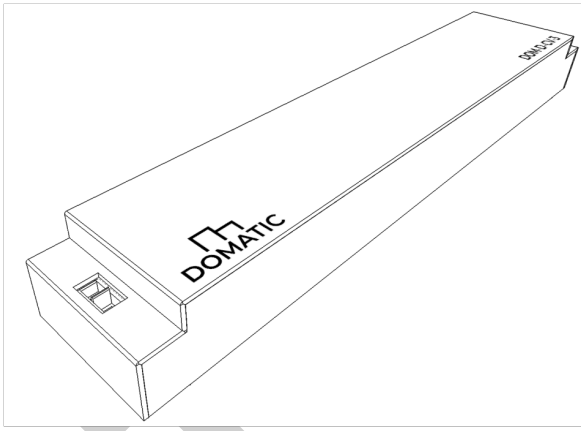
90W CV LED Driver [TBD]

DOM-D-CV-2 | 5-Channel | 90 W | PWM Dimming | Domatic Bus



The 90W CV LED Driver is a 5-channel constant-voltage LED driver for the Domatic Bus. It outputs a software-controlled variable voltage that is pulse-width modulated for smooth dimming, and supports a wide range of LED formats — single-color, CCT (warm/cool tunable), RGB, RGBA, RGBW, and RGBWW — across a total budget of 90 W.

The five channels can also be configured as independent elements, so a single driver can serve, for example, two separately-controlled fixtures (such as up-light + down-light) on the same enclosure. The Domatic Bus input is pigtailed, while LED output wiring lands on an 8-position screw terminal block. Per-channel intensity, color mixing, dimming curves, and grouping are configured in software via the Domatic PowerHub.

Key Features

- ✓ 5 independent constant-voltage output channels
- ✓ 90 W total output across all channels
- ✓ PWM dimming for smooth, flicker-aware brightness control
- ✓ Supports single-color, CCT (tunable white), RGB, RGBA, RGBW, and RGBWW LED formats
- ✓ Channels configurable as independent elements — drive multiple fixtures (e.g. up-light + down-light) from a single driver
- ✓ Pigtailed Domatic Bus input with screw-terminal LED output wiring
- ✓ Native Domatic Bus interface — power, control, and reporting on a single 2-wire CL2 input
- ✓ Per-channel intensity, color mixing, and grouping configured in software via the PowerHub

Supported LED Formats

The 5 output channels share a common positive (V+) and provide independent return paths (CH1 – CH5). Channel-to-element mapping is configured in software via the PowerHub.

Format	*Channels Used*	*Typical Mapping*
Single-color	1	Any single channel
CCT (tunable white)	2	Warm / Cool
RGB	3	R / G / B
RGBA	4	R / G / B / Amber
RGBW	4	R / G / B / White
RGBWW	5	R / G / B / Warm White / Cool White

Note The same 5 channels can be split between multiple fixtures — for example, three channels on an up-light RGB element and two channels on a CCT down-light element. Grouping is a PowerHub configuration choice, not a hardware constraint.

Electrical Specifications

Input — Domatic Bus

Input Voltage	Nominal 48 VDC (Domatic Bus)
Communication	Domatic Bus (IEEE 1901 HD-PLC over the same 2-wire pair as power)
Power Source	Domatic PowerHub output port
Max Input Power	99 W max

Output — LED Channels

Output Type	Constant Voltage, PWM-modulated
Output Channels	5 (CH1 – CH5) sharing a common V+
Output Voltage Range	Software-selectable 5 VDC, 12 VDC, 24 VDC, or 60 VDC
Max Total Output Power	90 W across all channels
Max Total Output Current	8 A across all channels
Output Limit	8 A or 90 W, whichever limit is reached first
Max Current per Channel	Up to 8 A, subject to total output limit
Topology	Common-anode (V+) with per-channel cathode return

Output Voltage / Current Limits

Selected Output Voltage	*Max Output Current*	*Max Output Power*
5 VDC	8 A	40 W
12 VDC	7.5 A	90 W
24 VDC	3.75 A	90 W
60 VDC	1.5 A	90 W

Dimming Performance

Dimming Method	Pulse-Width Modulation (PWM)
PWM Frequency	7.63 kHz
PWM Resolution	16-bit
Min Brightness	TBD
Dimming Curve	Configurable via the PowerHub
Fade Time	Configurable per circuit via the PowerHub
Color Mixing	Per-channel intensity, software-mixed in the PowerHub

Communication & Control

Network Protocol	IEEE 1901 HD-PLC, Domatic Device Protocol
Wiring (input side)	2-wire CL2 cable (power + data combined)
Controller	Domatic PowerHub (required)
Configuration	Channel grouping, color mapping, dimming curves, fade times — software-configurable via the PowerHub
Monitoring	Per-channel state and power reported to the PowerHub

Wiring & Connectors

The Domatic Bus input is exposed as pigtail wires. LED output wiring is landed directly on the device's output terminal block.

Input Connector

Wire	*Function*	*Description*
Red	VIN	Domatic Bus +, 48 VDC nominal
Black	GND	Domatic Bus − (ground)

Output Terminal Block

Connector Type	8-position PCB screw terminal block, 3.81 mm pitch
Field Wiring	28–16 AWG solid or stranded conductors
Strip Length	4–5 mm
Screw / Torque	M2 screw, 0.2 N·m max
Connector Current Rating	10 A UL per contact; product output limited to 8 A or 90 W
Terminals	GND, two V+ terminals, and CH1–CH5 PWM-modulated cathode returns

Position	*Terminal*	*Description*
1	GND	Ground reference
2	V+	Common positive output
3	V+	Common positive output
4	CH1	PWM-modulated cathode return for channel 1
5	CH2	PWM-modulated cathode return for channel 2
6	CH3	PWM-modulated cathode return for channel 3
7	CH4	PWM-modulated cathode return for channel 4
8	CH5	PWM-modulated cathode return for channel 5

Protection Features

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

ESD Protection	Yes

Mechanical Specifications

Dimensions	TBD
Weight	TBD
Enclosure Material	TBD
Mounting	TBD

Environmental Specifications

Operating Temperature	TBD
Humidity	TBD
Environment Rating	Damp-rated (input pigtail; output terminal block)

Standards & Compliance

Safety	TBD
Power Source	NEC Class 2 from the PowerHub output
Power Classification	NEC Class 2 (assumed — confirm)
Environment Rating	Damp-rated

Ordering Information

Model Number	*Description*
DOM-D-CV-2	LED Driver — 5-Channel Constant-Voltage, 90 W, PWM-Dimmed, Domatic Bus