

SMP DA-3050 automation platform

A multifunctional scalable automation platform with I/O capabilities

Eaton's SMP™ DA-3050 automation platform is a powerful and rugged scalable platform providing secure and reliable data acquisition and management. Its versatile and compact shape makes the SMP DA-3050 platform an ideal tool for utilities, commercial and industrial automation and integration applications. This compact automation platform with scalable I/O modules eliminates the need for extra I/O devices and provides essential communication and data concentration features. We designed this automation platform to operate over a broad temperature range, which is critical in extreme environments.

*: Features are coming soon

The Linux-based SMP DA-3050 automation platform is robust and extremely flexible—providing the advanced features required to build intelligent solutions that meet NIST Smart Grid road map and security guidelines.

The SMP DA-3050 comes in four models, creating a homogenous system with a single point of access for all data.

Key benefits

- Cost reduction by reducing the amount of hardware in a cabinet
- Improve utilization of existing assets and extend their lifetime
- Secure communication/remote access*
- Local or centralized management with IED Manager Suite (IMS)*
- AI, DI, AO, DO capability
- Ability to run containerized applications*
- Integrated cellular modem*
- Automation functions/IEC 61131-3 SoftPLC (CODESYS)
- Simplified maintenance

Applications

The SMP DA-3050 automation platform is ideal for the utility, industrial and commercial markets. Below are some typical applications.

In the Utility market:

- **Distribution cabinets:**
 - Adds digital capability to passive grid edge systems
 - Security gateway
 - Breaker control and monitoring
 - Isolation switch control
 - Tap changer monitor
 - Feeder fault indicator
 - Motor-operated switch controller
- **Generation:**
 - Local Dam controller with LCD display*
- **Transmission:**
 - Substation transformer monitoring
- **Microgrids:**
 - Distributed Energy Resources (DER) controller

Commercial and Industrial markets:

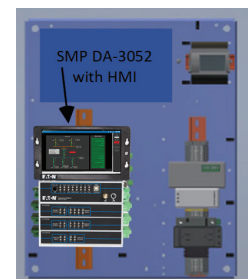
- Water & Waste
- Oil & Gaz
- Mining

Security

- Cybersecure device with UL 2900-1, IEEE 1686, and IEC 62351 compliance
- Provides secure remote access to any device*
- Single sign-on support with IED Manager Suite (IMS)*
- Comprehensive security features for simplified NERC CIP compliance
- Shares several the security features of the SMP Gateway automation platform family, including user authentication, complex passwords, security event logging and monitoring, TLS encryption, X.509, malware protection and built-in firewall

Cabinet installation

The SMP DA-3050 allows to reduce the amount of hardware in a cabinet by combining multiple functions in a single device. Eaton offers turnkey cabinet solutions.



Distribution cabinet, option (18"x18"x10")

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Simplified specifications (complete specifications are available in the SMP DA-3050 Catalog, CA912016EN)

General features

Full SMP Tools integration
Fully supported by IED Manager Suite*
Linux-based OS
Advanced software tools:
• Enable containerized customer applications*
• Integrated cellular LTE modem CAT-M1/NB IoT* (optional)
NERC CIP-compliant electronic perimeter
Built-in web server
Automation Functions
IEC 61131-3 compatible SoftPLC (CODESYS)*
Transparent connections (passthrough)*
Protocol translation and data concentration
Device redundancy*, network redundancy (PRP)*
Built-in self-diagnostics
Real-time clock with battery backup
Built-in watchdog timer
Power supply monitoring
Flexible licensing
HMI with remote display for real-time values and alarms through web browser and optional local display* for local control and status monitoring.
Syslog support
SNMP*
Remote management via REST API

Protocols

Client: IEEE 1815-2012 DNP3, IEC 61850 Ed.2*, IEC 61850 GOOSE, IEC 60870-5 101*/104*, Modbus, OPC UA*
Server: IEEE 1815-2012 DNP3, IEC 61850 GOOSE, IEC 60870-5 101*/104, Modbus*, OPC UA*

Security features

Built-in firewall/malware protection
Local/Global (IMS) security*
Certificate management (CSR, PKCS#12)
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
Digital signature is validated before using the system
Certificate-based user authentication*

Processor

ARM processor
Secure boot

Memory

Flash: 8 Gigabits NAND Flash
RAM: 1 Gigabit LP-DDR4 or 4 Gigabits

Connectivity

Up to 64 device connections
Up to 8 control center connections
Up to 20,000 data points
DNP3 secure authentication* V2 and V5

Communications

Serial:
Two 2-wire RS-232/485 with multidrop support* (up to 32 devices)
One USB 2.0 Type B console port
Ethernet:
2 x 10/100BASE-T
1 x SFP-based for 1000B-LX or 100B-FX, up to 2 km (LC), 10/100/1000B-T RJ45*
LTE Cellular modem*: CAT-M1/NB IoT (optional)
GNSS* (optional, hardware ready)

Time synchronization/distribution

Server: SNTP*, DNP3, IEC-60870-5-104 protocols
Client: SNTP, DNP3 protocols
IRIG-B: Unmodulated input*/output*

Environmental conditions

Operating (at CPU 100% usage):
-40 °C to +75 °C (-40 °F to +167 °F)
Storage:
-40 °C to +85 °C (-40 °F to +185 °F)
Humidity: 5 to 95%, non-condensing
Maximum altitude: Up to 2000 m (6561.7 feet)

Local display for HMI* (option)

Capacitive touch TFT LCD display
Display resolution: 1024x600 @60 Hz
Dimension: 177.8 mm (7 inches)

Warranty

10-year limited warranty

Electrical

Internal power supply supports:
24, 48 Vdc nominal
External power supply options to convert to 24 Vdc (DIN rail-mount):
85—264 Vac, 90—350 Vdc, 3.5 A
9—36 Vdc, 2.5 A
10 W consumption (controller only)
Lifetime built-in battery

Installation/Dimensions

DIN rail, rack or wall-mount installation
Basic unit only (SMP DA-3050 model):
49.2 mm H x 114.3 mm W x 165.1 mm L
1.94 in. H x 4.5 in. W x 6.5 in. L
With I/O modules (Height):
with 1 I/O module (SMP DA-3051 model): 75.4 mm (2.97 in.)
with 3 I/O modules (SMP DA-3052 and SMP DA-3053 models): 130 mm (5.12 in.)
Controller (basic unit): 454 g/1 lb
each I/O module: 454 g/1 lb

I/Os on the Basic unit (controller)

1 x 24 — 48 Vdc DI
2 x alarm contact DO (Form C)
1 x 48 Vdc AI

Digital I/O module (AC or DC)

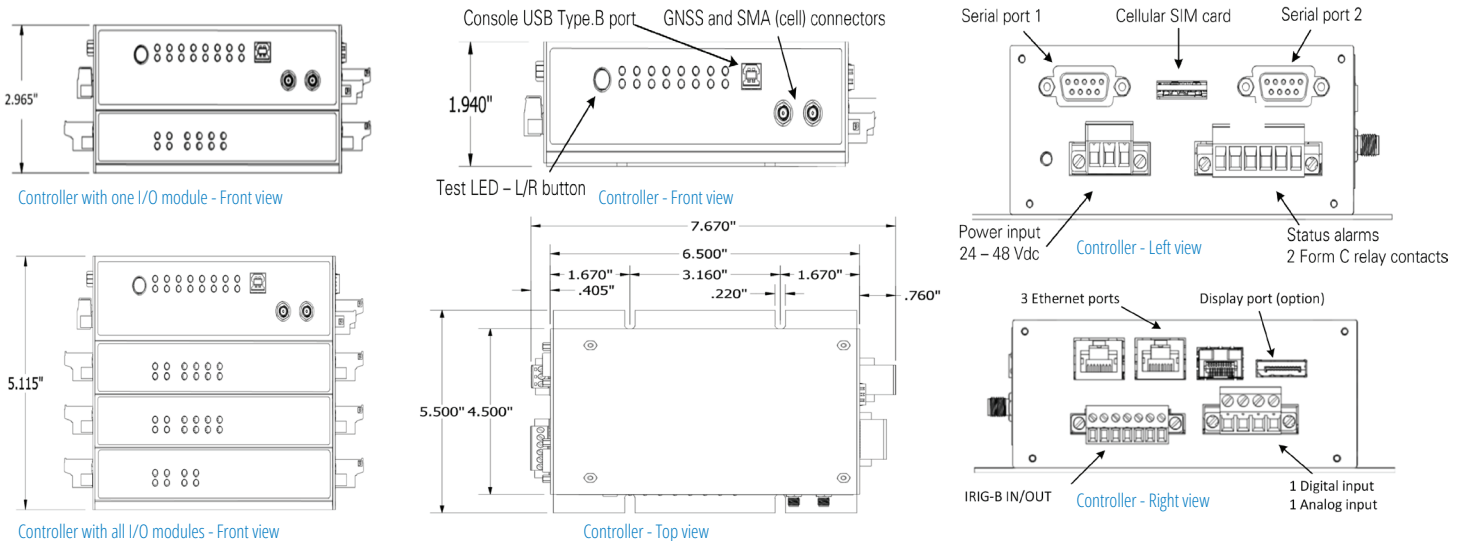
8 x DI: software selectable
± 24—48 V, ± 125 V
4 x DO: Form C relays (all DO # odd)
Form A relays (all DO # even)

Analog I/O module

4 x AI: software selectable
±10 V, ±20 mA, ±2 mA, ±1 mA,
16-bits +sign resolution
4 x AO: software selectable
±10 V, ±20 mA, 12-bits resolution

*: Features are coming soon

Dimension drawings



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