

Nematron iPC1950 Industrial PC

19.0" High-Performance Industrial PC with Expansion Card Slots and Easily Removable Storage Media

UL/cUL Class I Div 2 Approved

Intel® Processing

LED Backlit Display

Analog Resistive Touchscreen

Solid State Drive Storage

NEMA 4/4X/12, IP66

55°C Operating Temp

64-bit Application Support



Nematron
by COMARK

DS iPC1950, Rev B



64-Bit
Application
Support



Made in USA

Standard Configuration

- 19" SXGA Color TFT LED-backlit Display
- 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)
- 5-wire Analog Resistive Touchscreen
 - Optional Non-Touch clear polycarbonate window
- 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)
- Powder Coated Aluminum Front Panel (optional Stainless Steel)
- NEMA 4/4x/12 front panel
- 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 | 15.70" x 18.66" x 4.70" (398.8mm x 474.0mm x 119.4mm) |
| Panel Mounting Depth | 4.45" (113.0mm) |
| Cutout Dimensions | 14.90" x 17.75" (378.5mm x 450.9mm) |
| Weight | 28.0 lbs (12.70kg) |
| Shipping Weight | 33.0 lbs (14.96kg) |
| Option Weight (SS)* | +4.0 lbs (1.81kg)* |

* Additional weight for Stainless Steel option.

Display

| | |
|--------------------------|--|
| Display Diagonal | 19.0" (482.6mm) |
| Display Size H x V | 14.82" x 11.85" (376.4mm x 301.0mm) |
| Native Resolution | SXGA, 1280 x 1024 |
| Brightness | 300 nit |
| Contrast Ratio | 2000:1 |
| Horz/Vert Viewing Angle | 178°/178° |
| Backlight Life / Typical | 50,000 hrs |
| Touchscreen | 5-wire Analog Resistive; No Touchscreen option |

Processor

| Type & Processor | Mobile Celeron 1020E Intel Mobile Celeron 1020E | i5 Dual Core Intel Dual Core i5-3610ME | i7 Quad Core 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 | 90W |
| 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

| | Operating | Non-operating |
|------------------------------------|---|---|
| Temperature ⁶ | 0°C to 55°C | -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

| | |
|--------------------|---|
| NEMA Rating | NEMA 4/4X/12, IP66 |
| 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 |

* IPC-Plus Series: Class I Division 2, Groups A, B, C, D; Class II, Division 2, Groups F & G; Class III; Temp. Code: T5, when installed on a flat surface of a Type 1, 4, 4X, or 12 enclosure.

Front Panel

| | |
|---------------------|---|
| Front Panel Options | Powder-Coated Aluminum Front Panel; with No Logo; Machined 304 Stainless Steel; Rackmount Powder Coated Aluminum ⁹ |
|---------------------|---|

⁹ Rackmount front panel is not NEMA 4/4X/12 and the unit is required to be installed on a rack in a Type 1 enclosure.

Features

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



Standard 2-year warranty
- Covers parts and service



Order Number Generation

Base unit configuration: iPCx50T-C1020-4GB-240SS-DVD-W7, where x = 15, 17, 19 or 21 (for display size), with touchscreen, Mobile Celeron 1020E, 4 GB DRAM, 240 GB SATA Solid State Drive, SATA DVD-R/W drive, One PCI & One PCIe Expansion, and Windows 7 Professional (32-bit).

iPC1950

Display Size:

1950

19.0" SXGA LCD

Input Options:

T
blank

Touchscreen
None (clear window only)

Processor Options:

C1020
i5
i7

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

DRAM Options:

-4GB
-8GB
-16GB

4 GB DRAM
8 GB DRAM ¹
16 GB DRAM ¹

Hard Drive 1:

-240SS
-480SS
-960SS
-HD

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

Hard Drive 2:

-240SS
-480SS
-960SS
-HD
blank

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

Optical Drive:

-DVD
blank

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

Expansion Option:

blank
-2P
-2E

One PCI and One PCIe x16
Two PCI
One PCIe x16 and One PCIe x4 (x1 connection)

Operating System:

-W7
-W7U
-W1032
-W1064
-NOS

Windows 7 Professional (32-bit)
Windows 7 Ultimate (64-bit)
Windows 10 Enterprise IoT (32-bit)
Windows 10 Enterprise IoT (64-bit)
No OS installed

Power Supply Options:

blank
-DC

100-240 VAC
24 Volt DC

Front Panel:

blank
-NL
-SS
-RM

Powder Coated Aluminum
Powder Coated Aluminum w/o Logo
Machined 304 Stainless Steel
Rackmount Powder Coated Aluminum ⁴

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.

⁴ Rackmount front panel is not NEMA 4/4x12 and the unit is required to be installed on a rack in a Type 1 enclosure.