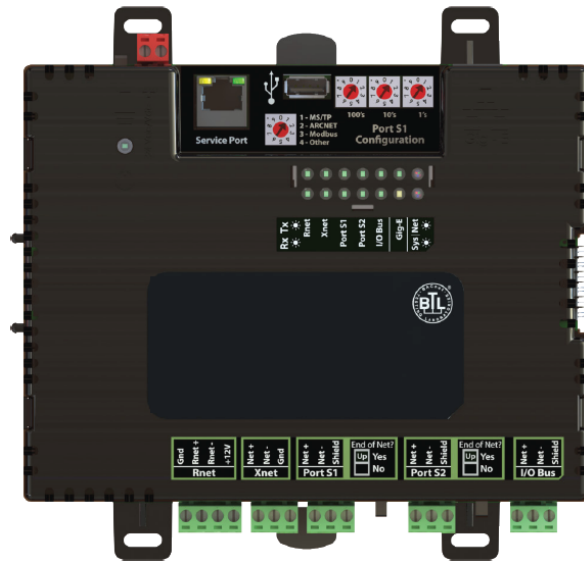# ENVIROTRAK® V-LCPU CONTROLLER
ENV-V-LCPU

GENERAL DESCRIPTION

The Envirotrak™ V-LCPU is a high-performance, BACnet native direct digital controller (DDC). It provides speed, power, memory, and I/O Flexibility for the most demanding control applications. The ENV-V-LCPU is targeted for laboratory air flow, isolation and containment room control applications with high I/O point counts (up to 180) through expandable I/O boards. Made with integration in mind, the ENV-V-LCPU can integrate with building automation systems via BACnet (IP or MSTP) or Modbus (IP or serial).

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

Communications Features:

♦ BTL certified and conforms to the BACnet Building Controller (B-BC) Standard Device (Tested to Protocol Revision 12)

♦ 3 Configurable Communication Ports

 • Gig-E 10/100/1000 Base T Ethernet Port for BACnet or Modbus communications, includes DHCP addressing
 • Port S1: Rotary configurable EIA-485 Port for BACnet MS/TP, ARC156 or Modbus (primarily for BAS connection)
 • Port S2: Firmware configurable EIA-485 for BACnet MS/TP or Modbus (primarily for communicating device connection)

♦ 4 Dedicated Communication Ports

 1. Service Port: 10/100 Base T Ethernet port for technician access
 2. Rnet: For the ZS communicating sensors or EQT2 touchscreen connection
 3. I/O Bus: I/O Point Expansion Network

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4. Xnet: Legacy I/O Point Expansion Network

Service & Usability Features:

♦ Fully programmable using the 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 ZS intelligent communicating sensors and touchscreen display units including the Equipment Touch 4.3" touchscreen, and the EQT2s, and the rugged, Android, panel-mount interfaces which come in 4.3", 7", & 10" sizes.

Specifications:

Power	24 Vac ±10%, 50-60 Hz, 50 VA, 24 Vdc ±10%, 15W, Single Class 2 source only, 100 VA or less
Operating Range	-40º to 158º F (-40º to 70º C); 10 to 95% relative humidity, non-condensing
Communication Ports BACnet Modbus	**Gig-E port:** 10/100 BaseT Ethernet port for BACnet/IP and/or BACnet/Ethernet and/or MODBUS TCP/IP communications at 10, 100, or 1000 Mbps, full duplex **Port S1:** High-speed EIA-485 port with End of Net switch. Configurable with rotary switch for connecting one of the following network types: • BACnet ARCnet network at 156kbps • BACnet MS/TP network at 9.6, 19.2, 38.4, 57.6, 76.8 02 115.2 kbps • Modbus RTU network at 9.6, 19.2, 38.4, 57.6, 76.8, or 115.2 kbps **Port S2:** Electrically isolated EIA-485 port with End of Net switch. Configurable in firmware for connection one of the following network types: • BACnet MS/TP network at 9.6, 19.2, 38.4, 57.6, 76.8 02 115.2 kbps • Modbus RTU network at 9.6, 19.2, 38.4, 57.6, 76.8, or 115.2 kbps **Service port:** 10/100 Base T Ethernet port for system start-up and troubleshooting **Rnet port:** Communicate with ZS communicating sensors and local EQT displays **USB port:** USB 2.0 host port for device recovery
Real Time Clock	Real-time clock keeps track of time in the event of a power failure for up to 3 days
Protection	Two fast acting, 5mm x 20mm glass fuses: • A 2A fuse for the ENV-V-LCPU's power • A 4A fuse for the I/O bus edge connector The power and network ports comply with the EMC requirements EN5049-5-2
Microprocessor / Memory	32-bit ARM Cortex-A8, 600MHz, processor with multi-level cache memory / 16 GBs eMMC Flash memory and 256 MB DDR3 DRAM (22MB available to use)
Compliance/Listing	**United States of America**: FCC compliant to Title CFR47, Chapter 1, Subchapter A, Part 15, Subpart B, Class A; UL Listed to UL 916, PAZX, Energy Management Equipment **Canada:** Industry Canada Compliant, ICES-003, Class A cUL Listed UL 916, PAZX&, Energy Management Equipment **Europe**: Mark EN50491-5-2:2009; Part 5-2: EMC requirements for HBES/BACS used in residential, commercial and light industry environment EN50491-3:2009, Part 3: Electrical safety requirements for Home and Building Electronic Systems (HBES) and Building Automation and Control Systems (BACS) Low Voltage Directive: 2014/35/EU RoHS Compliant: 2011/65/EU **Australia and New Zealand**: C-Tick Mark, AS/NZS 61000-6-3
Physical	DIN rail or Screw mounting. Minimum panel depth: 2.75 in. (7 cm) **Dimensions Overall:** 7.1 in. (18.03 cm) x 6.95 in. (17.65 cm), **Depth:** 2.09 in. (5.31 cm), **Weight:** 1.0 lb. (0.45 kg) **Screw Mounting:** 6.45 in. (16.38.cm), 4.1 in. (10.4 cm)
I/O Expander Support	Support up to 9 expanders, ENV-V-LXP812u, ENV-V-LXP48u, ENV-V-LXP012u

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