

UC32.netK

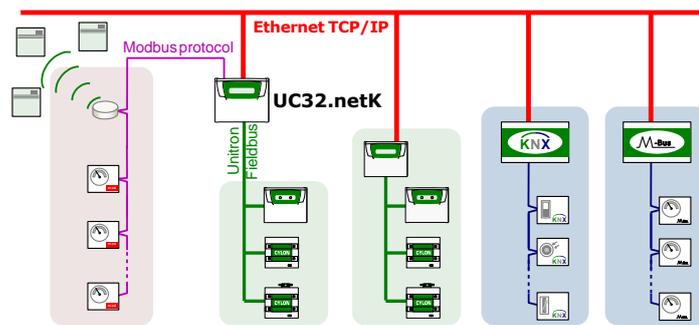
UC32.netK	UC32.netK/WEB UC32.netK/LC/WEB UC32.netK/ELC/WEB	UC32.netK/WEB/MOD UC32.netK/LC/WEB/MOD UC32.netK/ELC/WEB/MOD
UC32.netK/P		UC32.netK/WEB/MODex

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:

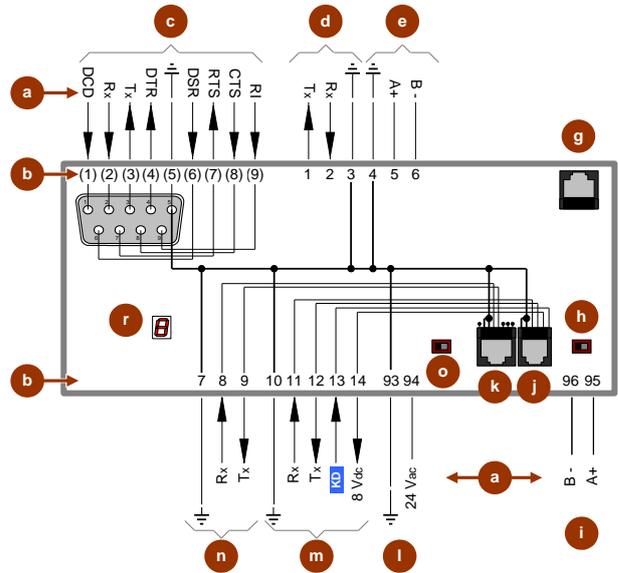
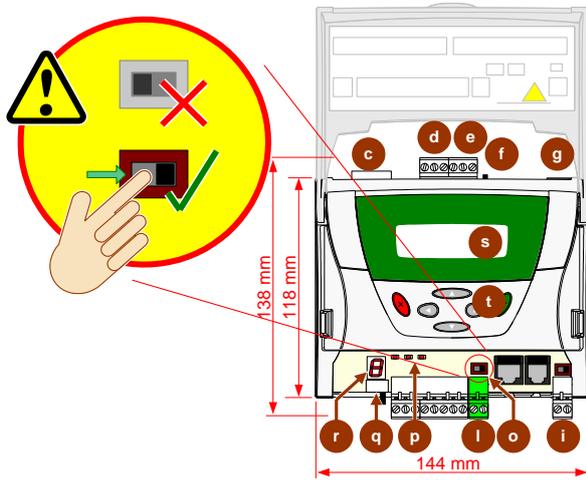
Unique Flexibility with UniPuts™

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.

KD

Keypad Detect



Common

a

Point Numbers

b

Terminal Numbers

c

Modem port RS232 (port 3) (UC32.netK only)

d

Modbus RS232 (port 4) (modbus variants only)

e

Modbus RS485 (port 4) (modbus variants only)

f

Port 4 RS485 bus Terminator Switch



- ON (RS485 terminated at this controller)



- OFF (RS485 not terminated at this controller)

g

Ethernet 10/100 Mb

h

Fieldbus Terminator



- ON (fieldbus terminated at this controller)



- OFF (fieldbus not terminated at this controller)

i

Fieldbus Port

j

External Keypad port (RJ-12)

k

Service port/Printer port (port 1) (quick-connect RJ-45)

l

Power 24 Vac

Important: Earth this controller by connecting the common wire (G_0) on the secondary side of the 24 Vac transformer to Earth at one point.

m

External Keypad port (screw terminal)

n

Service port/Printer port (port 1) (screw terminal)

o

Battery enable Switch



- Battery Disabled



- Battery Enabled

p

Ethernet Indicator LEDs

UC32.netK

	 Traffic	 Collision	 Link
LED on	Ethernet message received	Data received while transmission is in progress	Ethernet is connected
LED off	No incoming Ethernet messages	No collision detected	Ethernet is not connected

UC32.netK/P

	 Traffic	 Speed	 Link
LED on	Ethernet message received	Ethernet link operating at 100 Mbps	Ethernet is connected
LED off	No incoming Ethernet messages	Ethernet link operating at 10 Mbps	Ethernet is not connected

r

7-segment LED display (controller status)

s

Text Display (LCD)

t

Internal Keypad

- 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.

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.

	UC32.netK	UC32.netK/WEB	UC32.netK/WEB/MOD	UC32.netK/WEB/MODex	UC32.netK/LC/WEB	UC32.netK/LC/WEB/MOD	UC32.netK/ELC/WEB	UC32.netK/ELC/WEB/MOD	UC32.netK/P
Maximum number of field controllers	63	63	63	63	4	4	1	1	63
Internal Keypad	✓	✓	✓	✓	✓	✓	✓	✓	✓
Embedded WebLink	✗	✓	✓	✓	✓	✓	✓	✓	✗
Active Modbus port	✗	✗	✓	✓	✗	✓	✗	✓	✓
Maximum number of Modbus devices	✗	✗	48	122	✗	24	✗	12	32
Wireless Sensor support	✓	✓	✓	✓	✓	✓	✓	✓	✓
BACnet/IP support	✗	✗	✗	✗	✗	✗	✗	✗	✓

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

INTERFACE

Software	Unitron Command Centre Unitron Engineering Centre 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"> ▪ Fieldbus Setup and Map ▪ Unet status and setup ▪ Globals ▪ Alarm, Printer and Modem Strings ▪ Port configurations ▪ System statistics
Embedded WebLink (<i>except UC32.netK/P</i>)	Can serve dynamic web pages, created in Unitron engineering Centre, to view and change points, datalogs and alarms on the local Fieldbus.
Firmware Upgrade	Firmware can be upgraded via IP / LAN (<i>except UC32.netK/P : via Port 1</i>)

COMMUNICATION PORT SPECIFICATIONS

Port	Connector	Transmission type	Detail	Function												
Fieldbus Port	2 way plug terminal	RS485	Ⓢ 9K6, 19K2, 38K4 or 76K8 Baud	Fieldbus communications <table border="1" style="margin-left: 20px;"> <tr> <td>Max no. of nodes: (<i>non-LC options</i>)</td> <td>UC32.24: 16 UCU : 63</td> </tr> <tr> <td>Max no. of nodes : (<i>LC option</i>)</td> <td>4</td> </tr> <tr> <td>Max no. of nodes : (<i>ELC option</i>)</td> <td>1</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: (<i>non-LC options</i>)	UC32.24: 16 UCU : 63	Max no. of nodes : (<i>LC option</i>)	4	Max no. of nodes : (<i>ELC option</i>)	1	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 3	9 way Male D type	RS232	with full hardware handshaking	Modem with Unitron Software Printer Service port												
Port 4 (/MOD model options only)	6 way plug terminal	RS232 / RS485	Ⓢ 300, 600, 1K2, 2K4, 4K8, 9K6, 14K4, 19K2, 38K4, 57K6 or 115K2 Baud	Modbus-Master Modbus-Slave												
Ethernet Port	RJ45	Fast full-duplex Ethernet	10/100 BaseT	Service Port Network Link BACnet/IP (<i>/P only</i>) HTTP SMTP (<i>except /P</i>) FTP <table border="1" style="margin-left: 20px;"> <tr> <td>Max no. of Unitron nodes :</td> <td>254</td> </tr> </table>	Max no. of Unitron nodes :	254										
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