2-Wire Liquid Analyzer

FLXA21

Bulletin 12A01A02-01E

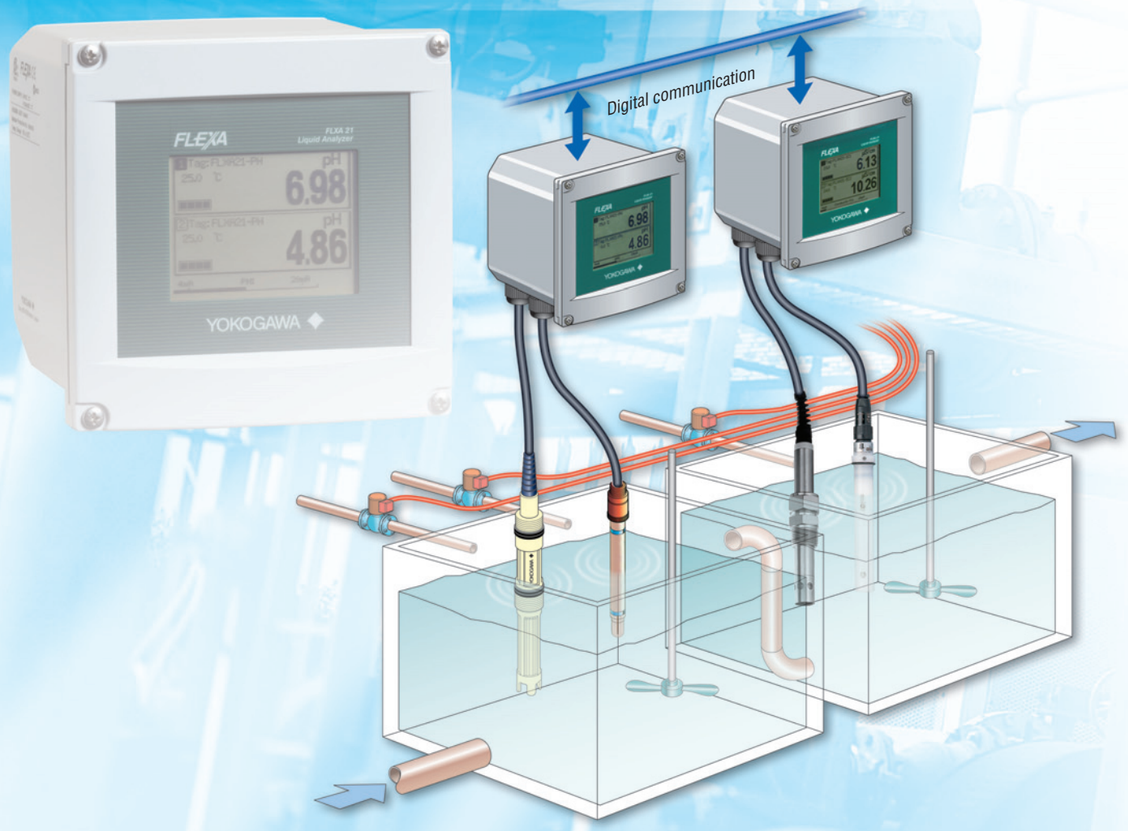
YOKOGAWA

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.



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 Communication
  FOUNDATION™ Fieldbus Communication
  PROFIBUS PA Communication

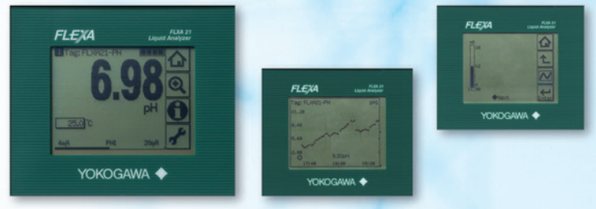
Modular Design for Increased Scalability

- **The modular design enables the construction of a variety of systems.**
- **System changeover can be done quickly and easily by replacing and adding modules*.**
- **Intrinsically safe type of ATEX, IECEx, FM, CSA and NEPSI, and non-incendive of FM and CSA.**

* Should be done by Yokogawa Service.

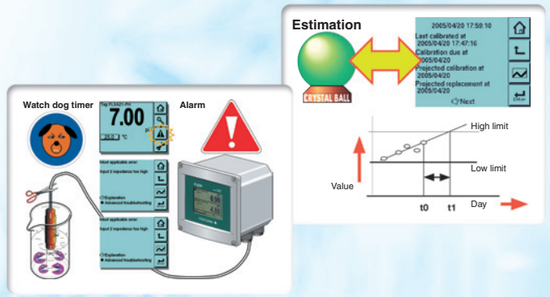
Touch Screen for Improved Operability

- **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.



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

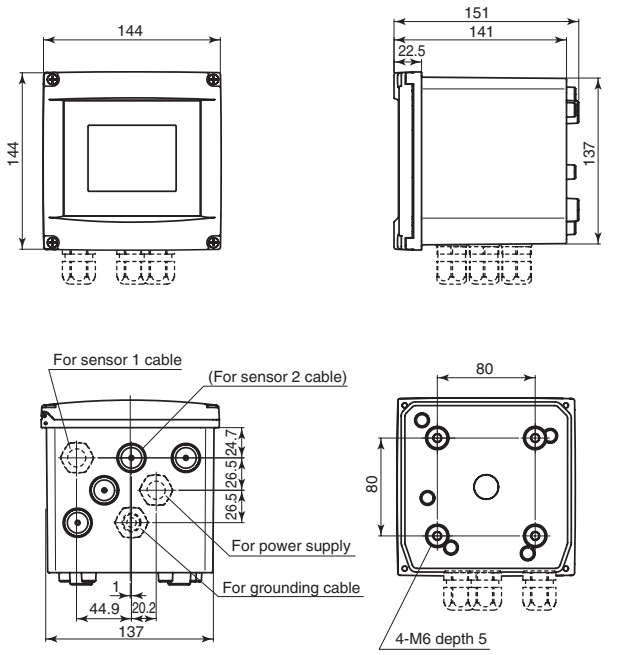
General Specifications

Housing **Protection**	Case: Plastic Window: Polycarbonate IP66 (except Canada), NEMA Type 4X (USA), CSA Type 3S/4X (Canada)
Outline Dimensions	144 (W) x 144 (H) x 151 (D) mm
Weight	Approx.1 kg
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 90%RH (40°C) (Non-condensing)
Power Supply	Nominal 24 V DC loop powered system (output: -A) 9 to 32 V DC (output: -F, -P)
Regulatory Compliance	Safety: UL 61010-1, UL 61010-2-030 CAN/CSA-C22.2 No.61010-1, CAN/CSA-C22.2 No.61010-2-030 EMC: EN61326-1 Class A, Table 2 (For use in industrial locations) EN61326-2-3, EN61326-2-5 (output: -F, -P), AS/NZS CISPR11 Korea Electromagnetic Conformity Standard
Hazardous Location Approvals	ATEX, IECEx, FM, CSA, NEPSI
Output Signal	One isolated output of 4 to 20 mA DC, 2-wire system
Communication	HART, FOUNDATION Fieldbus, PROFIBUS PA

Refer to the GS12A01A02-01E for detailed specification.

Outline Dimensions

Unit: mm



Model & Suffix Codes

Model	Suffix code	Option code	Description
FLXA21	----------	-------	2-Wire Analyzer
Power Supply	-D	-------	Always -D
Housing	-P	-------	Plastic
Display	-D	-------	Anti-glare LCD
Type	-AB	-------	General purpose for CE, RCM
	-AD	-------	General purpose for CSA
	-AG	-------	General purpose for KC
	-AQ	-------	General purpose for EAC with PA (Note 10)
	-AR	-------	General purpose for EAC (Note 11)
	-CB	-------	IS for ATEX, IECEx (Note 8)
	-CD	-------	IS for FM, CSA (Note 5)
	-CH	-------	IS for NEPSI (Note 14)
	-EG	-------	IS for KOSHA (Note 9)
	-EQ	-------	IS for EACEx with PA (Note 12)
	-ER	-------	IS for EACEx (Note 13)
	-DD	-------	NI for FM, CSA (Note 15)
1st input	-P1	-------	pH/ORP (Note 6)
	-C1	-------	Conductivity (SC)
	-C5	-------	Inductive conductivity (ISC)
	-D1	-------	Dissolved oxygen (DO)
	-S1	-------	pH/ORP (SENCOM sensor) (Note 7)
2nd input (Note 1)	-NN	-------	Without input
	-P1	-------	pH/ORP (Note 6)
	-C1	-------	Conductivity (SC)
	-D1	-------	Dissolved oxygen (DO)
Output	-A	-------	4-20 mA + HART
	-F	-------	FOUNDATION Fieldbus
	-P	-------	PROFIBUS PA
—	-N	-------	Always -N
Language set (Note 2)	-LA	-------	English and 11 languages
Country (Note 3)	-N	-------	Global except Japan
	-J	-------	Japan
—	-NN	-------	Always -NN
Option	Mounting hardware	/UM	Universal mounting kit (Note 4)
		/U	Pipe and wall mounting hardware
		/PM	Panel mounting hardware
	Hood	/H6	Hood, stainless steel
		/H7	Hood, stainless steel + urethane coating
		/H8	Hood, stainless steel + epoxy coating
	Tag plate	/SCT	Stainless steel tag plate
	Conduit adapter	/CB4	Conduit adapter (G1/2 x 4 pcs)
		/CD4	Conduit adapter (1/2NPT x 4 pcs)
		/CF4	Conduit adapter (M20 x 1.5 x 4 pcs)

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 and 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 "-CD" is intrinsic safety of FM and CSA, and non-incendive of FM and CSA. Temperature classes are T4.
6: This input is to be come from an analog pH/ORP sensor.
7: When the analyzer is connected with the digital sensor, FU20F pH/ORP SENCOM Sensor, only the following model is available;
2nd input: Without input (-NN)
8: The type "-CB" intrinsic safety type of ATEX and IECEx can be used with SENCOM sensor. Temperature class is T4. Product registration is done by Yokogawa Taiwan Corporation as an importer in Taiwan.
9: The type "-EG" intrinsic safety type of KOSHA for Korea. Temperature class is T4.
10: The type "-AQ" is General purpose type of EAC with Pattan Approval for Russia.
11: The type "-AR" is General purpose type of EAC for Kazakhstan and Belarus.
12: The type "-EQ" intrinsic safety type of EAC with Pattan Approval for Russia. Temperature class is T4.
13: The type "-ER" intrinsic safety type of EAC for Kazakhstan and Belarus. Temperature class is T4.
14: The type "-CH" intrinsic safety type for NEPSI. Temperature class is T4.
15: The type "-DD" nonincendive type for FM. Temperature class is T4.

YOKOGAWA ELECTRIC CORPORATION **http://www.yokogawa.com/an/**
World Headquarters
9-32, Nakacho 2-chome, Musashino-shi, Tokyo 180-8750, JAPAN

YOKOGAWA CORPORATION OF AMERICA	http://www.yokogawa.com/us/
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