

Nematron nPC400 Industrial Node PC

Rugged, High-Performance Industrial PC with Expansion Card Slots
and Easily Removable Storage Media

UL/cUL Class I Div 2 Approved

Intel® Processing

Solid State Drive Storage

PCIe Expansion

55°C Operating Temp

64-bit Application Support

DVD/RW Removable Drive

RAID Enabled Option

Nematron
by COMARK

DS nPC400, Rev B



Made in USA

Standard Configuration

- High Performance Processor options to choose from:
 - Intel® Mobile Celeron® 1020E (Dual Core, 2 Threads, 2.2 GHz, 2 MB cache)
 - Intel® i5-3610ME (Dual Core, 4 Threads, 2.7-3.3 GHz, 3 MB cache)
 - Intel® i7-3610QE (Quad Core, 8 Threads, 2.3-3.3 GHz, 6 MB 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)
- 240 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
- 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 10 Enterprise IoT 32-bit or 64-bit optional
- 2-year Warranty

Technical Specifications



Physical

Overall Dimensions	9.00" x 15.00" x 3.34" (228.6mm x 381.0mm x 84.8mm)
Overall Dimensions with Mounting Brackets	9.00" x 16.30" x 3.65" (228.6mm x 414.0mm x 92.71mm)
Weight	12.0 lbs (5.4kg)
Shipping Weight	14.0 lbs (6.4kg)

Processor

Type & Processor	Mobile Celeron 1020E Intel Mobile Celeron 1020E	Dual Core i5 Intel Dual Core i5-3610ME	Quad Core i7 Intel Quad Core i7-3610QE
Core Speed	2.2 GHz	2.7 to 3.3 GHz	2.3 to 3.3 GHz
Threads / Core	2 / 2	2 / 4	4 / 8
L2 Cache	2MB	3MB	6MB
Chipset	Intel QM77 Express	Intel QM77 Express	Intel QM77 Express
Ethernet Controllers	Intel 82579LM and Intel 82583V	Intel 82579LM and Intel 82583V	Intel 82579LM and Intel 82583V

Storage & Peripherals

Operating System	Windows 7 Professional 32-bit; Optional Windows 7 Ultimate 64-bit, Windows 10 Enterprise IoT 32-bit or 64-bit, or No OS installed
DRAM	4GB Single Module (204-pin Dual-channel DDR3 SO-DIMM, non-ECC, unbuffered, 1600 MHz); optional 8GB ¹ or 16GB ¹ max
Drive 1	240GB SATA Solid State Drive; optional 480GB, 960GB SS Drive or 1TB SATA Hybrid Hard Drive ²
Drive 2	240GB SATA Solid State Drive; optional 480GB, 960GB SS Drive or 1TB SATA Hybrid Hard Drive ² ; RAID Level 1 Mirroring ³
Optical Drive	(1) DVD-R/W drive; No optical drive installed option (cover plate only)
Available I/O	(2) USB 2.0, (4) USB 3.0 ⁴ , (1) PS/2 Mouse & Keyboard port ⁵ , (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 ⁵ , (2) Gigabit 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

¹ 8 and 16GB DRAM are only available with Windows 7 Ultimate or Windows 10 Enterprise IoT 64-bit operating system. ² 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. ³ RAID not available on Win XP. ⁴ USB 3.0 ports operate as USB 2.0 ports with Windows XP operating system only. ⁵ PS/2 and Audio ports not allowed for hazardous locations usage. Set up and maintenance use only.

Power

Input Power	60W
AC Input Voltage	100-240 VAC, 47-63 Hz, 2.0 A Maximum
DC Input Voltage	18-36 VDC, 7.5 A Maximum

Technical Specifications

Environmental

Temperature ⁶	Operating 0°C to 55°C	Non-operating -20°C to 70°C
Humidity	20% to 80% RH, noncondensing	20% to 80% RH, noncondensing
Shock ⁷	15g peak acceleration, 11msec	30g peak acceleration, 11msec
Vibration (5-2000 Hz) ⁷	.006" peak to peak displacement, 1.0g maximum acceleration	.015" peak to peak displacement, 2.5g maximum acceleration
Altitude ⁸	Sea level to 10,000 feet	Sea level to 40,000 feet

⁶ 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.

⁷ Shock & Vibration specifications established with Solid State drives and no rotating media.

⁸ Altitude specification is established by using all internal component specifications.

Compliance

FCC	47 CFR, Part 15, Class A
EU CE Marking	CE, EN 55022: Class A, EN 61000-3-3, EN 61000-6-2, IEC 60950-1
Agency Approvals *	UL508 Listed, ANSI/ISA 12.12.01-2012, cUL Listed CSA C22.2, #142, cUL Listed CSA 22.2, #213

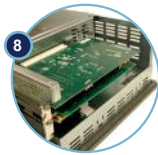
* nPC400: Class I Division 2, Groups A, B, C, D; Temp. Code: T5 when installed on a flat surface of a Type 1 enclosure.

Features

1. Integral 100-240 VAC or 24 VDC Power Supply
2. UL/cUL 508, Class I Div 2, CE Approvals
3. Easily Removable SATA Solid State Drives
4. Hot- Swappable, Easily Removable DVD-R/W Drive
5. Extensive I/O Connectivity
6. Mounting Brackets
7. USB Brackets, Ethernet, & PS/2 Cable Hold Down
8. Expansion Card Backplane options - 8-3/4" max length
9. Made with Pride in the USA



USB Retention Bracket



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



Standard 2-year warranty
- Covers parts and service

Order Number Generation

Base unit configuration: nPC400-C1020-4GB-240SS-DVD-W7, Intel Mobile Celeron 1020, 4 GB DRAM, 240 GB SATA Solid State Drive, SATA DVD-RW, & Windows 7 Professional (32-bit).



nPC400 -

Processor Options:

C1020	Intel Mobile Celeron 1020E
i5	Intel Dual Core i5-3610ME
i7	Intel Quad Core i7-3610QE

DRAM Options:

-4GB	4 GB DRAM
-8GB	8 GB DRAM ¹
-16GB	16 GB DRAM ¹

Hard Drive 1:

-240SS	240 GB SATA Solid State Drive ²
-480SS	480 GB SATA Solid State Drive ²
-960SS	960 GB SATA Solid State Drive ²
-HD	1 TB (minimum) SATA Hybrid Hard Drive ³

Hard Drive 2:

-240SS	240 GB SATA Solid State Drive ²
-480SS	480 GB SATA Solid State Drive ²
-960SS	960 GB SATA Solid State Drive ²
-HD	1 TB (minimum) SATA Hybrid Hard Drive ³
blank	No second Hard Drive installed (cover plate only)

Optical Drive:

-DVD	SATA DVD-R/W drive installed
blank	No optical drive installed (cover plate only)

Expansion Option:

blank	One PCI and One PCIe x16
-2P	Two PCI
-2E	One PCIe x16 and One PCIe x4 (x1 connection)

Operating System:

-W7	Windows 7 Professional (32-bit)
-W7U	Windows 7 Ultimate (64-bit)
-W1032	Windows 10 Enterprise IoT (32-bit)
-W1064	Windows 10 Enterprise IoT (64-bit)
-NOS	No OS installed

Power Supply Options:

blank	100-240 VAC
-DC	24 Volt DC

¹ 8 GB and 16 GB DRAM only available with W7U (Windows 7 Ultimate 64-bit) or W1064 (Windows 10 Enterprise IoT 64-bit).

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

³ 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.