



Pub: DS nPC-Series, Rev F1

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# nPC-Series

Rugged High Performance "Node" Industrial PCs Without Displays



## nPC400 **NEW!**



Now with  
**PCI Express  
Expansion**

### Standard Features

- 3 High Performance Processor options to choose from:
  - Intel® Mobile Celeron® 1020E (Dual Core, 2 Threads, 2.2 GHz, 1 M cache)
  - Intel® i5-3610ME (Dual Core, 4 Threads, 2.7-3.3 GHz, 3 M cache)
  - Intel® i7-3610QE (Quad Core, 8 Threads, 2.3-3.3 GHz, 6 M cache)
- Expansion Card options (8.75" max length):
  - Option 1: (1) PCI Slot and (1) PCIe x16 Slot
  - Option 2: (2) PCI Slots
  - Option 3: (1) PCIe x16 Slot and (1) PCIe x4 Slot (x1 connection)
- 80 GB Easily Removable SATA Solid State Drive
  - Optional larger SSD sizes or rotating Hybrid hard drive
- Second Drive Option
  - Optional RAID Level 1 (mirroring) configuration <sup>1</sup>
- Easily Removable SATA DVD-R/W drive
- Extensive I/O Connectivity
  - Dual Gigabit (10/100/1000) Ethernet ports
  - (2) USB 2.0 ports & (4) USB 3.0 ports
  - (1) RS-485/422/232 serial port (BIOS selectable)
  - (1) RS-232 serial port
  - (1) PS/2 port
- Additional Analog Video port and HDMI port (supports dual video)
- 4 GB DRAM (up to 16 GB optional)
- Integrated 100-240 VAC power supply (24 VDC optional)
- UL and cUL Ordinary Locations Listed
- UL and cUL Hazardous Locations Listed
  - Class I Division 2, Groups A, B, C, & D; Class II Division 2, Groups F & G; Class III when mounted in a NEMA enclosure
- FCC & European CE compliant
- Windows® 7 Professional 32-bit
- Windows 7 Ultimate 64-bit or Windows XP Professional 32-bit optional
- 2-year Warranty

<sup>1</sup> RAID not available with Windows XP. On the nPC400 configured with RAID, Windows XP is not a configurable option.

## nPC300



### Standard Features

- 3 High Performance / Low Power Processor options to choose from:
  - Intel® Dual Core Celeron® P4500 (1.86 GHz, 2 M cache, 2 Threads)
  - Intel® i5 Dual Core 520M (2.4 GHz, 3 M cache, 4 Threads)
  - Intel® i7 Dual Core 620M (2.66 GHz, 4 M cache, 4 Threads)
- 2 GB DRAM (4 GB Optional)
- 40 GB Easily Removable SATA Solid State Drive
  - Optional larger sizes and rotating HD
- Extensive I/O Connectivity
  - Dual Gigabit (10/100/1000) Ethernet ports
  - 6 USB 2.0 ports
  - One RS-485/422 serial port (jumper selectable)
  - 4 USB 2.0 ports
  - Two RS-232 serial ports
  - Analog Video port and HDMI port - supports dual video (Optional HDMI to DVI cable available - sold separately)
- Integrated 100-240 VAC power supply
  - 24 VDC optional
- UL and cUL Ordinary Locations Listed
- UL and cUL Hazardous Locations Listed
  - Class I Division 2, Groups A, B, C, & D; when mounted in a NEMA enclosure
- FCC & European CE compliant
- Windows® 7 Professional (32-bit) pre-installed
- Windows XP Professional (32-bit) or Windows 7 Ultimate (64-bit) optional
- 2-year Warranty

## nPC200



### Standard Features

- Rugged industrial "Node" PC with PCI expansion
- 2 High Performance/Low Power Processor Options to choose from:
  - Intel Mobile Celeron 550 (2.0 GHz, 1 M cache, 533 MHz bus)
  - Intel Core 2 Duo T7500 (2.2 GHz, 4 M cache, 800 MHz bus)
- 2 GB DRAM (4 GB max)
- 2 PCI expansion slots (8.75" max length)
- On board Video with Analog VGA port
- Extensive Connectivity
  - Dual Gigabit (10/100/1000) Ethernet ports
  - One RS-422/485 serial port (jumper selectable)
  - Two RS-232 serial ports
  - 4 USB 2.0 ports
  - PS/2 mouse & keyboard ports
- 40 GB SATA Solid State Drive (Easily Removable)
  - Optional larger sizes or rotating hard drive
- Second Drive Option
  - Optional RAID Level 1 (mirroring) configuration <sup>1</sup> (Windows XP only)
- Easily Removable SATA DVD-R/W drive
- Integrated 100-240 AC Power Supply (optional 24 VDC)
- UL and cUL Ordinary Locations Listed
- UL and cUL Hazardous Locations Listed
  - Class I Division 2, Groups A, B, C, & D; when mounted in a NEMA enclosure
- FCC & European CE compliant
- Windows XP Professional pre-installed (Windows 7 Professional 32-bit or Windows 7 Ultimate 64-bit optional)
- 2-year Warranty

<sup>1</sup> RAID not available with Windows XP. On the nPC200 configured with RAID, Windows XP is not a configurable option.

**Notes on nPC200** – The Nematron nPC200 is being replaced by the nPC400. Although the nPC200 will be available for several more months, it is highly recommended to transition to the nPC400 whenever possible. The nPC400 offers significantly better performance and many improvements at the same base price, mounting, and form factor.

## nPC400 - Features & Benefits

**NEW!**



Optional  
**64-Bit**  
Application  
Support



### Intel® High Performance Processor Options:

- Intel Mobile Celeron® 1020E  
(Dual Core, 2 Threads, 2.2 GHz, 1 M cache)
- Intel i5-3610ME  
(Dual Core, 4 Threads, 2.7 to 3.3 GHz, 3 M cache)
- Intel i7-3610QE  
(Quad Core, 8 Threads, 2.3 to 3.3 GHz, 6 M cache)



### Two Easily Removable Drive Bays

- Solid State Drives or Hybrid Hard Drive Option



### Expansion Card Backplane options - 8-3/4" max length

- Three Backplanes to choose from below:



- (1) PCI and (1) PCIe x16

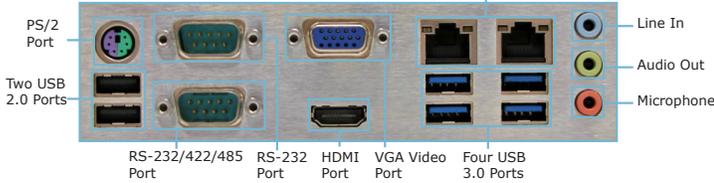


- (2) PCI



- (1) PCIe x4 (x1 connection) and (1) PCIe x16

### Extensive I/O Connectivity



### USB Retention Bracket



### Hot-swappable, Easily Removable DVD-RW drive

## nPC300 - Features & Benefits



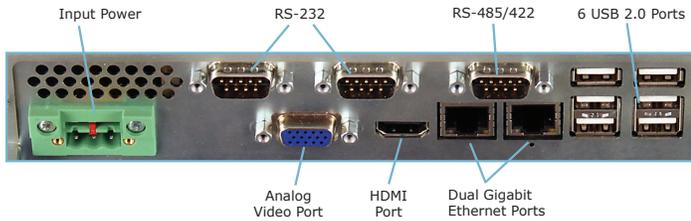
### Supports Dual Displays



### Easily Removable Solid State Drive

- Larger size options or rotating hard drive

### Extensive I/O Connectivity



Optional  
**64-Bit**  
Application  
Support



### High Performance / Low Power Processor Options

- Intel® Dual Core Celeron® P4500  
(1.86 GHz, 2 M cache, 2 Threads)
- Intel® i5 Dual Core 520M  
(2.4 GHz, 3 M cache, 4 Threads)
- Intel® i7 Dual Core 620M  
(2.66 GHz, 4 M cache, 4 Threads)



### USB & HDMI Retention Brackets

## nPC200 - Features & Benefits



### PCI Expansion: Two Card Slots 8.75" max length

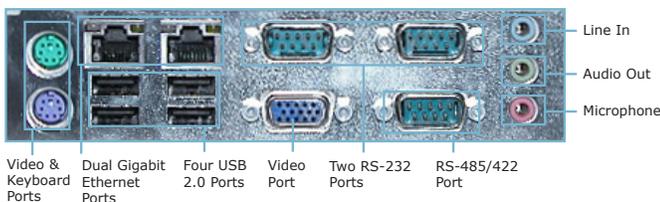


### Hot-swappable, Easily Removable DVD-RW drive

Now with  
Optional  
**64-Bit**  
Application  
Support

**Note on nPC200** – The Nematron nPC200 is being replaced by the nPC400. Consider the nPC400 for all new installations.

### Extensive I/O Connectivity



### Two Easily Removable Drive Bays

- Solid State Drives or Rotating Hard Drive Options



### USB Retention Bracket



### High Performance / Low Power Processor Options

- Intel® Mobile Celeron® 550  
(2.0 GHz, 1 M cache, 533 MHz bus)
- Intel® Core 2 Duo™ T7500  
(2.2 GHz, 4 M cache, 800 MHz bus)



# Technical Specifications



**Note on nPC200** – The Nematron nPC200 is being replaced by the nPC400. Consider the nPC400 for all new installations.

Physical	nPC400	nPC300	nPC200
Overall Dimensions <i>H x W x D</i>	9.00" x 15.00" x 3.34" (228.6mm x 381.0mm x 84.8mm)	7.750" x 12.00" x 2.15" (196.8mm x 304.8mm x 54.61mm)	9.00" x 15.00" x 3.34" (228.6mm x 381.0mm x 84.8mm)
Overall Dimensions w/ Mounting Brackets	9.00" x 16.30" x 3.65" (228.6mm x 414.0mm x 92.71mm)	7.750" x 13.30" x 2.45" (196.8mm x 337.82mm x 62.23mm)	9.00" x 16.30" x 3.65" (228.6mm x 414.0mm x 92.71mm)
Weight	12.0 lbs (5.4kg)	6.5 lbs (2.9 kg)	12.0 lbs (5.4kg)
Shipping Weight	14.0 lbs (6.4kg)	8.0 lbs (3.6 kg)	14.0 lbs (6.4kg)

Processor Options								
Chipset	Intel QM77 Express			Intel HM55 (BD82HM55 PCH)			Intel 965GME+ICH8M	
Video RAM	-			64 MB System RAM Base <sup>1</sup>			Up to 384MB (System RAM)	
Type	Intel Mobile Celeron	Intel i5	Intel i7	Intel Dual Core	Intel i5	Intel i7	Intel Mobile	Intel Core 2 Duo
Processor	Dual Core C1020	Dual Core 3610ME	Quad Core 3610QE	Celeron P4500	Dual Core 520M	Dual Core 620M	Celeron 550	T7500
Core Speed	2.2 GHz	2.7 - 3.3 GHz	2.3 - 3.3 GHz	1.86 GHz	2.4 GHz	2.66 GHz	2.0 GHz	2.2 GHz
Threads	2	4	8	2	4	4	-	-
Bus/Core	2	2	4	14	18	20	533 MHz	800 MHz
L2 Cache	2MB	3MB	6MB	2MB	4MB	4MB	1 MB	4 MB
Ethernet Controller	Intel 82579LM and Intel 82583V			Realtek	Realtek	Realtek	Intel	Intel

<sup>1</sup> Additional Video RAM as needed with DVMT (Dynamic Video Memory Technology).

Electrical	w/ Intel C1020	w/ Intel i5	w/ Intel i7	w/ Intel P4500	w/ Intel i5	w/ Intel i7	w/ MC550	w/ T7500
Input Power	60W Typical*	60W Typical*	60W Typical*	60W Typical*	60W Typical*	60W Typical*	60W Typical*	60W Typical*
AC Input Voltage/Max Current	100-240 VAC, 50-60 Hz, 2.0 A Maximum			100-240 VAC, 50-60 Hz, 1.0 A Maximum			100-240 VAC, 50-60 Hz, 2.0 A Maximum	
DC Input Voltage/Max Current	18-36 VDC, 7.5 A Maximum			18-36 VDC, 4.5 A Maximum			18-36 VDC, 7.5 A Maximum	

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

Memory & I/O			
DRAM	4GB Single Module (204-pin Dual-channel DDR3 SO-DIMM, non-ECC, unbuffered, 1600 MHz); optional 8GB <sup>2</sup> or 16GB <sup>2</sup> max	2GB Single Module (204-pin DDR3 SO-DIMM, non-ECC, unbuffered, 1066 MHz); optional 4GB max	2GB Single Module (200-pin DDR2 SO-DIMM, non-ECC, unbuffered, 667 MHz); optional 4GB max
Drive 1	80GB SATA Solid State Drive; 160GB or 300GB Solid State Drives optional; 500GB SATA Hybrid Hard Drive <sup>3</sup>	80GB SATA Solid State Drive; 160GB or 300 GB Solid State Drives optional; 500GB SATA Hybrid Hard Drive <sup>3</sup>	40GB SATA Solid State Drive; 80GB, 160GB or 300GB Solid State Drives optional; 500GB SATA Hybrid Hard Drive <sup>3</sup>
Drive 2	80GB SATA Solid State Drive; 160GB or 300GB Solid State Drives optional; 500GB SATA Hybrid Hard Drive <sup>3</sup> ; RAID Level 1 Mirroring <sup>4</sup>	-	40GB SATA Solid State Drive; 80GB, 160GB or 300GB Solid State Drives optional; 500GB SATA Hybrid Hard Drive <sup>3</sup> ; RAID Level 1 Mirroring
Optical Drive	1 DVD-R/W drive; No optical drive installed option (cover plate only)	-	1 DVD-R/W drive; No optical drive installed option (cover plate only)
Available I/O	(2) USB 2.0, (4) USB 3.0 <sup>5</sup> , (1) PS/2 Mouse & Keyboard port <sup>6</sup> , (1) RS-232, (1) RS-485/422/432 (BIOS selectable), (1) Analog Video port (supports dual video with integrated display), (1) HDMI Video port, Line In/Audio Out/Mic ports <sup>6</sup> , (2) Gigabit Ethernet 10/100/1000 ports	(6) USB 2.0, (2) RS-232, (1) RS-485/422 (jumper selectable), (1) Analog Video Port & (1) HDMI Port (supports dual video), (2) Ethernet 10/100/1000 Ports	(4) USB 2.0, Mouse & keyboard ports <sup>6</sup> , (2) RS-232, (1) RS-485/422 (jumper selectable), (1) Analog Video Port (supports dual video), Line In/Audio Out/Mic ports <sup>6</sup> ; (2) Ethernet 10/100/1000 ports
Expansion Capability	(2) 8.75" max length PCI slots via three Backplane options: (1) PCI and (1) PCIe x16; or (2) PCI; or (1) PCIe x4 (x1 connection) and (1) PCIe x16	-	(2) 8.75" max length PCI slots (-12VDC not supported)

<sup>2</sup> 8 and 16GB DRAM are only available with Windows 7 Ultimate 64-bit operating system. <sup>3</sup> Hybrid Hard Drives have a solid state adaptive memory cache to significantly increase read/write performance. These are rotating hard drives and do not carry any extra part warranty. <sup>4</sup> RAID not available with Win XP. <sup>5</sup> USB 3.0 ports operate as USB 2.0 ports with Windows XP operating system only. <sup>6</sup> PS/2 and Audio ports not allowed for hazardous locations usage. Set up and maintenance use only.

Operating System			
Standard OS	Windows 7 Professional (32-bit); Optional Windows XP Professional (32-bit) <sup>4</sup> , Windows 7 Ultimate (64-bit), or No OS installed	Windows 7 Professional (32-bit); Optional Windows XP Professional (32-bit), Windows 7 Ultimate (64-bit), or No OS installed	Windows 7 Professional (32-bit); Optional Windows XP Professional (32-bit) <sup>4</sup> , Windows 7 Ultimate (64-bit), or No OS installed

<sup>4</sup> RAID not available with Windows XP. On the nPC200 & nPC400 configured with RAID, Windows XP is not a configurable option.

## COMMON SPECS

Environmental	Operating	Non-operating
Temperature / Humidity <sup>7</sup>	0°C to 50°C (nPC200); 0°C to 55°C (nPC300 & nPC400)	-20°C to 60°C (nPC200); -20°C to 70°C (nPC300 & nPC400)
Humidity	20% to 80% RH, noncondensing	20% to 80% RH, noncondensing
Shock <sup>8</sup>	15g peak acceleration, 11msec	30g peak acceleration, 11msec
Vibration (5-2000 Hz) <sup>8</sup>	.006" peak to peak displacement, 1.0g maximum acceleration	.015" peak to peak displacement, 2.5g maximum acceleration
Altitude <sup>9</sup>	Sea level to 10,000 feet	Sea level to 40,000 feet

<sup>7</sup> Temperature specifications are for air temp surrounding the unit (i.e. inside any enclosure being utilized).

<sup>8</sup> Shock & Vibration specifications established with Solid State drives and no rotating media. <sup>9</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
Safety Agency Approvals <sup>*</sup>	UL508 Listed, ANSI/ISA 12.12.01-2012 <sup>10</sup> , cUL Listed CSA C22.2, #142, cUL Listed CSA 22.2, #213 (pending on nPC400)

<sup>\*</sup> Class I Division 2, Groups A, B, C, D; Temp. Code: T5 (nPC200/nPC400) and T6 (nPC300), when installed on a flat surface of a Type 1 enclosure.

<sup>10</sup> ANSI/ISA 12.12.01-2012 is the new standard listed to show Hazardous Locations Agency Approval. UL1604 discontinued July 31, 2012.

# Order Number Generation



Base unit configuration: nPC400-C1020-4GB-80SS-DVD-W7, Mobile Celeron 1020, 4 GB DRAM, 80 GB SATA Solid State Drive, DVD-RW, & Windows 7 Pro.



**NEW!**

<sup>1</sup> 8 GB and 16 GB DRAM only available with W7U (Windows 7 Ultimate 64-bit).

<sup>2</sup> Solid State Drive options carry a 5-year (part only) warranty.

<sup>3</sup> Hybrid Hard Drives have a solid state adaptive memory cache to significantly increase read/write performance. These are rotating hard drives and do not carry any extra part warranty.

<sup>4</sup> If RAID Level 1 (mirroring) is desired, substitute "-RAID" for the second drive choice. The unit will be configured with two mirrored drives of the type chosen for Drive 1. RAID not available with Windows XP.

## nPC400-

<b>Processor Option:</b>	C1020 i5 i7	Intel Mobile Celeron 1020E Intel Dual Core i5-3610ME Intel Quad Core i7-3610QE
<b>DRAM Options:</b>	-4GB -8GB -16GB	4 GB DRAM 8 GB DRAM 16 GB DRAM
<b>Storage Drive 1:</b>	-80SS -160SS -300SS -HD	80 GB SATA Solid State Drive <sup>1</sup> 160 GB SATA Solid State Drive <sup>1</sup> 300 GB SATA Solid State Drive <sup>1</sup> 500 GB (minimum) SATA Hybrid hard drive <sup>2</sup>
<b>Storage Drive 2:</b>	blank -80SS -160SS -300SS -HD -RAID	No drive installed 80 GB SATA Solid State Drive <sup>1</sup> 160 GB SATA Solid State Drive <sup>1</sup> 300 GB SATA Solid State Drive <sup>1</sup> 500 GB (minimum) SATA Hybrid hard drive <sup>2</sup> RAID Level 1 (mirroring) <sup>3</sup>
<b>Optical Drive:</b>	-DVD blank	SATA DVD-RW Drive installed None installed (easily removable cover only)
<b>Expansion Option:</b>	blank -2P -2E	One PCI and One PCIe x 16 Two PCI One PCI and One PCIe x 4 (x1 connection)
<b>Operating System:</b>	-W7 -W7U -XP -NOS	Windows 7 Professional (32-bit) Windows 7 Ultimate (64-bit) Windows XP Professional No OS installed
<b>Power Supply Option:</b>	blank -DC	100-240 VAC 24 Volt DC

Base unit configuration: nPC300-CP45-2GB-40SS-W7, includes Intel Celeron P4500, 2 GB DRAM, 80 GB SATA Solid State Drive and Windows 7 Pro (32-bit).



nPC300

<sup>1</sup> Solid State Drive options carry a 5-year (part only) warranty.

<sup>2</sup> Hybrid Hard Drives have a solid state adaptive memory cache to significantly increase read/write performance. These are rotating hard drives and do not carry any extra part warranty.

## nPC300-

<b>Processor:</b>	CP45 i5 i7	Intel Celeron P4500 Intel i5 520M Intel i7 620M
<b>DRAM:</b>	-2GB -4GB	2 GB DRAM 4 GB DRAM
<b>Storage Drive:</b>	-80SS -160SS -300SS -HD	80 GB SATA Solid State Drive <sup>1</sup> 160 GB SATA Solid State Drive <sup>1</sup> 300 GB SATA Solid State Drive <sup>1</sup> 500 GB (minimum) SATA Hybrid hard drive <sup>2</sup>
<b>Operating System:</b>	-W7 -XP -W7U -NOS	Windows 7 Professional (32-bit) Windows XP Professional (32-bit) Windows 7 Ultimate (64-bit) No OS installed
<b>Power Supply Option:</b>	blank -DC	100-240 VAC 24 Volt DC

Base unit configuration: nPC200-MC550-2GB-40SS-DVD-XP, Mobile Celeron 550, 2 GB DRAM, 40 GB SATA Solid State Drive, DVD-RW, & Windows XP Pro.



nPC200

**Note on nPC200** – The Nematron nPC200 is being replaced by the nPC400. Consider the nPC400 for all new installations.

<sup>1</sup> Solid State Drive options carry a 5-year (part only) warranty.

<sup>2</sup> Hybrid Hard Drives have a solid state adaptive memory cache to significantly increase read/write performance. These are rotating hard drives and do not carry any extra part warranty.

<sup>3</sup> If RAID Level 1 (mirroring) is desired, substitute "-RAID" for the second drive choice. The unit will be configured with two mirrored drives of the type chosen for Drive 1. This option is not available with Windows XP.

## nPC200-

<b>Processor Option:</b>	MC550 T7500	Intel Mobile Celeron 550 Intel Core 2 Duo T7500
<b>DRAM Options:</b>	-2GB -4GB	2 GB DRAM 4 GB DRAM
<b>Storage Drive 1:</b>	-40SS -80SS -160SS -300SS -HD	40 GB SATA Solid State Drive <sup>1</sup> 80 GB SATA Solid State Drive <sup>1</sup> 160 GB SATA Solid State Drive <sup>1</sup> 300 GB SATA Solid State Drive <sup>1</sup> 500 GB (minimum) SATA Hybrid hard drive <sup>2</sup>
<b>Storage Drive 2:</b>	-40SS -80SS -160SS -300SS -HD -RAID blank	40 GB SATA Solid State Drive <sup>1</sup> 80 GB SATA Solid State Drive <sup>1</sup> 160 GB SATA Solid State Drive <sup>1</sup> 300 GB SATA Solid State Drive <sup>1</sup> 500 GB (minimum) SATA Hybrid hard drive <sup>2</sup> RAID Level 1 (mirroring) <sup>3</sup> No drive installed
<b>Optical Drive:</b>	-DVD blank	SATA DVD-RW Drive installed None installed (easily removable cover only)
<b>Operating System:</b>	-XP -W7 -W7U -NOS	Windows XP Professional Windows 7 Professional (32-bit) Windows 7 Ultimate (64-bit) No OS installed
<b>Power Supply Option:</b>	blank -DC	100-240 VAC 24 Volt DC

### Contact Information

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