

ENODE[®] 2.0

Distributed I/O Controller

*Integrate environmental sensors
into your Facility Monitoring System*

Without measurement there is no control

The ENODE[®] 2.0 controller is an open architecture, modular Ethernet device that combines proven Schneider SCADAPack technology with Particle Measuring Systems firmware and environmental monitoring know-how. It can be integrated directly into Facility Net software to monitor isolated digital and analog inputs and drive alarm output contacts (digital or relay).

FEATURES

- Modular I/O components allow for flexible system designs
- Ethernet 10BaseT/100BaseT connectivity to local networks
- Data buffer stores samples when connection to software is interrupted
- Up to 8 input/output modules connected to one processor
- 8 analog channels per module; choice of 4-20 mA or 0-5 V signal types with an overall accuracy of 0.2%
- 16 digital input channels per module
- 8 relay output contacts per module
- 32 digital outputs per module
- Certifications: UL, CE, ATEX II 3G



**PARTICLE
MEASURING
SYSTEMS[®]**
a spectris company



BENEFITS

Cost Effective

- Modular design allows for a mixture of up to 128 signal inputs and/or 128 relay outputs per monitoring device, reducing cost per point
- Sample interval is configured per channel, reducing the number of modules required for different applications
- 4-20 mA and 0-5 V analog input types are configured per channel, not per module, also reducing the number of modules

Easy to Use

- Plug and play modules allow for ease of system expansion
- Module recognition through Facility Net software speeds up system configuration
- DIN rail mounting and removable screw terminals allow for simple installation
- Distributed architecture allows for modules to be installed anywhere throughout the facility

Superior Performance

- High accuracy, 12-bit analog converter gives 0.2% full scale overall accuracy
- 100,000 sample data buffer stores data when offline from software; data is exported to the database on reconnection
- Reliable TCP/IP Ethernet data transmission
- One-second sample interval for fast data-logging

APPLICATIONS

- Environmental monitoring and control
 - Differential pressure, temperature, humidity, air velocity, and other sensor signals
 - Alarm lamp or traffic light control
 - Flashing modes
- Process monitoring and control
 - Doors and switches monitored at each stage of the process
- Networked data-logging
- Remote data acquisition

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Specifications

Processor Unit

Operating system	VXWorks [®] 5.5
Processor	ARM7, 32-bit, 32 MHz
Ethernet	10/100BaseT (RJ45)
Memory	16MB flash ROM, 4MB CMOS RAM, 4KB EEPROM
Non-volatile storage	CMOS SRAM with lithium battery, retains contents for 2 years with no power
Serial ports	USB to USB
Network protocol	TCP/IP
Power	11 – 30 VDC 8.5 W at 24 V maximum
Environment	Humidity: 5% to 95% RH, non-condensing Temperature: -40 to 60 °C (-40 to 140 °F) when modules are attached
Dimensions (l x w x h)	5.65 x 5.00 x 1.80 in (14.4 x 12.7 x 4.5 cm)

Relay Output Module

Relay outputs	8
Type	Form A (normally open) contacts Modifiable for Form B (NC) operation
Isolation	Contact: 1000 VAC Logic: 1500 VAC
Current consumption	5 V at 300 mA
Contact ratings	6 amps @ 250 VAC or 30 VDC resistive 3.5 A @ 30 VDC/250 VAC inductive load 3 A max in Class 1, Div 2 hazardous locations
Dimensions (l x w x h)	4.25 x 4.625 x 1.75 in (1.08 x 1.18 x 4.4 cm)

Analog Input Module

Analog inputs	8
Input ranges	0 – 20 mA / 4 – 20 mA 0 – 5 VDC / 1 – 5 VDC
Resolution	15 bits over 0 – 5 V and 0 – 20 mA measurement range
Overall accuracy	±0.1% full scale at 25 °C (77 °F) ±0.2% over temperature range
Input configuration	Individual inputs configurable with 4 mA/1 VDC (20%) offset and for voltage/current operation
Input resistance	Current: 250 Ω Voltage: 66 kΩ
Dimensions (l x w x h)	2.90 x 4.90 x 1.80 in (7.4 x 12.4 x 4.5 cm)

Digital Input Module

Digital inputs	16
Range	12/24 VDC
Input current	0.6 - 0.9 mA
Power requirements	5 VDC
Dimensions (l x w x h)	2.9 x 1.8 x 4.9 in (7.4 x 4.5 x 12.4 cm)

Digital Output Module

Open drain outputs	32
Isolation	Isolated in 2 groups of 16 Isolation 500 VAC/VDC from chassis and logic ground
Current consumption	5 V at 150 mA
Dimensions (l x w x h)	5.65 x 5.00 x 1.80 in (14.4 x 12.7 x 4.5 cm)

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