We offer distinct technologies to measure fluids. Our tuning fork technology is coupled with efficient software algorithms for accurate measurement of viscosity, density and dielectric constant. Dedicated applications include oils (engine, hydraulic, transmission), fuels, fluid monitoring, and others. Our urea quality sensors, based on Near Infra-Red (NIR) technology or ultrasonic measurement perform an analysis of the Diesel Exhaust Fluid (DEF) fluid to provide urea concentration and secure misfilling protection to the Selective Catalytic Reduction (SCR) systems. Our highly reliable reed switch technology is combined with temperature measurement for level sensing. Robust design enables fluid property sensors to operate under diverse pressure, flow and temperature conditions to bring real-time fluid monitoring to engines, fuel systems, SCR systems, compressors, transmissions, gear boxes and many other industrial applications. Our new water-in-oil measurement sensor supplements the existing fluid quality range of products.
### DEF FLS SENSORS

#### DEF Level Sensors

<table>
<thead>
<tr>
<th>Series</th>
<th>Package</th>
<th>Type</th>
<th>Operating Temp.</th>
<th>Features</th>
</tr>
</thead>
</table>
| FLS RB Series | Rubber header and stainless steel body | Combined level sensor, temperature sensor, filter, DEF draw and return heater, collar header | -40°C to 85°C | - Available in a range of sizes  
- High reliability  
- Reed switch technology  
- Using coolant system to thaw frozen tank  
- DEF feed and return connections can be incorporated into the header  
- Various collar adapter options |
| FLS RC Series | Rubber header and stainless steel body | Combined level sensor, temperature sensor, filter, DEF draw and return heater, bayonet header | -40°C to 85°C | - Available in a range of sizes  
- High reliability  
- Reed switch technology  
- Using coolant system to thaw frozen tank  
- DEF feed and return connections can be incorporated into the header |
| FLS P Series | Plastic header and stainless steel body | Combined level sensor, temperature sensor | -40°C to 85°C | - Available in a range of sizes  
- High reliability  
- Reed switch technology |
| FLS PU Series | Plastic header and stainless steel body | Combined level sensor, temperature sensor, filter, DEF draw and return heater, bayonet header | -40°C to 85°C | - Available in a range of sizes  
- High reliability  
- Reed switch technology  
- DEF feed and return connections can be incorporated into the header |

#### AHM/L FLS AHM/L Series

<table>
<thead>
<tr>
<th>Package</th>
<th>Type</th>
<th>Operating Temp.</th>
<th>Features</th>
</tr>
</thead>
</table>
| Rubber header and stainless steel body | Combined level sensor, temperature sensor, filter, DEF draw and return heater, collar header | -40°C to 85°C | - Available in a range of sizes  
- High reliability  
- Reed switch technology  
- Using coolant system to thaw frozen tank  
- DEF feed and return connections can be incorporated into the header  
- Various collar adapter options |

#### TZS FLS TZS/I Series

<table>
<thead>
<tr>
<th>Package</th>
<th>Type</th>
<th>Operating Temp.</th>
<th>Features</th>
</tr>
</thead>
</table>
| Plastic header and stainless steel body | Combined level sensor, temperature sensor, filter, DEF draw and return heater, bayonet header | -40°C to 85°C | - Available in a range of sizes  
- High reliability  
- Reed switch technology  
- Using coolant system to thaw frozen tank  
- DEF feed and return connections can be incorporated into the header |

#### TKD FLS TZS/I Series

<table>
<thead>
<tr>
<th>Package</th>
<th>Type</th>
<th>Operating Temp.</th>
<th>Features</th>
</tr>
</thead>
</table>
| Plastic header and stainless steel body | Combined level sensor, temperature sensor, filter, DEF draw and return heater, SAE locking ring header | -40°C to 85°C | - Available in a range of sizes  
- High reliability  
- Reed switch technology  
- Using coolant system to thaw frozen tank  
- DEF feed and return connections can be incorporated |
### DEF SCR SENSORS
DEF Level Quality Sensors

<table>
<thead>
<tr>
<th>Package</th>
<th>Type</th>
<th>Operating Temp.</th>
<th>Operating Range</th>
<th>Urea Concentration</th>
<th>Accuracy</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>QLS RB Series</strong></td>
<td>Rubber header and stainless steel body</td>
<td>-40°C to 85°C</td>
<td>0% to 62.5% mass urea</td>
<td>±2%</td>
<td>Available in a range of sizes, High reliability, Reed switch technology, Using coolant system to thaw frozen DEF feed and return connections, Integrated quality sensor, Various collar adapter options</td>
<td></td>
</tr>
<tr>
<td><strong>QLS RC Series</strong></td>
<td>Rubber header and stainless steel body</td>
<td>-40°C to 85°C</td>
<td>0% to 62.5% mass urea</td>
<td>±2%</td>
<td>Available in a range of sizes, High reliability, Reed switch technology, Using coolant system to thaw frozen DEF feed and return connections, Integrated quality sensor</td>
<td></td>
</tr>
<tr>
<td><strong>QLS PL Series</strong></td>
<td>Plastic header and stainless steel body</td>
<td>-40°C to 85°C</td>
<td>0% to 62.5% mass urea</td>
<td>±2%</td>
<td>Available in a range of sizes, Foot options (Compact, normal and extended sizes), High reliability, Reed switch technology, Using coolant system to thaw frozen DEF feed and return connections, Integrated quality sensor, Bayonet adaptor option</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Package</th>
<th>Type</th>
<th>Operating Temp.</th>
<th>Operating Range</th>
<th>Urea Concentration</th>
<th>Accuracy</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>AHUQ</strong></td>
<td>QLS AHM Series</td>
<td>-4°C to 55°C</td>
<td>±1% at -6°C to 55°C</td>
<td>±1%</td>
<td>Available in a range of sizes, High reliability, Reed switch technology, Using coolant system to thaw frozen DEF feed and return connections, Integrated quality sensor, Various collar adapter options</td>
<td></td>
</tr>
<tr>
<td><strong>TZLQ</strong></td>
<td>QLS TZ5/L Series</td>
<td>-6°C to 55°C</td>
<td>±1% at -6°C to 55°C</td>
<td>±1%</td>
<td>Available in a range of sizes, Foot options (Compact, normal and extended sizes), High reliability, Reed switch technology, Using coolant system to thaw frozen DEF feed and return connections, Integrated quality sensor</td>
<td></td>
</tr>
</tbody>
</table>
# FLUID PROPERTY SENSORS

## MEAS FPS2800

**Package**  
Fully integrated, stand-alone module combines sensor and processing electronics for in-situ monitoring

**Type**  
Engine oil quality sensor

**Operating Range**  
- Viscosity from 0.5 to 50 mPa-s  
- Density from 0.65 to 1.5 g/cc  
- Dielectric from 1.0 to 6.0

**Operating Temp.**  
-40°C to 150°C

**Unique Features**  
- Rugged construction for high pressure and high flow environments  
- CAN communication protocol (SAEJ1939 compliant)

**Calibration**  
Factory calibrated with NIST traceable standards

**Dimensions (mm)**  
73.3 x 30 x 30

**Typical Applications**  
Lubricating oil quality for industrial and commercial vehicles

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Specifications subject to change. Dimensions for reference purpose only.

Catalog SS-TS-TE100  
01/2016

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