



**AUTOMATED**

**PROCESS**

L I M I T E D

*...innovative know-how*

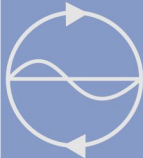
- Systems for vibration monitoring and diagnostics
  - Flow meters for compressed air and gases
    - Flow meters for water and oils
  - Systems for oil quality monitoring
    - Pulse evaluation systems
- Systems for evaluation of standard signals
  - Signalling and display systems
  - Systems for signal conversion

# Condition Monitoring Systems

## **CONDITION MONITORING SYSTEMS**

Condition monitoring systems are used for condition-based maintenance of machines and installations. They help to detect machine damage in good time and prevent costly consequential damage. The ifm product range comprises systems for monitoring vibration, oil quality, compressed air and water consumption. Vibration sensors detect damage to rolling element bearings and gears or unbalance in drives and rotating machine parts. Systems for oil quality monitoring assist in the early detection of water and abrasion particles in hydraulic liquids and lubricants to prevent operational disturbances or damage to hydraulic power units, pumps, valves, cylinders and machines.

- o Systems for vibration monitoring and diagnostics
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- o Flow meters for water
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# SYSTEMS FOR VIBRATION MONITORING AND DIAGNOSTICS

- o Diagnostics Electronics
- o Accelerometers
- o Vibration Sensors and Transmitters
- o Software
- o Accessories



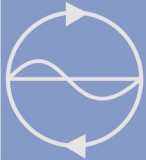
# FLOWMETERS FOR COMPRESSED AIR AND GASES

- o Measurement to ISO 2533 and DIN 1343
- o For compressed air in industrial use as well as argon (Ar), carbon dioxide (CO<sub>2</sub>), nitrogen (N<sub>2</sub>)
- o Large measuring ranges up to 700 Nm<sup>3</sup>/h
- o Fast response time and high response sensitivity
- o With volumetric flow quantity, total quantity and temperature indication



## FLOWMETERS FOR WATER & OILS

- o Magnetic-inductive volumetric flow meters for water
- o Ultrasonic flow meters suitable for water, oils and glycol solutions
- o With volumetric flow quantity, total quantity and temperature indication
- o High accuracy, repeatability and measurement dynamics
- o With switching output, analogue output and pulse output
- o Clearly visible LED display



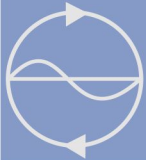
## SYSTEMS FOR OIL QUALITY MONITORING

- o Reliable monitoring of oil contamination
- o Reliable machine and plant protection by permanent oil moisture monitoring
- o Particle monitors for oil condition monitoring
- o Moisture measurement in oil



## PULSE EVALUATION SYSTEM

- o Intuitive, user-friendly handling
- o Integrated wide-range power supply
- o Easily programmable output functions
- o Devices for monitoring standstill, speed, direction, slip, and frequency
- o Switching relays and transistor outputs, scalable analogue output



## SYSTEMS FOR EVALUATION OF STANDARD SIGNALS

- o Reliable evaluation of analogue signals
- o Displays for visualizing actual values
- o Switching output to reliably monitor limit values





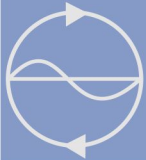
## **SIGNALLING AND DISPLAY SYSTEMS**

- o Displays for process value display
- o Displays with monitoring function
- o Displays for monitoring pulse signals
- o Mini displays for monitoring limit values
- o Light towers
- o IO-Link – Displays



# SYSTEMS FOR SIGNAL CONVERSION

- o Pulse stretching
- o Pulse dividers
- o Frequency-to-current converters
- o Switch-on and switch-off delay
- o PNP/NPN inverter modules



## OUR INDUSTRIAL SOLUTIONS AND SERVICES OFFERING



1. Liquid/gas storage/buffer tank level measurement and control
2. Liquid/solid dosing/filling/batching systems
3. Utility liquid/gas metering and inventory systems
4. Fluid loading and unloading systems
5. Industrial safety systems
6. Energy monitoring and management systems
7. Condition monitoring and control systems
8. Instrument maintenance and calibration services
9. Process plants/machines instrumentation and control
10. Compressed air quality solution according to ISO8573
11. Compressed air/gas leak detection and control
12. Control valves system design, assembly and services
13. Industrial wireless and IoT systems
14. Motors, pumps and fans monitoring and controls
15. Electrical panel building components, accessories and services

## INDUSTRY

- Food and Beverage
- Pharmaceuticals
- Cement and Chemicals
- Plastics, Printing and Packaging
- Marine, Oil & Gas
- Power and Energy



Third Floor, 30 Abeokuta Expressway, Near Cement Bus Stop, Dopemu, Lagos

**Telephone No:** +234 01 3424691 **Mobile line:** +234 0 8055103288

Email: [sales@automated-process.com](mailto:sales@automated-process.com) [www.automated-process.com](http://www.automated-process.com)

