Function Modules

PVA204, PVA208
Proportional Valve Amplifiers

The modules PVA204 and PVA208 enable the direct control of proportional valves without an amplifier using a single solenoid, bipolar or dual solenoids. Up to 4 solenoids can be connected to the compact PVA204 module, and 8 solenoids on the PV208, thus up to 8 unipolar valves with a width of 55 mm. The current-regulated control means that the self heating or temperature increases of the valve solenoids do not affect the position of the valve. Up to 20 support points are provided for correcting the characteristic curve of each solenoid, thus ensuring very precise linearization. Besides the fully configurable dither function, ramps of 0.1 to 15 s can be set. The ramp setting range allowed during commissioning can be configured in the SolutionCenter, thus preventing possible damage to the plant resulting from incorrect entries. Most parameters (characteristic curve, dither parameter etc.) can be configured directly via an application program or via the SolutionCenter or online via a web configurator. Configuration can thus be completed quickly and simply for all tasks, such as for commissioning, teleservice, adaptive adjustments or valve exchanges during servicing. The valve configurations can be stored as templates so that different valves that were preconfigured can be used in a plant.

The following features are provided depending on type:

- Proportional valves with unidirectional, bidirectional or dual solenoids
- PVA204: 4 solenoids, PVA208: 8 solenoids
- Current-regulated control
- Characteristic curve correction, overlap and underlap correction
- Adjustable dither and ramp
- Configuration via application program
- SolutionCenter and web configurator

<table>
<thead>
<tr>
<th>Item</th>
<th>Item No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>PVA204</td>
<td>00028007-00</td>
</tr>
<tr>
<td>PVA208</td>
<td>00026349-00</td>
</tr>
<tr>
<td>PVA208 CC</td>
<td>00028446-00</td>
</tr>
</tbody>
</table>
## Function Modules

<table>
<thead>
<tr>
<th>Parameter</th>
<th>PVA204</th>
<th>PVA208</th>
</tr>
</thead>
<tbody>
<tr>
<td>Valve types</td>
<td>Unipolar solenoid, bipolar solenoids or with valves with 2 solenoids</td>
<td></td>
</tr>
<tr>
<td>Solenoids (unip./bip./2xunip.)</td>
<td>4/2/2</td>
<td>8/4/4</td>
</tr>
<tr>
<td>Voltage</td>
<td>24 VDC (18 to 34 V)</td>
<td></td>
</tr>
<tr>
<td>Solenoid current max. (unip./bip./2xunip.)</td>
<td>2.5 A (total max. 8 A)</td>
<td>2 A (total max. 8 A)</td>
</tr>
<tr>
<td>Impedance</td>
<td>L ≥ 1mH, R &gt; 2 Ohm</td>
<td></td>
</tr>
<tr>
<td>Current</td>
<td>Regulated, ±5 mA accuracy, short circuit proof</td>
<td></td>
</tr>
<tr>
<td>Dither</td>
<td>Adjustable from 0 to 30 % in 0.1 % of I&lt;sub&gt;rated&lt;/sub&gt;</td>
<td></td>
</tr>
<tr>
<td>Dither frequency</td>
<td>40 to 500 Hz</td>
<td></td>
</tr>
<tr>
<td>Characteristics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ramp rising/falling time</td>
<td>1 ms to 15 s</td>
<td></td>
</tr>
<tr>
<td>Ramp range</td>
<td>Adjustable ramp time, min/max limit configurable</td>
<td></td>
</tr>
<tr>
<td>Ramp resolution</td>
<td>1 ms</td>
<td></td>
</tr>
<tr>
<td>Characteristic curve correction</td>
<td>2 to 20 support points per quadrant</td>
<td></td>
</tr>
<tr>
<td>Underlap/overlap</td>
<td>Compensation via characteristics table</td>
<td></td>
</tr>
<tr>
<td>Characteristics linearization</td>
<td>Linear (default), spline</td>
<td></td>
</tr>
<tr>
<td>Power supply</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solenoid supply voltage</td>
<td>24 VDC (18 to 34 V)</td>
<td></td>
</tr>
<tr>
<td>Solenoid supply current</td>
<td>Max. 8 A</td>
<td></td>
</tr>
<tr>
<td>Connection</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solenoid supply</td>
<td>1x 2-pole RM 5.08</td>
<td></td>
</tr>
<tr>
<td>Solenoid terminal</td>
<td>1x 8-pole RM 3.5 Terminal for 4 solenoids</td>
<td>2x 8-pole RM 3.5 2 terminals for every 4 solenoids</td>
</tr>
<tr>
<td>Approvals / certificates</td>
<td></td>
<td></td>
</tr>
<tr>
<td>General</td>
<td>CE, UL/cUL, CCC</td>
<td></td>
</tr>
<tr>
<td>Marine</td>
<td>GL/DNV, LR, ABS, BV</td>
<td></td>
</tr>
<tr>
<td>Ambient conditions</td>
<td>Standard</td>
<td>ColdClimate (@)</td>
</tr>
<tr>
<td>Operating temperature</td>
<td>-30 to +60 °C</td>
<td></td>
</tr>
<tr>
<td>Rel. air humidity, operation</td>
<td>5 to 95 % no condensation</td>
<td>5 to 95 % with condensation</td>
</tr>
<tr>
<td>Storage temperature</td>
<td>-40 to +85 °C</td>
<td></td>
</tr>
<tr>
<td>Rel. air humidity, storage</td>
<td>5 to 95 % with condensation</td>
<td>5 to 95 % with condensation</td>
</tr>
<tr>
<td>Pollution degree</td>
<td>2 (without condensation; according to IEC 60664-1)</td>
<td>2 (according to IEC 60664-1)</td>
</tr>
</tbody>
</table>
## Order Codes PVA204, PVA208

<table>
<thead>
<tr>
<th>Item</th>
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<tbody>
<tr>
<td>PVA204</td>
<td>00028007-00</td>
<td>Proportional valve amplifier module: 4 solenoids; bidir/unidir/2xsolenoids valves; curve correction; UN=18-34VDC; Imax.=2.5A; fDither=40-500Hz; DitherAmp=0 to 30% Inom</td>
</tr>
<tr>
<td>PVA208</td>
<td>00026349-00</td>
<td>Proportional valve amplifier module: 8 solenoids; bidir/unidir/2xsolenoids valves; curve correction; UN=18-34VDC; Imax.=2.0A; fDither=40-500Hz; DitherAmp=0 to 30% Inom</td>
</tr>
<tr>
<td>PVA208 CC</td>
<td>00028446-00</td>
<td>Like PVA208; ColdClimate (°)</td>
</tr>
</tbody>
</table>

### Accessories

<table>
<thead>
<tr>
<th>Code</th>
<th>Item No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>KZ-PVA204 B</td>
<td>00028033-00</td>
<td>Terminal set Phoenix cage clamp (1x KZ 51/02; 1x KZ 35/08) with labeling strips</td>
</tr>
<tr>
<td>KZ-PVA208 B+C</td>
<td>00028032-00</td>
<td>Terminal set Phoenix cage clamp (1x KZ 51/02; 2x KZ 35/08) with labeling strips and coding elements</td>
</tr>
</tbody>
</table>