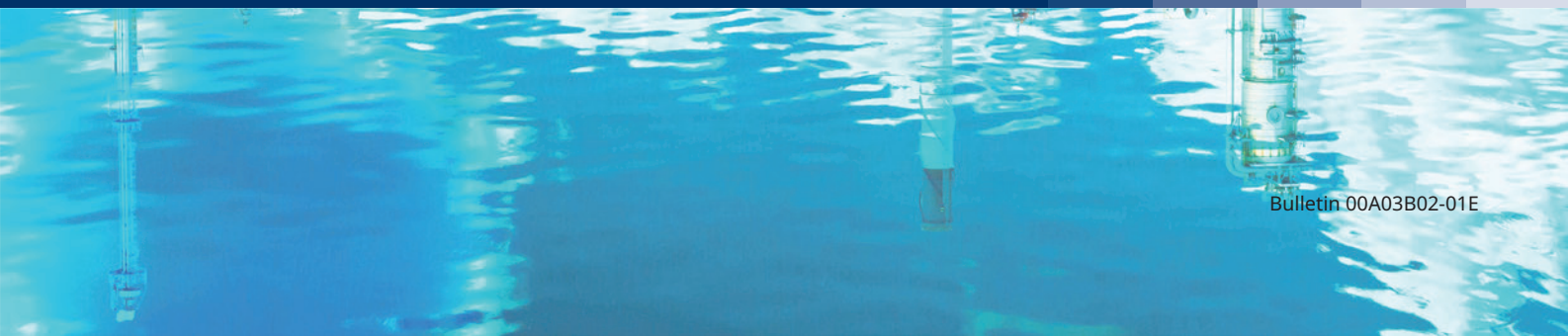




OpreX™ Field Instruments

Product Solution Catalog

Field Instruments and Analyzers



Gas Analyzers

Oxygen Analyzers



ZR402G/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)



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



OX400 Low Concentration Zirconia Oxygen Analyzer

- Capable of measuring wide range of concentrations, from 0-10 ppm up to 0-100 vol% 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

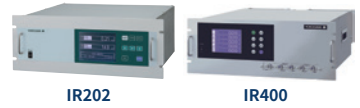
- Measures gas density with high sensitivity and quick response. Also capable of displaying specific gravity and molecular weight derived from the density data.
- Can be used in hazardous areas with explosive atmospheres (FM, CSA, TIIIS)
- Hydrogen purity and replacement meter for power generators



MG8G/MG8E Paramagnetic Oxygen Analyzers

- Ideally suited for measuring oxygen concentrations of flammable gases
- MG8E has flameproof construction

Infrared Gas Analyzers



IR202/IR400 NDIR Type Infrared Gas Analyzers

Measuring Components

- IR202: NO, SO₂, CO₂, CO, CH₄, O₂
- IR400: NO, SO₂, CO₂, 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

Field Instruments

Pressure Transmitters



Liq Gas Stm

DPharp EJX Series Differential Pressure and Pressure Transmitters

- Ultra-high performance, the flag-ship 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.



Liq Gas Stm

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.

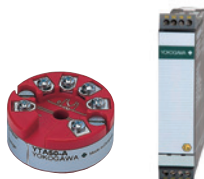
Temperature Transmitters



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 guaranty



Head mount type

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

Panel mount type

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



Liq Gas Stm

EJX-B Series Wireless Differential Pressure/Pressure Transmitters



YTA510 Wireless Temperature Transmitter

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

Field Wireless Infrastructure



YFGW410



YFGW510

YFGW410/510 Field Wireless Management Station/Access Point

FN110-R1/LN90 Field Wireless Gateway Module



FN110-R1/LN90

- 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



FN310 Field Wireless Multi-Protocol Module

Wired HART transmitter

MODBUS device (SENCOM)



FN510 Field Wireless Multi-Function Module

DI / DO, AI

Pulse count

Vibration sensor (LN01)

- Convert a wired transmitter, sensor or device into wireless



YTMX580 Multi-Input Temperature Transmitter

- 8 analog inputs

Common Features

- ISA100 Wireless™ certified
- Network Topology — Star, Mesh, Designed mesh (mesh route is designed manually)
- Power supply — Battery

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

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

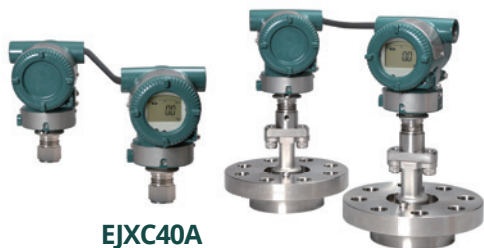
Level Transmitters



EJXC80A/EJAC80E Diaphragm Seal System (Direct Mount Seal)

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

Liq



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.

Liq



EJXC80A/EJAC80E Diaphragm Seal System (Remote Mount Seal)

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

Liq



EJAC60E Hygienic Adapter System Fluidless Type Pressure Transmitter

- The hygienic pressure transmitter is designed specifically for the needs of the food and pharmaceutical industry.
- The transmitter design eliminates the use of filling fluid and incorporates a hygienically sealed adapter structure to ensure process integrity.
- Hygienically sealed adapters offer 16 different type of process connections.



Liq

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.



Liq

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.



Liq Gas

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.



Liq Gas Stm

EJX/EJA Series Differential Pressure Transmitters

- Combined with an orifice, measures liquid, gas, and steam flow rates.
- Available for direct mounting without three-valve manifold.
- Outstanding long-term stability slashes maintenance costs.



Liq Gas Stm

EJX910A Multivariable Transmitter

- Fully compensated mass flow: all flow factors can be automatically and dynamically calculated to an optimal value.
- 1.0% mass flow rate accuracy over 1:10 flow range.
- Simultaneous dual output of 4 to 20 mA and pulse signals for total flow, flow rate, or alarm status.

Configuration Tool

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)



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

Field Instruments

Flowmeters



ROTAMASS Nano



ROTAMASS Prime



ROTAMASS Giga

Liq Gas

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).

Total Insight concept provides:

- Six dedicated sensor lines offering best-suited solutions.
- Wizard for easy setup and configuration.
- "Event Management" for pro-active operation.
- Patented* "Tube Health Check" for in-line meter verification. *JP 4952820 B2
- MicroSD card for easy data transfer.
- Worldwide approvals.



Liq

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&paper/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.



Multi-variable type



Reduced bore type

Liq Gas Strm

digitalYEWFLO 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.

Converter



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
- Connection of new digital sensor (SA11) smart adapter
- 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.



pH/ORP Sensors for Process Use

- Appropriate sensor for your application

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, predefined OIML buffer tables, cell fouling monitoring for best accuracy



DC402G Dual Cell Conductivity/ Resistivity Converter

- Differential, ratio or calculated outputs
- Universal conductivity/resistivity, software switchable
- Matrix temperature compensation for pure water applications
- Easy to use EXA control panel
- USP<645> monitoring



FLXA202/FLXA21 2-Wire Conductivity/ Inductive Conductivity Transmitter

- 12 languages.
- Touch screen display.
- Two sensors can be connected.



ISC450G 4-Wire Inductive Conductivity Converter

- Large, high-resolution graphical display and touchscreen operation for ease of use
- Diagnostic functions for minimum maintenance

* Temperature compensation and predefined OIML buffer tables for best accuracy.

- 8 languages



FLXA202/FLXA21 2-Wire Inductive Conductivity Transmitter

- 12 languages.
- Touch screen display.

Turbidity Analyzers



TB750G Right Angle Scattered Light Turbidity Analyzer

- User configurable measuring range from 0-0.2 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

- Appropriate sensor for your application



ISC40G/S Inductive Conductivity Sensors

- Measuring range: 100 μ S/cm 1999 mS/cm with a single sensor
- Material: PEEK or Teflon (PFA)



SC72 Personal Conductivity Meter

- Intelligent, portable conductivity meter with waterproof (IP67) construction
- Various convenient functions: 300-point data memory, alarm clock, etc.

id Analyzers

Chlorine Analyzers



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
- Micro processor-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 10mg/l

MLSS Analyzer



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

Liquid Density Meter



DM8 Vibration Type Liquid Density Meter

- Measures liquid density with high sensitivity and stability
- Measuring range of 0.5 to 2.0 g/cm³ unaffected by flow rate and viscosity
- Detector is available in general-purpose, sanitary, and flameproof types

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, octane 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

Dissolved Oxygen Analyzers



FLXA402 4-Wire Dissolved Oxygen Converter

- Color Touch screen
- Up to two sensor measurements
- Aluminum alloy cast
- Connection of new digital sensor (SA11) smart adapter
- Easy maintenance using SD card, Ethernet, RS485 and Bluetooth
- 9 languages



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.



FLXA202/FLXA21 2-Wire Dissolved Oxygen Transmitter

- 12 languages.
- Touch screen display.
- Two sensors can be connected.



DO70G



DO30G

DO70G/DO30G Dissolved Oxygen Sensors

- Measurement object: Measurement of dissolved oxygen in aeration tanks at sewage treatment plants.
- Measuring range: 0 to 25mg/l (ppm) (DO70G), 0 to 20mg/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.

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