

FlexVu® Explosion-Proof Universal Display Unit Model UD10



DESCRIPTION

The FlexVu® Model UD10 is recommended for applications that require a gas detector with digital readout of detected gas levels as well as analog 4-20 mA output with HART, relay contacts, and Modbus RS485 (FOUNDATION™ Fieldbus option available). The UD10 Universal Display Unit is designed for use with Det-Tronics gas detectors such as GT3000, PIR9400, PIRECL, OPECL, C706x*, Model 505/CGS, CGS** or NTMOS, as well as generic linear 4-20 mA sensors. The display unit is designed and approved as a 'stand alone' device and performs all the functions of a gas controller.

Gas concentration and unit of measurement are indicated on a digital display. The display unit provides a linear isolated/non-isolated 4-20 mA DC output signal (with HART) that corresponds to the detected gas concentration.

All electronics are enclosed in an explosion-proof aluminum or stainless steel housing. The display unit is used with a single detector that may be either coupled directly to the UD10, or remotely located using a sensor termination box. The UD10 features non-intrusive calibration. A magnet is used to perform calibration as well as to navigate the UD10's internal menu.

The UD10 Universal Display can be used with various 4-20 mA gas detection devices, with or without HART. The unit provides display, output and control capabilities for the gas detector.

The UD10 utilizes the following I/O:

Signal Inputs:	4-20 mA loop from the sensing device
User Inputs:	Magnetic switches (4) on the display panel HART communication (handheld field communicator or AMS) FOUNDATION™ Fieldbus (if selected)
Signal Outputs:	4-20 mA output loop with HART Modbus RS485 or FOUNDATION™ Fieldbus Three alarm relays and one fault relay
Visible Outputs:	Backlit LCD display HART slave interface via HART communicator.

FEATURES AND BENEFITS

- Universal design supports multiple Det-Tronics sensors or generic linear 4-20 mA sensors.
- Local digital LCD display continuously indicates gas level, gas type, and units measured.
- Backlit and heated display.
- Non-intrusive calibration quickly performed by one person.
- Rugged construction approved for use in classified hazardous areas.
- Linear isolated/non-isolated 4-20 mA output with HART.
- Non-intrusive menu allows device configuration without de-classifying the hazardous area.
- Internal magnetic switches provide a non-intrusive user interface.
- Smart capabilities with access to sensor information and measurement range.
- Event logs: Calibration with date and time stamp.
- Fault logs: Detector fault, Low power and General fault.
- Alarm logs: High gas alarm, Low gas alarm and Aux alarm.

* C7065E O₂ detector is not supported.

** Requires the use of a CGS Interface Board. See Instruction Manual 95-8661 for details.



SPECIFICATIONS

Operating Voltage 24 Vdc nominal, operating range is 18 to 30 Vdc.

Operating Power Standard model, with heater and backlight off:
 No alarm: 1.5 watts @ 24 Vdc.
 Alarm: 3 watts @ 24 Vdc (20 mA current output, and all 3 alarm relays energized.)
 Backlight on: 0.5 watt additional.
 Heater on: 3.5 watts additional.
 CGS model: Add 4 watts with CGS interface board and CGS sensor installed.

Maximum power in alarm, with heater and backlight on:
 7 watts @ 30 Vdc (Standard model)
 11 watts @ 30 Vdc (CGS model)

NOTES: – Heater turns on when the internal temperature drops below -10°C . Heater function can be disabled to save power.
 – Appropriate relays will be activated when a fault or alarm occurs.

Current Output Linear isolated 4-20 mA output with HART.
 Maximum loop resistance 600 ohms at 18 to 30 Vdc.

Relay Contacts Three Alarm Relays:
 Form C, 5 amperes at 30 Vdc.
 Selectable energized/de-energized.
 Selectable latching/non-latching.

One Fault Relay:
 Form C, 5 amperes at 30 Vdc.
 Normally energized for no fault condition with power applied.

Operating Temperature -55°C to $+75^{\circ}\text{C}$.

Storage Temperature -55°C to $+75^{\circ}\text{C}$.

Humidity Range 5 to 95% RH (Det-Tronics verified).

Wiring Terminals 14 to 18 AWG wire can be used.

Conduit Entries 3/4" NPT or M25.

Enclosure Material Epoxy coated aluminum or 316 stainless steel.

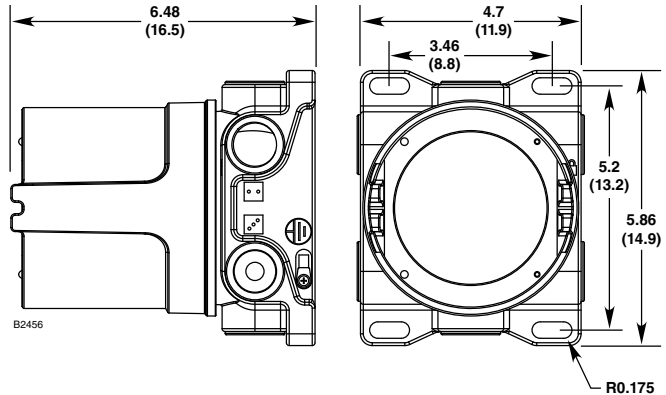
Shipping Weight Aluminum: 4.15 pounds (1.88 kilograms).
 Stainless Steel: 10.5 pounds (4.76 kilograms).

Warranty 12 months from date of installation or 18 months from date of shipment, whichever occurs first.

Electro-Magnetic Compatibility EMC Directive 2004/108/EC
 EN55011 (Emissions)
 EN50270 (Immunity).

Refer to Instruction Manual 95-8661 for in-depth information regarding the FlexVu UD10 Universal Display Unit.

Dimensions Dimensions shown in inches (centimeters).



Certification



FM: Class I, Div. 1, Groups B, C & D (T5);
 Class I, Div. 2, Groups B, C & D (T4);
 Class I, Zone 1/2 AEx d IIC (T5);
 Class II/III, Div. 1/2, Groups E, F & G.
 Tamb -55°C to $+75^{\circ}\text{C}$
 NEMA/Type 4X, IP66
 Conduit seal not required.

Performance verified in accordance with:
 ANSI/ISA-92.00.01
 ANSI/ISA-12.13.01 (CGS excluded)
 FM 6310/6320
 ANSI/ISA-12.13.04/FM 6325

CSA: CSA 08 2029512.
 Class I, Div. 1, Groups B, C & D (T5);
 Class I, Div. 2, Groups B, C & D (T4);
 Class II/III, Div. 1/2, Groups E, F & G.
 (Tamb = -55°C to $+75^{\circ}\text{C}$)
 Type 4X
 Conduit seal not required.
 Performance verified in accordance with:
 CSA C22.2 #152.

ATEX: $\text{C} \text{E}$ 0539 Ex II 2 G
 Ex d IIC T5
 Tamb -55°C to $+75^{\circ}\text{C}$
 FM08ATEX0042X
 IP66
 Performance verified in accordance with:
 EN 60079-29-1 and EN 50241-1/-2.

IECEX: Ex d IIC T5 Gb
 Tamb -55°C to $+75^{\circ}\text{C}$
 IECEX FMG 08.0010X
 IP66
 Performance verified in accordance with:
 IEC 60079-29-1.



Specifications subject to change without notice.

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