

# CYLON smart energy control

## UC32.netK

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

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. 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.

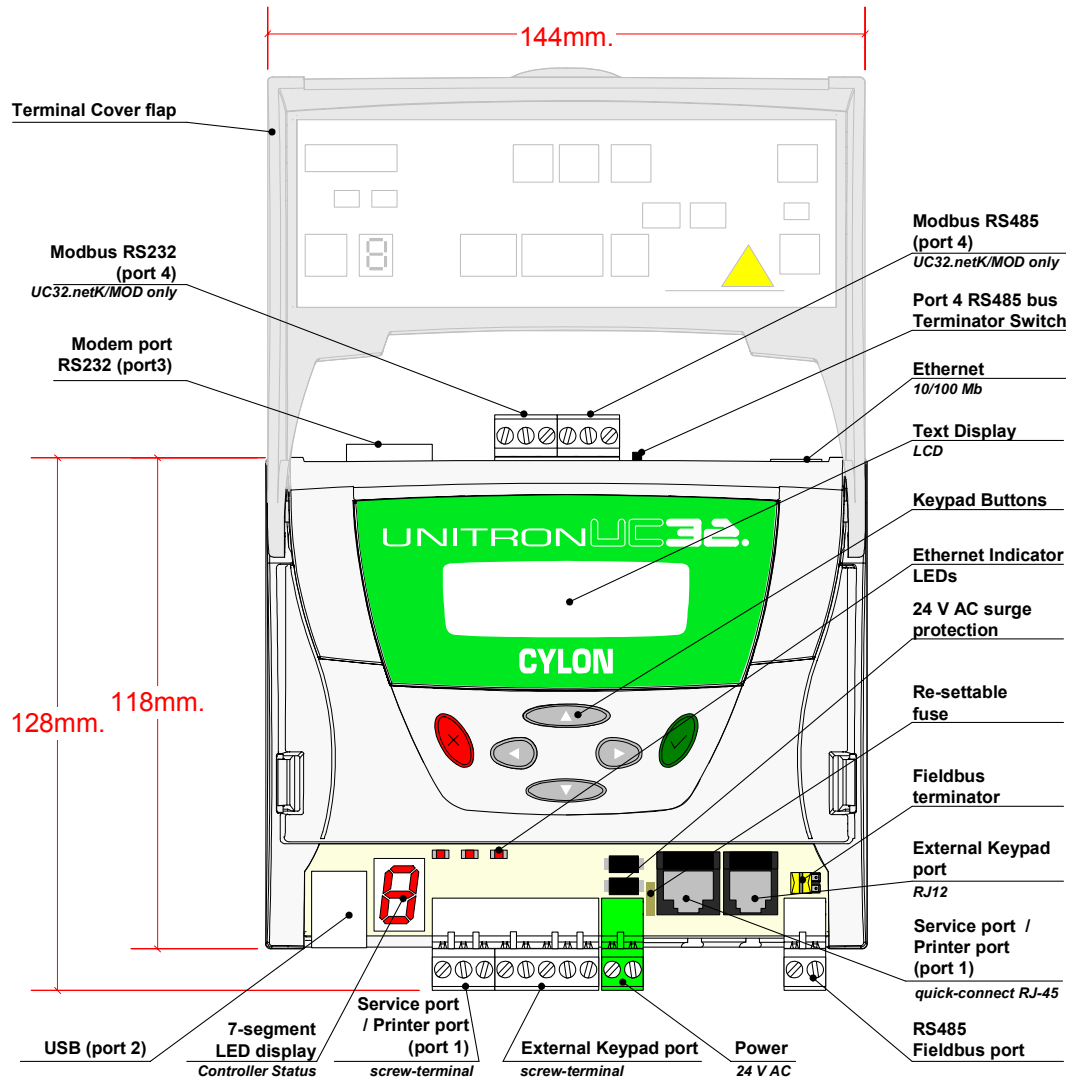
### The right integration at the right level

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.



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
LED on	Ethernet message received	Ethernet link operating at 100 M	Ethernet is connected
LED off	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/ELC/WEB	UC32.netK/LC/WEB	UC32.netK/WEB	UC32.netK/WEB/MOD	UC32.netK/IP
Internal Keypad	✓	✓	✓	✓	✓
Embedded WebLink	✓	✓	✓	✓	✗
Active Modbus port	✗	✗	✗	✓	✓
BACnet/IP support	✗	✗	✗	✗	✓
Maximum number of field controllers	1	4	63	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> These pages are viewable in most browsers, including IE6, Mozilla Firefox, PalmOS5 browser and Pocket Internet Explorer.
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. <b>Note:</b> These dynamic pages are viewable in Internet Explorer only.



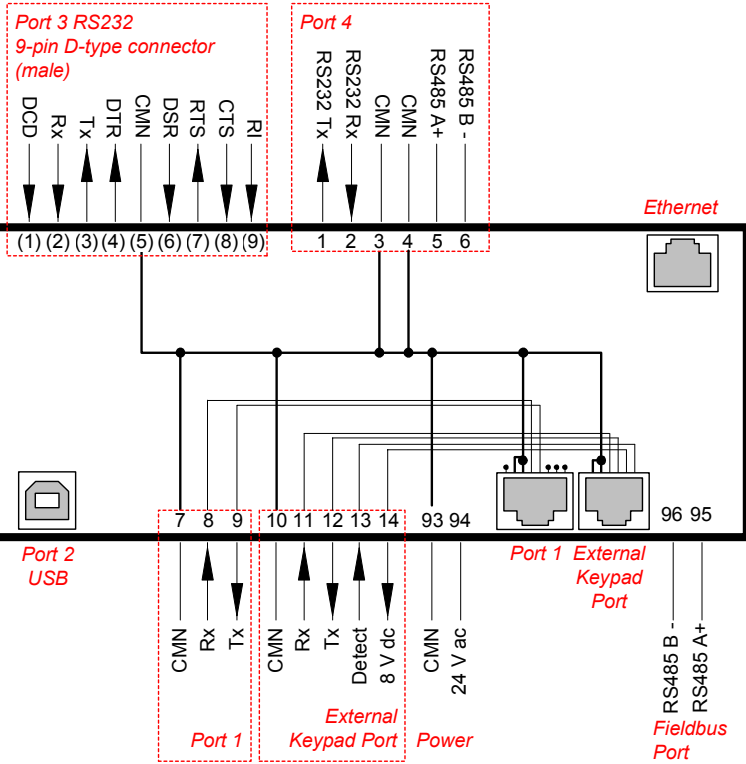
Due to Cylon's policy of continuous improvements these specifications may be upgraded without notice.



## 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
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													
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								
Max no. of Unitron nodes :	254													

**Note:** The pin numbers in port 3 correspond to the pin numbers on the D-type connector as shown below:



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

