

# HASTINGS

## INSTRUMENTS

### DIGITAL METALINE™ CONTROLLER

#### FEATURES

- Flows to 30 slm (Nitrogen Equivalent)
- Accuracy in Nitrogen Better Than  $\pm 0.5\%$  of Reading
- Settling Time of 550 ms
- All Metal Seals
- Conversion Factors for Over 100 Gases
- Flexible Operation with  $\pm 12$ ,  $\pm 15$  or 24 VDC Power Supply
- RS232/485, DeviceNet™ (release date TBD)
- Auto-Zero
- Self-Diagnostics – Sensor, Valve and Overflow
- Analog or Digital Output
- Wetted Surfaces 4 Ra or Better



Digital Metaline™

#### PRELIMINARY BULLETIN

#### DESIGN FEATURES

The Hastings Instruments Digital Metaline represents a culmination of over 50 years of expertise in the designing and manufacturing of reliable high-quality massflow instrumentation. This digital instrument complements an extensive array of wide-ranged analog instrumentation.

As with most all Hastings flow instruments, this device is based on a modular design. The heart of the instrument is a patented thermoelectric sensor and shunt assembly which provides a highly linear response over a broad range of flow measurement. The physics of the design is elegant. The inboard sensor taps sample the laminar flow in the annular passageway formed by the shunt and base. The change in sensor power required to maintain a constant sensor temperature is proportional to the flow. Further, the sensor is designed to be removable/replaceable in the field to virtually eliminate downtime due to clogging. For a recalibration in the field (a calibration standard is required), the customer needs to simply set the zero and span pots or send the zero and span commands via the digital cable. This digital instrument offers alarms for sensor failure. All of the known gas conversion factors are factory programmed in the memory so that changing gases is accomplished by simply sending the appropriate command. The Digital Metaline can operate with standard analog commands and outputs or with digital data as received.



**TELEDYNE**  
ELECTRONIC TECHNOLOGIES  
*Hastings Instruments*  
A Teledyne Technologies Company

# DIGITAL METALINE™ CONTROLLER

## DESIGN FEATURES (cont)

These instruments contain a number of features that set them apart from all others, for example: (1) They are inherently linear with an accuracy of  $\pm 0.75\%$  FS, however, additional accuracy may be realized through data linearization to  $\pm 0.5\%$  of reading. (2) The output signal is linear for very large overflows and provides an alarm to inform the user of an overflow condition. (3) A modular sensor permits field service with an appropriate calibration standard. (4) The instrument has a settling time of less than 550 ms.

## OPTIONAL FEATURES

Fittings - VCR, VCO, Swagelok, Straight Thread, and other  
High-Pressure Rating (1000 psig)  
Oxygen Cleaning

## SELECTION OPTIONS

Circuit Board  
Output Options  
    RS232/485  
    0-5 VDC  
    0-10 VDC  
    4-20 mA (isolated)  
Fittings  
Pressure Type  
Calibration

Contact factory for additional information on the Preliminary Software Overview currently available.