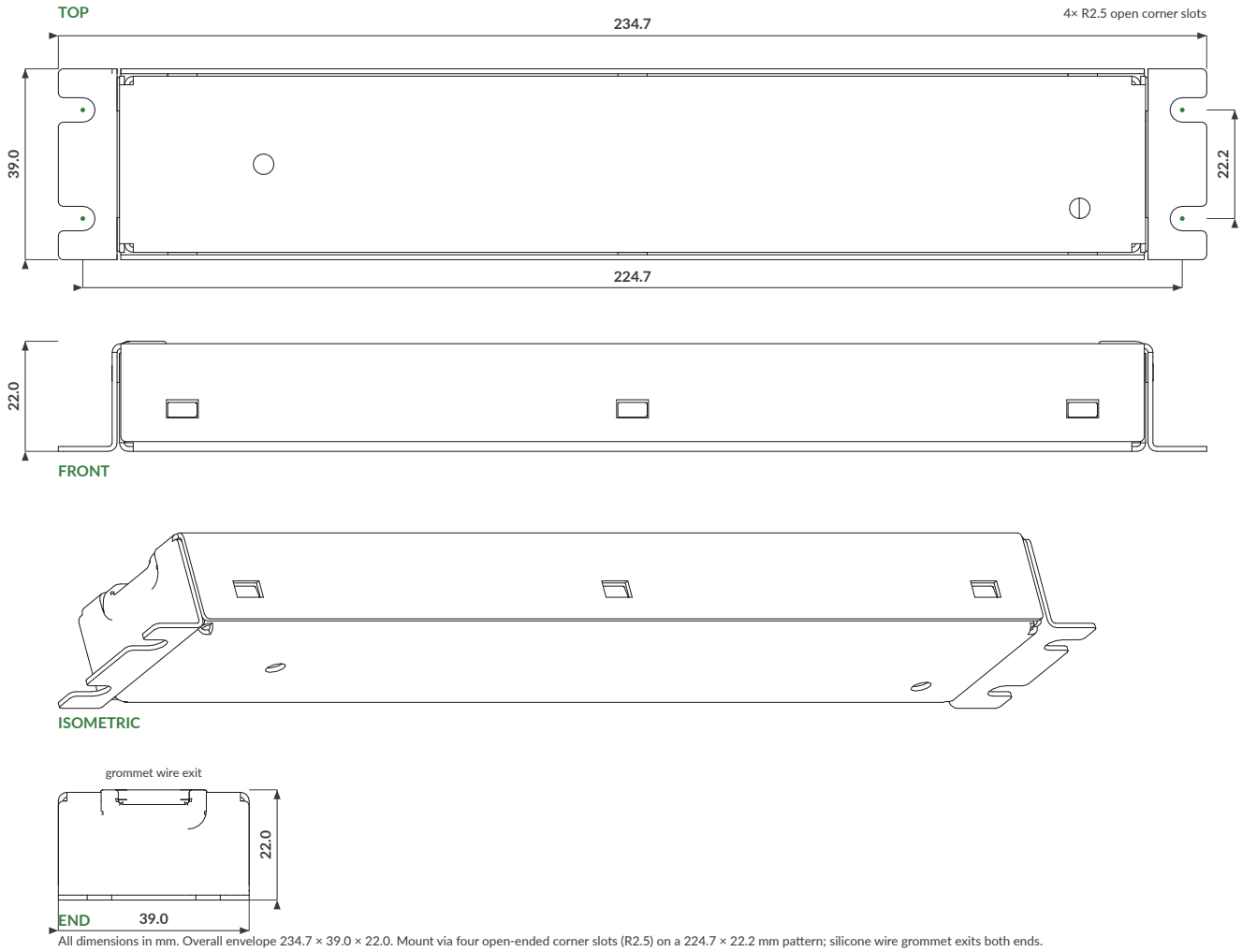


Note Total output power is shared across both channels. Refer to the load compatibility chart in the Domatic Driver Installation Guide for detailed operating regions at various voltage / current combinations.

Mechanical Specifications

Length	235 mm (9.25″)
Width	39 mm (1.54″)
Height	22 mm (0.87″)
Volume	202 cm^3
Power Density	0.45 W/cm^3 (at 45 °C)
Enclosure Material	Sheet metal, 1 mm thickness
Mounting	4 open-ended corner slots (R2.5) on a 224.7 × 22.2 mm pattern

The enclosure is a two-piece sheet-metal shell with a silicone wire grommet at each end. Four formed feet — one at each corner — carry open-ended slots (R2.5) on a 224.7 × 22.2 mm pattern for fastening to a surface. The drawing below gives the overall envelope and mounting pattern.



All dimensions in mm. Overall envelope 234.7 × 39.0 × 22.0. Mount via four open-ended corner slots (R2.5) on a 224.7 × 22.2 mm pattern; silicone wire grommet exits both ends.

Wiring & Connectors

To achieve wet rating, all I/O is exposed as pigtail wires. The tables below describe each signal wire on the device.

Input Connector

Wire	*Function*	*Description*
Red	VIN	Positive power/data input
Black	GND	DC negative return (0V reference, not earth ground)

Output Connector

Wire Color	*Pin Name*	*Specification*
Red	AN0 (LED Anode)	Max 59 VDC, 90 W or 1.6 A
Yellow	CA0 (LED Cathode)	Max 59 VDC, 90 W or 1.6 A

Wire Color	*Pin Name*	*Specification*
White	CA1 (LED Cathode)	Max 59 VDC, 90 W or 1.6 A
Red/White or Purple	AN1 (LED Anode)	Max 59 VDC, 90 W or 1.6 A

Standards & Compliance

Safety	UL 8750, Second Edition (rev. January 05, 2021)
Listing	Eurofins / MET Listed — Low Voltage Fixture Driver; UL File E115463; MET Report NRTLC 117522
Power Classification	NEC Class 2
Environment Rating	Wet-rated

System Requirements

The DOM-D-CC-3 requires a Domatic PowerHub as the bus controller. The PowerHub provides power (nominal 48 VDC, up to 100 W per port) and data connectivity over standard CL2 cable. Typical installations support a maximum cable distance of 50 m on 16 AWG (1.3 mm^2); on 18 AWG (0.82 mm^2) the maximum distance is 25 m. Longer runs can be supported with thicker cabling.

Ordering Information

Model Number	*Description*
DOM-D-CC-3	2-Channel Constant-Current LED Driver, 90 W, Domatic Bus