The UC32.netK is an Ethernet-based peer-to-peer Communications Controller, used to network UnitronUC32 Field Controllers together. The UC32.netK co-ordinates communication between I/O controllers on its fieldbus, with other UC32.netKs and with PCs using Ethernet, and other peripherals using RS232/RS485 serial protocols.

It can also add additional communications protocols such as BACnet and Modbus to the UnitronUC32 system, along with fieldbus-supervision web pages and email alarm facility.

- **Peer-to-peer Networking**
  - 100Mbps Fast Ethernet using TCP/IP
- **Optional BACnet/IP support**
  - read point values, read/write setpoints
- **Embedded Web Server**
  - Controller configuration can be monitored and adjusted using standard web browser
  - Fieldbus supervisor web pages and alarm emailing system available on WEB model options
- **Optional Modbus Support**
  - Serial RTU support, Master and Slave.
- **RS485 and RS232**
  - for connection to modems, serial printers, keypads or supervisory computers
- **Fieldbus**
  - for adding Unitron DDC* controllers within a radius of 1200 M without repeaters
  - *Direct Digital Control
- **Powerful Diagnostics**
  - with rapid error-free commissioning technologies

The UC32.netK communications controller is part of the UnitronUC32 range of products, which offers the following benefits:

**Unique Flexibility with UniPuts™**

The UnitronUC32 range uniquely presents UniPuts™ - a revolutionary answer to flexible point configuration, offering maximised utilisation of controller capacity along with flexibility in strategy changes. Built on a modern web-based architecture, the UnitronUC32 range has a wide application scope with the flexibility of being stand-alone or network enabled. Easily customisable, the UnitronUC32 range has optional internal or external keypads for a powerful yet user-friendly interface, matched by extensive monitoring and logging capabilities.

**The right integration at the right level**

The UnitronUC32 solution provides a wide choice of integration options including BACnet, Modbus, M-Bus, KNX, and OPC. Cylon’s philosophy is to provide an open system that is truly future proof: With Modbus, M-Bus and KNX, Cylon offers high performance Fieldbus integration. BACnet is the international standard that provides peer to peer integration over TCP/IP. OPC Server extends UnitronUC32 integration beyond building services.
**Important:** The Battery Enable Switch (located above the Power 24 Vac connection) must be switched to the "Battery Enabled" position to ensure backup of controller settings such as Time Schedules and Globals when the UC32.netK is powered down. Press the "up" key on the UC32.netK keypad to check the battery status.

**Keypad Detect**
- Common
- Point Numbers
- Terminal Numbers

**Modem port RS232** (port 3) (UC32.netK only)
**Modbus RS232** (port 4) (modbus variants only)
**Modbus RS485** (port 4) (modbus variants only)

**Port 4 RS485 bus Terminator Switch**
- **ON** (RS485 terminated at this controller)
- **OFF** (RS485 not terminated at this controller)

**Ethernet 10/100 Mb**
**Fieldbus Terminator**
- **ON** (Fieldbus terminated at this controller)
- **OFF** (Fieldbus not terminated at this controller)

**7-segment LED display** (controller status)
- Pressing and together toggles the display between Configuration and Program modes.
- Pressing and together changes the contrast of the LCD screen display.

**Power 24 Vac**
**Important:** Earth this controller by connecting the common wire (G0) on the secondary side of the 24 Vac transformer to Earth at one point.

**External Keypad port** (screw terminal)
**Service port/Printer port** (port 1) (screw terminal)
**Battery enable Switch**
- **Battery Disabled**
- **Battery Enabled**

**Ethernet Indicator LEDs**
**UC32.netK**
- **LED on**: Ethernet message received
- **LED off**: No incoming Ethernet messages

**UC32.netK/P**
- **LED on**: Ethernet link operating at 100 Mbs
- **LED off**: Ethernet link operating at 10 Mbs

**Text Display (LCD)**
- Pressing and together toggles the display between Configuration and Program modes.
- Pressing and together changes the contrast of the LCD screen display.
Factory Configuration Options:

Note: For models supporting greater than 32 Modbus devices, devices with a fractional (¼ or better) unit load will be required to reach the number of Modbus devices limit.

Specifications:

MECHANICAL

Size (excluding terminal plugs) 144 x 118 x 65 mm (5.7 x 4.7 x 2.6”)
Enclosure Injection molded ABS
Mounting DIN rail

ENVIRONMENT

Note: This equipment is intended for field installation within another enclosure.
Ambient Temperature 0° - 50°C (32° - 122°F) ambient.
Ambient Humidity 0% - 90% RH non-condensing
EMC Immunity EN 50082-1
EMC Emission EN55011 Class B
Protection Class IP20/DIN 40050

WIRING

Note: Use Copper or Copper Clad Aluminum conductors only.
Ethernet Screened or Unscreened CAT5e
RS485 Fieldbus 2 core screened twisted pair (e.g. Belden 8132 up to 600m at max baud rate 76k, Belden 9841 up to 1200m at max baud rate 76k.)
RS232 (no handshaking) 3 core screened
RS232 (with handshaking) 9 core screened
External Keypad 6-core telephone type cable

ELECTRICAL

Supply Requirements 24 V AC +/- 20% 50/60 Hz
Transformer Rating with UCKRA420: 15 VA without UCKRA420: 10 VA
Power Rating 5 Watts maximum
Fuse Rating 1 A resettable

PROCESSOR

Type Digi 32bit ARM
Memory 16Mb RAM, 16Mb Flash (except UC32.netK/P: 8Mb Flash)
Real-Time Clock Battery backed for 6 months minimum
## Software Features

<table>
<thead>
<tr>
<th>Keypad Configuration Mode</th>
<th>Accessible via Internal or External Keypad.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Embedded Web Configuration Interface</td>
<td>UC32.netK configuration parameters can be accessed through embedded web pages, including:</td>
</tr>
<tr>
<td></td>
<td>- Fieldbus Setup and Map</td>
</tr>
<tr>
<td></td>
<td>- Unet status and setup</td>
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<tr>
<td></td>
<td>- Globals</td>
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<td></td>
<td>- Alarm, Printer and Modern Strings</td>
</tr>
<tr>
<td></td>
<td>- Port configurations</td>
</tr>
<tr>
<td></td>
<td>- System statistics</td>
</tr>
<tr>
<td>Embedded WebLink (except UC32.netK/P)</td>
<td>Can serve dynamic web pages, created in Unitron engineering Centre, to view and change points, datalogs and alarms on the local Fieldbus.</td>
</tr>
<tr>
<td>Firmware Upgrade</td>
<td>Firmware can be upgraded via IP / LAN (except UC32.netK/P : via Port 1)</td>
</tr>
</tbody>
</table>

## Communication Port Specifications

<table>
<thead>
<tr>
<th>Port</th>
<th>Connector</th>
<th>Transmission Type</th>
<th>Detail</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fieldbus Port</td>
<td>2 way plug terminal</td>
<td>RS485</td>
<td>@ 9K6, 19K2, 38K4 or 76K Baud</td>
<td>Fieldbus communications</td>
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<tr>
<td>External Keypad Port</td>
<td>RJ12 / 5 way plug terminal</td>
<td>RS232</td>
<td>9K6 Baud</td>
<td>Keypad communications</td>
</tr>
<tr>
<td>Port 1</td>
<td>RJ45 / 3 way plug terminal</td>
<td>RS232</td>
<td>@ 1K2, 2K4, 9K6, 14K4, 19K2, 38K4, 57K6 or 115K2 Baud</td>
<td>Service Port</td>
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<tr>
<td></td>
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<td></td>
<td></td>
<td>Printer</td>
</tr>
<tr>
<td>Port 3</td>
<td>9 way Male D type</td>
<td>RS232</td>
<td>with full hardware handshaking</td>
<td>Modern with Unitron Software</td>
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<td></td>
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<td>Printer</td>
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<td>Service port</td>
</tr>
<tr>
<td>Port 4 (MOD model options only)</td>
<td>6 way plug terminal</td>
<td>RS232 / RS485</td>
<td>@ 300, 600, 1K2, 2K4, 4K8, 9K6, 14K4, 19K2, 38K4, 57K6 or 115K2 Baud</td>
<td>Modbus-Master</td>
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<td>Modbus-Slave</td>
</tr>
<tr>
<td>Ethernet Port</td>
<td>RJ45</td>
<td>Fast full-duplex Ethernet</td>
<td>10/100 BaseT</td>
<td>Service Port Network Link</td>
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<td>BACon/IP (/P only)</td>
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<td>HTTP</td>
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<td>SMTP (except /P)</td>
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<td>FTP</td>
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<td>Max no. of Unitron nodes : 254</td>
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</tbody>
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