TPS Processing Module (TPM) for Multiphase Flows

The TPS Processing Module (TPM) is a field-deployable platform providing gas, oil/condensate and water rates based on sonar flow meter, flow line pressure and flow line temperature measurements, combined with customer-supplied compositional/PVT and watercut/WGR information.

The TPM interfaces to either an Expro ActiveSONAR™ or PassiveSONAR™ flow meter and can acquire pressure and temperature from pipe mounted instrumentation or from the customer DCS/SCADA system via Modbus or 4-20mA interfaces. Fluid compositional information is input into the system via the touchscreen user interface.

The unit displays measurement data as well as computed flow rates. Measurement data and results can be transferred to the customer’s DCS/SCADA system via Modbus or 4-20mA interfaces.

In addition, all measured values and calculated results are logged to the internal solid state disk and can be retrieved using a USB flash drive via the internal USB port.

TPS applications include real-time production surveillance of:

- Wet gas wells
- Gas Condensate wells
- Black Oil wells
TPS Processing Module (TPM) for Multiphase Flows

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Specifications</th>
<th>Comments</th>
</tr>
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<tbody>
<tr>
<td>Analog Inputs</td>
<td>Three 4-20mA Inputs</td>
<td>Pressure, Temperature, Spare. Intrinsically Safe connection to sensors via optional IS Isolator unit</td>
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<tr>
<td>Analog Outputs</td>
<td>Six 4-20mA Outputs</td>
<td>Gas Rate, Oil Rate, Water Rate, Pressure, Temperature, Spare</td>
</tr>
<tr>
<td>Serial Communications</td>
<td>Two 2-Wire RS-485 Modbus RTU/ASCII Serial Ports</td>
<td>One Port for SONAR Comms One Port for Customer Comms</td>
</tr>
<tr>
<td>Computer</td>
<td>Touchscreen Panel PC</td>
<td></td>
</tr>
<tr>
<td>Operating System</td>
<td>Windows XP Professional</td>
<td></td>
</tr>
<tr>
<td>Supported Software</td>
<td>Expro Meters TPS1000</td>
<td>Inquire with Expro Meters for other supported software</td>
</tr>
<tr>
<td>Ambient Temperature Range</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>-20° to +40°C (-4° to 104°F)</td>
<td></td>
</tr>
<tr>
<td>Storage Temperature</td>
<td>-20° to +60°C (-4° to 140°F)</td>
<td></td>
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<tr>
<td>Power Requirements</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AC Model</td>
<td>100 to 240Vac, 120VA</td>
<td></td>
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<tr>
<td>DC Model</td>
<td>18 to 32.4Vdc, 70W</td>
<td></td>
</tr>
<tr>
<td>Enclosure Size (H x W x D)</td>
<td>444.5 x 304.8 x 221.2 mm (17.5 x 12.0 x 8.7 inches)</td>
<td></td>
</tr>
<tr>
<td>Weight</td>
<td>15.1kg (33.3lbs)</td>
<td></td>
</tr>
<tr>
<td>Mounting</td>
<td>Panel or Pole Mount (optional)</td>
<td></td>
</tr>
<tr>
<td>Ingress Protection</td>
<td>IP20</td>
<td></td>
</tr>
<tr>
<td>Hazardous Area Classification</td>
<td>Ordinary Location</td>
<td>US/Canada and CE marked</td>
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