

## Nematron iPC1750 Industrial PC

17.0" 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

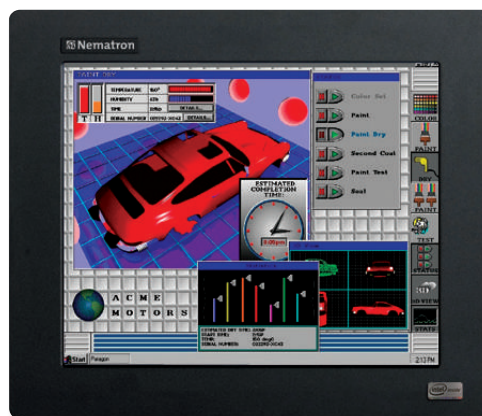
Analog Resistive Touchscreen

Solid State Drive Storage

NEMA 4/4X/12, IP66

55°C Operating Temp

64-bit Application Support



**Nematron**  
by COMARK

DS iPC1750, Rev B



Made in USA

### Standard Configuration

- 17" 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	14.48" x 17.14" x 4.55" (367.8mm x 435.4mm x 115.6mm)
Panel Mounting Depth	4.3" (109.2mm)
Cutout Dimensions	13.70" x 16.35" (348.0mm x 415.3mm)
Weight	24.0 lbs (10.88kg)
Shipping Weight	29.0 lbs (13.15kg)
Option Weight (SS)*	+3.75 lbs (1.70kg)*

\* Additional weight for Stainless Steel option.

## Display

Display Diagonal	17.0" (431.8mm)
Display Size H x V	13.30" x 10.64" (337.9mm x 270.3mm)
Native Resolution	SXGA, 1280 x 1024
Brightness	350 nit
Contrast Ratio	1000:1
Horz/Vert Viewing Angle	170°/170°
Backlight Life / Typical	50,000 hrs
Touchscreen	5-wire Analog Resistive; No Touchscreen option

## Processor

Type & Processor	<b>Mobile Celeron 1020E</b> Intel Mobile Celeron 1020E	<b>i5 Dual Core</b> Intel Dual Core i5-3610ME	<b>i7 Quad Core</b> 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 <sup>1</sup> or 16GB <sup>1</sup> max
Drive 1	240GB SATA Solid State Drive; optional 480GB, 960GB SS Drive or 1TB SATA Hybrid Hard Drive <sup>2</sup>
Drive 2	240GB SATA Solid State Drive; optional 480GB, 960GB SS Drive or 1TB SATA Hybrid Hard Drive <sup>2</sup> ; RAID Level 1 Mirroring <sup>3</sup>
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 <sup>4</sup> , (1) PS/2 Mouse & Keyboard port <sup>5</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>5</sup> , (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

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

## Power

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

<sup>6</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>7</sup> Shock & Vibration specifications established with Solid State drives and no rotating media.

<sup>8</sup> 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
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## 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).

## iPC1750

**Display Size:** 1750 17.0" SXGA LCD

**Input Options:** T Touchscreen  
blank None (clear window only)

**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 <sup>1</sup>  
-16GB 16 GB DRAM <sup>1</sup>

**Hard Drive 1:** -240SS 240 GB SATA Solid State Drive <sup>2</sup>  
-480SS 480 GB SATA Solid State Drive <sup>2</sup>  
-960SS 960 GB SATA Solid State Drive <sup>2</sup>  
-HD 1 TB (minimum) SATA Hybrid Hard Drive <sup>3</sup>

**Hard Drive 2:** -240SS 240 GB SATA Solid State Drive <sup>2</sup>  
-480SS 480 GB SATA Solid State Drive <sup>2</sup>  
-960SS 960 GB SATA Solid State Drive <sup>2</sup>  
-HD 1 TB (minimum) SATA Hybrid Hard Drive <sup>3</sup>  
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

**Front Panel:** blank Powder Coated Aluminum  
-NL Powder Coated Aluminum w/o Logo  
-SS Machined 304 Stainless Steel

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