9491-PS
12V DC Intrinsically Safe Power Supply

- Isolated power supply
- Zone 2 & Division 2 mountable
- DIN-rail or backplane mounting
- ATEX / IECEx certified
- FM / FMC approved
- 200mA @ 10.9V DC - Ex ia IIB Groups C, D output
- 400mA @ 11.8V DC - Ex ib IIB output
- Power over Ethernet option
- Multiple outputs achieved by ganging 9491-PS modules using 24V DC power distribution backplane

The 9491-PS Power Supply is the preferred method for supplying the 9460-ET series of intrinsically safe Ethernet modules and is based on an isolating power supply. It takes a 24V DC safe area / Zone 2 / Division 2 supply and produces an intrinsically safe, 12V DC nominal output capable of powering the Ethernet modules mounted in a Zone 1/Division 1 hazardous area. The 9491-PS may be mounted in a safe area, Zone 2 or Division 2 hazardous area.

Each 9491-PS can power a single Ethernet module. In order to provide multiple outputs required for several Ethernet modules, the 9491-PS power supply module is ganged up to the required number of ways, either DIN-rail mounted or using the power distribution backplane to simplify the 24VDC input connection to the modules.

The 9491-PS module has LED power indication for both input and output along with internal current limiting and electronic auto-reset circuit breaker action to protect the module in the event of its output being short circuited or overloaded. This also minimises the power dissipation during the fault to a negligible level, thus improving reliability.

The output can be from either the Ex ia IIB Group C, D or Ex ib IIB output connectors depending upon application. The ‘ib’ IIB output provides a higher useable output power where the Gas Group and Zone allows.
**SPECIFICATION**

**See also System Specification**

**POWER INPUT**
- Separately powered
- Input voltage: 24V DC (20–30V)
- Input current: 350mA
- Input protection: Fuse + supply reversal diode
- Connectors (see dimension drawing)
  - DIN rail mounting: screw terminals – capacity 2.5mm² stranded or single core
  - Backplane mounting: multipin connector

**POWER OUTPUT**
- [Ex ia] output (pins 1 & 3)
  - Graph shows normal working range & total available range
- [Ex ib] output (pins 5 & 6)
  - Equivalent circuit

<table>
<thead>
<tr>
<th>Minimum output voltage</th>
<th>Equivalent circuit</th>
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<tbody>
<tr>
<td>12.1V minimum</td>
<td>6Ω maximum</td>
</tr>
<tr>
<td>9.7V minimum</td>
<td>1.3Ω maximum</td>
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</tbody>
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Connectors
- 9491-PS is supplied with two IS output connectors.
- Capacity 2.5mm² stranded or single core
- (When using crimp ferrules for the IS connectors the metal tube length should be 12mm and the wire trim length 14mm.)

**ISOLATION**
- Isolation - input to output
  - Um = 253V rms

**SAFETY**
- Location of module
  - Safe area, Zone 2, Division 2
- Location of field wiring
  - [Ex ia] output
    - Zone 0, IIB hazardous area
    - or Class 1, Div 1, Groups C, D hazardous location
  - [Ex ib] output
    - Zone 1, IIB hazardous area
- Certification Code
  - See approvals
- Safety description
  - See certificate

**DIMENSIONS (mm)**

**MECHANICAL**
- Mounting
  - DIN rail or power distribution backplane
- Dimensions
  - See diagram
- Weight
  - 130 g

**ENVIRONMENTAL**
- Ambient temp
  - Operating: 0°C to +70°C
  - Storage: −20°C to +70°C
- Relative Humidity
  - 5 to 95% RH (non-condensing)
- Ingress Protection
  - Select enclosure to suit application, see certificate for information

**LED INDICATORS**

<table>
<thead>
<tr>
<th>Pwr (green)</th>
<th>Flash</th>
<th>IS (green)</th>
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<tbody>
<tr>
<td>OFF</td>
<td></td>
<td>IS power fail</td>
</tr>
<tr>
<td>Flash</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ON</td>
<td></td>
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The given data is only intended as a product description and should not be regarded as a legal warranty of properties or guarantees. In the interest of further technical developments, we reserve the right to make design changes.