

# nPC20 Industrial Node **NEW!**



## High Performance Fanless, Embedded Non-display Computer



### Overview



The nPC20 Fanless Node PC is a high-performance Non-display computer built for industrial use. Intel® ATOM Dual and Quad Core processing options give this industrial-grade node the power to run your control applications.

With quality and durability in mind, the nPC20 is built to be reliable in the most extreme conditions and is fully tested with UL Class I, Div 2 certifications (*pending*). The nPC20 will also offer several mounting options including DIN-Rail and mounting brackets, making mounting in a NEMA enclosure much simpler.



### Standard Features

- Two High Performance / Low Power CPU options:
  - Intel Dual Core ATOM E3826 Fanless Processor (1.46 GHz, 1MB Cache, 2 Threads)
  - Intel Quad Core ATOM E3845 Fanless Processor (1.91 GHz, 2MB Cache, 4 Threads)
- 2GB DRAM (4GB or 8GB optional)
- I/O Connectivity:
  - Two Gigabit (10/100/1000) Ethernet ports
  - One RS-232/422/485 serial port
  - Two USB 3.0 ports
  - Audio Out port
  - Analog Video and HDMI ports (*Supports dual video*)
- 80GB Solid State Drive (160 and 300GB options)
- 24 VDC (10-30 VDC) input
  - Optional AC power supply sold separately
- Simple, easy-to-use DIN Rail and Shelf Mounting Brackets included for mounting in multiple orientations
- UL and cUL Ordinary Locations Listed (*pending*)
- UL and cUL Hazardous Locations Listed (*pending*)
  - Class I Division 2, Groups A, B, C, & D when mounted in a NEMA enclosure (*pending*)
- 0°-55°C operational temperature rating
- Windows 7 Professional (32-bit) pre-installed
  - Windows 7 Ultimate (64-bit) with Multilanguage support optional
- ThinClient Configurations available:
  - ACP® ThinManager Enabled
  - PXE-Boot Configuration (*for non-ACP ThinManager applications*)
- FCC & CE Compliant (*pending*)
- 2-Year warranty

# Features & Benefits

**UL 508, Class I, Div 2, CE Approvals**  
*(pending)*

**10-30 VDC Power Supply**  
*(AC optional, sold separately)*

**COM1 Serial Port**  
RS-232/422/485

**Vented Chassis Design for Optimal Cooling**

**Windows 7 Ultimate 64-bit Support**

**Audio Line Out Port**

**Two USB 3.0 Ports**

**Two Gigabit 10/100/1000 Ethernet Ports**

**Dual Video Output**  
- Analog VGA and HDMI ports allow video to be displayed on two monitors

**Rugged, external chassis**

**Finned Heat Sync for Cooling**

**Made with Pride in the USA**

## DIN Rail Mounting - Side or Back Adjustable



Back or Side DIN Rail Mount Configurations (adjustable Din Rail clip included)

## DIN Mounting on M-Series Monitors



**MTG-DIN-nPC20**  
Din Rail section that allows the nPC20 to be mounted to all M-Series Monitors, including the M1500SRT monitor, using the 75mm or 100mm VESA mounting pattern on the rear of the units

## Wall or Shelf Mount Brackets



Wall or Shelf Mounting Brackets included with unit



**Standard 2-year warranty**  
▪ Covers parts and service



# Technical Specifications



<b>Physical</b>	nPC20
Overall Dimensions	4.49" x 6.40" x 1.50"
H x W x D	(114.0mm x 162.5mm x 38.1mm)
Weight	2.0 lbs (0.9 kg)
Shipping Weight	3.0 lbs (1.4 kg)

<b>Physical</b>	nPC20 w/ Mounting Brackets
Overall Dimensions	4.49" x 7.40" x 1.98"
H x W x D	(114.0mm x 187.96mm x 50.29mm)

## COMMON SPECS

Processor Options	ATOM E3826 (fanless)	ATOM E3845 (fanless)
Type & Processor	Intel Dual Core ATOM E3826	Intel Quad Core ATOM E3845
Core Speed	1.46 GHz	1.91 GHz
Threads	2	4
L2 Cache	1MB	2MB
Chipset	Intel Baytrail-E3800 Series	Intel Baytrail-E3800 Series
Video RAM	Integrated Intel Gen7 Intel Graphics DX 11, OGL3.2	Integrated Intel Gen7 Intel Graphics DX 11, OGL3.2
Ethernet Controller	Realtek RTL8111G-CG 10/100/1000 (2 ports)	Realtek RTL8111G-CG 10/100/1000 (2 ports)

Memory & I/O	
DRAM	2GB Single Module (204-pin DDR3 SO-DIMM, non-ECC, unbuffered, 1066 MHz); Optional 4GB or 8GB <sup>1</sup>
Standard Storage	80GB SATA Solid State Drive; Optional 160GB or 300GB Solid State Drive
Available I/O	(1) Analog Video Port, (1) HDMI Video, (1) Serial RS-232/422/485 Port, (2) USB 3.0 Ports, (2) Gigabit 10/100/1000 Ethernet Ports, (1) Audio Line Out port <sup>1</sup> 8GB DRAM only available with Windows 7 Ultimate (-W7U) 64-bit operating system.

Operating System	
Standard OS	Windows 7 Professional (32-bit); Optional Windows 7 Ultimate (64-bit), or No OS installed

Electrical	
Input Power	15W Typical*
DC Input Voltage/Max Current	10-30 VDC, 1.5 A Maximum
Optional External AC Supply	100-240 VAC, 47-63 Hz, 1.1 A Maximum

\* Typical power is measured with all possible I/O ports functioning.

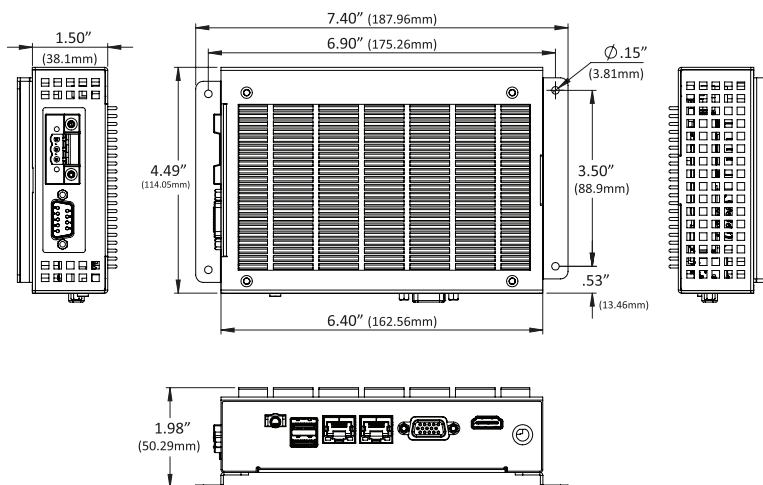
Environmental	Operating	Non-operating
Temperature <sup>2</sup> / Humidity	0°C to 55°C / 20% to 80% RH, noncondensing	-20°C to 70°C / 20% to 80% RH, noncondensing
Shock <sup>3</sup>	15g peak acceleration, 11msec	30g peak acceleration, 11msec
Vibration (5-2000 Hz)	.006" peak to peak displacement, 1.0g maximum acceleration	.015" peak to peak displacement, 2.5g maximum acceleration
Altitude <sup>4</sup>	Sea level to 10,000 feet	Sea level to 40,000 feet

<sup>2</sup> Temperature specifications are for air temp surrounding the unit (i.e. inside any enclosure being utilized). Meets US Federal Requirements specified in 46 CFR 111.01-15 (d) for offshore electrical systems. <sup>3</sup> Shock & Vibration specifications established with Solid State drives and no rotating media. <sup>4</sup> Altitude specification is established by using all internal component specifications.

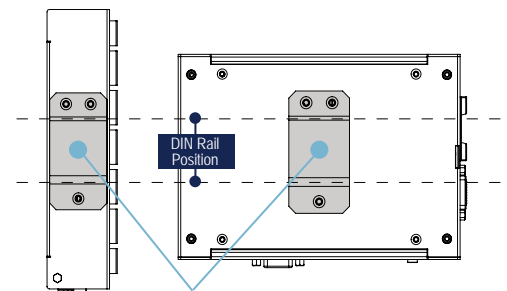
Agency Approvals	
FCC	47 CFR, Part 15, Class A
EU CE Marking Compliance	CE, EN 55022: Class A, EN 61000-3-3, EN 61000-6-2, IEC 60950-1 (pending)
Safety Agency Approvals	UL508 Listed, ANSI/ISA 12.12.01-2012 <sup>5</sup> , cUL Listed CSA C22.2, #142, cUL Listed CSA 22.2, #213 (pending)

<sup>5</sup> Class I Division 2, Groups A, B, C, D; Temp. Code: (pending), when installed on a flat surface of a Type 1 enclosure.

## Dimensions



## DIN Rail Brackets



### DIN Rail Bracket Locations

Din Rail Mount (supplied with unit). Mounts with 3 #6/32 Flat head screws .38 long (supplied with unit)

## Order Number Generation

**Base Unit Configuration: nPC20-E3826-2GB-80SS-W7-24**, nPC20 Node PC with Intel Dual Core Fanless ATOM E3826 processor, 2GB DRAM, 80GB Solid State Drive, Windows 7 Professional (32-bit) operating system, and 24VDC power supply.

### nPC20- \_\_\_\_\_ -24

**Processors:** \_\_\_\_\_

- E3826** Intel Dual Core ATOM E3826 (fanless)
- E3845** Intel Quad Core ATOM E3845 (fanless)

**DRAM:** \_\_\_\_\_

- 2GB** 2GB DRAM
- 4GB** 4GB DRAM
- 8GB** 8GB DRAM <sup>1</sup>

**Solid State Drive Storage:** \_\_\_\_\_

- 80SS** 80GB Solid State Drive <sup>2</sup>
- 160SS** 160GB Solid State Drive <sup>2</sup>
- 300SS** 300GB Solid State Drive <sup>2</sup>

**Operating System:** \_\_\_\_\_

- W7** Windows 7 Professional (32-bit)
- W7U** Windows 7 Ultimate (64-bit)
- NOS** No Operating System

**Power Supply:** \_\_\_\_\_

- 24** 10-30 VDC non-isolated input

<sup>1</sup> 8GB DRAM only available with Windows 7 Ultimate (-W7U) 64-bit operating system.  
<sup>2</sup> Solid State Drive options carry a 5-year (part-only) warranty.

## nPC20 ThinClient Configurations

**ACP® ThinManager Enabled**



**nPC20-E3826-2GB-24-ACP**

nPC20 Node PC with Intel Dual Core Fanless ATOM E3826 processor, 2GB DRAM, No storage drive, No operating system, 24VDC power supply, and ACP ThinManager Enabled

**Note:** This ACP ThinManager Enabled configuration does NOT contain any storage or operating system. It is configured for booting to a network via ACP protocol only. It is NOT a standalone PC. This has been verified by ACP (Automation Control Products) to be ThinManager LXi and ACP ThinManager compatible. Nematron does not supply ACP ThinManager. For application support contact ACP. For more info on ACP: <http://www.thinmanager.com>

**nPC20 PXE-Boot Configuration**

**nPC20-E3826-2GB-24-PXE**

nPC20 Node PC with Intel Dual Core Fanless ATOM E3826 processor, 2GB DRAM, No storage drive, No operating system, 24VDC power supply

**Note:** This PXE-boot configuration does NOT contain any storage or operating system. It is configured for booting to a network via the Preboot eXecution Environment (PXE) protocol only. It is NOT a standalone PC. This configuration can be used for booting to a multitude of other ThinClient applications (other than ACP ThinManager) using the PXE protocol. This has also been verified by ACP to be ThinManager LXi compatible. Nematron does not supply ThinClient software applications. Consult the ThinClient application software developer for support.

## Accessories



**PWR-AC-nPC20**

100-240 VAC Power Supply for connection directly to the nPC20. nPC20 only rated for 50°C operation when using this power supply.

**NOTE: NOT allowed for use in installations where Hazardous Locations Approvals are required.**



**MTG-DIN-nPC20**

DIN Rail section for mounting to the 75 or 100 mm VESA pattern on the rear of all M-Series monitors.

### Contact Information

**Headquarters** - Nematron, a Division of Comark  
 5840 Interface Drive, Suite 100  
 Ann Arbor, MI 48103 USA  
 Tel: 1.734.214.2000  
 Fax: 1.734.994.8074  
 Email: [info@nematron.com](mailto:info@nematron.com)

