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.

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
• 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: ±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.
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 V \(^1\): 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
  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)/ NEMA4\(^2\)
  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\(^{0.60}\) (W) × 45\(^{0.60}\) (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 (Primary terminals: Power\(^3\) terminal; Secondary terminals: Communication terminals and functional grounding terminals.)
  3: Power terminals for 24V AC/DC models are the secondary terminals.
• Insulation resistance
  Between power supply terminals and a grounding terminal: 20 MΩ or more at 500 V DC
• Isolation specifications

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/s\(^2\) or less, 1oct/min for 90 minutes each in the three axis directions
• Short-period vibration: 14.7 m/s\(^2\), 15 seconds or less
• Shock: 98 m/s\(^2\) 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

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: ±0.02 % of F.S./°C or less
• Effect of power supply voltage fluctuation
  Analog output: ±0.05 % of F.S. or less
  (Each within rated voltage range)

SENCOM smart adapter Interface terminals

<table>
<thead>
<tr>
<th>Internal circuit</th>
<th>Power supply</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retransmission output terminals</td>
<td></td>
</tr>
</tbody>
</table>

The circuits divided by lines are insulated mutually.
## Terminal Arrangement

### Power supply

- **100-240 V AC power supply**
- **24 V AC/DC power supply**

Allowable range: 100-240 V AC (+10%/-15%) (free voltage) 50/60 Hz shared

### mA output

- Retransmission output
- Load resistance 600 Ω or less
- 4-20 mA DC

### SENCOM smart adapter interface

- RS-485/Supply SENCOM Smart Adapter terminal number
- **N**
- **L**

### External Dimensions and Panel Cutout Dimensions

Unit: mm (approx. inch)

- **Bracket**
  - 20 (0.79)
  - 11 (0.43)

- **Terminal cover**
  - 94.6 (3.72)
  - 91.6 (3.61)

- **General mounting**
  - 145 (5.71) min.
  - 70 (2.76) min.

Normal tolerance: ±(value of JIS B 0401-1998 tolerance class IT18)/2
### Model and Suffix Code

<table>
<thead>
<tr>
<th>Model</th>
<th>Suffix code</th>
<th>Option code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>UM33A</td>
<td></td>
<td>-S</td>
<td>Digital Indicator with Alarms</td>
</tr>
<tr>
<td>Type 1: Basic</td>
<td></td>
<td>0</td>
<td>Dedicated to SENCOM HMI (provided with SENCOM smart adapter interface and retransmission output)</td>
</tr>
<tr>
<td>Type 2: Fixed code</td>
<td></td>
<td>0</td>
<td>Always “0”</td>
</tr>
<tr>
<td>Type 3: Fixed code</td>
<td></td>
<td>0</td>
<td>Always “0”</td>
</tr>
<tr>
<td>Display language</td>
<td></td>
<td>-1</td>
<td>English</td>
</tr>
<tr>
<td>Case color</td>
<td></td>
<td>0</td>
<td>White (Light gray)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1</td>
<td>Black (Light charcoal gray)</td>
</tr>
<tr>
<td>Option codes</td>
<td>/DC</td>
<td></td>
<td>Power supply 24 V AC/DC</td>
</tr>
<tr>
<td></td>
<td>/CT</td>
<td></td>
<td>Coating</td>
</tr>
<tr>
<td></td>
<td>/CV</td>
<td></td>
<td>Terminal cover</td>
</tr>
<tr>
<td></td>
<td>/NS</td>
<td></td>
<td>Limited standards certification</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Model code</th>
<th>Suffix code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>X010</td>
<td>See the General Specifications (GS X010-01EN) (*)</td>
<td>Resistance Module</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Name</th>
<th>Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Terminal cover</td>
<td>UTAP002</td>
</tr>
</tbody>
</table>

### 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.