SmartLine Transmitters deliver a new level of efficiency and safety throughout the plant lifecycle either when operating stand-alone or when integrated with a process control system. For example, to improve configuration, process viewing and integration capabilities, SmartLine offers an advanced graphics display with enhanced HMI capabilities.

**Overview**
An increasing number of pressure transmitters are provided with integral display options, but most suppliers typically provide preformatted or segment-type liquid crystal displays that only display basic process variable information. SmartLine offers an advanced graphic display adding a wealth of process information through multiple display screen capabilities. In addition to multiple process views, this display supports menu-driven integral configuration, comprehensive diagnostic messages and unique Smart Connection Suite features such as transmitter messaging and maintenance mode Indications1.

**Advanced Graphics Display Capabilities**
The advanced graphics display is a dot matrix LCD display capable of multiple displays and data formats.

**Process Variable Formats**
The advanced graphics display offers three user selectable display formats and up to eight screens in these formats may be displayed.

**Screen Formats**

<table>
<thead>
<tr>
<th>Large PV</th>
<th>Bar Graph</th>
<th>Trend</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="Large PV" /></td>
<td><img src="image2" alt="Bar Graph" /></td>
<td><img src="image3" alt="Trend" /></td>
</tr>
</tbody>
</table>

**Screen Rotation**
In order to facilitate multiple displays, the custom configured screens will sequentially rotate with the rotation timing user selectable from three to thirty seconds in one second intervals.

**Normal Screen Rotation:**
Screen 1, screen 2, screen 3….. up to eight screens as configured by the user.

**Display Measurement Units**
Custom/user defined units are available as well selecting the following standard pressure units:
- Pascals (Pa)
- Kilo pascals (KPa)
- Mega pascals (MPa)
- Kilograms/centimeter squared (KGcm2)
- TORR (TORR)
- Atmospheres (ATM)
- inches of water at 4oC (i4H20)
- Inches of water at 39o F (inH20)
- Feet of water (FTH20)
- Millimeters of water (mmH20)
- Meters of water (MH20)
- Inches of mercury (inHG)
- Millimeters of mercury (mmHG)
- Bar, (Bar)
- Millibar (mBar)
- Pounds/square inch (PSI)

1For more information read Transmitter Messaging & Maintenance Mode Indication Tech Note SO-12-50-ENG
In addition, when users select the square root mode for flow applications, the display can be configured with the following units:

- Percent (%)
- Liters/Hour (L/hr)
- Liters/Min (L/min)
- Gallons/Hour (gal/hr)
- Gallons/Min. (gal/min)
- Custom Units

**Diagnostic Display Capability**
The advanced display also supports various messaging capabilities including critical and non-critical diagnostics.

**Non-Critical Diagnostic Support**
Non-critical diagnostics are defined as those that do not directly impact the immediate validity of the process variable. A non-critical diagnostic is identified by a “D” placed in the upper left corner of the display. No other indication is provided without user intervention so as to minimize loss of process variable views. At any time the user may enter the configuration menu and query for information regarding the indicated non-critical diagnostic.

**Critical Diagnostic Displays**
Critical diagnostics defined as those that invalidate the PV value are indicated via a “D” in the upper left corner of the display but will also be accompanied by a “Critical Diagnostic” banner on the configured display screens. In addition, a message indicating the fault category of the diagnostic will be inserted into the screen rotation scheme as shown below.

Better local views of your process and features such as transmitter messaging and maintenance mode indication can help to improve your process control, locally diagnose problems, reduce maintenance and substantially contribute to improving your personnel and plant safety as well as the safety of the surrounding community.

For more information, read the Transmitter Messaging & Maintenance Mode Indication Tech Note SO-12-50-ENG

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