Eclipse®
Compact and modular with solid state reliability

StoneL’s Eclipse features dual solid state sensors with optional communications neatly integrated into a sealed module. The function module and trigger/indicator attach quickly and conveniently to standard VDI/VDE 3845 (NAMUR) actuator accessory mounting pads.

The Eclipse series is available in nonincendive and intrinsically safe versions (EN) for hazardous areas and in a general purpose completely sealed micro-connector version (EG).

Enclosure options

**EN: Nonincendive with integral wire termination area**
- Suitable for all hazardous areas.
- Rated for Type 4, 4X, 6 (intrinsically safe and nonincendive rated: IP67).
- Additional termination points and dual conduit entries eliminate junction boxes for solenoid valve termination.
- Convenient wiring compartment and pre-labeled terminal strip enables rapid installation.

**EG: General purpose with convenient micro-connector wiring**
- Available with additional built-in connector for solenoid termination.
- Micro-connectors with potted and sealed enclosure eliminate any threat of moisture contamination in wiring.
- Electronic module integrated permanently into enclosure.
Features

1. **No moving mating parts** assure long life and trouble-free operation.
2. **Red/green visual indicator** boldly displays valve status, and coordinates with red/green LEDs.
3. **Direct attachment** to ISO/NAMUR mounting pads with simple mounting kit (sold separately).
4. **High intensity red and green LEDs** indicate electronic switch status to confirm electrical operation.
5. **Sensor triggers** are adjustable in 3.5 degree increments through 360 degrees for precision and flexibility.
6. **Submersible** and capable of high pressure washdown, Eclipse sensors and electronics are fully sealed to eliminate hazard threat and corrosion problems.

**Triggering and visual indicator**

Red and green visual indication is viewable from 360 degrees around the automated valve and from above at distances up to 70 feet. The yellow flow line indicator is also available, which is viewable from all angles at a distance up to 30 feet.

Eclipse solid state inductive sensors are activated by stainless steel targets embedded into the visual indicator drum. Open and closed targets may be independently adjusted in 3.5 degree increments.

**Specifications**

<table>
<thead>
<tr>
<th>Materials of construction</th>
<th>Lexan® polycarbonate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Housing</td>
<td></td>
</tr>
<tr>
<td>Drum components</td>
<td>Lexan® polycarbonate</td>
</tr>
<tr>
<td>Fasteners</td>
<td>Stainless steel</td>
</tr>
<tr>
<td>Triggers and coupling</td>
<td>Stainless steel</td>
</tr>
<tr>
<td>Quick connectors</td>
<td>Stainless steel</td>
</tr>
<tr>
<td>Operating life</td>
<td>Unlimited</td>
</tr>
<tr>
<td>Temperature range</td>
<td>-40° C to 80° C (-40° F to 176° F)</td>
</tr>
</tbody>
</table>

| Warranty                  |                      |
| Dual modules              | Five years           |
| Mechanical components     | Two years            |
| Lexan®                    |                      |

Ratings

- **Nonincendive (Class I and II, Div. 2)**
- **Intrinsically safe (Ex ia, Zone 0 or Class I and II, Div. 1)**
- **Enclosure protection**
  - Type 4, 4X and 6: All models
  - Ingress Protection 67: All models

**Approvals**

See [StoneL.com/approvals](http://StoneL.com/approvals)

* Only models listed on StoneL’s official website are approved per specific rating.
Sensing and communication

The Eclipse offers incredible value and space efficiency. Communications, position sensing, power outputs, and auxiliary inputs are sealed in the Eclipse function module. Select from NAMUR sensors, SST switching, or AS-Interface, or DeviceNet™ communication terminals. All are fully solid state and sealed.

EN features a removable, fully sealed dual module to facilitate quick, convenient maintenance and wiring.

### Switching and sensor specifications

<table>
<thead>
<tr>
<th>SST switching sensors (33, 34)</th>
<th>NAMUR sensors (44)</th>
</tr>
</thead>
</table>
| **Configuration** | (2) SST solid state sensors  
(2) Wire terminations for one solenoid |
| **Operation** | Select either NO (33) or NC (34) models |
| **Maximum current inrush** | 1.0 amps @ 125 VAC/VDC |
| **Maximum current continuous** | 0.1 amps @ 125 VAC/VDC |
| **Minimum on current** | 2.0 mA |
| **Maximum leakage current** | 0.5 mA |
| **Voltage range** | 24 - 125 VAC  
8 - 125 VDC |
| **Maximum voltage drop** | 6.5 volts @ 10 mA  
7.5 volts @ 100 mA |

#### Wiring diagram (33 & 34)

**SST**

- Solenoid Valve
- Solenoid Output
- Solenoid Power
- Valve Open
- Valve Closed
- Common

**NAMUR**

- Solenoid Valve
- Solenoid Output
- Solenoid Power
- Valve open
- Valve closed
- Common

### Valve Communication Terminal (VCT) specifications

<table>
<thead>
<tr>
<th>AS-Interface (96)</th>
<th>AS-Interface VCT with extended addressing (97)</th>
</tr>
</thead>
</table>
| **Configuration** | (2) Discrete sensor inputs  
(2) Auxiliary discrete inputs  
(2) Power outputs (solenoids) |
| **Maximum current** | 160 mA, both outputs combined |
| **Auxiliary inputs** | 24 VDC @ 2 mA (self-powered) |
| **Output** | 4 watts @ 24 VDC both outputs combined |
| **Outputs, voltage** | 21 - 26 VDC |
| **Configuration code** | ID=F, IO=4; user defined (4DI/2DO) |
| **AS-i version** | 3.0 |
| **Devices per network** | 31 |

#### Wiring diagram (96)

- Solenoid Valve
- OUT1
- OUT2
- AUX IN1
- AUX IN2
- 3 WIRE RTN

#### Wiring diagram (97)

- Solenoid Valve
- OUT1
- OUT2
- AUX IN1
- AUX IN2
- 3 WIRE RTN
- NOT USED

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34 | Valve communication & control
Valve Communication Terminal (VCT) specifications

DeviceNet™ (92)

Configuration
(2) Discrete inputs (open and closed)
(2) Power outputs (solenoids)
(1) 4-20 mA auxiliary analog input, 10-bit resolution; no additional power source required

Transmission rate
Software selectable 125K, 250K or 500K baud

Messaging
Polling, cyclic and change of state

Outputs
4 watts @ 24VDC outputs combined

Outputs, voltage
24 VDC (with input voltage ranging from 10 - 24 VDC)

Other features
Predetermined output fail state

Eclipse visual indicator designations

<table>
<thead>
<tr>
<th>DESIGNATION</th>
<th>0°</th>
<th>90°</th>
</tr>
</thead>
<tbody>
<tr>
<td>D</td>
<td>RED CLOSED</td>
<td>GREEN OPEN</td>
</tr>
<tr>
<td>N</td>
<td>GREEN CLOSED</td>
<td>RED OPEN</td>
</tr>
<tr>
<td>L</td>
<td></td>
<td></td>
</tr>
<tr>
<td>S</td>
<td>A — B</td>
<td>A — B</td>
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<tr>
<td></td>
<td>C</td>
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<td>C</td>
<td>C</td>
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<tr>
<td>X</td>
<td>Specialty configuration - please consult factory</td>
<td></td>
</tr>
</tbody>
</table>

* 4-20 mA transmitter not included

**Wiring diagram (92)**

- DeviceNet Bus
- CAN H
- CAN L
- V +
- V -
- SHIELD
- A +
- A -
- 4-20 mA Transmitter
- Solenoid Valve
- Solenoid Valve
- OUT1 +
- 24 VDC +
- OUT2 +

* 4-20 mA transmitter not included

Valve communication & control | 35
### Model selector

**SERIES**

| EN | Nonincendive or intrinsically safe |

**FUNCTIONS**

- **Sensor/switching dual modules**
  - 33 (2) SST NO sensors
  - 34 (2) SST NC sensors

- **Intrinsically safe dual module**
  - 44 (2) NAMUR sensors (EN 60947-5-6; I.S.) [available with conduit/connector option 02]

**Valve Communication Terminals (VCT)**

- 92 DeviceNet™
- 96 AS-Interface
- 97 AS-Interface with extended addressing

**ENCLOSURE**

- P North American (NEC/CEC)
- A International (IEC)
- I Brazilian

**CONDUIT/CONNECTORS**

- 02 (2) 1/2” NPT conduit entry
- 05 (2) M20 conduit entry
- 11 (1) 5-pin mini-connector
- 12 (1) 5-pin mini and (1) 3-pin-connector

**VISUAL INDICATOR**

- DM Red closed/green open
- LM Flow line
- SM T-1 three-way (90° rotation)
- TM T-2 three-way (90° rotation)
- XM Special

**Model number example**

| EN | 44 | A | 02 | DM |

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### Dimensions

**Eclipse EN**

- 3.00 in [76.2 mm]
- 3.15 in [80.0 mm]
- 2.56 in [65.1 mm]
- 0.75 in [19.1 mm]
- 0.83 in [21.0 mm]
- 2.35 in [59.8 mm]
- 6.08 in [154.4 mm]

**Eclipse EG**

- 2.85 in [72.5 mm]
- 3.15 in [80.0 mm]
- 2.56 in [65.1 mm]
- 0.83 in [21.0 mm]
- 2.35 in [59.8 mm]
- 5.22 in [132.6 mm]

*Note: Cover swing clearance = 3 in [76.2 mm]*
Stand alone visual indicator

Clearly view valve position status from up to 75 feet with StoneL’s stand alone visual indicator. The indicator’s rugged Lexan® construction makes it resistant to physical damage and tolerant to most corrosives.

Visual indicator designations

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Model selector

<table>
<thead>
<tr>
<th>SERIES</th>
<th>VISUAL INDICATOR</th>
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<tbody>
<tr>
<td>VI</td>
<td>Visual indicator</td>
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<tr>
<td></td>
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</tr>
<tr>
<td></td>
<td>S Three-way</td>
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<tr>
<td></td>
<td>T Three-way</td>
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<tr>
<td></td>
<td>X Special</td>
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</table>

Model number example

<table>
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<th>VISUAL INDICATOR</th>
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</thead>
<tbody>
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<td>VI</td>
<td>D Red closed/green open</td>
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</table>

Dimensions

**Visual Indicator VI**

![Visual Indicator VI diagram]