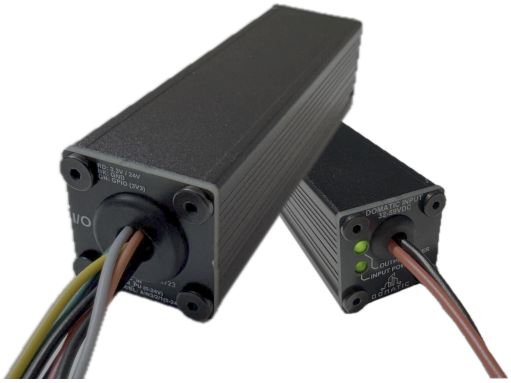
Multi-Sensor Driver

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, 2-wire	Output Wiring	24 AWG 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

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

Protection Features

Overcurrent Protection	Yes
Input Overvoltage Protection	Yes
Over Temperature Monitoring	Yes
Soft-Start	Yes

Environmental Specifications

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

Mechanical Specifications

Length	85.5 mm (3.4″)
Width	25 mm (1″)
Height	25 mm (1″)

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

Wiring & Connectors

Input Connector (18 AWG)

Wire	*Function*	*Description*
Red	VIN	Domatic Bus +, 32–59 VDC (48 VDC nominal), max 15W
Black	GND	Domatic Bus – (ground)

I/O Connector (24 AWG)

Wire Color	*Pin Name*	*Specification*
Red	VOUT	3.3V or 24V (software selectable), 0.5A max
Black (2×)	GND	Ground
Green	GPIO	3.3V GPIO output, 20 mA max
Orange	NTC	NTC thermistor input
Yellow	AIN_PU	Floating analog input (pull-up), 0–24V, floats at 10V
Violet	AIN3	Analog input, 0–24V, 17 kΩ impedance
Grey	AIN2	Analog input, 0–24V, 17 kΩ impedance
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