

# CYLON smart energy control

## UC32.netK

model options:	UC32.netK/WEB	UC32.netK/LC/WEB	UC32.netK/WEB/MOD
	UC32.netK/P		

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

- Optional Modbus Support

- RS485, RS232 and USB ports  
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.

### Cost Effective, low entry point for building control

The **UnitronUC32** range offers reduced costs in terms of training, implementation, rollout and maintenance. Modular, extendible packages along with low installation costs mean a low entry point for building control. The future-proof **UnitronUC32** range provides forward & backward compatibility, meaning an effortless upgrade path for existing **Unitron** Systems.

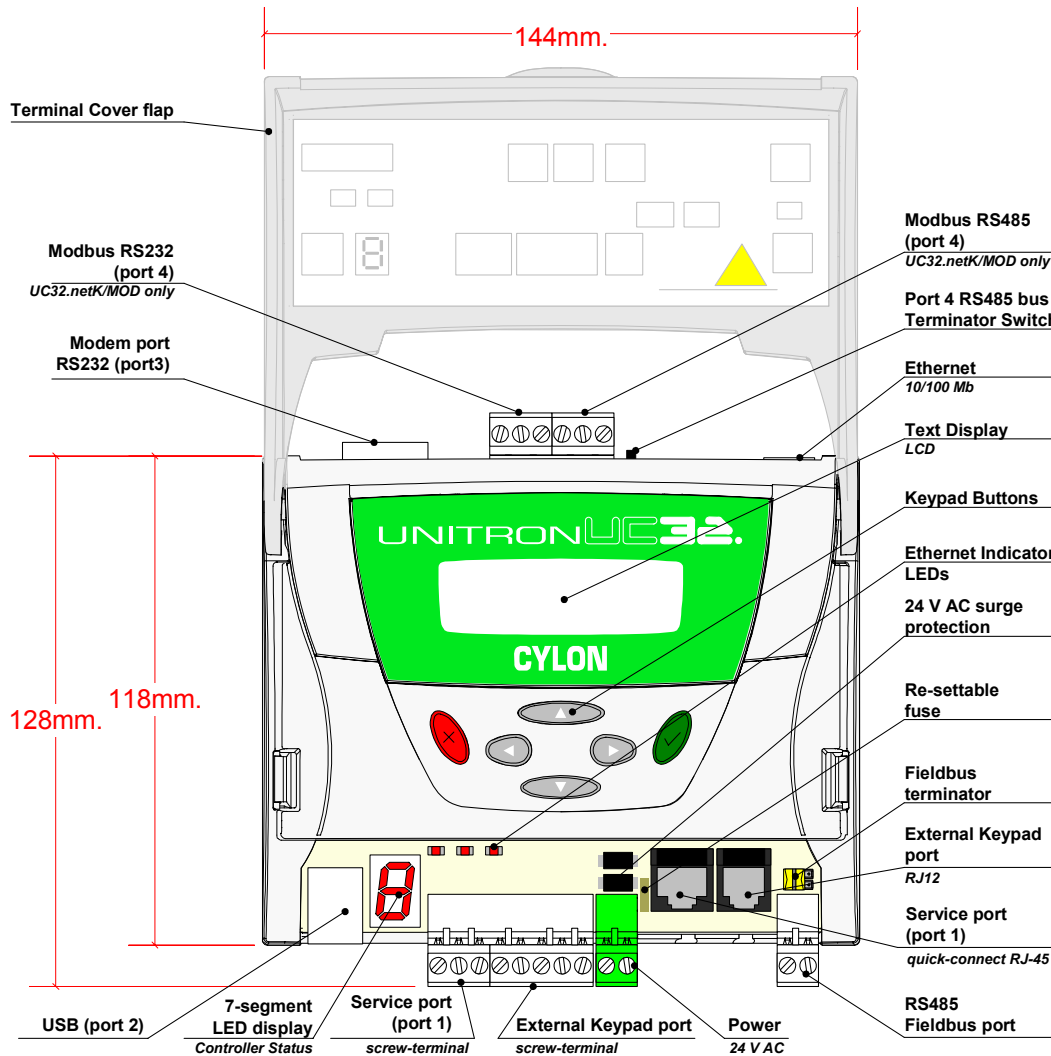
### Highly programmable and extendable through web-enabled HVAC technology

The **UnitronUC32** range offers an advanced web-based 32-bit architecture, with advanced programmability through the **Unitron Engineering Centre**. Inbuilt diagnostics, along with expanded data logging and strategy storage, is further enhanced by **Uniputs™**, offering up to 8 Universal inputs, up to 8 **Uniputs™** (AI/DI/AO/DO) and up to 8 **Uniputs™** with relays.



Due to Cylon's policy of continuous improvements these specifications may be upgraded without notice.

**UNITRONUC32.**  
Building Management System



**Note:**

In the keypad version of this controller,

- 1) pressing the and buttons simultaneously causes the display to toggle between **Configuration** and **Program** modes.
- 2) pressing the and buttons simultaneously changes the contrast of the LCD screen display.

**Port 4 RS485 Terminator**

OFF (RS485 bus not terminated at this controller)

ON (RS485 bus terminated at this controller)

**Ethernet Indicator LEDs**

	Traffic	Speed	Link
<b>LED on</b>	Ethernet message received	Ethernet link operating at 100 M	Ethernet is connected
<b>LED off</b>	No incoming Ethernet messages	Ethernet link operating at 10 M	Ethernet is not connected

**Fieldbus Terminator**

OFF (fieldbus not terminated at this controller)

ON (fieldbus terminated at this controller)

**Factory Configuration Options:**

	UC32.netK/WEB	UC32.netK/LC/WEB	UC32.netK/WEB/MOD	UC32.netK/P
Internal Keypad	✓	✓	✓	✓
Embedded WebLink	✓	✓	✓	✗
Active Modbus port	✗	✗	✓	✓
BACnet/IP support	✗	✗	✗	✓
Maximum number of field controllers	63	4	63	63

## Specifications:

### MECHANICAL

Size (excluding terminal plugs)	144 x 118 x 65 mm (5.7 x 4.7 x 2.6")
Enclosure	Injection moulded 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 Aluminium 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
USB	Standard USB cable assembly

### 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	Netsilicon NET+50 32bit ARM 7
Clock Speed	44 MHz
Operating System ROM	2 MBytes Flash memory
Operating System RAM	16 MBytes SDRAM
Web Page Memory	8Mbytes Flash memory
Non-Volatile Memory	512 Kbytes battery-backed static RAM
Real-Time Clock	Battery backed for 2 years minimum

### INTERFACE

Software	Unitron Command Centre Unitron Engineering Centre Unitron Palm program WebLink
Internal Keypad	LCD 4 x 20 characters, 6 Buttons. Compatible with UCKRA420
External Keypad	UCKRA420 Serial Text Keypad connected via RJ12 port (Maximum cable length 50m)

### SOFTWARE FEATURES

Keypad Configuration Mode	Accessible via Internal or External Keypad.
Embedded Web Configuration Interface	UC32.netK configuration parameters can be accessed through embedded web pages, including: <ul style="list-style-type: none"> <li>▪ Fieldbus Setup and Map</li> <li>▪ Unet status and setup</li> <li>▪ Globals</li> <li>▪ Alarm, Printer and Modem Strings</li> <li>▪ Port configurations</li> <li>▪ System statistics</li> </ul> <p>These pages are viewable in most browsers, including IE6, Mozilla Firefox, PalmOS5 browser and Pocket Internet Explorer.</p>
Embedded WebLink (except UC32.netK/P)	Can serve dynamic web pages, created in Unitron engineering Centre, to view and change points, datalogs and alarms on the local Fieldbus.



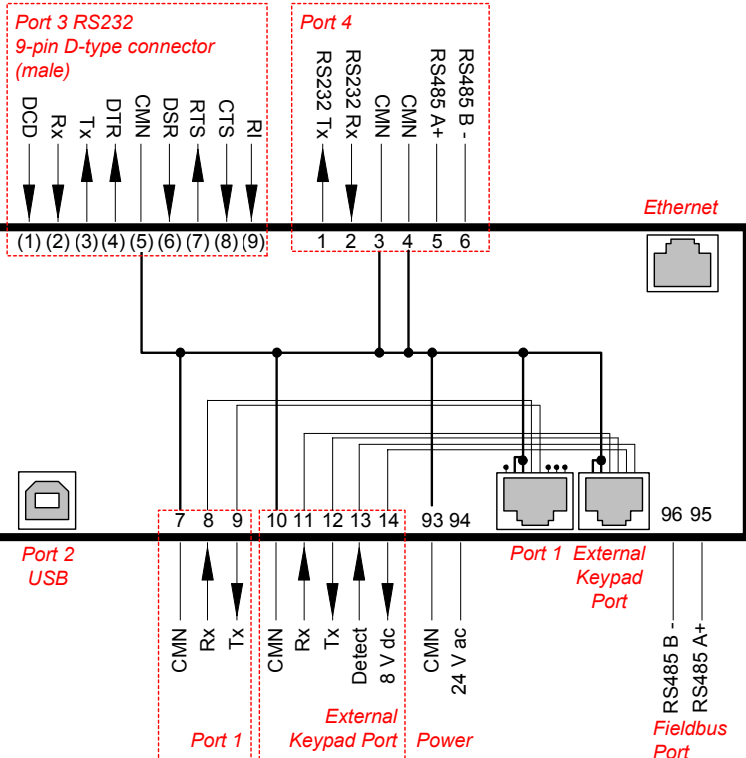
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## COMMUNICATION PORT SPECIFICATIONS

Port	Connector	Transmission type	Detail	Function										
Fieldbus Port	2 way plug terminal	RS485	@ 1K2, 9K6, 19K2, 38K4 or 76K8 Baud	Fieldbus communications <table border="1"> <tr> <td>Max no. of nodes: (non-LC options)</td> <td>UC32.24: 16 UCU : 63</td> </tr> <tr> <td>Max no. of nodes : (LC option)</td> <td>4</td> </tr> <tr> <td>Max distance between nodes:</td> <td>1200 m (3937')</td> </tr> <tr> <td>Max length of network:</td> <td>1200 m (3937')</td> </tr> <tr> <td>Terminating resistance</td> <td>internal 120 Ω switchable</td> </tr> </table>	Max no. of nodes: (non-LC options)	UC32.24: 16 UCU : 63	Max no. of nodes : (LC option)	4	Max distance between nodes:	1200 m (3937')	Max length of network:	1200 m (3937')	Terminating resistance	internal 120 Ω switchable
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Terminating resistance	internal 120 Ω switchable													
External Keypad Port	RJ12 / 5 way plug terminal	RS232	9K6 Baud	Keypad communications										
Port 1	RJ45 / 3 way plug terminal	RS232	@ 1K2, 2K4, 9K6, 14K4, 19K2, 38K4, 57K6 or 115K2 Baud	Service Port Printer										
Port 2	Type B USB con	Pro. USB diff	Client Mode	Service port										
Port 3	9 way Male D type	RS232	with full hardware handshaking	Modem with Unitron Software Printer Service port										
Port 4 (UC32.netK/MOD only)	6 way plug terminal	RS232 / RS485	@ 300, 600, 1K2, 2K4, 4K8, 9K6, 14K4, 19K2, 38K4, 57K6 or 115K2 Baud	RS232 Modbus-Master RS232 Modbus-Slave RS485 Modbus Master										
Ethernet Port	RJ45	Fast full-duplex Ethernet	10/100 BaseT	Service Port Network Link BACnet/IP (/P only) HTTP SMTP (except /P) FTP <table border="1"> <tr> <td>Max no. of Unitron nodes :</td> <td>254</td> </tr> </table>	Max no. of Unitron nodes :	254								
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**Note:** The pin numbers in port 3 correspond to the pin numbers on the D-type connector as shown below:



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