

Application and Data Server (ADS) Lite-A System Catalog Page

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Background

The Application and Data Server (ADS) Lite-A system leverages the building control and data storage capabilities of an ADS with the scalability of the *Metasys*® engines to meet the needs of middle-sized buildings and campuses.

The Application and Data Server (ADS) Lite-A manages the collection and presentation of large amounts of trend data, event messages, operator transactions, and system configuration data. As Site Director, the ADS-Lite-A provides secure communication to a network of Network Automation Engine (NAE) 45-Lites and Network Integration Engines (NIEs).

The ADS-Lite-A includes an Open Database Connectivity (ODBC) compliant database package for secure storage of historical and configuration data.

The *Metasys* UI provides an intuitive experience designed for remote operations of your building.

- ① **Note:** *Metasys* Release 8.1 was the last release of the Ready Access Portal UI. Most Ready Access Portal functionality is available in the *Metasys* UI.

The ADS-Lite-A supports virtual environments, including VMware® and Microsoft Hyper-V™. Refer to the *Network and IT Guidance Technical Bulletin (LIT-12011279)* for more information.

- ① **Note:** In this document, the term engine refers to all supported NAE45-Lites, and NIEs, unless otherwise noted. The ADS-Lite-A supports up to three NAE45-Lites and one NIE29/39/49.

The Network Automation Engine (NAE) 45-Lite enables IP connectivity and web-based access to *Metasys* Building Management Systems (BMSs).

The NAE45-Lite leverages standard BACnet building management communication technologies, including BACnet® protocol, to monitor and supervise a wide variety of HVAC, lighting, security, fire, and access control equipment.

The NAE45-Lite provides comprehensive equipment monitoring and control, scheduling, alarm and event management, energy management, data exchange, data trending, and data storage.

The NAE45-Lite enables cost-effective connectivity and control in small to medium facilities.

Figure 1: ADS-Lite-A Site Management Portal UI

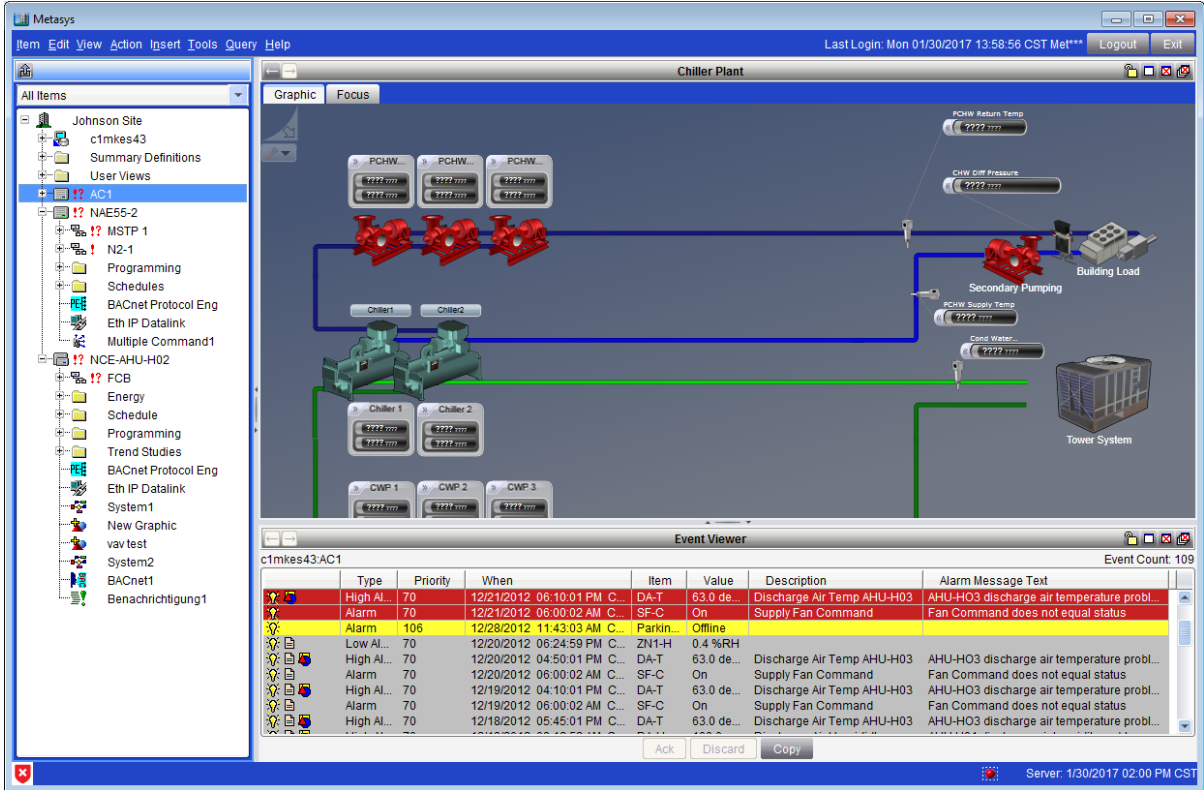


Figure 2: NAE45-Lite



Features and Benefits of the ADS-Lite-A System with NAE45-Lites

Communication Using Commonly Accepted IT Standards

Allows you to install a system on your existing IT infrastructure within a building or enterprise and use standard IT communication services over the company intranet, WAN, or public Internet with firewall protection.

Secure, Encrypted Communication

Protects the system from unauthorized users and computer hackers with the implementation of the Hypertext Transfer Protocol Secure (HTTPS) application protocol and Transport Layer Security (TLS 1.2) to encrypt communications between the ODS, network engines, and clients.

Web-Based User Interface

Allows you to access system data from any supported web browser device connected to the network, including remote users connected by an Internet Service Provider (ISP) or dial-up telephone. UI Support for Five Users—Allows up to five users to access the ADS-Lite-A UI at one time.

Support for Four Engines: Three NAE45-Lites and One NIE29/NIE39/NIE49

Allows flexibility and scalability on your network.

Support for MS/TP Bus, BACnet Protocol, and Third-Party Communication

Allows you to leverage standard communication formats on your network: MS/TP and BACnet IP communication to third-party devices on the NAE45-Lite, and third-party communication with the NIE29/NIE39/NIE49.

Support for the Language Installation Program (LIP)

Installs language resources and makes the needed configuration changes so that the ADS-Lite-A system supports one or more locales.

Ordering Information

Table 1: ADS-Lite-A

Code Number	Description
MS-ADSLA5U-0	ADS-Lite-A New project software: for up to five users, on new sites
MS-ADSLA5U-6	ADS-Lite-A Upgrade project software: for up to five users, on sites with a previous version of the <i>Metasys</i> software

Ordering Information

Table 2: NAE45-Lite

Code Number	Description
MS-NAE451L-2	One BACnet MS/TP (RS-485) trunk; an additional RS-232-C serial port for optional external modem; support for up to 100 Field Equipment Controllers (FEC) family MS/TP or 64 generic BACnet MS/TP devices (for example, non-FEC family or third-party vendor). N2 Bus and LonWorks® field trunk are not supported.

Availability

ADS-Lite-A and NAE45-Lite are available for purchase and use in the following countries only: Australia, China, Hong Kong, India, Indonesia, Japan, Korea, Malaysia, New Zealand, Philippines, Singapore, Taiwan, Thailand, Vietnam, and select branches within regions of Africa and the Middle East.

If generic BACnet MS/TP devices (for example, non-FEC, third-party vendor, or VND labeled devices, including TEC Thermostat Controllers) are connected to the FC Bus, the maximum total number of MS/TP devices on an FC Bus is 64. The maximum number of devices per bus segment is 32. The maximum number of bus segments per FC Bus is 3. The maximum cable length per bus segment is 1,219 m (4,000 ft), and the maximum total FC bus length is 3,658 m (12,000 ft).

For information on the NIE29, NIE39, and NIE49, refer to the Johnson Controls® Advanced Order Management System (AOMS).

Accessories

See Table 3 for accessories available for the NAE45-Lite.

Table 3: NAE45-Lite Accessories Ordering Information

Product Code Number	Description
MS-BAT1020-0	Replacement data protection battery for NAE45-Lite. Rechargeable NiMH battery: 3.6 V 500 mAh, with a typical life of 5 to 7 years at 21°C (70°F)
AS-XFR100-1	Power transformer (Class 2, 24 VAC, 92 VA maximum output), with enclosure
AS-XFR010-1	Power transformer (Class 2, 24 VAC, 92 VA maximum output), no enclosure

Technical Specifications

The following table lists by operating system the Microsoft SQL Server® Express software editions that have been fully qualified by Johnson Controls for the current release. You can select other combinations, but we recommend that you select from the following pairings.

Table 4: Recommended Operating System and SQL Server Express Combinations

Operating System	Database Software		
	SQL Server® 2016 Express with SP1 (64-bit)	SQL Server® 2014 Express with SP2 (64-bit)	SQL Server® 2012 Express with SP4 (64-bit)
Windows® 10 Pro and Enterprise Editions with Creators Update (version 1709 or later) (64-bit)	X	X	X
Windows® 8.1 Pro and Enterprise Editions with Update 1 (64-bit)	X	X	X
Windows® 7 Professional, Enterprise, and Ultimate Editions with SP1 (64-bit)		X	X

Application and Data Server-Lite System Requirements

Table 5: Application and Data Server-Lite System Requirements

Recommended Computer Platform¹	<p>Intel i7 processor latest version with at least 4 cores or better</p> <p>2 x 320 GB hard disk (RAID 1)² with 40 GB free space after installation of all prerequisite software and before installation of ADS-Lite software. Configure RAID 1 (mirroring) with disk write-caching turned on.</p> <p>ⓘ Note: Prerequisite software includes the supported operating system, database software, .NET Framework, and any other software or service packs required for your ADS configuration.</p> <p>Graphics adapter (1 GB RAM, ATI® Technologies or NVIDIA® Corporation, 64-bit compatible [for 64-bit operating systems], Small Form Factor [SFF] if required)</p>
Required Minimum Memory	16 GB RAM minimum
Supported Operating Systems³ and Database Software	<p>Windows® 10 Pro and Enterprise Editions with Anniversary Update (version 1607 or later) (64-bit)</p> <p>Supports:</p> <ul style="list-style-type: none"> • SQL Server® 2016 Express with SP1 (64-bit) • SQL Server® 2014 Express with SP2 (64-bit) • SQL Server® 2012 Express with SP4 (64-bit)⁴

Table 5: Application and Data Server-Lite System Requirements

	<p>Windows® 8.1 Pro and Enterprise Editions with Update 1 (64-bit)</p> <p>Supports:</p> <ul style="list-style-type: none"> • SQL Server® 2016 Express with SP1 (64-bit) • SQL Server® 2014 Express with SP2 (64-bit) • SQL Server® 2012 Express with SP4 (64-bit)⁴ <hr/> <p>Windows® 7 Professional, Enterprise, and Ultimate Editions with SP1 (64-bit)</p> <p>Supports:</p> <ul style="list-style-type: none"> • SQL Server® 2014 Express with SP2 (64-bit) • SQL Server® 2012 Express with SP4 (64-bit)⁴
<p>Supported Operating Systems for <i>Metasys</i> Client Devices</p>	<p>Windows® 10 Pro and Enterprise Editions with Anniversary Update (version 1607 or later) (64-bit)</p> <p>Windows® 8.1 Pro and Enterprise Editions with Update 1 (64-bit)</p> <p>Windows® 7 Professional, Enterprise, and Ultimate Editions with SP1 (64-bit)</p> <p>Apple® macOS® 10.13 High Sierra</p> <p>Apple® macOS® 10.12 Sierra</p> <p>Apple® OS X® 10.11 El Capitan</p> <p> ⓘ Notes:</p> <ul style="list-style-type: none"> • In OS X, you cannot view Graphics+ graphics in the Site Management Portal UI. • Apple operating systems are supported for <i>Metasys</i> client computers only.
<p>Supported Web Browser Software for <i>Metasys</i> Site Management Portal Client</p>	<p>Windows® Internet Explorer® 11.0.9600.18449 Update version 11.0.35 or later</p> <p> ⓘ Note: Select the Use Microsoft compatibility lists option, found under Tools > Compatibility View Settings, to ensure that websites appear and function correctly.</p> <p>Apple® Safari® 10 or later</p> <p> ⓘ Note: You use the web browser to download the Launcher application. After you install the Launcher application, you use the Launcher, not the web browser, to log in to the Site Management Portal (SMP) user interface.</p> <p>Other browsers, such as Mozilla® Firefox®, may also be used but are not fully supported.</p>

Table 5: Application and Data Server-Lite System Requirements

<p>Supported Web Browser Software for <i>Metasys</i> UI Clients</p>	<p>Windows® Internet Explorer® 11.0.9600.18449 Update version 11.0.35 or later</p> <p>ⓘ Notes:</p> <ul style="list-style-type: none"> • The <i>Metasys</i> UI does not support Internet Explorer 11 on Windows 10 operating systems. • Select the Use Microsoft compatibility lists option, found under Tools > Compatibility View Settings, to ensure that websites appear and function correctly. • <i>Metasys</i> UI does not support InPrivate Browsing. To exit InPrivate Browsing, close the browser window and open a new browser window. <p>Microsoft® Edge® version 41 or later</p> <p>Google® Chrome™ version 61 or later</p> <p>ⓘ Note: <i>Metasys</i> UI does not support incognito mode. To exit incognito mode, click or tap the X icon of the browser window or tab and then open a new browser window or tab. For more information on incognito mode in Google Chrome, click here.</p> <p>Apple® Safari® 10 or later</p> <p>ⓘ Note: <i>Metasys</i> UI does not support private browsing. To exit private browsing, click or tap Private in the browser window.</p> <p>Other web browsers, such as Mozilla® Firefox</p>
<p>Supported Virtual Environments</p>	<p>Microsoft Hyper-V™</p> <p>VMware®</p>
<p>Supported User Interfaces</p>	<p>Site Management Portal (SMP)</p> <p><i>Metasys</i> UI</p>
<p>Additional Software Included with the ADS-Lite Software Download</p>	<p>Microsoft SQL Server 2014 Standard SP2⁵</p> <p>Microsoft .NET Framework Version 4.6.1</p> <p>Launcher Software</p> <p><i>Metasys</i> Database Manager software</p> <p><i>Metasys</i> Advanced Reporting System software</p> <p>ⓘ Note: The <i>Metasys</i> Advanced Reporting System requires an ADX. The SCT computer must be online and accessible to the ADX at all times.</p>
<p>Optional Hardware</p>	<p>Any network or local printer supported by the qualified Windows operating system</p>

Table 5: Application and Data Server-Lite System Requirements

Optional Software	Graphic Generation Tool CCT SCT <i>Metasys</i> Export Utility
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- 1 Our computer platform and memory recommendations are not meant to imply that older or slower machines are not usable. Refer to the *Network and IT Guidance Technical Bulletin (LIT-12011279)* for more information regarding computer/server recommendations.
- 2 For best performance, use Serial Attached SCSI (SAS) hard drives, not Small Computer System Interface (SCSI) hard drives.
- 3 Refer to the *Network and IT Guidance Technical Bulletin (LIT-12011279)* for specific Microsoft Windows operating system settings that may be required for your *Metasys* system configuration.
- 4 Microsoft SQL Server 2012 Express with SP3 is not an automatic Windows update. For more information, refer to <https://support.microsoft.com/en-us/kb/2979597>.
- 5 SQL Server software is only included with the MS-ADX10SQL product.

NAE45-Lite Specifications

Table 6: NAE45-Lite Specifications

Power Requirement	Dedicated nominal 24 VAC, Class 2 Power Supply (North America), Safety Extra-Low Voltage (SELV) power supply (Europe), at 50/60 Hz (20 VAC minimum to 30 VAC maximum)
Power Consumption	25 VA maximum
Ambient Operating Conditions	0 to 50°C (32 to 122°F); 10 to 90% RH, 30°C (86°F) maximum dew point
Ambient Storage Conditions	-40 to 70°C (-40 to 158°F); 5 to 95% RH, 30°C (86°F) maximum dew point
Data Protection Battery	Supports data protection on power failure. Rechargeable NiMH battery: 3.6 VDC 500 mAh, with a typical life of 5 to 7 years at 21°C (70°F) Product Code Number: MS-BAT1020-0
Processor	192 MHz Renesas® SH4 7760 RISC processor
Memory	128 MB flash nonvolatile memory for operating system, configuration data, and operations data storage and backup 128 MB Synchronous Dynamic Random Access Memory (DRAM) for operations data dynamic memory
Operating System	<i>Metasys</i> 9.0.7 or earlier: Microsoft® Windows® CE embedded <i>Metasys</i> 10 or later: Linux® Buildroot 2017.08.2

Table 6: NAE45-Lite Specifications

<p>Network and Serial Interfaces</p>	<p>One Ethernet port; 10/100 Mbps; 8-pin RJ-45 connector</p> <p>One optically isolated RS-485 port; 9600, 19.2k, 38.4k, or 76.8k baud (depending on protocol); with a pluggable and keyed 4-position terminal block</p> <p>One RS-232-C serial port with standard 9-pin sub-D connector that supports standard baud rates.</p> <p>A second serial port, on models without an internal modem, that supports an optional, user-supplied external modem.</p> <p>One USB serial port with standard USB connector that supports an optional, user-supplied external modem.</p>
<p>Housing</p>	<p>Plastic housing material: ABS + polycarbonate UL94-5VB</p> <p>Protection: IP20 (IEC 60529)</p>
<p>Mounting</p>	<p>On flat surface with screws on three mounting clips or a single 35 mm DIN rail</p>
<p>Dimensions (Height x Width x Depth)</p>	<p>131 x 270 x 62 mm (5.2 x 10.6 x 2.5 in.)</p> <p>Minimum space for mounting NAE45-Lite: 210 x 350 x 110 mm (8.3 x 13.8 x 4.3 in.)</p>
<p>Shipping Weight</p>	<p>1.2 kg (2.7 lb)</p>
<p>Compliance</p> 	<p>United States: UL Listed, File E107041, CCN PAZX, UL 916, Energy Management Equipment, FCC Compliant to CFR47, Part 15, Subpart B, Class A</p> <p>Canada: UL Listed, File E107041, CCN PAZX7, CAN/CSA C22.2 No. 205, Signal Equipment; Industry Canada Compliant, ICES-003</p> <p>Europe: CE Mark - Johnson Controls declares that the NAE45-Lite is in compliance with the essential requirements and other relevant provisions of the EMC Directive.</p> <p>Australia and New Zealand: RCM Mark, Australia/NZ Emissions Compliant</p>

The performance specifications are nominal and conform to acceptable industry standard. For application at conditions beyond these specifications, consult the local Johnson Controls office. Johnson Controls shall not be liable for damages resulting from misapplication or misuse of its products.

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