

OPTICORE LS-CPU

Large Application Controller

The OEMCtrl® OptiCORE™ LS-CPU is a high-performance, BACnet native direct digital controller (DDC). It provides the speed, power, memory, and I/O flexibility needed for the most demanding control applications in the industry. Capable of controlling HVAC equipment with high I/O point counts (up to 180) through expandable I/O boards. Made with integration in mind, the LS-CPU can integrate with building automation systems via BACnet (IP or MSTP) or Modbus (IP or serial). It also allows for connecting to communicating devices like VFDs via BACnet or Modbus.

Key Features and Benefits

Performance / Hardware

- Powered by 32-bit ARM Cortex-A8, 600MHz, processor with multi-level cache memory with 16 GBs eMMC Flash memory and 256 MB DDR3 DRAM
- Backplane mounting or DIN rail mounting

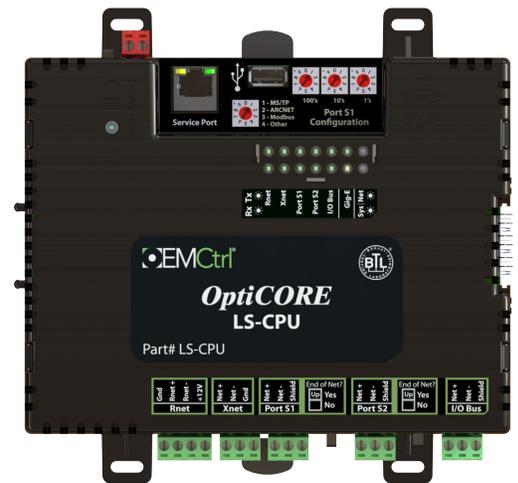
Communication Features:

- BTL certified and conforms to the BACnet Building Controller (B-BC) StandardDevice (Tested to Protocol Revision 12)
- 3 - Configurable Communication Ports
 1. Gig-E: 10/100/1000 Base T Ethernet Port for BACnet or Modbus communication, includes DHCP addressing
 2. Port S1: Rotary configurable EIA-485 Port for BACnet MS/TP or Modbus (primarily for BAS connection)
 3. Port S2: Firmware configurable EIA-485 Port for BACnet MS/TP or Modbus (primarily for communicating device connection)
- 2 - Dedicated Communication Ports
 1. Service Port: 10/100 Base T Ethernet port for technician access
 2. Rnet: Sensor/Display Network
 3. I/O Bus: I/O Point Expansion Network
 4. Xnet: Legacy I/O Point Expansion Network

Servicability:

- Fully programmable using our powerful EIKON® graphic programming tool. The EIKON tool allows you to create graphic control sequences for your application, which can be fully simulated off-line (with the EIKON simulation tool).
- Support for "Live Logic", the ultimate diagnostic tool, allows for real-time troubleshooting of the control logic while the equipment is running.
- Built-in support for the OEMCtrl ZS intelligent communicating sensors and touchscreen display units including the Equipment Touch 4.3" touchscreen, and the OptiCORE EQT3s, and the rugged, Android, panel-mount interfaces which come in 4.3", 7", & 10" sizes.

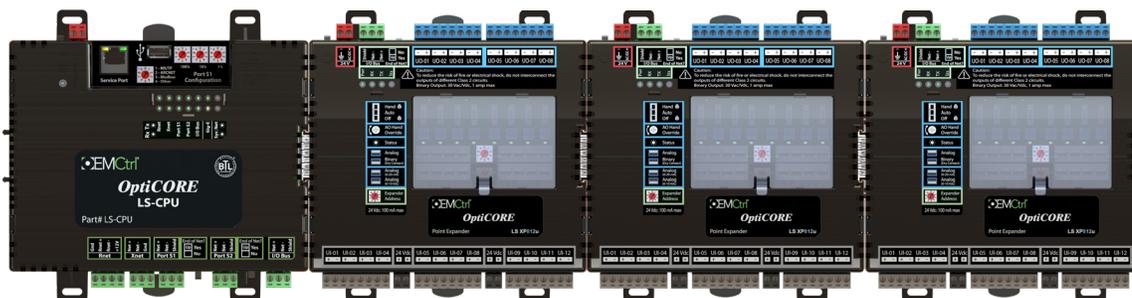
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Support for EQT3 touchscreens



EQT3-7



Support for up to 9 I/O expanders (180 points)



Specifications

Power	24 Vac \pm 10%, 50-60 Hz, 50 VA, 26 Vdc \pm 10%, 15 W, Single Class 2 source only, 100 VA or less
Physical	Fire-retardant plastic ABS, UL94-5VA, Weight: 1 lb. 1 oz. (0.482 kg)
Operating Range	-40° to 158° F (-40° to 70° C); 10 - 90% relative humidity, non-condensing
Communication Ports	<p>BACnet</p> <p>Modbus</p> <p>Gig-E port: 10/100/1000 BaseT Ethernet port for BACnet/IP and/or BACnet/Ethernet and/or MODBUS TCP/IP communication on the Ethernet at 10, 100, or 1000 Mbps, full duplex</p> <p>Port S1: High-speed EIA-485 port with End of Net switch configurable with rotary switch for connecting one of the following network types:</p> <ul style="list-style-type: none"> • BACnet MS/TP network at 9.6, 19.2, 38.4, 57.6, 76.8, or 115.2 kbps • MODBUS RTU at 9.6, 19.2, 38.4, 57.6, 76.8 or 115.2 kbps <p>Port S2: Electrically isolated EIA-485 port with End of Net switch configurable in firmware for connecting one of the following network types:</p> <ul style="list-style-type: none"> • BACnet MS/TP network at 9.6, 19.2, 38.4, 57.6, , 76.8, or 115.2 kbps • MODBUS RTU at 9.6, 19.2, 38.4, 57.6, 76.8 or 115.2 kbps <p>Service port: 10/100 Base T Ethernet port for system start-up and troubleshooting</p> <p>Rnet port: Communicate with ZS communicating sensors and local EQT displays.</p> <p>USB port: USB 2.0 host port for device recovery</p>
Real Time Clock	Real-time clock keeps track of time in the event of a power failure for up to 3 days
Protection	<p>Two fast acting, 5mm x 20mm glass fuses:</p> <ul style="list-style-type: none"> • A 2A fuse for the LS-CPU's power • A 4A fuse for the I/O bus edge connector <p>The power and network ports comply with the EMC requirements EN50491-5-2.</p>
Microprocessor	32-bit ARM Cortex-A8, 600MHz, processor with multi-level cache memory
Memory	16 GBs eMMC Flash memory and 256 MB DDR3 DRAM (22 MB available to use).
Compliance/Listing	<p>BACnet: Conforms to the BACnet Building Controller (B-BC) Standard Device and BACnet BBMD (B-BBMD) Device as defined in BACnet 135-2001 2012 Annex L and tested to Protocol Revision 14.</p> <p>United States: FCC compliant to Title CFR47, Part 15, Subpart B, Class A; UL Listed, File E143900; CCN PAZX, UL 916, Energy Management Equipment; ANZ: RCM Mark AS/NZS 61000-6-3;</p> <p>Canada: UL Listed File E143900, CCN PAZX7, CAN/CSA C22.2 No. 205 Signal Equip., Industry Canada Compliant ICES-003, Class A; CE Mark Compliant with 2014/30/EU, and RoHS Compliant: 2015/863/EU; UKCA Mark compliant with Electromagnetic Compatibility Regulations 2016 – Gov. UK and RoHS for Electrical and Electronic Equipment 2012.</p>



I/O Expander Support

Supports up to 9 OptiCORE I/O expanders and/or 6 I/O Pro expanders, but no more than 9 expanders total.

OptiCORE I/O expanders

- LS-XP812u
- LS-XP48u
- LS-XP012u

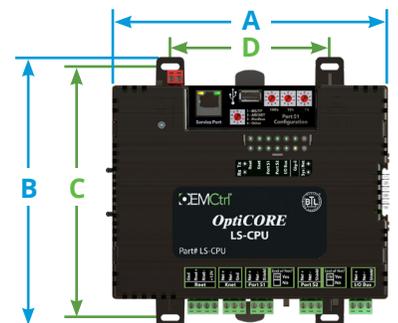
Dimensions

Overall

- A:** 7.1 in. (18.03 cm)
- B:** 6.95 in. (17.65 cm)
- Depth:** 2.09 in. (5.31 cm)
- Weight:** 1.0 lbs (0.45 kg)

Screw Mounting

- C:** 6.45 in (16.38 cm)
- D:** 4.1 in. (10.4 cm)



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