Industrial Automation

IMI Norgren

M/80
Inline Flow Sensor for
Compressed Air & Nitrogen

Breakthrough
engineering for
a better world

Contents

Breakthrough engineering for a better world

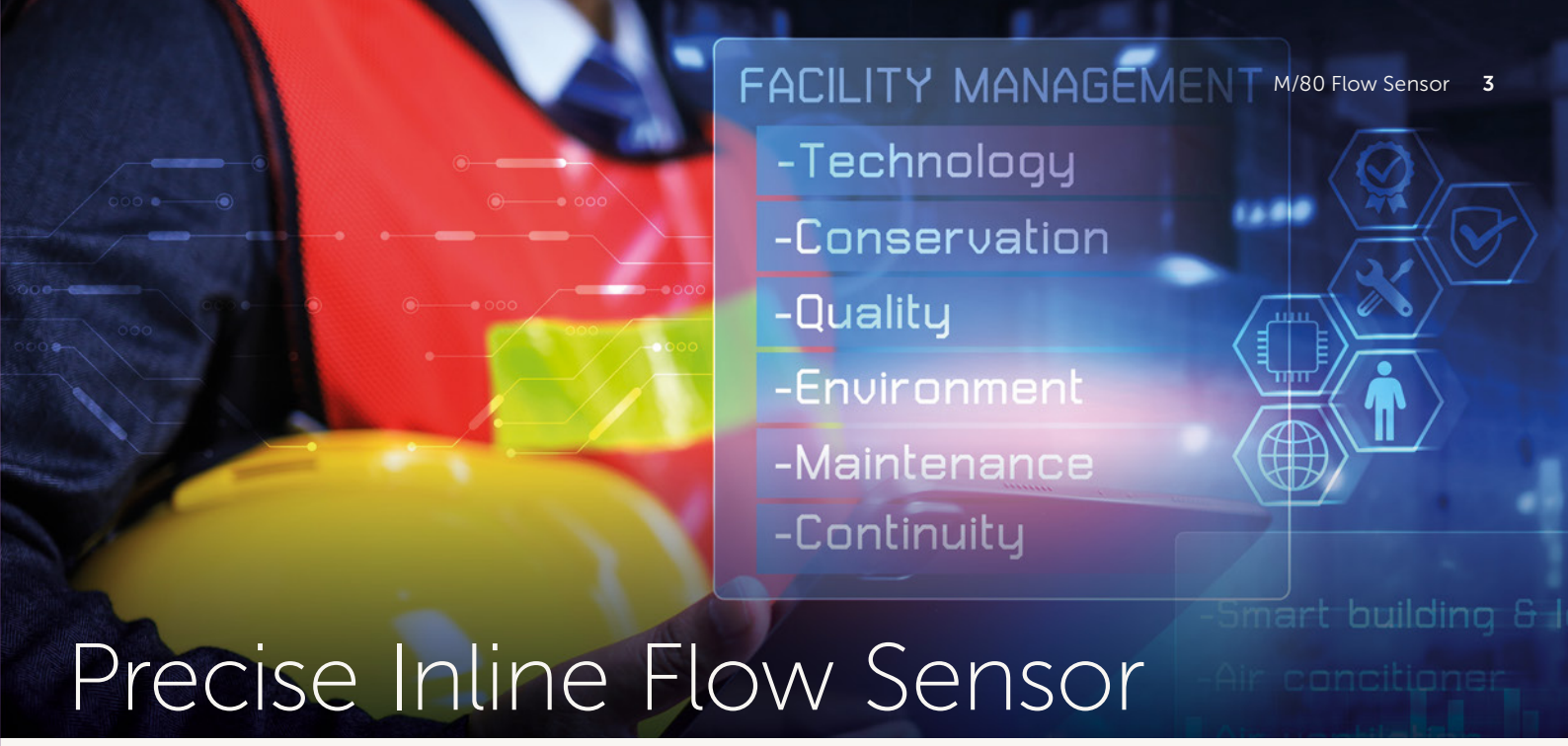
We create solutions for our customers which enable smarter, safer, more productive and sustainable factories, production lines and warehouse operations. Our pneumatic and electric motion systems help machine builders and end users around the world automate and optimise manufacturing and warehousing processes.

We have partnered with customers in industrial automation for over a century, applying our experience and innovation to create lasting value for their businesses. Our solutions support critical industries such as automotive, food and beverage, pharmaceuticals and even the space industry. We support the automation of precision manufacturing, product assembly, testing and packaging.

We use the latest digital technologies in our automation products and constantly innovate in close partnership with our customers. By applying our deep expertise, we can solve their toughest automation challenges, today and tomorrow. Through increased productivity, efficiency and safety, our customers can serve their own customers better, creating sustainable competitive advantage and delivering growth.

Our world-class product portfolio includes IMI Norgren, IMI Bimba, and IMI Bahr.

Breakthrough Engineering you can count on.



Precise Inline Flow Sensor for Energy Management

The M/80 Inline flow sensor continuously monitors flow rate, pressure, total consumption, and temperature. The flow sensor is equipped with multiple sensors which continually monitors a compressed air system for pressure drops and other signs of airflow leaks. This makes it possible to locate leaks and fix them quickly. IO-Link capability allows remote set-up and facilitates application performance data for improved monitoring.

Key features:

- Four process values: flow, pressure, temperature and overall consumption.
- Clear Digital Display with four different individually adjustable graphic layouts.
- The wide-ranging measurement options allow for the reliable detection of tiny amounts, such as leaks. Integrating the measuring elements into a specific pipe length ensures high accuracy and consistency.
- The basis for a comprehensive energy management system according to ISO 50001.

Product Highlights

Minimal Pressure Drop

The Inline flow sensors use two probes inserted into the airflow, causing little impact on system pressure.
In contrast, competing sensors with an integrated rectifier cause a significant pressure drop and increase energy costs.

Totaliser function for monitoring consumption

- If equipment isn't running, consumption should be zero. If not, leaks are present.
- Consumption for machine operation: Real-time monitoring of air usage can reveal worn seals or other issues.
- Consumption to assign cost for business units: Most facilities use a central compressed air system.
  By monitoring usage accurate utility cost can be assigned.

Quick response time

The inline flow sensors offer best in-class and consistent response times for both increasing and decreasing flow, ensuring reliability despite process changes.

Features of the Inline Flow Sensor with IO-Link

- With IO-Link, the M/80 Inline flow sensors can provide
  - Flow rate, flow volume, temperature and pressure over a single wire
  - Flow rate up to 20% above the stated measuring range
  - No accuracy losses from digital to analog conversion
  - High measurement resolution without scaling
  - Current device status
  - Internal memory for high and low flow rate, flow volume, temperature and pressure
  - Automatic device replacement

Clear Digital Display
Shows application details, displays flow rate, total flow volume, temperature, and pressure simultaneously. Red/green/yellow coloured digits for clear identification of the acceptable range. Display can be rotated for optimum alignment.

Simple 3-pushbutton programming
Configure output settings, units of measure and display orientation in minutes.

Bright LEDs
Shows switching output status at-a-glance. Visible even in bright factories, the LEDs confirm your process is running as expected.

Standard M12 connector
Industry standard A-coded M12 connector for power and output connections.

Product Benefits

"All-in-one sensor" reduces installation cost and total cost of ownership

The inline flow sensor is multifunctional, allowing users to quickly view four process variables—flow rate, pressure, temperature, and total consumption—providing insights into system energy efficiency with its integrated temperature and pressure sensors.

Monitoring leakage helps improve energy efficiency. Simply mount in a zone, production line, or machine drop to quickly identify leaks and consumption values.

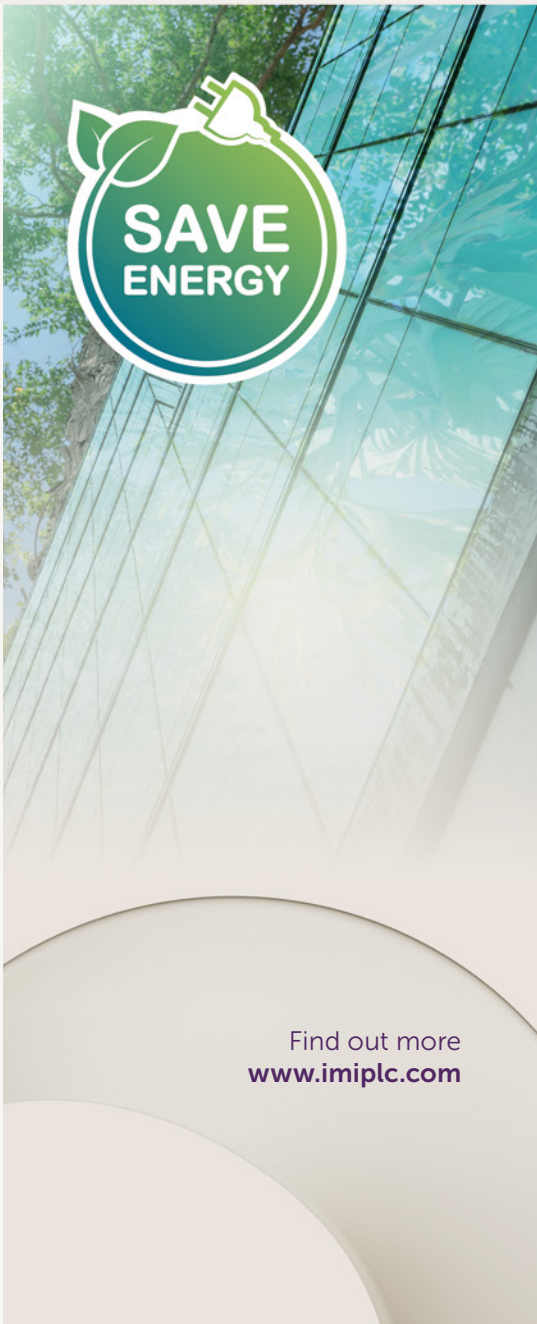
Install in a zone, manufacturing line, or machine to quickly identify leaks and consumption levels, reducing energy costs from air leaks. This eliminates the need for extra compressor capacity, allowing maintenance staff to focus on more valuable tasks. Proper air supply enhances machine performance and product quality.

High measurement dynamics due to Thermal principle

The Inline Flow sensor uses the Thermal dispersion principle, perfect for measuring compressed air and nitrogen. Its low thermal mass ceramic element responds quickly, reliably detecting small amounts like leaks.

A comprehensive energy management system according to ISO 50001

All member states aim to achieve energy savings per the EU directive DIN EN ISO 50001 on energy efficiency. Installing an energy management system is essential for reducing energy taxes. The inline flow sensor, along with regular calibrations, provides a strong foundation for this.



Find out more
www.imiplc.com

Technical Specifications

Flow	
Measuring flow range	4...1250 l/min for R ½ and 1/2'' NPT 14...3750 l/min for R 1 and 1'' NPT
Accuracy [%]	class 141: ± (2 % MW + 0,5 % MEW) class 344: ± (6 % MW + 0,6 % MEW)
Repeatability [%]	± (0,4 % MW + 0,1 % MEW) MW = measured value MEW = Final value of the measuring range
Response time [s]	0.1
Temperature	
Ambient/Media temperature	-10... +60°C (14 ... 140°F)
Storage temperature	-20 ... +85°C (-4 ... 185°F)
Pressure	
Pressure Type	Relative pressure
Pressure range	-1 ... 16 bar (-15 ... 232 psi)
Display	Colour display 1,44", 128 x 128 pixels 2 x LED, yellow
Output signal	Switching signal, Analogue signal , pulse signal, IO-Link (configurable)
Switching mode	PNP/NPN
Electrical connection	M12 x 1 (contacts gold plated)
Protection rating	Protection class III IP65, IP67

M/80 Connected to
Excelon® Plus 1/2" 84 series

Accessories

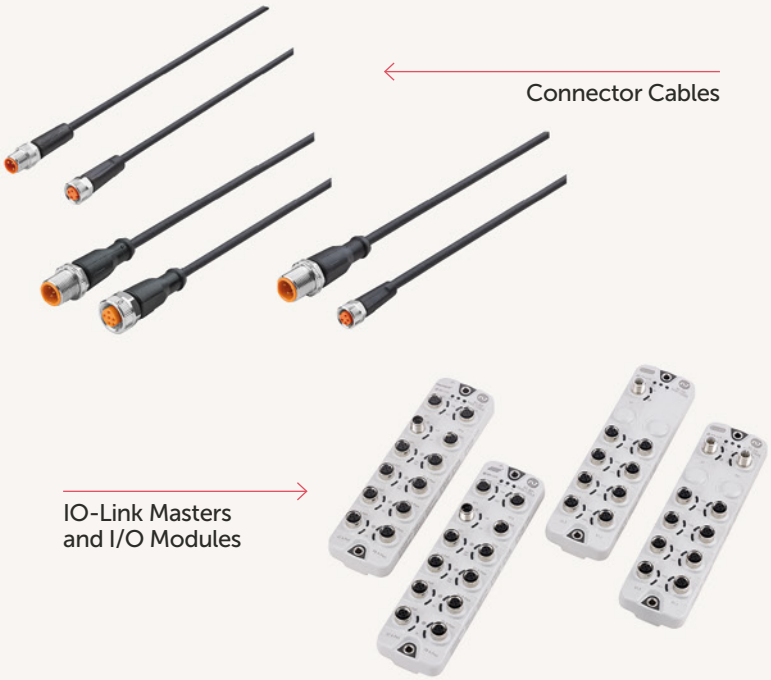
Standard Options

Product Model	Description	Port size
M/80/IOL/15T/CC	Flow sensor with IO-Link	R ½
M/80/IOL/25T/CC	Flow sensor with IO-Link	R 1
M/80/IOL/15C/CC	Flow sensor with IO-Link	1/2'' NPT
M/80/IOL/25C/CC	Flow sensor with IO-Link	1'' NPT

Accessory Model	Description
NC-125FS-125MS-A	Cable 5 Pin A-coded M12 - M12 x 0.6 metre long
NC-125FS-125MS-1	Cable 5 Pin A-coded M12 - M12 x 1 metre long
NC-125FS-125MS-2	Cable 5 Pin A-coded M12 - M12 x 2 metre long
NC-125FS-125MS-5	Cable 5 Pin A-coded M12 - M12 x 5 metre long
NC-125FS-00000-5	Cable 5 Pin A-coded M12 - Open End x 5 metre long
NC-MP-4A4B-12DLA	PROFINET IO-Link Master
NC-ME-4A4B-12DLA	EtherNet/IP IO-Link Master

Mounting brackets & adaptors for connection with Excelon® Plus 1/2" 84 series

IO-Link & cables



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