



SPECIFICATION DATA

FlexVu® Explosion-Proof

Universal Display Unit

Model UD10 DCU Emulator



DESCRIPTION

The FlexVu® Model UD10 DCU Emulator (UD10-DCU) is designed for applications that require a gas detector with digital readout of detected gas levels. Its LON interface board makes the UD10-DCU compatible with Eagle Quantum Premier systems by digitizing the 4–20 mA analog signal from the attached sensor/transmitter and transmitting the value as a process variable over the LON to the EQP controller.

The UD10-DCU is designed for use with Det-Tronics gas detectors such as GT3000, PIR9400, PIRECL, PIRECL CO₂, OPECL, C706x*, Model 505/CGS, CGS**, NTMOS, AC100/ATX10, PIRDUCT, or LS2000, as well as generic linear 4–20 mA sensors. Gas concentration and unit of measurement are indicated on a digital display.

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-DCU, or remotely located using a sensor termination box. The UD10-DCU features non-intrusive calibration. A magnet is used to perform calibration as well as to navigate the UD10-DCU's internal menu.

The UD10-DCU 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-DCU utilizes the following I/O:

Signal Inputs:	4-20 mA loop from the sensing device HART communication
User Inputs:	Magnetic switches (4) on the display panel S ³ Software
Signal Outputs:	LON communication
Visible Outputs:	Backlit LCD display Computer running S ³ Software

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.
- ▲ Compatible with Eagle Quantum Premier systems.
- ▲ 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.

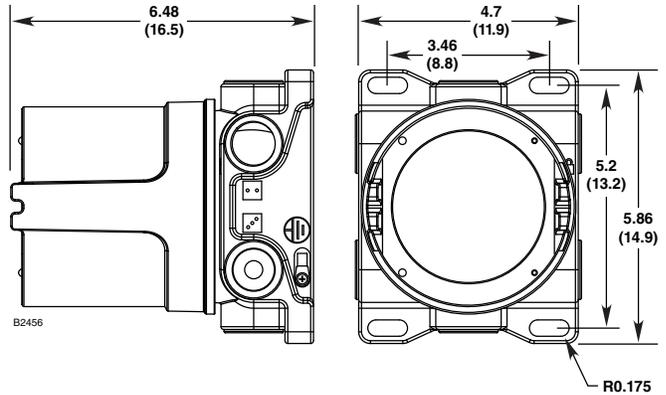
** Requires the use of a CGS Interface Board. See Instruction Manual 95-8656 for details.

SPECIFICATIONS

Operating Voltage	24 Vdc nominal, operating range is 18 to 30 Vdc.
Operating Power	<p>Heater off: 1.3 watts nominal @ 24 Vdc with backlit display off. 2 watts @ 24 Vdc with backlit display on.</p> <p>Heater on: 4 watts additional.</p> <p>CGS model: Add 4 watts with CGS interface board and CGS sensor installed.</p> <p>Maximum power with heater and backlit display on: 6 watts @ 30 Vdc (Standard model) 10 watts @ 30 Vdc (CGS model).</p> <p>NOTE: – Heater turns on when the internal temperature drops below –10°C.</p>
LON Communication	Digital communication, transformer isolated (78.5 kbps).
EQP/UD10 System Accuracy	<p><1 ppm error.</p> <p><1 %LFL error.</p> <p>With CGS sensor: ±3 %LFL, 0-50 range, ±5 %LFL 51-100 range.</p>
EQP/UD10 System Response	<p>Toxic gas: T90 < 10 sec.</p> <p>Combustible gas: T90 < 10 sec.</p> <p>With CGS sensor: T90 < 12 sec.</p>
Unit of Measurement	PPM, % LFL, % V/V, LFLM, or Mg/M3.
Operating Temperature	–40°C to +75°C.
Storage Temperature	–55°C to +75°C.
Humidity Range	5 to 95% RH (Det-Tronics verified).
Wiring Terminals	14 to 18 AWG, 2.5–0.75 mm ² wire can be used.
Conduit Entries	3/4" NPT or M25.
Enclosure Material	Epoxy coated aluminum or 316 stainless steel.
Shipping Weight	<p>Aluminum: 4.15 pounds (1.88 kilograms).</p> <p>Stainless steel: 10.5 pounds (4.76 kilograms).</p>
Warranty	12 months from date of installation or 18 months from date of shipment, whichever occurs first.
Electro-Magnetic Compatibility	<p>EMC Directive 2004/108/EC</p> <p>EN55011 (Emissions)</p> <p>EN50270 (Immunity)</p>

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 –40°C to +75°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 = –40°C to +75°C)
Type 4X
Conduit seal not required.
Performance verified in accordance with:
CSA C22.2 #152.



ATEX: **CE** 0539 II 2 G
Ex d IIC T5 Gb
Tamb –40°C to +75°C
FM08ATEX0042X
IP66
Performance verified in accordance with:
EN 60079-29-1:2007 and EN 60079-29-4:2010

IECEX: Ex d IIC T5 Gb
Tamb –40°C to +75°C
IECEX FMG 08.0010X
IP66
Performance verified in accordance with:

Refer to Instruction Manual 95-8656 for in-depth information regarding the FlexVu UD10-DCU Universal Display Unit.

Specifications subject to change without notice.

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Det-Tronics manufacturing system is certified to ISO 9001—
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