**Description**

The Trendmaster Galvanic Isolator enables the Trendmaster system to connect to intrinsically safe transducer installations without the need for safety barriers or the need to specify, install and maintain a high integrity IS earth. The Trendmaster Galvanic Isolator provides an interface between Trendmaster scanning hardware, and all associated Programmable Transducer Interface Modules (ProTIMS) located in a hazardous area.

- The Trendmaster Galvanic Isolator is powered from an external power supply which enables several Galvanic Isolators to be connected in parallel to one TIM line from DSM or SPA.
- Each Galvanic Isolator can interface and power up to at most 32 ProTIM with maximum cable length (3500 ft.).
Specifications

All values are specified over the full operating temperature range unless stated otherwise. All voltages are specified with respect to COM. References to proTIMs relate to proTIM-R and proTIM-C. References to ProTIM relate to the Trendmaster 2000 Programmable Transducer Interface Modules.

External Power Input

<table>
<thead>
<tr>
<th>Nominal Input Voltage</th>
<th>+ 24 V ± 5%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maximum Current Draw</td>
<td>100 mA</td>
</tr>
</tbody>
</table>

Power Dissipation

| Including power supply to 32 proTIMs and associated transducers | 2.5 Watts @ +24 V, Typical |

Environmental Specification

| Operating Temperature Range | -20 to +65 °C |
| Storage Temperature Range   | -40 to +85 °C |
| Relative Humidity           | 100% condensing, non-submerged, power on when installed in a weatherproof housing |

Physical

| Weight                  | 0.25 Kg (0.55 lb) |
| Dimensions              | 94 mm x 150 mm x 45 mm (3.7” x 5.9” x 1.77”) |
| Mounting                | DIN Rail weatherproof housing |

AC Performance

| Accuracy                | ± 1% |
| Noise Floor             | ± 0.5% Trendmaster full-scale |

DC Performance

| Accuracy | ± 1% or 15 mV whichever is the greater |

Inputs

Safe area connection to the following Trendmaster Host scanning hardware.

| Dynamic Scanning Module (DSM) | 149744 |
| Energy of Four Galvanic Isolators connected to each TIM line from DSM or SPA |

Outputs

Hazardous area connection to the following Intrinsically Safe Transducer Interface Module types:

| proTIM-C |
| proTIM-R |

Number of TIMs

A maximum number of 32 proTIMs are allowed to connect to one Galvanic isolator.
Compliance and Certifications

FCC

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference.
- This device must accept any interference received, including interference that may cause undesired operation.

EMC

EN 61000-6-2 :2005
EN 61000-6-4:2007 +A1:2011
EMC Directive 2014/30/EU

RoHS

RoHS Directive 2011/65/EU

ATEX

EN 60079-0: 2012/A11:2013
EN 60079-11:2012
EN 60079-15:2010
EN 60079-28:2015 (DSM 149744 only)
EN 60079-31:2014 (TMGI 162459-01 only)
ATEX Directive 2014/34/EU

Maritime

ABS 2009 Steel Vessels Rules
1-1-4/7.7,4-8-3/1.11.1,4-9-7/13
### Hazardous Area Approvals


#### CSA/NRTL/C (Approval Options 05)

| Installed with intrinsically safe zener barriers per drawing 112M7732 | Ex ia IIC T4 Ga  
|---|---|
| Class I Zone 0: AEx ia IIC T4 Ga  
Class I, Div 1 Groups A, B, C & D  
Class II, Groups E, F & G  
Class III  
T4 @ -40° C ≤ Ta ≤ + 100° C (-40° F ≤ Ta ≤ +212° F) |  

| Installed without barriers per drawing 112M7732 | Ex nA IIC T4 Gc  
|---|---|
| Class I Zone 2: AEx nA IIC T4 Gc  
Class I, Div 2 Groups A, B, C & D  
T4 @ -40° C ≤ Ta ≤ + 100° C (-40° F ≤ Ta ≤ +212° F) |  

#### ATEX/IECEx

**proTIMs (200200 and 200250)**

| II 1 G Ex ia IIC T4 GC  
II 3 G Ex nA IIC T4 Gc | T4 @ Ta = -40°C to +100°C |

**Trendmaster DSM (149744)**

| II 3 G Ex nA IIC T4 Gc  
II 3(3) G Ex nA [ic] IIC T4 Gc  
II 3(3) G Ex nA op is [op is T4 Gc] IIC T4 Gc | T4 @ Ta = -20°C to +65°C |

**TMGI (162459-01)**

| II (1) G [Ex ia Ga] IIC  
II(1) D [Ex ia Da] IIC |  

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**Bently Nevada**
Ordering Information


Trendmaster Galvanic Isolator

162459-01

Including connectors required for installation.

Accessories

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>02200627</td>
<td>Power Supply</td>
</tr>
<tr>
<td>162222-01</td>
<td>Weatherproof Housing</td>
</tr>
<tr>
<td>164046</td>
<td>TIM Line Connector from SPA</td>
</tr>
<tr>
<td>164045</td>
<td>TIM Line Connector to TIMs</td>
</tr>
<tr>
<td>164314</td>
<td>Power Supply Connector</td>
</tr>
<tr>
<td>Bently Manuals</td>
<td>Customer DVD containing all Bently Manuals, FWD, App Notes, and Install Guides in all available languages</td>
</tr>
</tbody>
</table>
Reference drawing 162521 for the maximum number of 32 proTIMs allowed to connect to one Galvanic Isolator

**Figure 1: System Installation**
Figure 2: Grounding

* Each SPA channel must connect to instrument ground at one Galvanic Isolator.
* Each Galvanic Isolator’s IS shield must connect to IS ground.
* Refer to BN Documents 162521 and 166857 for more information.

Table 1: Connector Pin Assignments

<table>
<thead>
<tr>
<th>Pin #</th>
<th>Power Supply (SAFE)</th>
<th>TIM Line Connected to DSM or SPA (SAFE)</th>
<th>TIM Line Connected to proTIMs (HAZ)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>+24V</td>
<td>SHIELD</td>
<td>TIM SIG+ (GRN)</td>
</tr>
<tr>
<td>2</td>
<td>0V</td>
<td>SPA PWR (RED)</td>
<td>TIM SIG- (WHT)</td>
</tr>
<tr>
<td>3</td>
<td>GND</td>
<td>SPA COM (BLK)</td>
<td>TIM COM (BLK)</td>
</tr>
<tr>
<td>4</td>
<td>GND</td>
<td>SPA SIG- (WHT)</td>
<td>TIM PWR (RED)</td>
</tr>
<tr>
<td>5</td>
<td>N/A</td>
<td>SPA SIG+ (GRN)</td>
<td>SHIELD</td>
</tr>
</tbody>
</table>
Dimensions are in millimeters (inches)

Figure 3: Trendmaster Galvanic Isolator
162459 Trendmaster Galvanic Isolator (TMGI) Datasheet

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