

# Multi-Sensor Driver

DOM-D-SN-1 | Sensor Interface Module | Multi-Input | 15W | Domatic Bus

The Multi-Sensor Driver is a compact sensor interface that connects commercial building sensors to the Domatic Bus over a single 2-wire CL2 cable. It features a software-selectable 24V or 3.3V power output for sensor power, three 0–24V analog inputs, a floating pull-up input for dry contact sensors, an NTC thermistor input, and a 3.3V GPIO. The Sensor Driver enables occupancy, lux, temperature, humidity, and leak detection sensors to report real-time data to the PowerHub — all over the same cable that delivers power.



## Key Features

- ✓ Software-selectable 24V or 3.3V power output (0.5A max) for sensor power
- ✓ 3× 0–24V analog inputs with 17 kΩ input impedance
- ✓ 1× floating analog input with pull-up for dry contact and open-collector sensors
- ✓ 1× NTC thermistor input
- ✓ 1× 3.3V GPIO output (20 mA max)
- ✓ IEEE 1901 HD-PLC: power and data on a single 2-wire CL2 cable, up to 50 m
- ✓ Real-time power input/output and temperature monitoring reported to the PowerHub
- ✓ Overcurrent protection on Vout
- ✓ Compatible with 12+ commercial occupancy, lux, temperature, humidity, and leak sensors
- ✓ Ultra-compact enclosure: 85.5 × 25 × 25 mm (3.4 × 1 × 1")

## Electrical Specifications

Input Parameter	Value	Output Parameter	Value
Input Voltage	32 – 59 VDC	Output Voltage	3.3V or 24V (selectable)
Nominal Voltage	48 VDC	Max Output Current	0.5 A
Max Input Power	15 W	Overcurrent Protection	Yes
Input Wiring	18 AWG (0.82 mm <sup>2</sup> ), 2-wire	Output Wiring	24 AWG (0.21 mm <sup>2</sup> ) pigtail
Power Delivery	IEEE 1901 HD-PLC	GPIO Output	3.3V, 20 mA max

## Analog & Digital I/O

The Sensor Driver provides five sensor input channels and one GPIO output, enabling integration with a wide range of commercial building sensors.

Pin	Function	Specification
VOUT	Sensor Power Output	3.3V or 24V (software selectable), 0.5A max
GND	Ground (2×)	Common ground reference
GPIO	General Purpose Output	3.3 VDC, 20 mA max
NTC	NTC Thermistor Input	Voltage divider with 3.3V reference; 500Ω NTC sensors
AIN_PU	Floating Analog Input (Pull-Up)	0–24V tolerant, floats at 10V; for dry contacts
AIN1	Analog Input 1	0–24V, 17 kΩ input impedance
AIN2	Analog Input 2	0–24V, 17 kΩ input impedance
AIN3	Analog Input 3	0–24V, 17 kΩ input impedance

**ADC Resolution** 12-bit; approx. 5.9 mV/LSB over the 0–24V field-input range

## Communication & Control

<b>Network Protocol</b>	IEEE 1901 HD-PLC
<b>Wiring</b>	2-wire CL2 cable (power + data combined)
<b>Max Distance from PowerHub</b>	50 m
<b>Controller</b>	Domatic PowerHub (required)
<b>Input Update Rate</b>	Software configurable; 1 second typical
<b>Monitoring</b>	Input/output power and internal temperature reported to the PowerHub in real time
<b>Configuration</b>	Output voltage, sensor mapping, thresholds – software-configurable via the PowerHub

## Protection Features

<b>Overcurrent Protection</b>	Yes
<b>Input Overvoltage Protection</b>	Yes
<b>Over Temperature Monitoring</b>	Yes
<b>Soft-Start</b>	Yes

## Environmental Specifications

<b>Operating Ambient Temperature</b>	Up to 55°C Ta
<b>Enclosure Thermal Rise</b>	+12°C at max power output

## Mechanical Specifications

<b>Length</b>	85.5 mm (3.4")
<b>Width</b>	25 mm (1")
<b>Height</b>	25 mm (1")

Wire Pigtail Length	150 mm (6")
Enclosure Material	Molded plastic

## Wiring & Connectors

### Input Connector (18 AWG / 0.82 mm<sup>2</sup>)

Wire	Function	Description
<span style="color: red;">■</span> Red	VIN	Domatic Bus +, 32–59 VDC (48 VDC nominal), max 15W
<span style="color: black;">■</span> Black	GND	Domatic Bus – (ground)

### I/O Connector (24 AWG / 0.21 mm<sup>2</sup>)

Wire Color	Pin Name	Specification
<span style="color: red;">■</span> Red	VOUT	3.3V or 24V (software selectable), 0.5A max
<span style="color: black;">■</span> Black (2×)	GND	Ground
<span style="color: green;">■</span> Green	GPIO	3.3V GPIO output, 20 mA max
<span style="color: orange;">■</span> Orange	NTC	NTC thermistor input
<span style="color: yellow;">■</span> Yellow	AIN_PU	Floating analog input (pull-up), 0–24V, floats at 10V
<span style="color: purple;">■</span> Violet	AIN3	Analog input, 0–24V, 17 kΩ impedance
<span style="color: grey;">■</span> Grey	AIN2	Analog input, 0–24V, 17 kΩ impedance
<span style="color: blue;">■</span> Blue	AIN1	Analog input, 0–24V, 17 kΩ impedance

## Supported Sensors

The Sensor Driver is compatible with a wide range of commercial building sensors. The table below lists tested and supported models.

Sensor	Type	Power	Output	Connection
BEG MINI-P-PP-A-FC	Occupancy	24VDC, 20mA	3× 0V/24V channels	Outputs to AIN, 24V + GND
Sensorworx SWX-250-1-D	Lux	12–24VDC, 4mA	0–10V lux	COM → GND, power → 24V, lux → AIN
Wattstopper W-500A / W-2000A	Ultrasonic Occupancy	24VDC, 16mA	Occupancy signal	Output → AIN
Wattstopper DT-300	PIR / Ultrasonic Occupancy	24VDC, 25mA	Occupancy signal	Output → AIN
BEG PD11-LTMS-RR	Occupancy / Temp / Lux	16–48VDC, <1W	Dry contact, 0–10V temp, 0–10V lux	Contact → AIN_PU, 0–10V → AIN
Tekmar 086	Humidity / Temperature	2.7–5.5VDC, 0.5mA	0–2.54V %RH, NTC temp	+V → 3V3, %RH → AIN, Sen → NTC

Sensor	Type	Power	Output	Connection
Leviton OSC15-IOW	PIR Occupancy + Photocell	24VDC, 30mA	9-24VDC occ/photocell	Red → 24V, Black → GND
GRI 2624	Liquid Detection	24VDC, 12mA	NC dry contact relay	AIN_PU/GND or 24V/AIN
LEFOO LFH20 / LFH10	Temperature / Humidity	15-35VDC	0-10V humidity, 0-10V temp	Both 0-10V → AIN
Mosentek MSH007R	Microwave Motion	24VDC, 22mA	0-10V	24V, GND, output → AIN

## System Requirements

The Sensor Driver requires a Domatic PowerHub as the bus controller. The PowerHub provides power (48 VDC, up to 100 W per port) and data connectivity over standard CL2 cable. Only Domatic Bus-compliant devices should be connected to the same bus. The module must be installed within 50 m cable length of the PowerHub.

## Ordering Information

Model Number	Description
DOM-D-SN-1	Multi-Input Sensor Interface, 15W, IEEE 1901 HD-PLC