

## UC24PG-R Universal Programmable Controller with Relay output

### DESCRIPTION

The UC24PG-R is a programmable controller, with 8 universal inputs, 8 digital inputs and 8 universal outputs.

### MECHANICAL

Size 225 x 130 x 45 mm  
(8.86 x 5.12 x 1.78")  
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

### WIRING

Termination PCB mounted plug terminal connections.  
Conductor Area Max: AWG 12 (3.09 mm<sup>2</sup>)  
Min: AWG 22 (0.355 mm<sup>2</sup>)  
**Note:** Use Copper or Copper Clad Aluminium conductors only.

### ELECTRICAL

Supply Requirements 24 V AC +/- 20% 50/60 Hz  
Power Rating 10 VA  
Fuse Rating 2 A anti-surge (250 V AC - 2AT)

### PROCESSOR

Type Motorola 68HC11  
Clock Speed 8 MHz  
Operating System Memory 128K  
User Programmable Memory 128K RAM Battery backed for 2 years minimum  
Real-Time Clock Battery backed for 2 years minimum

### INPUTS/OUTPUTS

**Note:** Screened cable is recommended for all input connections.  
8 Universal Inputs Active voltage input 0-10 V @ 134 K  
Passive input recommended sensor: PT1000  
Resolution: 12 bits (with exponential filter applied to the input block in the controller's strategy)  
**Note:** '10k option' controllers use 10k3A1 sensors only  
Active current input 0-20 mA @ 120 Ω (screened cable)  
8 Digital Inputs Digital Volt Free Contact: Pulse up to 12 Hz, minimum pulse width 42ms.  
Digital Volt Free Contact  
Also detects digital 24 VAC / open-circuit.  
**Note:** If using digital input to detect 24 VAC across a bulb or other low-resistance device, contact Cylon Technical Support.  
8 Universal Outputs Jumper selectable: 0 – 10 V DC 10mA max  
or 24 V AC Relay, 2 A continuous / 15 A max inrush.

### COMMUNICATIONS

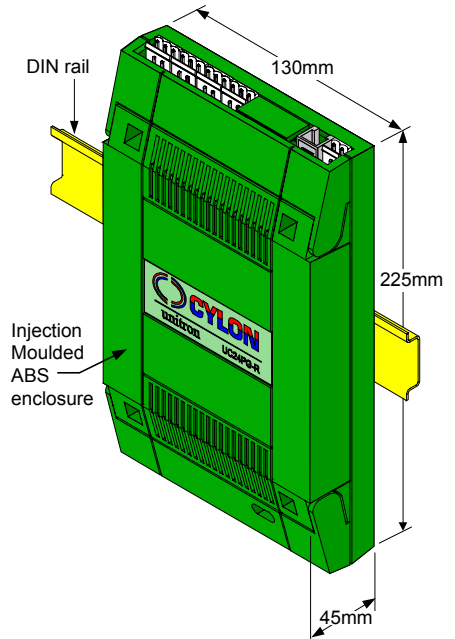
Local RS232 TTL port @ 1200, 2400, 9600, 19200 or 38400 Baud  
Network RS485 port @ 1200, 2400, 9600, 19200 or 38400 Baud  
Keypad port @ 9600 Baud, RJ11 socket  
Modem Modem connection supported through RS232 service port

### INTERFACE

Software WN3000 software suite Unitron Palmtop program  
Remote Keypad UCKRA420 Serial Text Keypad Connected via RJ11 port  
Maximum cable length 50m

### SOFTWARE FEATURES

Maximum number of strategy blocks 255  
Maximum number of Datalog Modules 16  
Maximum Datalog Module capacity 192 entries per Datalog  
Maximum Controller Address 16  
**Note:** The maximum controller address is 8 for UC24PG-R controllers with firmware versions of 5.5.0 or earlier.



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

### Universal Input Selection Jumpers

Volt free contacts:

Passive input:

0-20 mA input:

0-10 V input:

**Legend**  
 Pins covered by jumper  
 Pins open

### Address/Baud-Rate Selector Switch

Switches 8, 7, 9, 6, 5, 4, 3, 2, 1

Binary 1 (red arrow), Binary 0 (black arrow)

Sub-Network Rate (switches 8, 7, 9), MSB (switch 6), Sub-Network Address (switches 5, 4, 3, 2, 1), LSB (switch 1)

### Baud Rate

The Baud Rate of the controller on the Sub-Network is set on DIP switches 6, 7, and 8:

- 9600 baud
- 1200 baud
- 19200 baud
- 2400 baud
- 38400 baud

### Sub-Network Address

The address of the controller on the Sub-Network is set on these DIP switches as binary numbers as illustrated in the examples below:

Address 1:

Address 16:

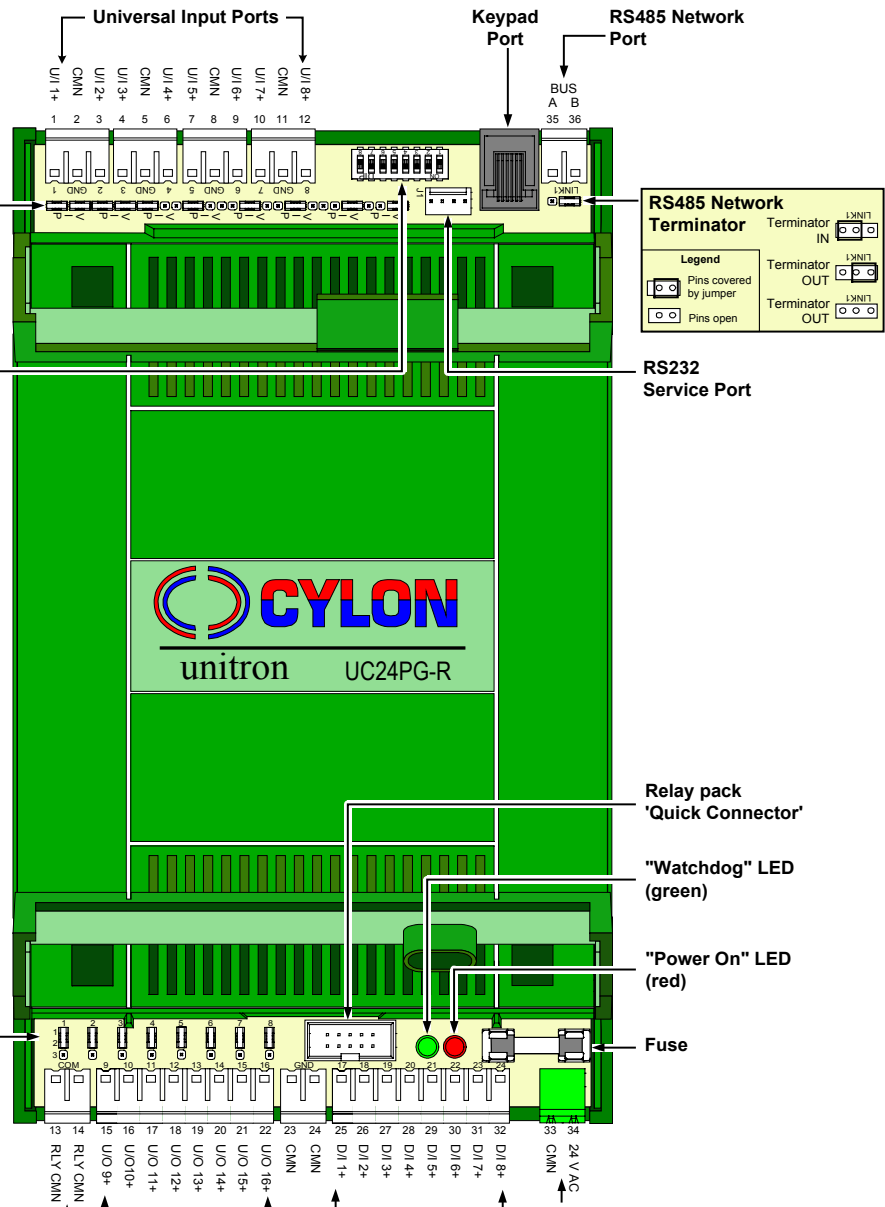
### Universal Output Configuration Jumpers

0-10 V Output:

Relay (24 V AC only):

**Legend**  
 Pins covered by jumper  
 Pins open

**Note:**  
To avoid potential damage to controller during installation, it is recommended that RLY CMN be connected to a fused 24 V AC supply.



### Power input (24v AC)

**IMPORTANT**  
Earth this controller by connecting the CMN wire (G<sub>e</sub>), on the secondary side of the 24 V AC transformer, to Earth at one point.

**Note:**  
Outputs which are configured as relay outputs must use terminals 13 and 14 (RLY CMN) as their common point.

Digital Inputs and Outputs configured as Universal Outputs must use terminals 23 and 24 (CMN) as their common point.

This is because inside the UC controller, terminals 13 and 14 (RLY CMN) are connected to the relays only, whereas terminals 23 and 24 are connected to the Power Input's CMN line on pin 33 as shown in this diagram: