Gas Analyzers

Oxygen Analyzers

ZR402/ZR202 Zirconia Oxygen Analyzers
- Measurement with probe directly inserted into furnace or boiler
- Integrated and separate types available
- Also can be used as a high temperature humidity analyzer
- Fully field-repairable probe
- HART communication
- Explosionproof (FM, CSA, ATEX) (ZR22S, ZR202S)

ZR202G/S
ZR22G/S
ZR402G
ZR202G/S

AV550G Averaging Converter
- Capable of accepting inputs up to 8 oxygen detectors and 8 individual outputs are available
- Averaging of multiple point oxygen measurements is ideally suited for combustion control

OX500 Low Concentration Zirconia Oxygen Analyzer
- Capable of measuring wide range of concentrations, from 0-10 ppm up to 0.1% with O2.
- Oxygen concentration control in semiconductor-related diffusion and drying furnaces and in LCD manufacturing processes

OX100/OX102 Limiting Current Type Oxygen Analyzers
- Ideally suited for measuring oxygen concentrations of N2-purged flow-soldering machine, etc.

Laser Analyzer

TDLS8000 Tunable Diode Laser Spectrometer
- In-line analysis of gases of O2, CO, CH4, NH3, H2O, and many more NIR absorbing gases in refinery and petrochemical plants
- Large HMI provides easy operation and control of up to 4 analyzers at the same time
- IEC61508 SIL designed & approved, SIL 2
- IECEx, ATEX, cFMus hazardous area approvals based on Nonincendive Type n and flameproof
- HART and Modbus TCP communications are standard
- 10 languages

Gas Density Meter

GD402/GD40 Gas Density Meter
- Measures gas density with high sensitivity and quick response. Also capable of displaying specific gravity and molecular weight derived from the density data.
- Can be used in hazardous areas with explosive atmospheres (FM, CSA, TIS)
- Hydrogen purity and replacement meter for power generators

Infrared Gas Analyzers

IR202
IR400
IR202/IR400 NDIR Type Infrared Gas Analyzers
- Measuring Components
  - IR202: NO, SO2, CO, CH4, O2
  - IR400: NO, SO2, CO, CH4, O2

Gas Chromatograph

GC8000 Process Gas Chromatograph
- Fast analysis with Max. 3 ovens
- Parallel GC by GC Module concept
- Large 12.1 inch color LCD touch screen
- 6 languages

Gas Calorimeter

CM6G Gas Calorimeter
- Ideally suited for measuring calorific value and Wobbe index of gases in applications including city gas and iron & steel gas

Dust Monitor

DT450G Dust Monitor
- Automatic range setup and no manual adjustment required
- Triboelectric detection method unaffected by dust adhesion
- For bag filter breakage detection and adjustment of electrostatic precipitator’s efficiency

Gas Chromatograph

Gas Density Meter

Gas Calorimeter

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Field Instruments

Pressure Transmitters

DPharp EJX Series
Differential Pressure and Pressure Transmitters

- Ultra-high performance, the flagship model of DPharp.
- High accuracy and fast response.
- Unique features include:
  - Multi-sensing (Differential pressure and Static pressure).
  - Output signal characterizer.
  - Multi-functional indicator with local parameter setting function (optional).
- Alarm output for measured pressure and static pressure (optional).
- High reliability.
- SIL2 certified by TÜV.

DPharp EJA-E Series
Differential Pressure and Pressure Transmitters

- A best-selling pressure transmitter series featuring silicon resonant sensor.
- Fast response, corresponding to various applications.
- Excellent long term stability slashes maintenance cost.
- Unique features include:
  - Multi-sensing (Differential pressure and Static pressure).
  - Output signal characterizer.
  - Multi-functional indicator with local parameter setting function (optional).
- SIL2 capable.
- 1 to 5 V low power output type available.

Temperature Transmitters

YTA Series Temperature Transmitters

Field mount type
- Built-to-last: Dual-compartment housing realizes high resistance capability to harsh environments.
- Safety first: SIL2 certified right out of the box - At Yokogawa safety is not an option.
- Excellent long-term stability: Industry leading 5 year stability guarantee.

Head mount type
- A head mount type conforms to the standard DIN form B head mounting.

Panel mount type
- A panel mount type conforms to the standard DIN rail mounting and supports HART communication protocol.

Field Wireless Infrastructure

YFGW410/510 Field Wireless Management Station/Access Point

- Single or redundant configuration with YFGW410 and redundant switch over in less than 1 second.
- Highly reliable redundant communication: DUOCAST (YFGW410/510 only).
- Management of 500 wireless devices (max.) by YFGW410.
- Management of 20 YFGW510s (max.) by YFGW410 and 100 wireless devices by YFGW510.
- Management of 20 wireless devices (max.) by FN110-R1/LN90.

FN110-R1/LN90 Field Wireless Gateway Module

- Single or redundant configuration with YFGW410 and redundant switch over in less than 1 second.
- Highly reliable redundant communication: DUOCAST (YFGW410/510 only).
- Management of 500 wireless devices (max.) by YFGW410.
- Management of 20 YFGW510s (max.) by YFGW410 and 100 wireless devices by YFGW510.
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FN310 Field Wireless Multi-Protocol Module

- Single or redundant configuration with YFGW410 and redundant switch over in less than 1 second.
- Highly reliable redundant communication: DUOCAST (YFGW410/510 only).
- Management of 500 wireless devices (max.) by YFGW410.
- Management of 20 YFGW510s (max.) by YFGW410 and 100 wireless devices by YFGW510.
- Management of 20 wireless devices (max.) by FN110-R1/LN90.

FN510 Field Wireless Multi-Function Module

- Convert a wired transmitter, sensor or device into wireless.

EJX-B Series Wireless Differential Pressure/Pressure Transmitters

- Provide optimized wireless performance and identical sensor capability to wired one.

YTA510 Wireless Temperature Transmitter

- Function as network device — I/O auto, I/O and repeater, repeater.
- Update period — from 0.5 to 3600 seconds (depend on function).
- Ex Certification — ATEX, FM, CSA, IECEx.

YTMX580 Multi-Input Temperature Transmitter

- 8 analog inputs.

Common Features

- EJA100 Wireless™ certified
- Network Topology — Star, Mesh, Designed mesh (mesh route is designed manually)
- Power supply — Battery

Note: L, G, and S symbols indicate applicable process fluid types (liquid, gas, steam).
Level Transmitters

■ Flange-mounting, compact differential pressure transmitter.
■ Direct mounting to a tank.
■ Small flange size model available.

**EJXC80A/EJAC80E**
Diaphragm Seal System (Direct Mount Seal)

**EJXC40A**
Digital Remote Sensor

■ Connecting two pressure sensors, master (high pressure side) and slave (low pressure side) in a remote location, with DRS dedicated communication cable to measure differential pressure.
■ Suitable for level measurement of a tall tank. DRS cable length (maximum): 45 m
■ Signal characterization for various tank types.

**EJXC80A/EJAC80E**
Diaphragm Seal System (Remote Mount Seal)

**EJXC60E**
Hygienic Adapter System

■ Ideal for measuring the levels and densities of corrosive and high-temperature fluids.
■ Small flange size model available.

**ADMAG AXR**
2-wire Magnetic Flowmeter

■ 2 wire loop powered performance allows direct connection to DCS I/O card possible, thus drastically reducing the initial cost and power consumption.
■ Certified with SIL2 Safety Integrity Level (IEC 61508). AXR is capable of SIL2 single use and SIL3 redundant use, as standard.

**ADMAG AXF**
Magnetic Flowmeter

■ “Dual Frequency Excitation Method” realizes the stable measurement of high concentration slurry fluid and low conductivity fluid.
■ User-friendly functions; such as an electrode adhesion level diagnosis function, infra-red switches which can be used for setting parameters without opening the case cover.

**ROTAMETER**
Variable Area Flowmeter

■ Complete stainless steel design.
■ Local indication and analog output.
■ Various process connections and wetted materials.
■ Options such as Exi version, inductive alarms, pulse output, etc.

**EJX/EJA Series**
Differential Pressure Transmitters

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**ADMAG AXR**
2-wire Magnetic Flowmeter

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FieldMate Versatile Device Management Wizard

■ FieldMate is a field work-oriented software program for configuring, daily patrol, troubleshooting, and managing a wide variety of field devices used in plants and laboratories.
■ Multi-protocol access support
■ HART, FOUNDATION™ fieldbus H1, PROFIBUS, BRAIN, ISA100.11a, Modbus
■ Support frequently used functions (Zero adjustment, Input loop check support, and Acquisition of device parameters)

Configuration Tool

Note: **Liq**, **Gas**, and **Stm** symbols indicate applicable process fluid types (liquid, gas, steam).
Field Instruments

Flowmeters

**ROTAMASS Total Insight Coriolis Mass Flowmeter**
- A versatile, multi-sensing flowmeter that measures most flowing fluids.
- Vibration-resistant due to counterbalanced dual measurement system.
- Sensor design with low pressure loss.
- High accuracy measurement, Mass flow: 0.1%, Density: 0.0005 g/cm³.
- Wide temperature range (-70°C to 350°C).

**ADMAG Total Insight AXG and AXW Magnetic Flowmeter**
- The ADMAG Total Insight AXG and AXW adopt the “Total Insight” concept and totally support the product life cycle. The functions will increase customer’s benefits with reducing total cost of ownership.
- High-quality and highly reliable product based on years of experience and achievement by our proprietary dual frequency excitation method.
- The AXG is ideal for industrial process lines like oil&gas/chemical/pulp&papper/food&beverage/metal&mining applications, and the AXW is for general industrial process lines and water supply/sewage applications.
- The AXG and/or AXW provide four I/O signals, calorie calculation, data logging, NAMUR NE 107, built-in verification, application diagnostics, and data transfer by microSD card.

**digitalJEWFLO Vortex Flowmeter**
- Spectral signal processing automatically optimizes the output immediately after power-on.
- Self-diagnostics, one step ahead of other flowmeters, enables predictive maintenance.
- Analog and pulse signal outputs simultaneously.
- Available in high-temperature and cryogenic models.
- Built-in temperature sensor in the shedder bar offers the mass flow output or the temperature output.
- The temperature device is not required for the saturated steam process.
- Robust meter design to withstand steam flow challenges such as water hammer, high temperature process, etc.
- Reduced bore type enable low flow measurement.

**PK200 Current-to-Pneumatic Converter**
- Electronic feedback system achieving high reliability and high performance.
- Energy-saving design achieve economy.
- Designed to be replacement-compatible with the former model 5502.
- Easy to operate…one side access.
**pH/ORP Analyzers**

**FLXA402**
- 4-Wire pH/ORP Converter
  - Color Touch screen
  - Up to five sensor measurements
  - Aluminum alloy cast
  - Easy maintenance using SD card, Ethernet, RS485 and Bluetooth
  - 9 languages

**PH450G**
- 4-Wire pH/ORP Converter
  - Large, high-resolution graphical display and touchscreen operation for ease of use
  - Diagnostic functions for minimum maintenance
  - Temperature compensation and predefined pH buffer tables for best accuracy
  - 8 languages

**FLXA202/FLXA21**
- 2-Wire pH/ORP Transmitter
  - 12 languages
  - Touch screen display
  - Two sensors can be connected.

**PH71/PH72**
- Personal pH, pH/ORP Meters
  - Waterproof (IP67) construction allows measurement in wet environment
  - Various convenient functions: 300-point data memory, alarm clock, etc.

**Conductivity Analyzers**

**FLXA402**
- 4-Wire Conductivity/Inductive Conductivity Converter
  - Color Touch screen
  - Up to five sensor measurements
  - Aluminum alloy cast
  - Connection of new digital sensor (SA11) smart adapter
  - Easy maintenance using SD card, Ethernet, RS485 and Bluetooth
  - 9 languages

**SC450G/ISC450G**
- 4-Wire Conductivity/Inductive Conductivity Converter
  - Large, high-resolution graphical display and touchscreen operation for ease of use
  - Diagnostic functions for minimum maintenance
  - Temperature compensation and predefined ORP/Redox buffer tables for best accuracy.
  - 8 languages

**FLXA202/FLXA21**
- 2-Wire Conductivity/Inductive Conductivity Transmitter
  - 12 languages
  - Touch screen display
  - Two sensors can be connected.

**Conductivity Sensors**

**FU20FFU24F SC25F PH8EFP/PH8ERP**
- SENCOM® digital sensor

**Turbidity Analyzers**

**TB750G**
- Right Angle Scattered Light Turbidity Analyzer
  - User configurable measuring range from 0.02 NTU to 0-100 NTU.
  - Highly reliable measurement with excellent linearity and repeatability.
  - In-line connection available
  - Easy-to-clean cell

**TB400G**
- Scattered-Light Turbidity Analyzer
  - Surface scattered light method using kaolin, formazin, or PSL (polystyrene latex) for calibration
  - Highly reliable measurement at water supply and sewage systems
  - Measuring range: 0-2 to 0-2000 mg/l (or degrees, unit selectable)

**Conductivity Sensors**

**ISC40G/S**
- Inductive Conductivity Sensors
  - Measuring range: 100 μS/cm to 1999 mS/cm with a single sensor
  - Material: PEEK or Teflon (PTFE)

**SC72**
- Personal Conductivity Meter
  - Intelligent, portable conductivity meter with waterproof (IP67) construction
  - Various convenient functions: 300-point data memory, alarm clock, etc.
FC400G
Free Available Chlorine Analyzer
- Non-reagent Type
- Polarographic method using rotating gold electrode
- Ideal for measurement of free available chlorine in water supply and distribution systems
- Field-configurable from 0-1 to 0.3 mg/l for two switchable output ranges
- Microprocessor-based, intelligent converter

FC500G
Free Available Chlorine Analyzer
- Non-reagent Type
- Polarographic method using rotating gold electrode
- Ideal for measurement of free available chlorine in water supply and distribution systems
- Measuring range selectable: 0-1/0-2/0-3 mg/l switchable or 0-5/0-10 mg/l switchable

RC400G
Residual Chlorine Analyzer
- Reagent Type
- Polarographic method using rotating platinum electrode
- Ideal for measurement of residual chlorine in chlorination processes of water supply systems and in cooling water of thermal power stations
- Measuring range: 0 to 10 mg/l

SS400G
MLSS Analyzer
- Wide measuring range from 0-1000 mg/l to 0-20000 mg/l
- Ideal for measurement of mixed liquor suspended solids (MLSS) in an aeration tank of activated sludge processes in sewage and industrial wastewater treatment facilities

DM8
Vibration Type Liquid Density Meter
- Measures liquid density with high sensitivity and stability
- Measuring range: 0.5 to 2.0 g/cm³
- Temperature, salinity, and barometric air pressure compensation for best accuracy

DO402G
4-Wire Dissolved Oxygen Converter
- Long-term stable sensor
- Display unit in mg/l, ppm, or % saturation
- Temperature compensation, salt concentration compensation and barometric air pressure compensation for best accuracy
- Ideal for measurement of dissolved oxygen in aeration tanks at sewage treatment plants, etc.

DM8
Vibration Type Liquid Density Meter
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FT-Near Infrared Analyzers
InfraSpec NR800
Fourier Transform Near Infrared Analyzers
- On-line Model
  - Continuous, multiple, and simultaneous measurement of component concentration and property values (density, polymerization degree, ozone value, etc.) of various processes
  - Measurement of trace water content available

- At-line Model
  - Barcode reader provides easy operation for at-line and routine analyses
  - Reduces operating and maintenance costs by consolidation of lab and process calibration models and onsite hands-on training

DO70G
Dissolved Oxygen Sensors
- Measurement object: Measurement of dissolved oxygen in aeration tanks at sewage treatment plants
- Measuring range: 0 to 25 mg/l (ppm) (DO70G), 0 to 20 mg/l (ppm) (DO30G)
- Type of sensor: Optical DO sensor (DO70G), Galvanic cell DO sensor (DO30G)
Synaptic Business Automation creates sustainable value by connecting everything in our customers’ organization. To realize this, Yokogawa integrates its business and domain knowledge with digital automation technologies, and co-innovates with customers to drive their business process transformation.