



Highlights

- Certified for use in ATEX & UKEX Zone 0 hazardous areas
- Certified for use with hydrogen
- Twin-Stream control
- Fail High & built-in self-test
- Integrated pressure sensors
- Field-replaceable battery pack
- Fault tolerant dual-channel design



Ucontrol Controller

The Ucontrol Controller is a UtonomyOne component.

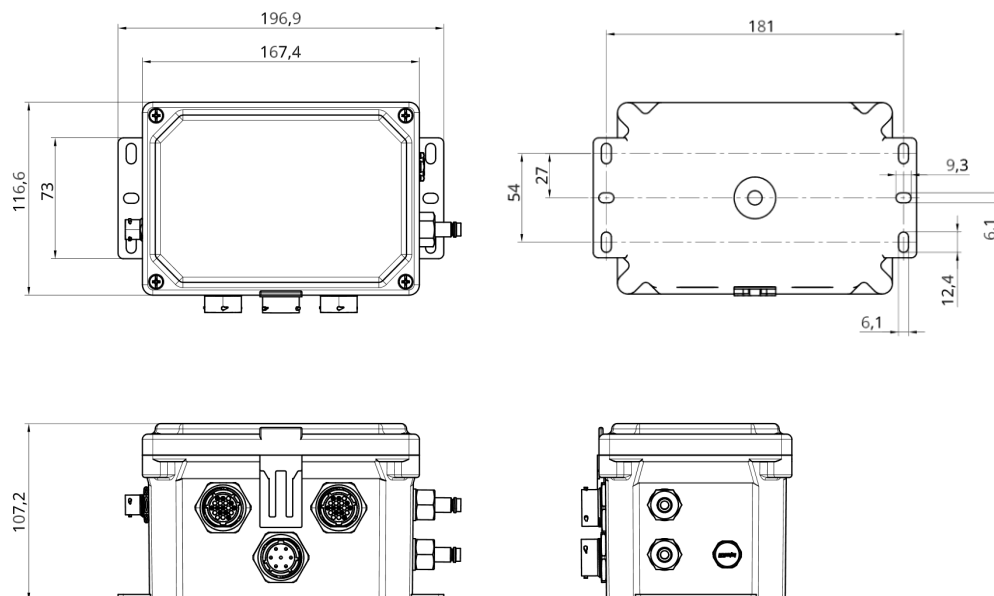
Controllers generate set-point pressure commands for connected Ucontrol Actuators, in order to modify the outlet pressure of pressure regulation sites in Low Pressure and Medium Pressure networks. Controllers also sample and record measurements of inlet and outlet pressures, and local ambient temperature.

Controllers can be connected to one or two Actuators, giving flexible deployment options to single- or twin-stream sites. Controllers are battery-powered and intrinsically safe, with ATEX & UKEX Zone 0 certification, for installation in hazardous gas environments, including hydrogen.

Controllers feature built-in self-test routines and watchdog functions, which constantly monitor system health and outlet pressure, and enact a fail high (fail to safe high pressure limit) command to connected Actuators if required.

Used in conjunction with the Ucontrol Actuator, and the wider UtonomyOne system, the Controller facilitates standalone set-point scheduling, remote pressure control, and autonomous set-point optimisation based on machine-learning-based predictive demand models. Controllers can also be used without Actuators connected to provide remote pressure monitoring and low-pressure alerts.

Dimensions (mm)





Technical Specifications

Supply				
Approved Battery Packs	0800-000026-4T — Ucontrol Battery Pack — Tadiran Cells			
Technology	Lithium Thionyl Chloride (Li-SOCl2)			
Battery Life	3 years based on typical operating environment and usage profile			
Temperature Sensor	Min.	Max.	Absolute Error	Resolution
Ambient Temperature	-40 °C	85 °C	± 0.5 °C	0.1 °C
Pressure Sensor Options	Low Pressure		Medium Pressure	Intermediate Pressure
Range	0 ... 300 mbarg		0 ... 4 bara; -1 ... 3 barg	
Accuracy	±0.15% FS		±0.15% FS	
Total Error Band ^{(1) (2)}	±0.4% FS (0-100 mbar) ±1% FS (100-300 mbar)		±0.7% FS	
Long Term Stability; typ. per year, non-cumulative	±0.1% FS		±0.1% FS	
Resolution	0.01 mbar		0.12 mbar	
Environmental				
Operating Temperature	-20 °C ≤ Ta ≤ 58 °C			
Storage Temperature	-20 °C ≤ Ta ≤ 60 °C			
Ingress Protection	IP65 as per IEC 60529			
Mechanical				
Weight	1.5 kg (including battery pack)			
Construction	Enclosure: Polycarbonate			
Pressure Connectors	Parker Rectus Series 21KA			
Approvals & Standards				
ATEX & UKEX ⁽³⁾	Ex II 1G, Ex ia IIB/IIC T4 Ga, Ex h IIB/IIC T4 Ga, -20 °C ≤ Ta ≤ 58 °C			
EMC	Emissions: EN 55011 Immunity: EN 61326-1			
Safety	EN ISO 12100			
RoHS	EN IEC 63000, Compliant with exemptions 6 a, 6 b, 6 c, 7 a, 7 c (I), 7 c (II)			

⁽¹⁾ Requires zeroing at room temperature

⁽²⁾ Over compensated temperature range -20 ... 70 °C

⁽³⁾ Depending on variant – see Ordering Information



Ordering Information

Controller	Gas Group	Sensor 1	Sensor 2
0800-000003	IIB	Low pressure (0 ... 300 mbarg)	Medium Pressure (0 ... 4 bara)
0800-000003-B0	IIB	Low pressure (0 ... 300 mbarg)	Medium Pressure (0 ... 4 bara)
0800-000003-B1	IIB	Low pressure (0 ... 300 mbarg)	Medium pressure (-1 ... 3 barg)
0800-000003-B2	IIB	Low pressure (0 ... 300 mbarg)	Intermediate Pressure (-1 ... 10 barg)
0800-000003-B3	IIB	Medium pressure (-1 ... 3 barg)	Intermediate Pressure (-1 ... 10 barg)
0800-000003-B4	IIB	Low pressure (0 ... 300 mbarg)	Low pressure (0 ... 300 mbarg)
0800-000003-C0	IIC	Low pressure (0 ... 300 mbarg)	Medium Pressure (0 ... 4bara)
0800-000003-C1	IIC	Low pressure (0 ... 300 mbarg)	Medium pressure (-1 ... 3 barg)
0800-000003-C2	IIC	Low pressure (0 ... 300 mbarg)	Intermediate Pressure (-1 ... 10 barg)
0800-000003-C3	IIC	Medium pressure (-1 ... 3 barg)	Intermediate Pressure (-1 ... 10 barg)
0800-000003-C4	IIC	Low pressure (0 ... 300 mbarg)	Low pressure (0 ... 300 mbarg)
Ancillary Equipment			
0400-000015-xxx	Controller to Uconnect Cable xxx (cable length): 050 – 5.0m 100 – 10.0m 150 – 15.0m		
0800-000018	Ucontrol Installation Tool (UIT)		
0800-000026-4S	Ucontrol Battery Pack — Saft Cells		
0800-000026-4T	Ucontrol Battery Pack — Tadiran Cells		