Datasheet
For Powering Banner DC Sensors

- Converts 120 V AC line voltage to low voltage DC for powering any Banner DC sensor which has either a 4- or 5-pin M12 quick-disconnect (QD)
- **SPS101 models**: 5 amp-rated SPST relay for switching AC loads or large DC loads
- **SPS101S models**: Optically-isolated SPST solid-state output for switching AC or DC loads
- Quick-disconnect models (Q suffix) require a sensor with a cabled quick-disconnect connector
- Cabled models (QP suffix) can connect to a sensor with either an integral or a cabled quick-disconnect connector
- Isolated DC output

**WARNING:**
- Do not use this device for personnel protection
- Using this device for personnel protection could result in serious injury or death.
- This device does not include the self-checking redundant circuitry necessary to allow its use in personnel safety applications. A device failure or malfunction can cause either an energized (on) or de-energized (off) output condition.

### Models

<table>
<thead>
<tr>
<th>Model</th>
<th>Supply Voltage</th>
<th>Sensor Connection</th>
<th>Supply/Output Cable</th>
<th>Output Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPS101Q</td>
<td>105 V AC to 130 V AC, 60 Hz</td>
<td>Integral 5-pin M12 female quick-disconnect connector</td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPS101QP</td>
<td>500 mm (19.7 in) shielded PVC cable with a 5-pin M12 female quick-disconnect connector</td>
<td>Integral 5-pin 7/8 in-16UNF male quick-disconnect connector</td>
<td>Form A (SPST) electromechanical relay (see Specifications on page 2 for rating information)</td>
<td></td>
</tr>
<tr>
<td>SPS101SQ</td>
<td>Integral 5-pin M12 female quick-disconnect connector</td>
<td>500 mm (19.7 in) shielded PVC cable with a 5-pin M12 female quick-disconnect connector</td>
<td>SPST optically-isolated solid-state switch (see Specifications on page 2 for rating information)</td>
<td></td>
</tr>
<tr>
<td>SPS101SQP</td>
<td>500 mm (19.7 in) shielded PVC cable with a 5-pin M12 female quick-disconnect connector</td>
<td>500 mm (19.7 in) shielded PVC cable with a 5-pin M12 female quick-disconnect connector</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Wiring

1. SPS power supplies are not for use with NAMUR sensors or personal safety products.
2. Requires a 4- or 5-pin cabled M12 quick-disconnect connector on the sensor.
Specifications

Supply Voltage
105 V AC to 130 V AC, 60 Hz

Output Power
120 mA maximum: 12 V DC minimum, 30 V DC maximum (dependent on load)

Output Configuration
SPS101Q(P) models: Form A (SPST) electromechanical relay
SPS101SQ(P) models: Optically-isolated SPST solid-state switch

Output Rating
SPS101Q(P) models:
- Maximum switching power (resistive load): 150 W, 600 VA
- Maximum switching voltage (resistive load): 250 V AC or 30 V DC (120 V AC maximum per UL and CSA)
- Maximum switching current (resistive load): 5 A
- Minimum voltage and current: 1 A at 5 V DC, 0.1 A at 24 V DC
- Peak switching voltage: 750 V AC (transient suppression recommended)
- Mechanical life of relay: 10,000,000 operations

SPS101SQ(P) models:
- Maximum switching voltage: 250 V AC or 250 V DC
- Maximum switching current: 300 mA
- On-state saturation voltage: Less than 3 V at 300 mA; less than 2 V at 15 mA
- Off-state leakage current: Less than 50 µA
- Inrush current: 1 A for 20 milliseconds, non-repetitive

Important: The output of solid-state models is not short-circuit protected. Exercise care when making wiring connections.

Status Indicators
- Power On: Green
- Output On: Red

Connections
- Power connector: Integral 5-pin 7/8 in-16UNF male quick-disconnect connector
- Sensor connector: Integral 5-pin M12 female quick-disconnect connector, or 500 mm (19.7 in) shielded PVC cable with a 5-pin M12 female quick-disconnect connector, depending on model

Environmental Rating
- IP54

Operating Conditions
- Temperature: –20 °C to +50 °C (-4 °F to +122 °F)
- Maximum relative humidity: 90% at +50 °C maximum relative humidity (non-condensing)

Additional Notes
- Compatible with Banner DC sensors with NPN or PNP output, equipped with 4- or 5-pin M12 quick-disconnect (except NAMUR sensors). Minimum of 630 V isolation from earth ground to DC output of circuit.
Dimensions

All measurements are listed in millimeters [inches], unless noted otherwise.

Quick-Disconnect Models

Cabled Models

Cordsets

<table>
<thead>
<tr>
<th>Model</th>
<th>Length</th>
<th>Style</th>
<th>Dimensions</th>
<th>Pinout (Female)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MBCC-506</td>
<td>1.83 m</td>
<td></td>
<td>7/8-16UN-2B Ø 25.5</td>
<td>1 = Black</td>
</tr>
<tr>
<td>MBCC-512</td>
<td>3.66 m</td>
<td>Straight</td>
<td></td>
<td>2 = Blue</td>
</tr>
<tr>
<td>MBCC-530</td>
<td>9.14 m</td>
<td></td>
<td>7/8-16UN-2B Ø 25.5</td>
<td>3 = Yellow</td>
</tr>
</tbody>
</table>

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