

TECHNICAL DATA SHEET
DS0114 rev 71

Cylon® NEXUS-3 Series



DESCRIPTION

The NEXUS-3 is an IoT (Internet of Things) embedded ASPECT® Control Engine designed to provide flexible site control applications for medium to large scale building automation systems. It can be used to connect with ABB's FLXeon Series and CB Series of BACnet® controllers. The NEXUS-3 supports serial communications protocols such as BACnet®, AAM PUP, and Modbus®. Additionally, TCP/IP communications using FT/Net, BACnet®, Modbus® and Cylon's Unitron (when used with the UC32.netK) protocols are available when using the RJ-45 connection.

APPLICATION

The NEXUS-3 Series includes ASPECT Supervisor with a BACnet Operator Workstation (B-OWS) device profile.

A capacity based licensing model makes the NEXUS-3 family of controllers scalable for medium to large buildings applications, including a campus environment when combined with the ASPECT®-Enterprise server software. The NEXUS-3 provides network management and integration of the supported field level RS-485 and TCP/IP communication protocols.

When deployed with embedded ASPECT® Runtime Engine, the NEXUS-3 is capable of supervisory-based control functions including but not limited to energy management routines, custom sequencing, alarm and event annunciation, historical alarming and trending, and master control scheduling. Additionally, streaming of live connected data is displayed via rich HTML5 graphics using a web browser.

ASPECT® uses secure web technologies to enrich the user experience through common internet applications (appropriate security measures required such as VPN or firewall) for alarm annunciation and scheduling. Receive alarms either from the integrated alarm console or through e-mail clients, or Twitter®. Schedule your building equipment through an integrated scheduler or by using common

NEXUS-3-264

4,000 Points or 64 Devices (TCP/IP and/or RS485)

NEXUS-3-2128

8,000 Points or 128 Devices (TCP/IP and/or RS485)

NEX-LP-16 (License Upgrade)

1,000 Points or 16 Devices (TCP/IP and/or RS485)

PLATFORM MAXIMUMS

10,000 Points or 128 Devices

64 Devices per RS-485 port

BACnet Device Profile: B-OWS

HARDWARE PLATFORM

Intel Atom x5-E3930 Dual-core, 4GB RAM, 64GB SSD

2 GbE Ethernet RJ-45 Connection

Two RS-485 ports @ 9K6, 19K2, 38K4, 57K6, 76K8 or 115K2

EMBEDDED SOFTWARE

Operating System: Secure Linux OS

Application: Embedded ASPECT® Runtime Engine

USB Service Port

DIN-rail and VESA mounting

Fan-less design

Designed to military standards MIL-STD-810G

scheduling platforms such as Microsoft® Outlook®, Apple iCal, Google Calendar™.

Product Selection Chart							
Part Number	Device Capacity ¹	Point Capacity ¹	BACnet MSTP and/or IP	Modbus RTU and/or TCP	AAM PUP	Teletrol TSC®	Unitron (using UC32.netK)
NEXUS-3-264	64	4,000	✓	✓	✓	✗	✓
NEXUS-3-2128	128	8,000	✓	✓	✓	✗	✓
NEX-LP-16 ²	16	1,000	-	-	-	-	-
NEX-LIC-CHG ³	-	-	-	-	-	-	-

Note: 1 – NEXUS supports a maximum of 10,000 points and 128 device connections.

Note: 2 – If added to 2128 only points are added for a maximum of 10000.

Note 3: Field upgrades require an NEX-LIC-CHG license.

SPECIFICATIONS

PHYSICAL

Dimensions	119 mm wide x 56 mm deep x 154 mm high (4.7 in x 2.2 in x 6 in)
Mounting	Wall mount (edge and bottom) DIN Rail mount (edge and bottom) VESA mount (bottom)

Storage	M.2 2280 M-key (PCIe x2, SATA)
Expansion	Full-length mPCIe slot (PCIe, SATA) M.2 2230 E-key (PCIe, USB)
Platform	Onlogic KARBON 300
Power Supply	MEAN WELL Psu Din Rail (included)
Special Features	OnLogic Microcontroller (MCU) Onboard TPM 2.0 (Nuvoton NPCT750) Automotive Ignition Power Sensing SuperCap backup for RTC battery

OPERATION

Processor	Intel Atom x5-E3930 Dual-core
Memory	4GB Onboard LPDDR4 64GB M.2 SATA SSD
Graphics	Integrated Intel HD Graphics 500

CONNECTIONS

Bottom I/O	1x GbE LAN 2x PoE LAN 2x Full-size DisplayPort
Top I/O	2x Serial RS-232/422/485 3-pin Power input 4x Antenna holes
Front I/O	Power button 1x 3.5 mm Audio jack (mic-in, line-out) 8-bit Isolated DIO 4x USB 3.0 Type A 8x Status LEDs 3-pin CAN bus 2.0B Nano-SIM slot (4FF)
LAN Controllers	Intel Ethernet Controller 1210-IT
Voltage Input	9...36 V DC

ENVIRONMENTAL

Operating Temperature:	-25°C ~ 70°C
Operating Humidity:	0 ~ 90%
Storage Temperature:	-40°C ~ 85°C
Storage Humidity:	0 ~ 90%

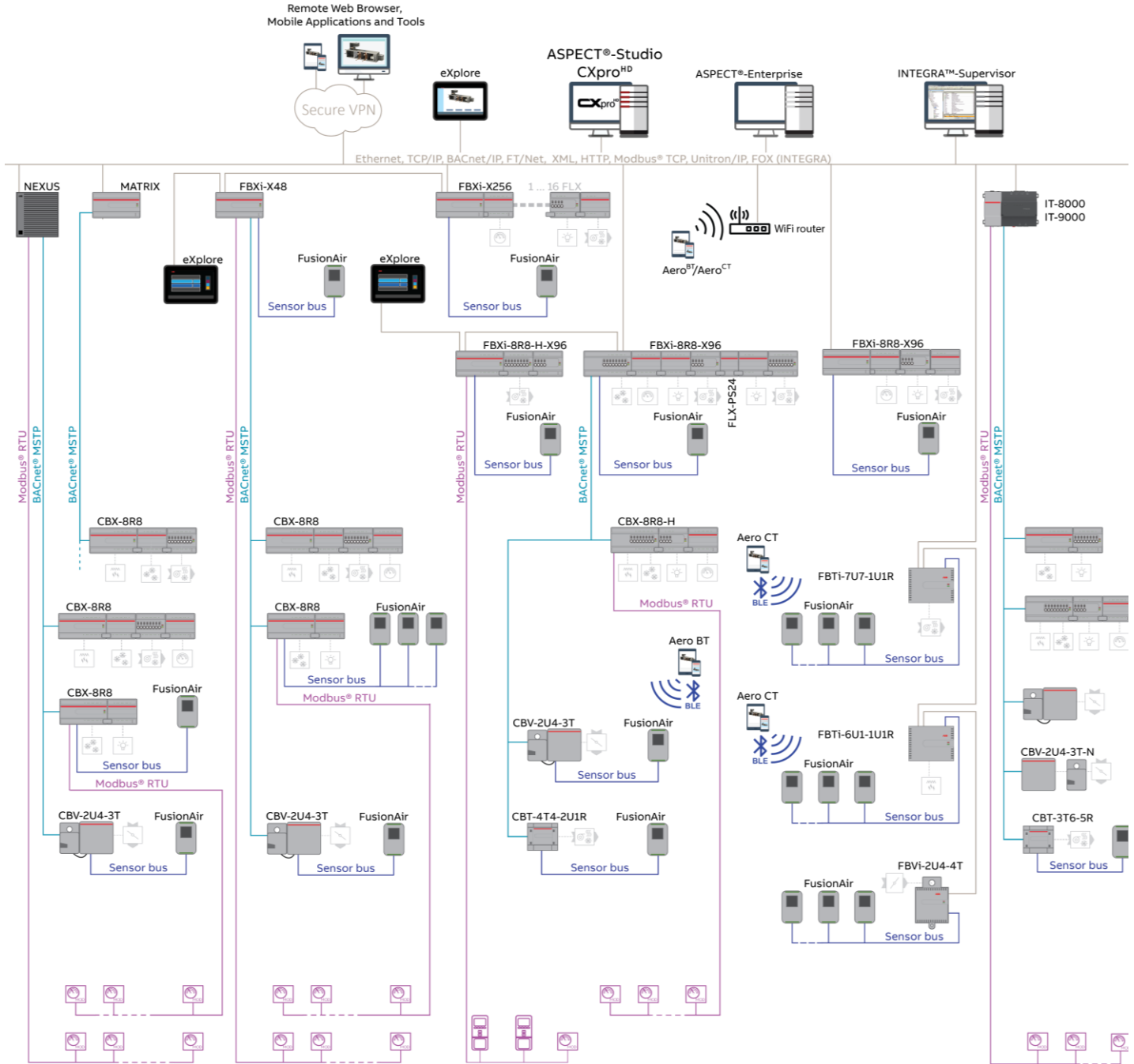
CERTIFICATIONS

FCC 47 CFR Part 15
EN 55024
EN 55032
EN 62368-1
2011/65/EU (RoHS 2 Directive) WEEE Directive (2012/19/EU) IEC 60068-2-27
IEC 60068-2-64
UL Listed
CE Approved

ORDERING INFORMATION

ABB2CQG100110R2021	NEXUS-3-2128
ABB2CQG100111R2021	NEXUS-3-264

SYSTEM ARCHITECTURE



FBXi / CBXi-8R8 / CBX-8R8	FLX-8R8 -H	FBVi-2U4-4T	INTEGRA Series	FusionAir Smart Sensor
CBXi-8R8-H / CBX-8R8-H	FLX-4R4-H	NEXUS Series	eXplore	CBT-STAT
CBV-2U4-3T	FLX-PS24	MATRIX-2 Series		UCU Room Display
FLX-8R8 / FLX-4R4 / FLX-16DI	CBT-4T4-2U1R			