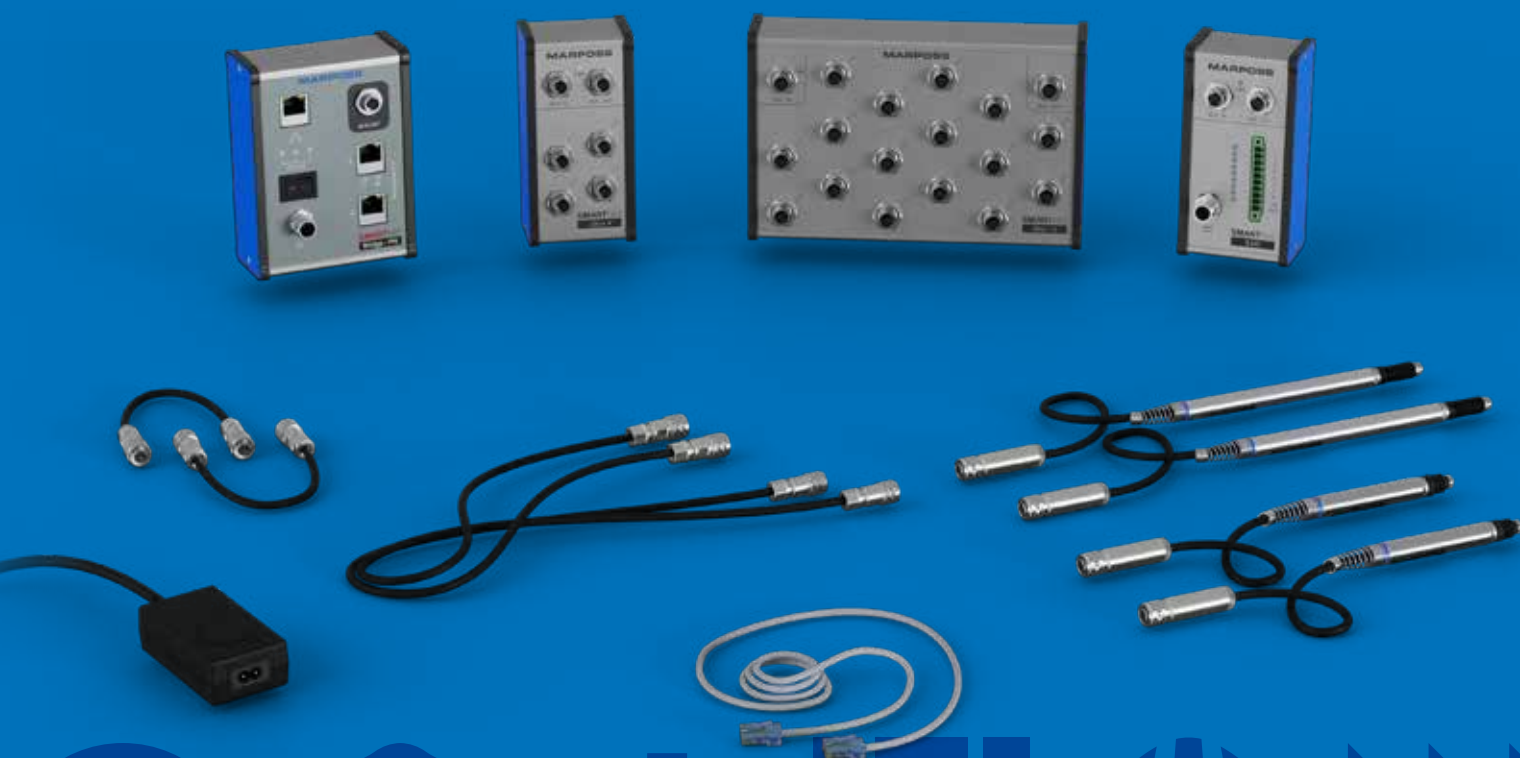


MARPOSS

SMARTNet

MODULAR – EASY – FAST



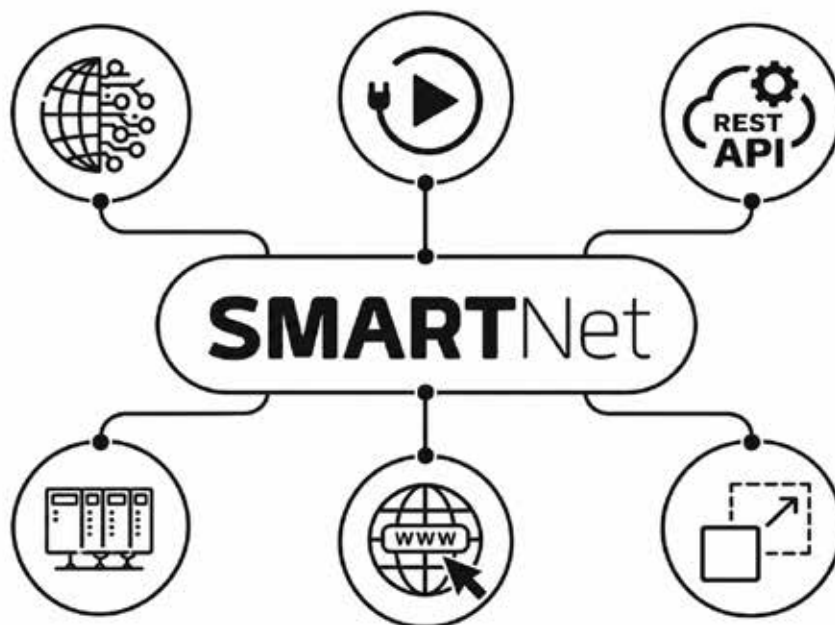
A NEW GENERATION OF MEASUREMENT



The SMARTNet network has been designed to significantly simplify the installation and management of measurement networks, even in complex and large-scale industrial environments. Thanks to an advanced automatic configuration system, the network is able to identify and configure sensors autonomously both during the initialization phase and when components are added or removed.

From an installation standpoint, SMARTNet introduces a key innovation through the use of push-pull connectors, which enable fast, secure, and immediate mechanical connections, drastically reducing wiring time and minimizing the risk of errors.

The system also provides multiple options for data access and management, including configuration via an integrated webserver, the use of Marposs SPC software, and direct communication with PLCs through the main Ethernet-based fieldbus protocols.



WHY SMARTNET?

- ▶ Fully Digital
- ▶ Plug & Play
- ▶ REST API
- ▶ Industrial Ethernet
- ▶ Browser Configuration
- ▶ Up to 250 Sensors

ONE PLATFORM: Unlimited Possibilities



- ▶ Configure from any browser: **Integrated Web Server**
- ▶ Open integration with any software: **REST API**
- ▶ Direct PLC communication: **Industrial Ethernet**
- ▶ Fast installation: **Push-Pull Connectors**
- ▶ Instant status visibility: **LED Diagnostics**
- ▶ Reliable measurement: **Digital Sensors**



System Integrator

"SMARTNet is a clean and simple solution."



Fixture Maker

"The WebServer configuration interface is really easy to use, and there is no need to install any software or app on your PC."



SMARTNET ECOSYSTEM



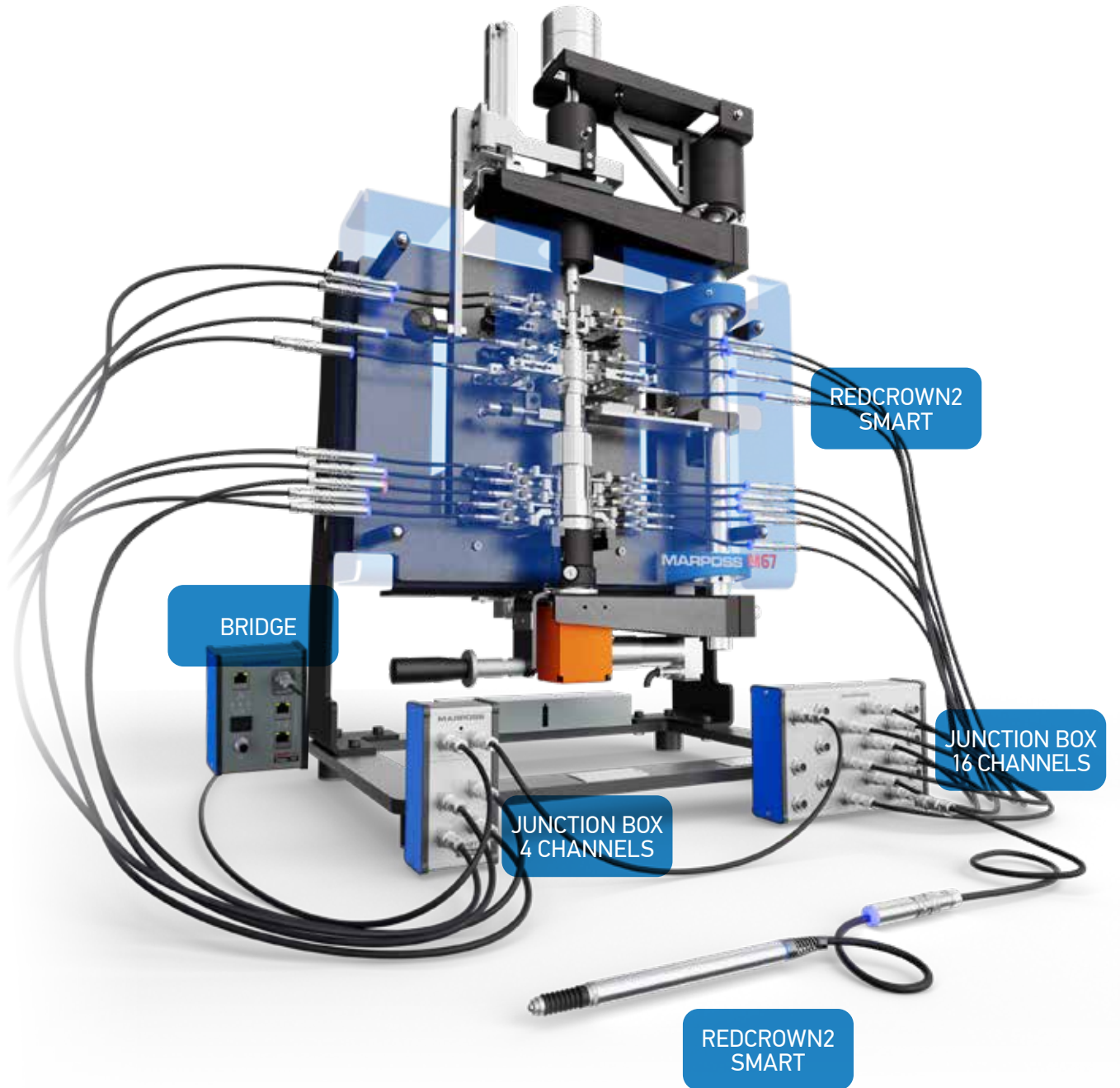
SMARTNet represents a new standard in sensor and measurement management, delivering a fast, reliable and intelligent connection network. It has been designed to guarantee complete digitalization and efficient linearization of all Marposs sensors, so that they can be integrated on a single communication bus, even in the case of mixed applications. The network normally consists of:

- ▶ A **Bridge module** (Standard or Fieldbus) for connection to the PC or PLC;
- ▶ One or more **Junction Box** connection modules (4 or 16 channels) designed to act as interfaces for the sensors;
- ▶ An **Input/Output module** for managing the programmable I/O signals;
- ▶ All the Marposs devices are equipped with **SMART connectors**;
- ▶ A **Web configuration** tool for setting up the network.



BUILT FOR INDUSTRIAL AUTOMATION

SMARTNet fits naturally into existing automation architectures.



UP TO 250
SENSORS
FOR NETWORK

SAMPLING RATE
7.500 Hz

AUTO-
CONFIGURATION

NEW SMART CONNECTOR

REDCROWN2 SMART – SMART PROBE

The RedCrown2 SMART is the evolution of Marposs pencil probes, specifically developed for the SMARTNet digital measurement network.

The probe features a fully digital architecture and an integrated processor, providing high measurement performance with accuracy up to 0.1 μm .

The new SMART connector enables fast and secure installation through its push-pull connection system, while the integrated 360° LED provides immediate visual feedback on the probe status.

Automatic detection simplifies network configuration and probe replacement, making the RedCrown2 SMART an ideal solution for demanding industrial measurement applications where accuracy, reliability and ease of installation are essential.



ACCURACY
up to
0.1 μm

IP DEGREE
IP65

LINEARIZATION
AND
DIGITALIZATION
DIRECTLY IN THE
CONNECTOR

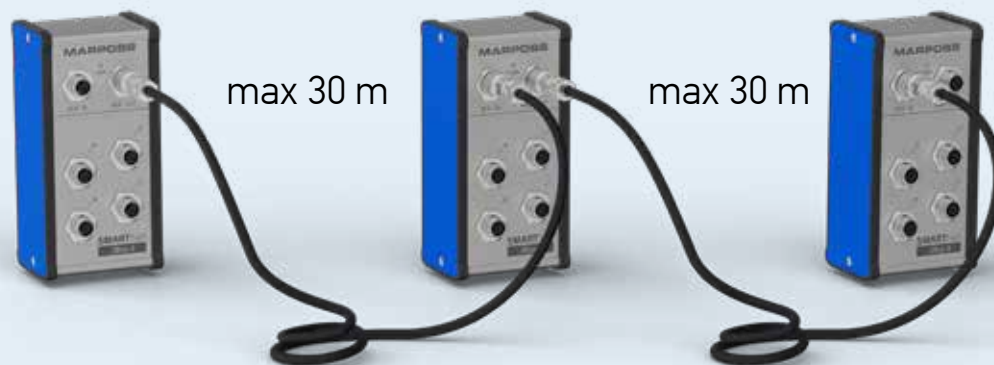


The same benefits offered by the new RedCrown2 SMART are also available across other Marposs measuring solutions, such as manual gauges, QuickBlock and measuring cells, which will be equipped with the new SMART connector.





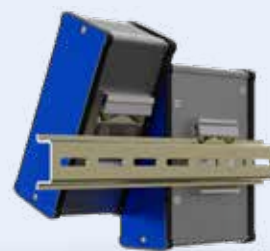
SMARTNET ECOSYSTEM



ABILITY TO CONNECT TWO BOXES UP TO 30 METERS APART



FAST AND EASY CONNECTION
WITHIN BOXES AND PROBES

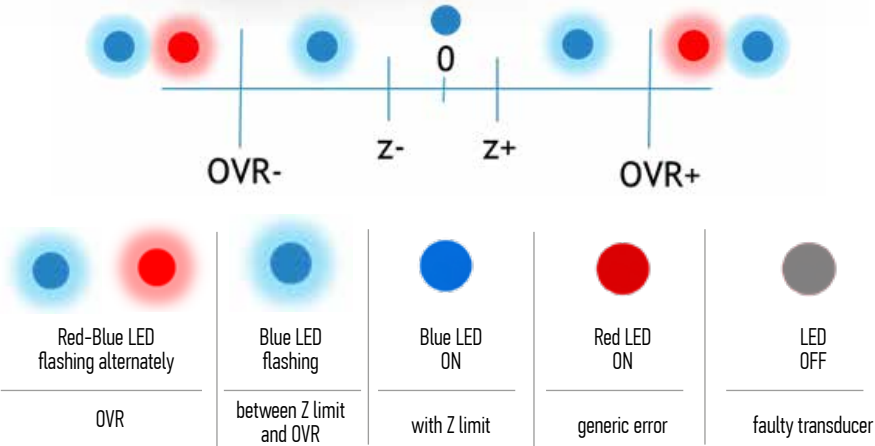


STANDARD DIN RAIL

SMARTNET ECOSYSTEM



IMMEDIATE VISUAL FEEDBACK

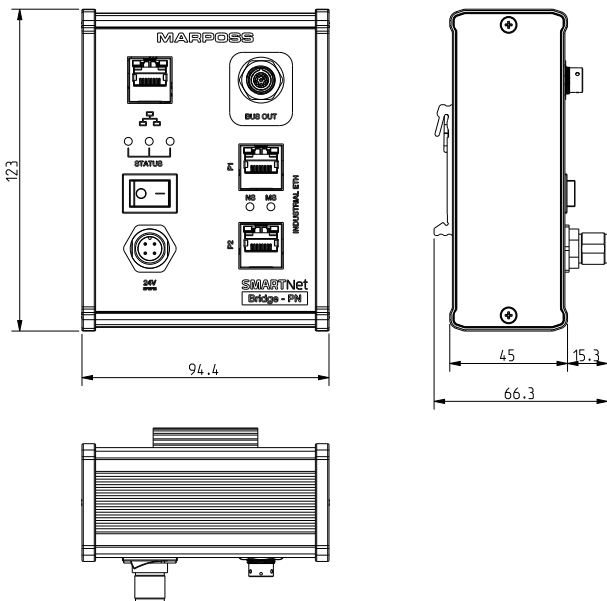




BRIDGE

The SMARTNet Bridge is the central interface of the network, providing communication between the SMARTNet measurement network and the host system. It manages communication with the connected Junction Boxes and SMART probes, while providing Ethernet connectivity for network configuration and data access through the integrated Webserver. The Standard Bridge is the ideal solution for applications where communication with the host system is managed through Ethernet.

The SMARTNet Bridge Fieldbus combines the functions of the standard Bridge with direct integration into industrial automation systems. Thanks to its integrated Fieldbus interface, SMARTNet can communicate directly with the PLC through the main industrial Ethernet protocols, including PROFINET, EtherCAT and EtherNet/IP. This solution is specifically designed for OEMs, system integrators and industrial automation applications requiring direct and reliable integration between the measurement network and the machine control system.



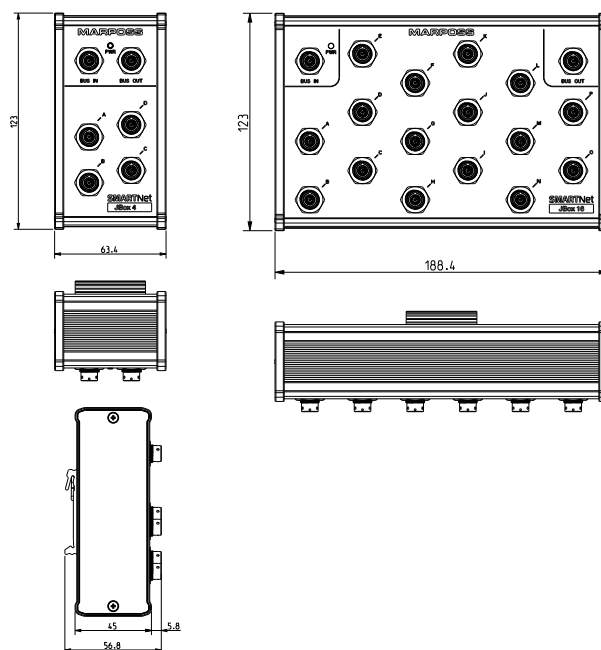
TECHNICAL SPECIFICATIONS	BRIDGE	BRIDGE - PN
Connectivity	Ethernet	Ethernet and ProfiNet
Max number of manageable sensors	250	250
Power supply	24 Vdc	24 Vdc
Protection degree	IP40	IP40
Operating temperature	5-45°C (41 – 113 °F)	5-45°C (41 – 113 °F)
Relative humidity	5-80% non condensing	5-80% non condensing
Dimensions	H123 – W94,4 – D60,3 mm	H123 – W94,4 – D60,3 mm
Mounting solutions	DIN rail mounting integrated, benchmount stand (option)	DIN rail mounting integrated, benchmount stand (option)

JUNCTION BOX 4 & 16 CH

The 4-channel Junction Box provides a compact and flexible interface for connecting SMART probes to the SMARTNet network.

Its compact architecture makes it particularly suitable for applications with a limited number of measuring points or for distributed measurement systems where sensors are installed in different areas of the machine or fixture. Multiple Junction Boxes can be connected to create a scalable network according to the specific application requirements.

The 16-channel Junction Box is designed for applications requiring a higher concentration of measuring points. It allows up to 16 SMART probes to be connected within a single compact module, optimizing network architecture and reducing the number of connection points required. Combined with the modular SMARTNet architecture, the 16-channel Junction Box is particularly suitable for medium and large measurement systems, helping optimize both installation and cost per measuring point.



TECHNICAL SPECIFICATIONS	JB4	JB16
Number of channels	4	16
Connectors type	Push-Pull connector	Push-Pull connector
Channel input type	SMART sensors	SMART sensors
Data synchronization	YES (all modules)	YES (all modules)
Sampling rate	up to 7500 samples/s	up to 7500 samples/s
Resolution	$\pm 1\,0,005\,\mu\text{m} \mid \pm 5\,0,010\,\mu\text{m}$	$\pm 1\,0,005\,\mu\text{m} \mid \pm 5\,0,010\,\mu\text{m}$
Protection degree	IP 54	IP 54
Storage temperature	-20-60°C	-20-60°C
Operating Temperature	5-45°C (41 – 113 °F)	5-45°C (41 – 113 °F)
Relative Humidity	5-80% non condensing	5-80% non condensing
Dimensions	H123 – W63,4 – D50,8 mm	H123 – W188,4 – D50,8 mm
Mounting solutions	DIN rail mounting integrated, benchmount stand (option)	DIN rail mounting integrated, benchmount stand (option)

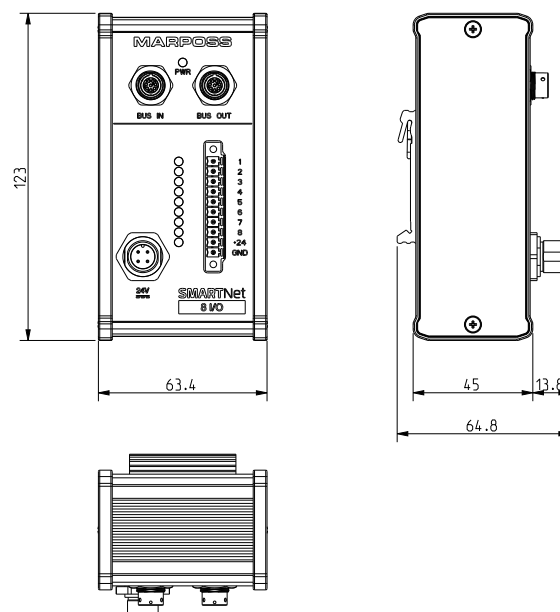


INPUT/OUTPUT MODULE

The SMARTNet I/O Module provides additional I/O functionality within the measurement network, allowing the system to interface with external devices and machine signals.

With 8 channels, the module expands SMARTNet capabilities beyond measurement acquisition, supporting the integration of measurement and machine control functions within the same network architecture.

It is therefore particularly suitable for automated applications where measurement data needs to be coordinated with external machine signals.



TECHNICAL SPECIFICATIONS		8 IO
Number of input/output	8	
Connectors type	Phoenix PCB header MCV 1,5/10-GF-3,81	
I/O assignment	Each pin programmable as Input or Output (via software)	
Power supply for I/O	External 24Vdc	
Max output current	100mA on each pin.	
Input absorption (active high)	15mA	
Output interface type	Source	
Protection Degree	IP40	
Operating temperature	5-45°C (41 – 113 °F)	
Relative humidity	5-80% non condensing	
Dimensions	H123 – W63,4 – D58,8 mm	
Mounting solutions	DIN rail mounting integrated, benchmount stand (option)	

TYPES OF CONNECTION



ETHERNET



**WEB SERVER
CONFIGURATION**



**MARPOSS SOFTWARE
MEASUREMENT**



**OPEN SOFTWARE
INTEGRATION ***



**PROFINET
ETHERCAT
ETHERNET/IP**



**PLC OUTPUT VALUE
NANOMETERS**

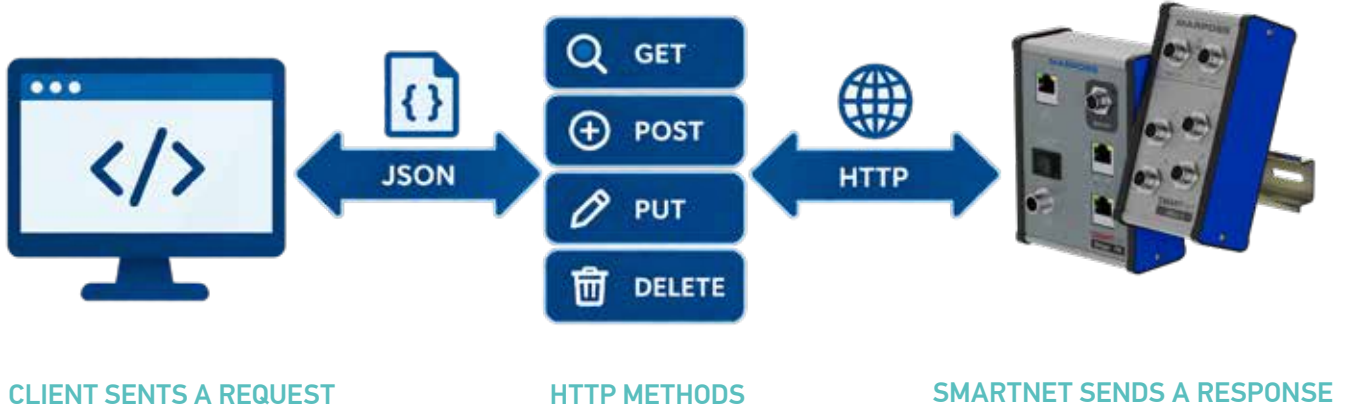


**REFRESH TIME
MIN 1 ms**

* EASY TO USE WITH **API REST**



OPEN SOFTWARE INTEGRATION



OPEN BY DESIGN

SMARTNet exposes measurement data through REST APIs.
Customers are free to integrate measurement into their preferred software environment.
Compatible with

- Python
- C#
- C++
- LabVIEW
- MATLAB
- Node.js
- Ava
- Web Applications
- MES
- Cloud Platforms

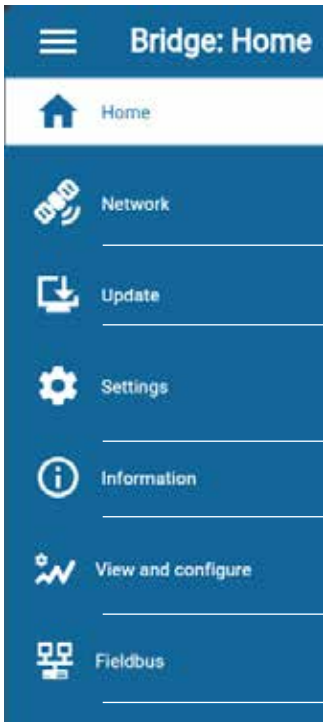
No proprietary software ecosystem required.



```
{
  "Transducers": [{
    "SensorId": 3,
    "SensorPosition": 3,
    "SerialNumber": "21DN0003",
    "ProductCode": "B3PR25Z0001",
    "ModelName": "H10",
    "MeasUnit": "µm",
    "DirectionInverted": false,
    "MeasRange": 1000,
    "OVRLowerLimit": -1000,
    "OVRUpperLimit": 1000,
    "ZeroLowerLimit": -600,
    "ZeroUpperLimit": 600,
    "State": 0
  }, {
    ...
  }, {
    ...
  }
]
```

WEB SERVER

The SMARTNet WebServer is the interface specifically designed for network configuration. It features several intuitive and user-friendly dashboards that make it easy to configure transducers, I/O devices, and fieldbus modules. Accessing the WebServer is quick and easy: simply connect using any modern web browser, with no software or app installation required. This makes the network simple, fast, and straightforward to configure.



- Press to access the connection parameters screen
- Press to access the device firmware update screen
- Press to access the general options screen, where it is possible select the display language and the login passwords
- Press to access the device firmware and software versions information screen
- Press to access the page where it is possible to monitor the sensors connected to the device and set-up the respective parameters
- Press to access the low-level Fieldbus board configuration page



ACCESSORIES

BENCHTOP STAND



AC/DC POWER SUPPLY UNIT 24 VDC – 3.5



INTERCONNECTION CABLE JB4 .- JB4 - BRIDGE

M 0,2 - 1 - 2 - 5 - 10



INTERCONNECTION CABLE JB4 - PP

M 1 - 2 - 3





MARPOSS

marposs.com

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