2-Wire Liquid Analyzer
FLXA21

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The FLXA21 Modular 2-wire Liquid Analyzer can measure several different liquid properties and supports the use of up to two sensors.
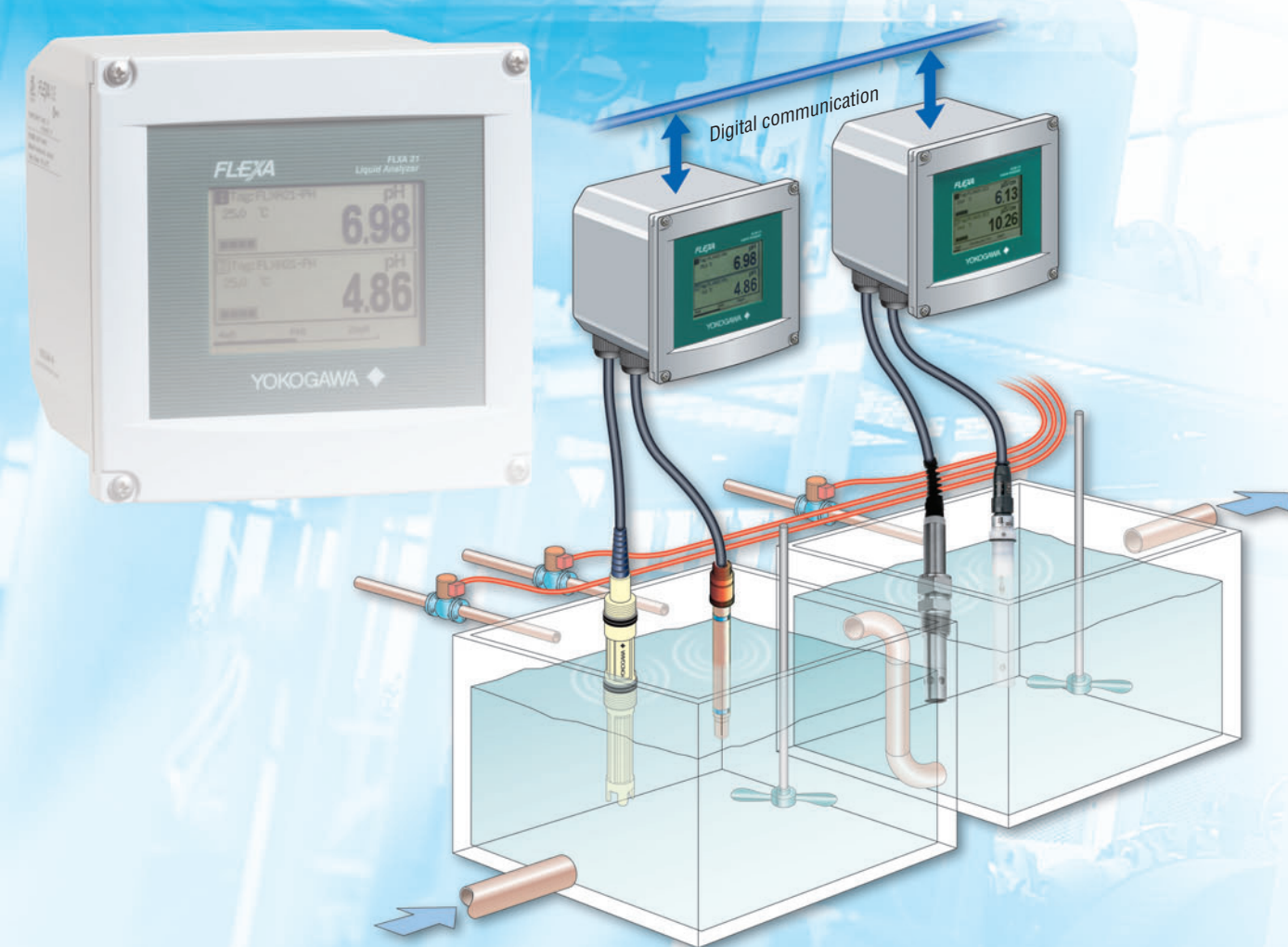
Modular 2-wire Liquid Analyzer

FLXA21

The FLXA21 is a next-generation modular liquid analyzer that can be flexibly configured to measure pH/ORP, contacting conductivity, inductive conductivity, or dissolved oxygen.

The FLXA21 also supports the installation of up to two sensors of the same type, thereby reducing installation costs and saving space in addition to enabling the configuration of a highly reliable redundant system.

It has reliable and advanced features and functions such as a touch screen for improved operability, sensor self-diagnosis, maintenance time estimation, and 12 language display options.

Digital communication

Modular Design for Increased Scalability

- The modular design enables the construction of a variety of systems.
- System changeover can be done quickly and easily by replacing and adding modules*.
- Users can opt to do without a display and can also select the case material (plastic or stainless steel).
- Intrinsically safe type of ATEX, IECEx, FM, CSA and NEPSI, and non-incendive of FM and CSA.

* Should be done by Yokogawa Service.

Touch Screen for Improved Operability

- The interactive touch screen is easy to use and helps eliminate operator errors.
- Several different display modes are available.
- In the event of an error, the screen displays an error code and indicates the corrective action to be taken.
- With routine operations, prompts and other messages eliminate the need to consult the instruction manual.

Advanced Functions

- **Sensors with self-diagnostics capabilities**
  Continuous measurement of sensor impedance, asymmetric potential, and slope, and continuous monitoring for electrode contamination/damage, burnout, and decline in measurement liquid level (ex. pH Analyzer)
- **Display of sensor status and estimated maintenance time**
  Save the latest five calibration results and estimate the future maintenance and calibration times.
- **Quick setup**
  Screen instructions (guidance messages) make setup quick and easy.

Estimation

Watch dog timer   7.00   Alarm

High limit
Value   Low limit
t0   t1   Day

Full Sensor Line-up for a Broad Range of Applications

- The FLXA21 can be connected to a wide variety of pH/ORP, contacting conductivity, inductive conductivity, and dissolved oxygen sensors.

pH/ORP sensors   Contacting conductivity sensors   Inductive conductivity sensors   Dissolved oxygen sensors

Support of Up to Two Sensors and Digital Communications for Increased Reliability and Reduced Maintenance and Instrumentation Costs

- The FLXA21 supports the use of up to two sensors*.
  * The two sensors must be of the same type.
  * With inductivity sensors, only one sensor may be connected.
  * Connection of one digital FU20F pH/ORP SENCOM Sensor.

- Redundant system with two sensors increases measurement reliability.
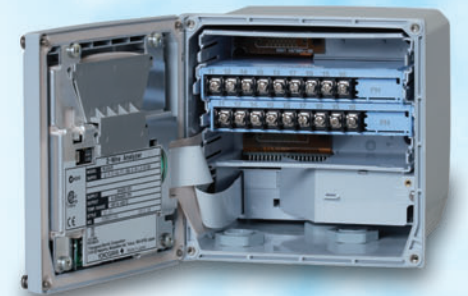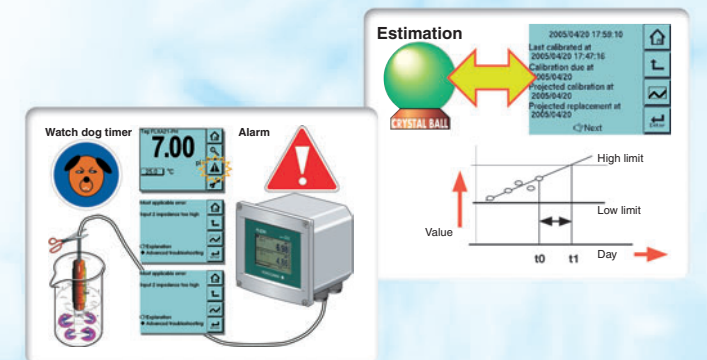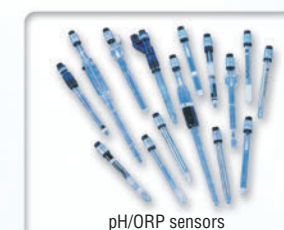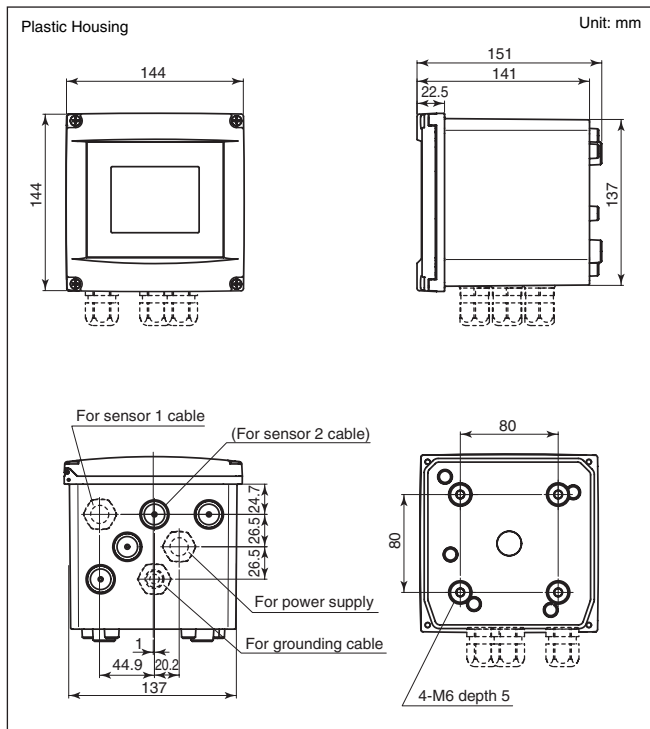- Measurement at two points with a single analyzer reduces installation costs and saves space.

- Interruption-free measurement is assured even during maintenance.
- Digital communications options for reduced maintenance and instrumentation costs
  HART communications
  FOUNDATION™ Fieldbus and Profibus options will also be available in the future.

■ General Specifications

Housing	Case: Plastic or stainless steel (with or without urethane or epoxy coating) Window: Polycarbonate
Protection	IP66 (except Canada), NEMA 4X (except Canada), Type 3S/4X (Canada)
Outline Dimensions	Plastic: 144 (L) x 144 (W) x 151 (D) mm Stainless steel: 165 (L) x 165 (W) x 160 (D) mm
Weight	Approx.1 kg (Plastic housing), Approx. 2 kg (Stainless steel housing)
Display	Black/white LCD with a touch screen (213 x 160 pixels)
Mounting	Pipe, wall or panel mounting Conduit adapter: G1/2, 1/2 NPT or M20 x 1.5
Environmental Conditions	Ambient temperature: -20 to 55°C Storage temperature: -30 to 70°C Ambient humidity: 10 to 95%RH (Non-condensing)
Power Supply	Nominal 24 V DC loop powered system
Regulatory Compliance	Safety: EN61010-1, UL 61010-1, CAN/CSA C22.2 No.61010-1 EMC: EN61326-1 Class A, Table 2 (For use in industrial locations) EN61326-2-3, AS/NZS CISPR11 Korea Electromagnetic Conformity Standard
Output Signal	One isolated output of 4 to 20 mA DC, 2-wire system
Communication	HART

Refer to the GS12A01A02-01E for detailed specification.

■ Outline Dimensions

Plastic Housing

Unit: mm

■ Model & Suffix Codes

Model	Suffix code	Option code	Description
FLXA21	- - - - - - - - - - - - - - - - - - -	- - - - - - -	2-Wire Analyzer
Power Supply	-D	- - - - - - -	Always -D
Housing	-P -S -U -E	- -	Plastic Stainless steel Stainless steel + urethane coating Stainless steel + epoxy coating
Display	-D	- - - - - - -	Anti-glare LCD
Type	-AA -EA	- - - - - - - - - - - - - -	General purpose ATEX, IECEx, FM, CSA, NEPSI (Note 5)
1st input	-P1 -C1 -C5 -D1 -S1	- -	pH/ORP (Note 7) Conductivity (SC) Inductive conductivity (ISC) Dissolved oxygen (DO) pH/ORP (SENCOM sensor) (Note 8)
2nd input (Note 1)	-NN -P1 -C1 -D1	- -	Without input pH/ORP (Note 7) Conductivity (SC) Dissolved oxygen (DO)
Output	-A -N	- - - - - - - - - - - - - -	4-20 mA + HART Always -N
Language set (Note 2)	-LA	- - - - - - -	English and 11 languages
Country (Note 3)	-N -J	- - - - - - - - - - - - - -	Global except Japan Japan
—	-NN	- - - - - - -	Always -NN
Option	Mounting hardware /UM /U /PM Hood /H6 /H7 /H8 Tag plate /SCT Conduit adapter /CB4 /CD4 /CF4 Measurement law /K		Universal mounting kit (Note 4) Pipe and wall mounting hardware Panel mounting hardware Hood, stainless steel Hood, stainless steel + urethane coating Hood, stainless steel + epoxy coating Stainless steel tag plate Conduit adapter (G1/2 x 4 pcs) Conduit adapter (1/2NPT x 4 pcs) Conduit adapter (M20 x 1.5 x 4 pcs) With Measurement Law certificate (Note 6)

Notes:
1: When a 2nd input is selected, only the same kind of the 1st input is available.
   For example, when a 1st input is "-P1", the 2nd input must be the same "-P1".
   The combination of ISC and ISC is not available. And, the combination of SENCOM sensor and SENCOM sensor is not available, either.
2: These languages are message languages on the analyzer's display.
   One analyzer has English and 11 languages.
   All languages are as follows; English, Chinese, Czech, French, German, Italian, Japanese, Korean, Polish, Portuguese, Russian, Spanish.
3: When an analyzer is used in Japan, it must meet the Japanese Measurement Law.
   Only SI units must be used on the analyzer and its documents in Japan.
4: The universal mounting kit contains the pipe and wall mounting hardware (/U) and the panel mounting hardware (/PM).
5: The type "-EA" is intrinsically safe type of ATEX, IECEx, FM, CSA and NEPSI, and non-incendive of FM and CSA.
6: The analyzer with Japanese Measurement Law certificate is available only for the following model;
   FLXA21-D-[Housing code]-D-AA-P1-NN-A-N-LA-J-NN/[option code except /K]/K
   Only one pH measurement with an analog sensor is certified. The output signal of 4 - 20 mA is certified. HART communication is not certified.
7: This input is to be come from an analog pH/ORP sensor.
8: When the analyzer is connected with the digital sensor, FU20F pH/ORP SENCOM Sensor, only the following model is available;
   Type: General purpose (-AA), 2nd input: Without input (-NN), Option: except "/K"

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VigilantPlant is Yokogawa's automation concept for safe, reliable, and profitable plant operations. VigilantPlant aims to enable an ongoing state of Operational Excellence where plant personnel are watchful and attentive, well-informed, and ready to take actions that optimize plant and business performance.

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