The PointWatch Eclipse® Model PIRECL is a diffusion-based, infrared combustible gas detector that provides continuous, fixed monitoring of flammable hydrocarbon gases from 0 to 100% Lower Flammable Limit (LFL). Standard device outputs include an electrically isolated 4-20 mA signal with HART communication protocol, and RS-485 serial communication. Serial communication protocols supported include MODBUS and ASCII. An optional relay output board with two programmable alarm relay outputs and one fault relay output is available. An optional FlexVu® Explosion-Proof Universal Display Unit Model UD20 can be used for remote calibration.

Ideally suited for protection of challenging on/offshore oil and gas facilities and other downstream hydrocarbon applications, the PointWatch Eclipse is globally certified for use in Class I, Divisions 1 and 2, and Zones 1 and 2 hazardous areas. In addition, the stainless steel construction, sapphire optics, and modular design all combine to deliver industrial grade hardness along with easy installation and the lowest cost of ownership available.

The PointWatch Eclipse is capable of detecting hundreds of flammable hydrocarbon gases and vapors. The PointWatch Eclipse is performance certified to methane, propane, ethylene, and butane, and is shipped from the factory set and calibrated to one of these gases. Numerous additional operating parameters are programmable via digital communication or the optional hand-held communicator.

- Superior optics protection system.
- No undisclosed failure modes.
- SIL 2 model certified to IEC 61508 by exida®
- Routine calibration not required.
- Explosion-proof, stainless steel housing with tethered weather protection baffle.
- Integral wiring compartment eliminates need for external junction boxes.
- Built-in tri-color LED eliminates need for external display module.
- Built-in optional relay package eliminates need for external relay output module.
- EQP models available.
- Non-interfering HART communication capability.
- Optional Intrinsically Safe HART communication port
- Optional hand-held HART communicator enables field configuration and calibration.
- Optional model UD20 Universal Display for remote calibration.
- Heated sapphire optics deliver long-lasting, high performance detection capability.
- Immune to damage from exposure to constant background gases or to high gas concentrations.
- FM, CSA, ATEX, IECEx, DNV/MED, and INMETRO certifications.
- Certified to FM/CSA Class I, Div. 1 and ATEX/IECEx Ex db, eb protection standards for maximum versatility.
- Gas performance verification by FM/CSA/ATEX.
- Certified, factory set and calibrated to methane, propane, ethylene, or butane.
- Faster response output option available.
### Dimensions

<table>
<thead>
<tr>
<th>L</th>
<th>W</th>
<th>H</th>
</tr>
</thead>
<tbody>
<tr>
<td>9.3 in</td>
<td>5.2 in</td>
<td>4.6 in</td>
</tr>
</tbody>
</table>

### Shipping Weight (Approx.)

10.5 lbs. (4.8 kg)

### Power Consumption

- 24 Vdc nominal. Operating range is 18 to 32 Vdc
- Ripple cannot exceed 0.5 volt P-P
- 4.0 watts nominal @ 24 Vdc
- 7.5 watts maximum @ 24 Vdc
- 10 watts maximum @ 32 Vdc

### Short Circuit Current

<table>
<thead>
<tr>
<th>Isc (Fuse)</th>
<th>Isc (fuse)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.4 amperes</td>
<td>3.1 amperes</td>
</tr>
</tbody>
</table>

### Warmup Time

Two minutes from cold power-up to normal mode; 1 hour minimum recommended.

### Current Output Relays (Opt.)

Linear 4-20 mA (current source/sink, isolated/non-isolated rated at 600 ohms maximum loop resistance @ 24 Vdc operating voltage).

### Temperature Range

- Operating: –55°C to +75°C (–67°F to +167°F)
- Storage: –55°C to +85°C (–67°F to +185°F)

### Humidity

- 0 to 99% R.H. (Det-Tronics verified)
- 5 to 95% R.H. (FM/CMSA/DEMKO verified)

### Detection Range

0 to 100% LFL standard (other ranges are configurable)

### Detectable Gases

Most flammable hydrocarbon vapors are detectable. Eclipse is performance certified to methane, propane, ethylene, and butane, and is shipped from the factory set and calibrated to one of these gases.

For detection of other gases, configuration using HART, MODBUS, or EOP system software, and device calibration are required.

### Device Configuration

Configuration parameters include tag number, measurement range, signal processing algorithm, alarm levels, and other selectable parameters.

### Response Time in Sec.

<table>
<thead>
<tr>
<th>Baffle</th>
<th>T50 STD/FR*</th>
<th>T90 STD/FR*</th>
</tr>
</thead>
<tbody>
<tr>
<td>With Filter</td>
<td>4.8/1.2</td>
<td>7.6/2.6</td>
</tr>
<tr>
<td>Without Filter</td>
<td>4.5/1.0</td>
<td>7.1/1.5</td>
</tr>
</tbody>
</table>

Testing based on EN 60079-29-1

See manual 95-8526 for other gases and other performance standards

STD = Standard Response, FR = Fast Response

### Alarm Setpoint Range

- Low Alarm: 5 to 60% LFL
- High Alarm: 5 to 60% LFL

### Accuracy

±3% from 0 to 50% LFL, ±5% from 51 to 100% LFL

### Self-Diagnostic Test

All critical tests performed once per second.

### Detector Housing Material

Stainless Steel (316/CF8M Cast)

### Conduit Entry Options

Two entries, 3/4 inch NPT or 25 mm

### Wiring Terminals

Field wiring screw terminals are UL/CSA rated for up to 14 AWG wire, and are DIN/VDE rated for 2.5 mm² wire.

### Shipping Weight (Approx.)

10.5 lbs. (4.8 kg)

### Specifications

- **Input Voltage**: 24 Vdc nominal. Operating range is 18 to 32 Vdc; Ripple cannot exceed 0.5 volt P-P
- **Power Consumption**: 4.0 watts nominal @ 24 Vdc; 7.5 watts maximum @ 24 Vdc; 10 watts maximum @ 32 Vdc
- **Short Circuit Current**: 5.4 amperes (Isc); 3.1 amperes (Isc (fuse)); Power Supply Max Voltage: Um = 250V
- **Warmup Time**: Two minutes from cold power-up to normal mode; 1 hour minimum recommended.
- **Current Output Relays (Opt.)**: Linear 4-20 mA (current source/sink, isolated/non-isolated rated at 600 ohms maximum loop resistance @ 24 Vdc operating voltage).
- **Temperature Range**: Operating: –55°C to +75°C (–67°F to +167°F); Storage: –55°C to +85°C (–67°F to +185°F)
- **Humidity**: 0 to 99% R.H. (Det-Tronics verified); 5 to 95% R.H. (FM/CMSA/DEMKO verified)
- **Detection Range**: 0 to 100% LFL standard (other ranges are configurable)
- **Detectable Gases**: Most flammable hydrocarbon vapors are detectable. Eclipse is performance certified to methane, propane, ethylene, and butane, and is shipped from the factory set and calibrated to one of these gases.
- **Device Configuration**: Configuration parameters include tag number, measurement range, signal processing algorithm, alarm levels, and other selectable parameters.
- **Response Time in Sec. (With Methane Applied and Baffle Installed)**
  - With Filter: 4.8/1.2; 7.6/2.6
  - Without Filter: 4.5/1.0; 7.1/1.5
- **Alarm Setpoint Range**: Low Alarm: 5 to 60% LFL; High Alarm: 5 to 60% LFL
- **Accuracy**: ±3% from 0 to 50% LFL, ±5% from 51 to 100% LFL
- **Self-Diagnostic Test**: All critical tests performed once per second.
- **Detector Housing Material**: Stainless Steel (316/CF8M Cast)
- **Conduit Entry Options**: Two entries, 3/4 inch NPT or 25 mm
- **Wiring Terminals**: Field wiring screw terminals are UL/CSA rated for up to 14 AWG wire, and are DIN/VDE rated for 2.5 mm² wire.
- **Shipping Weight (Approx.)**: 10.5 lbs. (4.8 kg)
- **Dimensions**: L = 9.3 in (23.62 cm), W = 5.2 in (13.21 cm), H = 4.6 in (11.68 cm)

**Certifications**

- **FM & CSA**: Class I, Div. 1, Groups B, C & D (T4) with intrinsically safe output for HART communication in accordance with control drawing 007283-001
- **ATEX**: C 0539 II 2 G
- **CE**: Conforms to:
  - EMC Directive: 2014/30/EU
- **IECEx**: IECEx UL 16.0157X
- **FM & CSA**: Class I, Div. 1, Groups B, C & D (T4) with intrinsically safe output for HART communication in accordance with control drawing 007283-001
- **CE**: Conforms to:
  - EMC Directive: 2014/30/EU

**Additional Information**

- **Specifications subject to change without notice.**
- **All trademarks are the property of their respective owners.**
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