MTL 9493-PS-XXX
Intrinsically safe power supply

- Isolated power supply
- Zone 2 mountable
- DIN-rail or backplane mounting
- ATEX / IECEx certified
- Range of Ex ia output voltages available
- Power over Ethernet option
- Multiple outputs achieved by ganging 9493-PS-XXX modules using 24V DC power distribution backplane

The 9493-PS-XXX Power Supply is a general purpose Intrinsically Safe power supply unit. It takes a 24V DC safe area or Zone 2 supply and produces an Intrinsically Safe output available in a range of different DC voltages. The 9493-PS-XXX may be mounted in a safe area or Zone 2 hazardous area.

In order to provide multiple outputs as required, the 9493-PS-XXX 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 9493-PS-XXX power supply module has LED power indication for both input and output along with internal current liming and electronic auto-reset circuit breaker action to protect the module in the event of its output being short-circuited or overloaded. This also minimizes the power dissipation during the fault to a negligible level, thus improving reliability.

The output is Ex ia certified for Group I, IIA, IIB or IIC, depending on model to suit different applications.
9493-PS-XXX
Intrinsically safe power supply
February 2016

SPECIFICATION
See also System Specification

9493-PS-B5
Power input
Input Voltage
24V DC (20-30V)
Input Current @ 24V
83mA

Power output
[Ex ia IIB] Output (pins 1 & 3)
Nominal Output Voltage
4.8V ... 5.2V
Nominal Output Current
250mA (Max 550mA)

Uo
5.4V

Graph shows normal working range & total available range

Equivalent circuit

9493-PS-C5
Power input
Input Voltage
24V DC (20-30V)
Input Current @ 24V
61mA

Power output
[Ex ia IIC] Output (pins 1 & 3)
Nominal Output Voltage
4.8V ... 5.2V
Nominal Output Current
180mA (Max 550mA)

Uo
5.4V

Graph shows normal working range & total available range

Equivalent circuit

9493-PS-C6
Power input
Input Voltage
24V DC (20-30V)
Input Current @ 24V
122mA

Power output
[Ex ia IIC] Output (pins 1 & 3)
Nominal Output Voltage
5.7V ... 6.7V
Nominal Output Current
300mA (Max 550mA)

Uo
7V

Graph shows normal working range & total available range

Equivalent circuit

9493-PS-C9
Power input
Input Voltage
24V DC (20-30V)
Input Current @ 24V
165mA

Power output
[Ex ia IIC] Output (pins 1 & 3)
Nominal Output Voltage
8.4V ... 9.7V
Nominal Output Current
300mA (Max 550mA)

Uo
10V

Graph shows normal working range & total available range

Equivalent circuit
SPECIFICATION (continued)
See also System Specification

9493-PS-C11
Power input
Input Voltage
24V DC (20-30V)
Input Current @ 24V
196mA

Power output
[Ex ia IIC] Output (pins 1 & 3)
Nominal Output Voltage
9.9V ... 11.7V
Nominal Output Current
300mA (Max 550mA)

Uo
12V

Graph shows normal working range & total available range

9493-PS-B14
Power input
Input Voltage
24V DC (20-30V)
Input Current @ 24V
201mA

Power output
[Ex ia IIC] Output (pins 1 & 3)
Nominal Output Voltage
12.4V ... 14.7V
Nominal Output Current
250mA (Max 260mA)

Uo
15V

Graph shows normal working range & total available range

9493-PS-C12
Power input
Input Voltage
24V DC (20-30V)
Input Current @ 24V
175mA

Power output
[Ex ia IIC] Output (pins 1 & 3)
Nominal Output Voltage
10.8V ... 12.7V
Nominal Output Current
250mA (Max 260mA)

Uo
13V

Graph shows normal working range & total available range

9493-PS-C14
Power input
Input Voltage
24V DC (20-30V)
Input Current @ 24V
104mA

Power output
[Ex ia IIC] Output (pins 1 & 3)
Nominal Output Voltage
12.4V ... 14.7V
Nominal Output Current
120mA (Max 260mA)

Uo
15V

Graph shows normal working range & total available range
SPECIFICATION (continued)
See also System Specification

9493-PS-B17
Power input
Input Voltage
24V DC (20-30V)
Input Current @ 24V
163mA

Power output
[Ex ia IIB] Output (pins 1 & 3)
Nominal Output Voltage
15.0V ... 17.7V
Nominal Output Current
160mA (Max 260mA)

Uo
18V

Graph shows normal working range & total available range

<table>
<thead>
<tr>
<th>P/N</th>
<th>Gas Group</th>
<th>Uo</th>
<th>Nominal output voltage</th>
<th>Nominal output current</th>
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<tbody>
<tr>
<td>9493-PS-C5</td>
<td>IIC</td>
<td>5.4V</td>
<td>4.8V ... 5.2V</td>
<td>180mA</td>
</tr>
<tr>
<td>9493-PS-B5</td>
<td>IIB</td>
<td>5.4V</td>
<td>4.8V ... 5.2V</td>
<td>250mA</td>
</tr>
<tr>
<td>9493-PS-C6</td>
<td>IIC</td>
<td>7V</td>
<td>5.7V ... 6.7V</td>
<td>300mA</td>
</tr>
<tr>
<td>9493-PS-C9</td>
<td>IIC</td>
<td>10V</td>
<td>8.4V ... 9.7V</td>
<td>300mA</td>
</tr>
<tr>
<td>9493-PS-C11</td>
<td>IIC</td>
<td>12V</td>
<td>9.9V ... 11.7V</td>
<td>300mA</td>
</tr>
<tr>
<td>9493-PS-C12</td>
<td>IIC</td>
<td>13V</td>
<td>10.8V ... 12.7V</td>
<td>250mA</td>
</tr>
<tr>
<td>9493-PS-C14</td>
<td>IIC</td>
<td>15V</td>
<td>12.4V ... 14.7V</td>
<td>120mA</td>
</tr>
<tr>
<td>9493-PS-B14</td>
<td>IIB</td>
<td>15V</td>
<td>12.4V ... 14.7V</td>
<td>250mA</td>
</tr>
<tr>
<td>9493-PS-C17</td>
<td>IIC</td>
<td>18V</td>
<td>15.0V ... 17.7V</td>
<td>60mA</td>
</tr>
<tr>
<td>9493-PS-B17</td>
<td>IIB</td>
<td>18V</td>
<td>15.0V ... 17.7V</td>
<td>160mA</td>
</tr>
</tbody>
</table>

NOTE: More variants outside the Standard Stock Range can be ordered, subject to an MOQ. Please contact MTL product line for further detail

9493-PS-C17
Power input
Input Voltage
24V DC (20-30V)
Input Current @ 24V
74mA

Power output
[Ex ia IIC] Output (pins 1 & 3)
Nominal Output Voltage
15.0V ... 17.7V
Nominal Output Current
60mA (Max 160mA)

Uo
18V

Graph shows normal working range & total available range

NOTE: More variants outside the Standard Stock Range can be ordered, subject to an MOQ. Please contact MTL product line for further detail
SPECIFICATION (continued)

Connectors
9493-PS-XXX is supplied with one 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

Location of field wiring
[Ex ia] output
Zone 0, (Gas group depends on model type)
Model 9493-PS-CXX, IIC Hazardous area
Model 9493-PS-BXX, IIB Hazardous area
Model 9493-PS-AXX, IIA Hazardous area
Model 9493-PS-MXX, Group 1 Mining

Certification Code
See approvals

Safety description
See certificate

DIMENSIONS (mm)

MECHANICAL

Mounting
DIN rail

Please contact Eaton MTL product line for ‘backplane’ option

Dimensions
See diagram

LED INDICATORS

<table>
<thead>
<tr>
<th></th>
<th>OFF</th>
<th>Flash</th>
<th>ON</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pwr (green)</td>
<td>24V power fail</td>
<td>N/A</td>
<td>24V power OK</td>
</tr>
<tr>
<td>IS (green)</td>
<td>IS power fail</td>
<td>output overload or short circuit present</td>
<td>IS power OK</td>
</tr>
</tbody>
</table>

ENVIRONMENTAL

Ambient temp
Operating −40°C to +70°C
Storage −40°C to +70°C

Relative Humidity
5 to 95% RH (non-condensing)

Ingress Protection
Select enclosure to suit application, see certificate for information