Moore Industries’ HIM HART Loop Interface and Monitor lets you take full advantage of the high performance YOKOGAWA digitalYEWFLO Multivariable Vortex Flowmeters.

The digitalYEWFLO calculates mass flow of saturated steam based on steam tables embedded in the software and mass flow of liquids based on programmed fluid temperature co-efficients. It provides this measurement to the control system via a 4-20mA signal. The digitalYEWFLO also measures process temperature, and provides totalized value and calculated density.

"Break Out" Additional Measurements

The HIM lets you see all of the digitalYEWFLO’s information at your control system. Installed transparently across the 4-20mA HART loop, the HIM extracts up to three of the digitalYEWFLO’s measurements or calculations by reading the HART digital data that ‘rides’ on the loop wires. It converts the data to isolated analog (4-20mA) signals ready for input to a DCS or PLC.

High/Low Process and Loop Diagnostic Alarms

The HIM’s optional relay outputs can be used to trip on high/low process conditions, or trip when transmitter fault diagnostic conditions are sensed.

Advantages

• Extracts up to three variables (flow rate, totalized value process temperature, and calculated density) from the digitalYEWFLO, and provides proportional and isolated 4-20mA signals.
• Operates in Normal and Burst HART modes.
• Large, 5-digit display shows a selected process variable in engineering units (input or output), or toggles between two variables.
• Supplies 24Vdc loop power to the digitalYEWFLO (transmitter excitation).

Bulletin 22A00R01-02E

4-20mA Representing the Primary Variable (Mass Flow)

HART Digital Signal Carrying Primary, Second, Third, Fourth Variable Process Data, and Instrument Diagnostic Information

Control System

Moore Industries’ HIM Smart HART Loop Monitor “Breaks Out” Data

4-20mA Proportional to Totalized Value

4-20mA Proportional to Temperature

4-20mA Proportional to Calculated Density

High Alarm in Response to Temperature

HART Transmitter Diagnostics Fault Alarm or Additional Process Alarm

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## Specifications

For detailed specifications, please refer to each reference document.

<table>
<thead>
<tr>
<th>Channel</th>
<th>Output</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0-20mA</td>
<td>Convert HART Digital Data to 4-20mA Signals—Each user-programmable channel provides an analog value proportional to any available HART variable of the digitalYEWFLO Vortex Flowmeter’s (Primary, Second, Third and Fourth Variable); Outputs are fully scaleable for any range, such as 4-20mA, between 0-20mA (4mA span minimum) into 1100 ohms; internally- or externally-powered, sink or source.</td>
</tr>
<tr>
<td>2</td>
<td>0-20mA</td>
<td>4-20mA</td>
</tr>
<tr>
<td>3 (Optional)</td>
<td>0-20mA</td>
<td>4-20mA</td>
</tr>
</tbody>
</table>
| 4 (Optional) | Relay | Process and Diagnostic Fault (Relay) Alarms—User-programmable alarm (relay) outputs are individually configurable:  
*Process and Status High/Low Alarm* with user-selectable trip point(s) that respond to any available dynamic HART variable of the digitalYEWFLO Vortex Flowmeter (Primary, Second, Third and Fourth Variable).  
*HART Instrument Diagnostic/Fault Alarm* that responds to one, some, or all (user-selectable) of the following HART Status Bit conditions: Primary Variable out of limits; Non-Primary Variable out of limits; Primary Variable analog output out of limits; Primary Variable analog output fixed; cold start; field device malfunction; more diagnostic information available; and based on additional status bits using HART Command 48.  
*HIM Self-Diagnostic/Fault Alarm* continuously monitors its own status, and initiates an alarm if it senses an abnormal condition. |
| 5 (Optional) | Relay |  |

### digitalYEWFLO Multivariable HART Variable Assignment:

<table>
<thead>
<tr>
<th>Model</th>
<th>Primary Variable</th>
<th>Second Variable</th>
<th>Third Variable</th>
<th>Fourth Variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>digital YEWFLO Multi-variable</td>
<td>Flow Rate</td>
<td>Totalized Value</td>
<td>Process Temperature</td>
<td>Calculated Density</td>
</tr>
</tbody>
</table>

### Basic HIM Characteristics*

*Input: HART digital protocol from digitalYEWFLO HART Multivariable Vortex Flowmeter  
*Analog Outputs: Two or three (optional) isolated 4-20mA signals  
*Alarm Outputs: Optional one or two alarms (contact closure) warn of high/low process conditions or loop diagnostic problems  
*Power Supply: 24DC, ±10%  
*Ambient Storage and Operating Range: -40°C to +85°C (-40°F to +185°F)  
*For complete HIM information and specifications, see Moore Industries’ HIM data sheet.

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### NOTICES

- Before operating the product, read the user’s manual thoroughly for proper and safe operation.
- *HART is a registered trademark of the HART Communication Foundation.
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