



# The next generation platform for a Smarter Grid

Eaton's Cooper Power™ series Substation Modernization Platform (SMP™) 4/DP Distribution Processor is a powerful and rugged platform, providing utilities with secure and reliable data acquisition and management. Its versatile and compact shape makes the SMP 4/DP an ideal tool for both inside and outside the substation fence automation and integration applications. Installed directly in protective relay enclosures or in the switchyard, this SMP Gateway provides essential communication and data concentration features. It has also been designed to operate over a broad temperature range, which is critical to utilities who serve extreme temperature environments.

The Cooper Power™ series SMP 4/DP is robust, but extremely flexible—providing utilities with the advanced features required to build intelligent solutions that meet NIST Smart Grid road map and security guidelines.

The SMP 4/DP bridges the gap between substations and automation systems:

- Extracts and concentrates data from any device, regardless of protocol
- Sends data to SCADA, control centers, and any other centralized management applications
- Automates data processing and device control
- Provides secure remote access to any device
- Manage alarms and visualize substation single-line diagrams from a web interface
- Future-proof your Smart Grid — facilitates upgrades for security, protocol, or other improvements

## Flexibility

- Ideal for retrofit and upgrade projects. The SMP 4/DP is designed for Greenfield or Brownfield. It integrates existing / legacy RTUs, IEDs, PLCs, and multiple control centers
- Suitable for both pole-top or pad-mounted distribution automation applications
- Universal port (RS-232/485) enables connection to any serial device
- Data filtering allows for efficient bandwidth management over legacy low speed networks
- Two Ethernet ports support flexible network architectures for security and IEC 61850
- Fully compatible with Yukon™ IED Manager Suite for secure remote event, passthrough, and configuration management
- Use with SMP I/O to achieve comprehensive real-time control solutions



## Reliability

- Supports IRIG-B input for accurate time-stamping of data
- Includes user-friendly configuration tools for simplified commissioning
- Creates a homogenous system with a single point of access for all substation data
- Enhances the performance of your infrastructure with a new 600 MHz processor

## Security

- Comprehensive security features for simplified NERC CIP compliance
- Shares all the security features of the SMP Gateway family, including user authentication, complex



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passwords, security event logging and monitoring, SSL/TLS encryption, X.509, malware protection, and built-in firewall

- DNP3 Master and Slave Secure Authentication V2 and V5 support

### Robustness

- Meets all IEC and IEEE® requirements for substation-grade equipment

### General Features

Data concentration
Protocol translation
NERC CIP-compliant electronic perimeter
Built-in web server
Automation functions
Passthrough connections
Dialup connection
IEC 61131 compatible Soft-PLC
Microsoft Windows®-based configuration and maintenance tools
Built-in self-diagnostics
Real-time clock with battery backup
Built-in watchdog timer
Power supply monitoring
Flexible Licensing

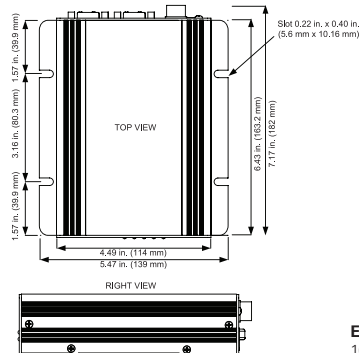
SMP Gateway HMI feature (includes remote display of single-line diagrams and substation alarms through web browser)

### Protocols

DNP3, IEC 61850, IEC 60870-5-101/103/104, SEL Fast Meter, IEEE Std C37.118 standard, GE, MODBUS, OPC, ABB, L&G, COOPER, most electrical industry proprietary protocols

### Processor

Texas Instruments OMAP3503CUSA, 600 MHz



- Advanced architecture saves rack space
- Conformal coating option available for extremely harsh environments
- Intelligence and scalability
- Extend the capabilities of legacy devices with the built-in Logic Processor and the optional Soft-PLC
- Extract non-operational data

### Communications

Serial:
1 universal (RS-232/485)
3 RS-232
1 USB console
Ethernet:
2 10/100BASE-TX
Modem:
Optional 56 kbps V.92 V.54

### Memory

Flash: 1Gbits (128 Mb) NAND Flash
RAM (LPDDR) 128 Mb
Low Power DDR (LPDDR)

### Standards Compliance

Protective Relay Standards <sup>1</sup>
IEEE Std C37.90™- 2005
IEC 60255

<sup>1</sup> With some exceptions

EMI Immunity Type Tests and Specifications
IEC-61850-3
IEEE-1613

Telephone Terminal Equipment
TIA-968-A
CS-03

Unit test list available upon request

for planning, maintenance, engineering, and fault analysis

- Over 100 protocols available—including IEC 61850 and IEEE C37.118

### Expertise

- Eaton has decades of experience in substation gateway design
- Thousands of installed systems worldwide

### Security Features

Built-in firewall
Built-in malware protection
Modem connection management
Remote access management
User account management:
Strong passwords
User accounts and user groups
Detailed group permissions
Security event logging and monitoring
Account lockout
Retrievable access logs for auditing
All system components digitally signed
Continuous file monitoring for system integrity
DNP3 Secure Authentication V2 and V5

### Connectivity

Up to 16 device connections
Up to 4 control center connections
Up to 5,000 data points
DNP3 Secure Authentication V2 and V5

### Time Synchronization

Input: Demodulated IRIG-B

### Warranty

5-Year Limited Warranty

### Environmental

Operating (at CPU 100% usage):
(DC)-40 °C to +70 °C (-40°F to +158 °F)
(AC)-40 °C to +55 °C (-40 °F to +131 °F)
Storage:
-40 °C to +85 °C (-40 °F to +185 °F)
Humidity:
5 to 95%, non-condensing
Low pressure (operation and storage altitude):
Up to 4572 m (15,000 ft)*

\*MIL-STD-810G Method 500.5 Procedure I and II

### Electrical

Power supply options:
10-36 Vdc
19-75 Vdc
85-264 Vac / 105-370 Vdc

5 W consumption

Lifetime built-in battery

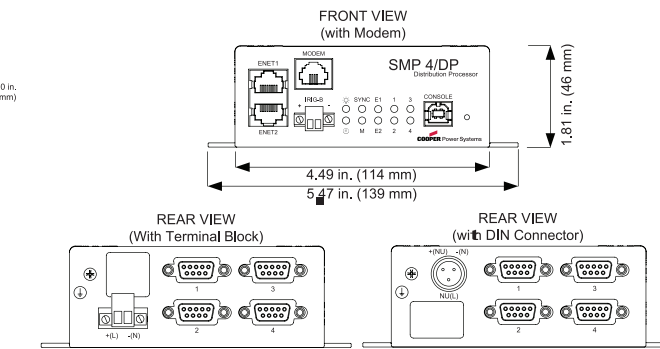
### Dimensions

1.81 in. H x 4.49 in. W x 6.43 in. L  
 46 mm H x 114 mm W x 163.2 mm L

With brackets:

1.81 in. H x 5.47 in. W x 7.17 in. L  
 46 mm H x 139 mm W x 182 mm L

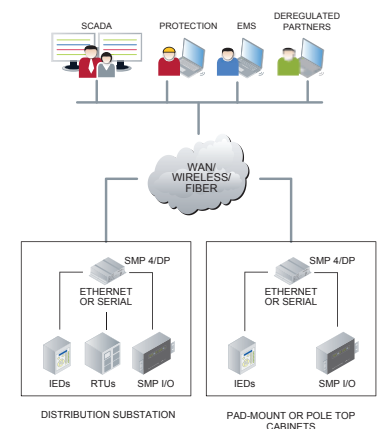
1 lbs / 454 g



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