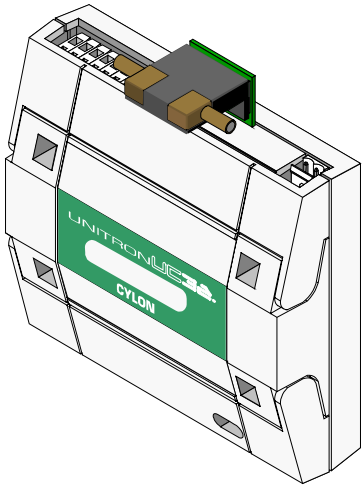
CYLON

UCU10VAV

The **UCU10VAV** is low-cost unitary controller, with 4 inputs and 6 outputs, designed for use with a single Variable air Volume unit.



- Integrated Airflow Sensor

  can measure air flow rate directly without need for an additional sensor

- 3 Universal Inputs

  can be used as analog or digital inputs

- 2 Universal Outputs

  can be used as analog or digital outputs

- 4 Triac digital outputs

  can switch up to 24 Vac

- Up to 63 controllers per fieldbus

- 255 strategy blocks

- 4 datalogs with up to 102 entries per datalog

- Data security

  Strategy and setpoints backed up in EEPROM

The **UCU10VAV** 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**[IM], offering up to 8 Universal inputs, up to 8 **Uniputs**[TM] (AI/DI/AO/DO) and up to 8 **Uniputs**[TM] with relays.

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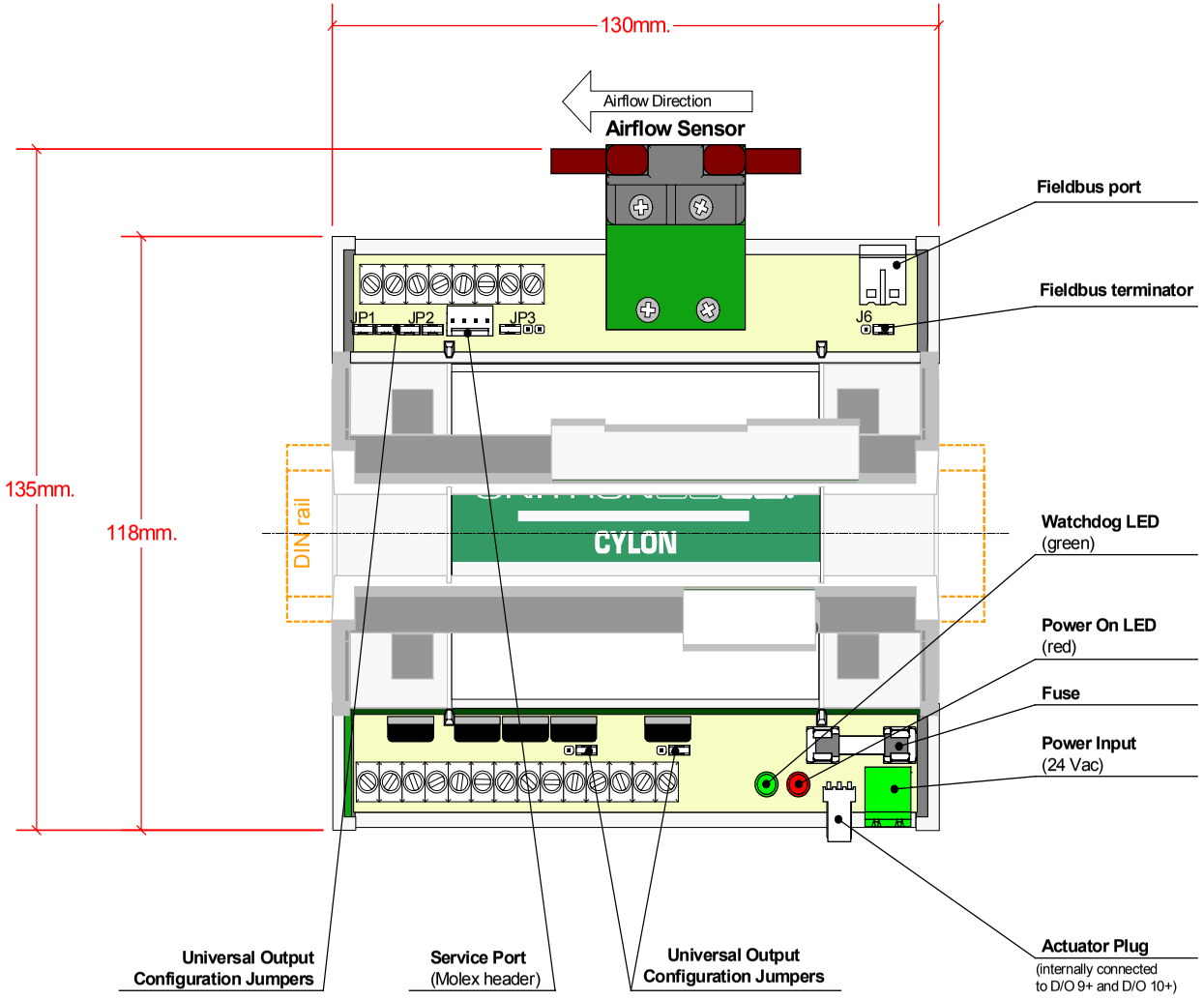

Jumper settings

Pins covered by jumper Pins open

Universal Output Configuration Jumpers

- 0-10 V Output
- Triac Output

Universal Input Selection Jumpers

- Volt free contacts
- Passive input
- 0-20mA input
- 0-10v input

Fieldbus (RS485 sub-network) Terminator

- J6 Terminator IN
- J6 Terminator OUT
- J6 Terminator OUT

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Specifications:

MECHANICAL

Size (excluding terminal plugs)	145 x 130 x 45 mm (5.7 x 5.12 x 1.78")
Enclosure	Injection moulded ABS
Mounting	DIN rail
Airflow Sensor Connection	Use rubber hose suitable for a 5.1 mm (0.2") O.D. nozzle.

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	EN 55011 Class B

WIRING

***Note**: Use Copper or Copper Clad Aluminium conductors only.*

Termination	I/O : PCB mounted screw terminal connections. Power and Fieldbus : PCB mounted plug terminal connections.
Conductor Area	Max: AWG 12 (3.09 mm^2) Min: AWG 22 (0.355 mm^2)

ELECTRICAL

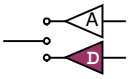
Supply Requirements	24 V AC +/- 20% 50/60 Hz
Transformer Rating	up to 55 VA (up to 10 VA internal power plus up to 45 VA supplied to Triac loads)
Fuse Rating	2 A 250 V anti-surge(250 Vac – 2 AT)

PROCESSOR

Type	Motorola 68HC11
Clock Speed	8 MHz
Operating System Memory	128K
User Programmable Memory	32k x 8 RAM 8k x 8 EEPROM backup for program. Maintenance free.

INPUTS/OUTPUTS

***Note**: Screened cable is recommended for all input connections.*

1 Airflow Sensor (Point 5)	0-650 sccm (0 – 0.023 ft3/m) airflow measurement using internal microbridge type airflow sensor.
3 Universal Inputs	Active voltage input 0-10 V @ 134 K. Passive Input for a large range of temperature sensors, 10K3A1 sensors are recommended. ***Note:** '10k option' controllers use 10k3A1 sensors only.* Temperature input range: 0 – 50 °C Active current input 0-20 mA @ 120 Ω (screened cable). Digital Volt Free Contact. ***Note:** UCU Universal inputs do not support pulse counting.*
2 Universal Outputs 	Each A/T output is either one Analog 0-10 V, or one Digital. As analog, both are 0-10 V, 10 mA, 3 second response. As digital, U/O 13 is rated at 500 mA maximum U/O 14 is rated at 200 mA maximum
4 Digital Outputs	24 V AC Triac @ 500 mA maximum. Switch neutral only. Outputs D/O 9+ and D/O 10+ connected internally to actuator plug (beside power connector).
24 V AC output terminals	Total current drawn from 24 V AC terminals is limited to 1.8 A.

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COMMUNICATIONS

Note: *The default Fieldbus baud rate is 38400. The baud rate may be changed using the Unitron Palmtop program (DOS)*

Local RS232 TTL port	@ 9600 Baud Max cable length 4m
Fieldbus port	RS485 @ 1200, 9600, 19200 or 38400 Baud

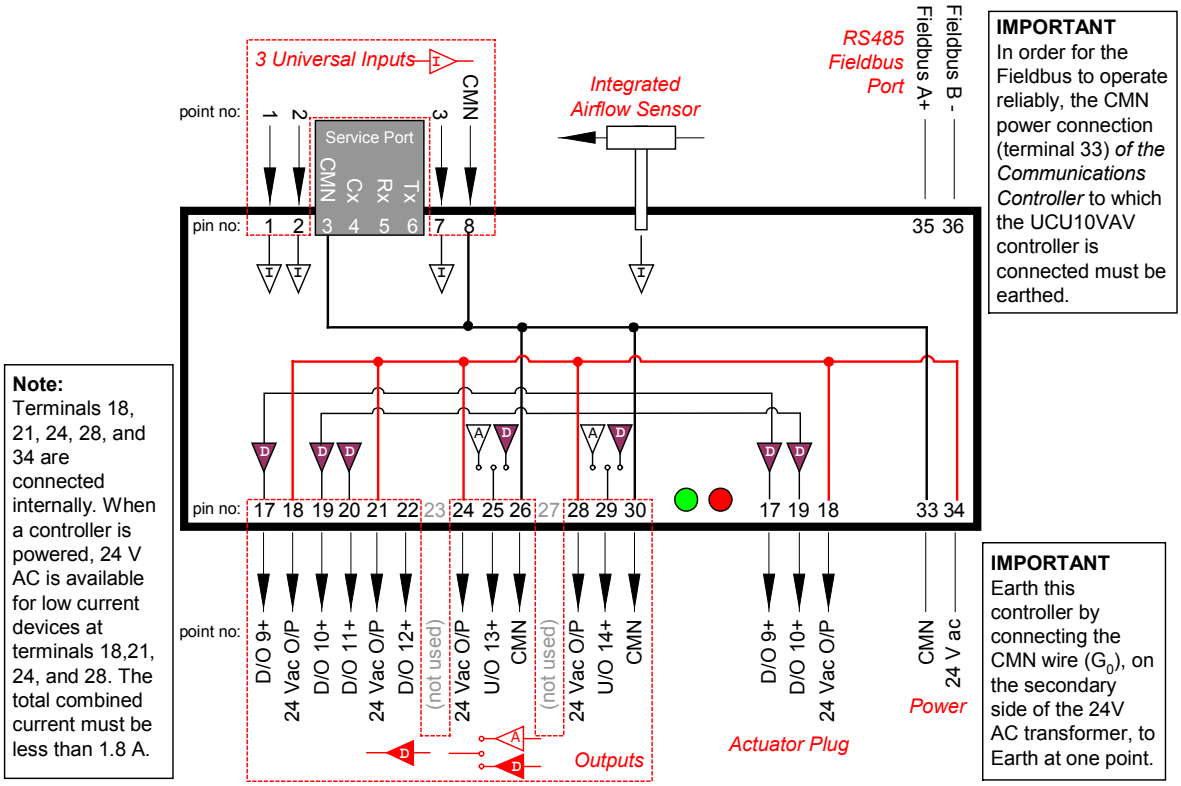
INTERFACE

Software	Unitron Command Centre Unitron Engineering Centre WebLink

SOFTWARE FEATURES

Note: *The controller's Fieldbus address is set by Unitron Command Centre's CCView software module (Windows), or Unitron Palmtop program (DOS)*

Maximum Controller Address	63
Maximum number of Strategy Blocks	255
Maximum number of Datalog Modules	4
Maximum Datalog capacity (standard)	102
Data Security	Strategy and Point numbers 200 – 255 analog and digital backed up in EEPROM



Note:
Terminals 18, 21, 24, 28, and 34 are connected internally. When a controller is powered, 24 V AC is available for low current devices at terminals 18,21, 24, and 28. The total combined current must be less than 1.8 A.

IMPORTANT
In order for the Fieldbus to operate reliably, the CMN power connection (terminal 33) *of the Communications Controller* to which the UCU10VAV controller is connected must be earthed.

IMPORTANT
Earth this controller by connecting the CMN wire (G_0), on the secondary side of the 24V AC transformer, to Earth at one point.

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