

General Specifications

UM33A-S
Digital Indicator with Alarms
(SENCOM HMI Type)

UTAdvanced
for SENCOM

GS 05P09D21-01EN

Overview

The UM33A-S connects to sensors which are connected to SENCOM Smart Adapter, model SA11. The main functions of the UM33A-S are displaying the measured values of the sensor and calibrating the sensor.

The UM33A-S can be connected to two types of sensors: pH meter and conductivity meter.



Features

- A 14-segment, white color LCD display is employed. Alphabet letters can be displayed in an easy-to-read manner. The guide display shows parameter names.
- Sensor and warning-error displays with event indicators.
- Easy to operate
Navigation keys (SET/ENTER and Up/Down/Left/Right arrow keys) are employed to facilitate making settings.
- Indication and control of the calibration function included in the Smart Adapter
- The display range (the unit and decimal point position) is switched automatically according to the PV value. (when conductivity (SC) sensor is selected.)
- 3 additional DO (a-contact relay) (Option /AL)
- Power supply for SENCOM: 3.6 - 5.5 VDC
- 65 mm depth
The small depth enables the mounting in a thin and small instrumented panel.
- Equipped with mA retransmission output
- Dust-proof and drip-proof
IP66 (for front panel) (Not applicable to side-by-side close mounting.) NEMA4 (Hose-down test only)

Functional Specifications

SENCOM Smart Adapter Interface

- Communication function
Modbus master
Connected slave number: 1 unit
- Power supply for SENCOM
3.6 - 5.5 VDC (max 30 mW)

Physical Interface

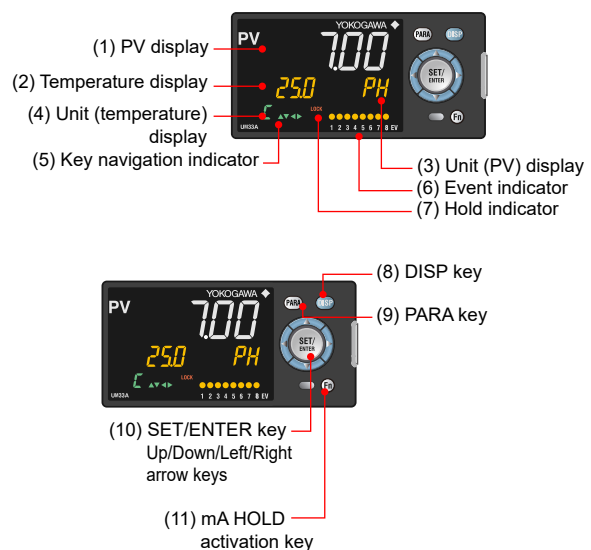
- Interface type: RS-485
- Protocol: Modbus/RTU
- Baud rate: 9600 bps
- Byte format
8bit with even parity, one stop bit, one start bit.
- Instrument address: 1 (fixed)

Hardware Specifications

Display Specifications

- PV display: 5-digit, 14-segment LCD (white)
Character height: 14.2 mm
- Data display: 5-digit, 11-segment LCD (orange)

Names of Display Parts



Retransmission Output Specifications

- Current output: 4 to 20 mA DC (for process output), 3.5 mA or less or 22 mA or more (for error indication). Load resistance of 600 Ω or less
- Current output accuracy: $\pm 0.1\%$ of span
The accuracy is that in the standard operating conditions: 23 ± 2 °C, 55 ± 10 %RH, and power frequency at 50/60 Hz.

3 additional DO (a-contact relay) Specifications

- Contact type and number of outputs: contact point 1a; 3 points (common is independent)
- Contact rating: 240 V AC, 1A or 30 V DC, 1 A (resistance load)
- Use: Alarm output
 - *: The alarm-1 to -3 output should always be used with a load of 1 mA or more.

Safety and EMC Standards

Note: /NS option does not conform to the Safety and EMC Standards.

- Safety:
 - Compliant with IEC/EN 61010-1 (CE), IEC/EN 61010-2-201 (CE), IEC/EN 61010-2-030 (CE), approved by CAN/CSA C22.2 No. 61010-1 (CSA), approved by UL 61010-1.
 - Installation category: II
 - Pollution degree: 2
 - Measurement category: I (CAT I) (UL, CSA) O (Other) (CE)
 - Rated transient overvoltage: 1500 V¹
 - 1: This is a reference safety standard value for measurement category I of CSA/UL 61010-1, and for measurement category O of IEC/EN 61010-2-030. This value is not necessarily a guarantee of instrument performance.

- EMC standards:
 - Compliant with CE marking
 - EN 61326-1 Class A, Table 2, EN 61326-2-3
 - *: The instrument continues to operate at a measurement accuracy of within $\pm 20\%$ of the range during testing.
 - EN 55011 Class A, Group 1
 - EN 61000-3-2 Class A
 - EN 61000-3-3
 - EMC Regulatory Arrangement in Australia and New Zealand
 - EN 55011 Class A, Group 1
- KC marking: Electromagnetic wave interference prevention standard, electromagnetic wave protection standard compliance

Construction, Installation, and Wiring

- Dust-proof and drip-proof: IP66 (for front panel)/NEMA4²
 - 2: Hose-down test only
- Material: Polycarbonate (Flame retardancy: UL94V-0)
- Case color: White (Light gray) or Black (Light charcoal gray)
- Weight: 0.5 kg or less
- External dimensions (mm): 96 (W) × 48 (H) × 65 (depth from the panel face) (Depth except the projection on the rear panel)
- Installation: Direct panel mounting; mounting bracket, one each for left and right mounting
- Panel cutout dimensions (mm): 92^{+0.8/0} (W) × 45^{+0.6/0} (H)
- Mounting attitude: Up to 30 degrees above the horizontal. No downward titling allowed.
- Wiring: M3 screw terminal with square washer (for signal wiring and power wiring)

Power Supply Specifications and Isolation

- Power supply:
 - Rated voltage: 100 – 240 V AC (+10%/-15%), 50/60 Hz
 - 24 V AC/DC (+10%/-15%) (for /DC option)
- Power consumption: 15 VA (DC: 7 VA, AC: 11 VA if /DC option is specified)

- Data backup: Nonvolatile memory
- Power holdup time: 20 ms (for 100 V AC drive)
- Withstanding voltage
 - Between primary terminals and secondary terminals: 2300 V AC for 1 minute (UL, CSA)
 - Between primary terminals and secondary terminals: 3000 V AC for 1 minute (CE)
 - Between primary terminals: 1500 V AC for 1 minute
 - Between secondary terminals: 500 V AC for 1 minute
- 3: (Primary terminals: Power³ and relay output terminals; Secondary terminals: Communication terminals and functional grounding terminals.) Power terminals for 24V AC/DC models are the secondary terminals.
- Insulation resistance
 - Between power supply terminals and a grounding terminal: 20 M Ω or more at 500 V DC
- Isolation specifications

Retransmission output terminals	Internal circuit	Power supply
Alarm-1 relay (contact point a) output terminals		
Alarm-2 relay (contact point a) output terminals		
Alarm-3 relay (contact point a) output terminals		
SENCOM smart adapter Interface terminals		

The circuits divided by lines are insulated mutually.

Environmental Conditions

Normal Operating Conditions

- Ambient temperature: -10 to 50 °C
- Ambient humidity: 20 to 90 % RH (no condensation allowed)
- Magnetic field: 400 A/m or less
- Continuous vibration at 5 to 9 Hz: Half amplitude of 1.5 mm or less, 1oct/min for 90 minutes each in the three axis directions
- Continuous vibration at 9 to 150 Hz: 4.9 m/s² or less, 1oct/min for 90 minutes each in the three axis directions
- Short-period vibration: 14.7 m/s², 15 seconds or less
- Shock: 98 m/s² or less, 11 ms
- Altitude: 2000 m or less above sea level
- Warm-up time: 30 minutes or more after the power is turned on
- Startup time: Within 20 seconds

*: The LCD (a liquid crystal display) is used for a display portion of this product. The LCD has a characteristic that the display action becomes late at the low temperature.

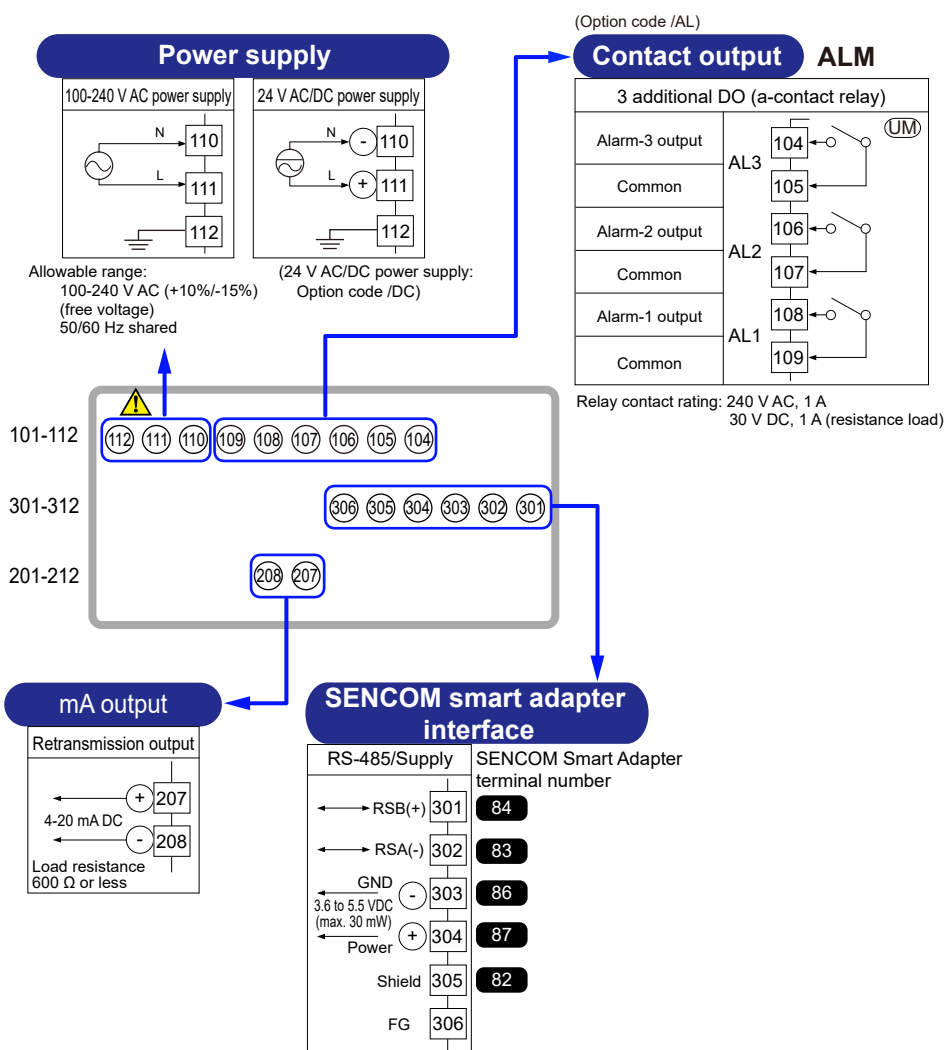
Transportation and Storage Conditions

- Temperature: -25 to 70 °C
- Temperature change rate: 20 °C/h or less
- Humidity: 5 to 95 %RH (no condensation allowed)

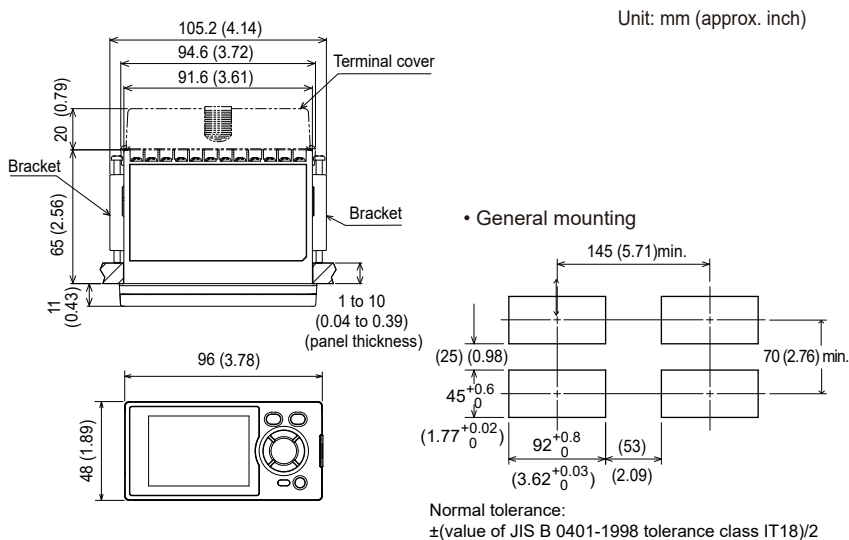
Effects of Operating Conditions

- Effect of ambient temperature:
 - Analog output: $\pm 0.02\%$ of F.S./°C or less
- Effect of power supply voltage fluctuation:
 - Analog output: $\pm 0.05\%$ of F.S. or less (Each within rated voltage range)

Terminal Arrangement



External Dimensions and Panel Cutout Dimensions



■ Model and Suffix Code

Model	Suffix code	Option code	Description
UM33A			Digital Indicator with Alarms
Type 1: Basic	-S		Dedicated to SENCOM HMI (provided with SENCOM smart adapter Interface and retransmission output)
Type 2: Fixed code	0		Always "0"
Type 3: Fixed code	0		Always "0"
Display language		-1	English
Case color		0	White (Light gray)
		1	Black (Light charcoal gray)
Option codes		/AL	3 additional DO (a-contact relay)
		/DC	Power supply 24 V AC/DC
		/CT	Coating ¹
		/CV	Terminal cover
		/NS	Limited standards certification ²

- 1: When the /CT option is specified, the UM33A does not conform to the safety standards (UL and CSA) and CE marking. (Products with /CT option are not intended for countries which require CE marking.)
- 2: /NS option does not conform to the Safety and EMC Standards. (Products with /NS option are not intended for countries which require CE marking.)

■ Items to be specified when ordering

Model and suffix codes, whether User's Manual and QIC required.

■ Standard accessories

Brackets (mounting hardware), Unit label, Operation Guide

■ Special Order Items

Model code	Suffix code	Description
X010	See the General Specifications (GS X010-01EN) (*)	Resistance Module

*: Necessary to input the current signal to the voltage input terminal.

Name	Model
Terminal cover	UTAP002

User's Manual

Product user's manuals can be downloaded or viewed at the following URL. To view the user's manual, you need to use Adobe Reader 7 or later by Adobe Systems.

URL: <http://www.yokogawa.com/ns/ut/im/>