Intelligent Industrial Recorders

\( \mu R10000/\mu R20000 \)

The \( \mu R \) series are the compact industrial recorders with the recording widths of 100 mm and 180 mm.

The 100 mm family consists of 1, 2, 3, 4-pen and 6-dot models.

The 180 mm family consists of 1, 2, 3, 4-pen and 6, 12, 18, 24-dot models.
Get reliable, high quality output with the "Power of Paper!"
Recorders with the reliability of Yokogawa

Leading-Edge Technology Offers High Reliability and High Quality
- Leveraging contact-less technology
- Actuators reduced in size through high precision manufacturing technology
- High degree of integration using custom ICs
- Dust and splashproof front door (conforms to IP54)

Superior Ease-of-Operation
- Large, VFD full dot matrix display (μR10000: 101 x 16, μR20000: 181 x 16)
- Easily navigable interactive settings
- New chart cassette (enables historical trend review during recording)
- Internal illumination comes standard (high intensity white LED)

Multiple Functions Meet a Variety of Needs
- Broad lineup (1-, 2-, 3-, or 4-pen models, and 6-, 12-, 18-, or 24-dot models)
- Dot model (6-dot model) achieves one second measurement intervals
- Universal input
- Supports a wide range of input sensors
- Supports 35 types of input including optional TC, RTD
- Mathematical functions
  - No. of Mathematical channels: 8 channels (Pen models), 12 channels (μR10000 dot models), 24 channels (μR20000 dot models)
  - Computation types: Arithmetic, logic, relation and static computations
- Recording: Pen model: Assignable to any pen, Dot model: Fully recordable
- Supports Ethernet or RS-422/485 interfaces

μR10000 (4 pen model)
Servo Unit
The pen servo unit takes advantage of an ultra-small, rack-and-pinion stepping motor. The servo unit is smaller and consumes less power than previous models.

Splash-proof Front Door
The front door meets DIN 40050-IP54 standards in panel mount installations.

Safety/EMC Standards
Yokogawa’s highly reliable industrial recorders support safety and EMC (electromagnetic compatibility) standards. And of course, the µR conforms to the European CE marking standard.

High-Voltage Solid State Scanners
High-voltage solid state semiconductor relays have been adopted for scanners that switch the input signals. They enable high speed scanning of six dots per second, increase the life of the scanner, and reduce noise.

Use of ASICs
The recorders feature a high degree of functional integration through Yokogawa’s renowned ASICs (application specific integrated circuits). They allow for reduced power consumption, increased lifespan of components, and suppressing of heat emissions.

Splash-proof Front Door
(conforms to DIN 40050-IP54)
The front door meets DIN 40050-IP54 standards in panel mount installations.

Delivers Confidence
The critical factor in continuous recording using industrial recorders is reliability. Leveraging the latest technology, Yokogawa brings you that reliability in a compact, lightweight unit that embodies all the breakthroughs and know-how that Yokogawa has cultivated over the years.

Easier to Acquire, Easier to Read
Uses a large, easy-to-view VFD 101 x 16 full dot matrix display. All settings are interactive, and supported by the navigational display, offering easier to read selections and superior ease of operation.

Navigational Display Makes Setup a Snap
The instrument features a simple configuration, with Operation mode for normal use, and Setting mode for use during setup. In Operation mode, measured values, time, and alarms are updated, and lists are printed. In Setting mode, you can enter measuring ranges, alarm values, and other parameters. Also, Setting mode offers a navigational display that eases entry of settings.
Delivers Confidence

The critical factor in continuous recording using industrial recorders is reliability. Leveraging the latest technology, Yokogawa brings you that reliability in a compact, lightweight unit that embodies all the breakthroughs and know-how that Yokogawa has cultivated over the years.

Matching the Displayed Operation Screen to the Application

The user can switch between up to fifteen previously configured operation screens using the DISP key.

Servo Unit

The pen servo unit takes advantage of an ultra-small, rack-and-pinion stepping motor. The servo unit is smaller and consumes less power than previous models.

Splash-proof Front Door

(conforms to DIN 40050-IP54)
The front door meets DIN 40050-IP54 standards in panel-mount installations.

High-Voltage Solid State Scanners

High withstand voltage semiconductor relays have been adopted for scanners that switch the input signal. They enable high speed scanning of six dots per second or twelve to twenty-four data in 2.5 seconds, increase the life of the scanner, and reduce noise.

Use of ASICs

The recorders feature a high degree of functional integration through Yokogawa’s renowned ASICs (application specific integrated circuits, or custom ICs). They allow for reduced power consumption, increased lifespan of components, and suppressing of heat emissions.

Safety/EMC Standards

Yokogawa’s highly reliable industrial recorders support safety and EMC (electromagnetic compatibility) standards. And of course, the μR conforms to the European CE marking standard.

Multi-Display (Displays a Variety of Screens) for Site Monitoring

Displays that support our customers’ site monitoring mode with high visibility. Large VFD: 181 x 16 full dot matrix using a variety of screens.

- “I want to use my recorder as a monitor.”
  12 channel digital display (12, 16, and 24 dot models)

- “I want to monitor the recorder position on an analog indicator.”
  Flag display

- “I want to monitor alarms collectively.”
  Channel alarm status display

Easier to Acquire, Easier to Use

Uses a large, easy-to-view VFD 181 x 16 full dot matrix display. All settings are interactive, and supported by the navigational display, offering easier to read selections and superior ease of operation.

Navigational Display Makes Setup a Snap

The instrument features a simple configuration, with Operation mode for normal use, and Setting mode for use during setup. In Operation mode, measured values, time, and alarms are updated, and lists are printed. In Setting mode, you can enter measuring ranges, alarm values, and other parameters. Also, Setting mode offers a navigational display that eases entry of settings.

Navigational display to support setting selections (Example: Range Setting)
Ethernet Support

By using DAQLOGGER with the DX, DARWIN, or other instruments on your existing network, you can manage measured data centrally. (GateμR software required for the μR, sold separately). Also, using DAQLOGGER’s event processor, you can automatically send information when Event/Report data occurs (alarms, time, file creation, etc.) via e-mail or FTP.

Serial Communications

Comes with RS-422A/485. The Modbus protocol (RTU, SLAVE) is also supported.

E-mail Notification

- Alarm information
- Fixed time instantaneous values
- Report data

Application Software That Expands the Possibilities of the μR

DAQLOGGER Highly Reliable Data Logging Software

DAQLOGGER lets you build a real-time data logging environment with up to thirty-two of our main recorders, data acquisition instruments, and controllers, on up to sixteen hundred channels.

Monitor Software

Displays measured and computed data on the PC screen in real time. Enables construction of an optimal monitoring environment.

Viewer Software

Lets you easily redisplay, analyze, and convert logged data, and print waveforms.

E-mail Transmission

Sends e-mail messages upon occurrence of events. You can also attach data, reports, instantaneous values, or monitor screens to e-mails.

FTP Client Function

You can have data files and reports automatically sent by FTP to a file server when they are created.

RXA10 Configuration Software (sold separately)

Entry and management of settings for measurement and calculation channels is easier than ever. Also, settings can be entered via communication interface.

Variety of Networking Functions

A Wealth of Recording and Printing Functions

The instrument comes with a full set of functions to cover the many needs of our customers and support their applications.

Broad Functionality for Wide Range of Applications

The instrument comes with a full set of functions to cover the many needs of our customers and support their applications.

Application Software That Expands the Possibilities of the μR

RXA10 Configuration Software (sold separately)

Entry and management of settings for measurement and calculation channels is easier than ever. Also, settings can be entered via communication interface.

Zone recording

Recording areas (zones) for each channel can be recorded separately.

Partial expanded recording

Any important portion within the full scale can be expanded for recording.

List printout

Detail of report printout sample

− MAX
− MIN
− AVE
− INST

Analog recording

Periodic printout

Report printout

Alarm printouts (assuring)

Message printouts

Chart speed change printout

Manual printout

Chart start time printout

*: In Set mode, you can select periodic printout, report printout, or “None.”

Selected from the following: report printout contents: AVG (averaged by channel only), MIN (minimum only), MAX (maximum only), MIN/MAX/AVE, SUM, or INST (instantaneous values).

Broad Functionality for Wide Range of Applications

The instrument comes with a full set of functions to cover the many needs of our customers and support their applications.

Application Software That Expands the Possibilities of the μR

RXA10 Configuration Software (sold separately)

Entry and management of settings for measurement and calculation channels is easier than ever. Also, settings can be entered via communication interface.

Zone recording

Recording areas (zones) for each channel can be recorded separately.
A Surprising Variety of Applications and Uses to Meet Every Customer's Needs.

**Data Display and Recording for Water Purification Equipment (Acquisition of Data on Water Quality/Amount of Flow)**

- Displays and records temperature, flow, turbidity, pH, dissolved oxygen, and turbidity on-site.
- Display and records a variety of data in an easy-to-understand format.
- Measures environmental testing data, and displays measured on-site and monitored from an office.
- Purification Equipment (Acquisition of Data on Water Quality/Amount of Flow)
- Water tank
- Extruder
- Haul-off
- Take-up
- Computed results are recorded together with temperature, pressure, etc.)

**Equipment Maintenance in a Power Plant**

- Measure and record alarms on site upon occurrence of abnormalities
- Monitor and record diameter, temperature, and alarms upon occurrence of abnormalities in site

**Process (Acquisition of Data on Wire Management of Electrical Wire Coating)**

- Exchanger
- Water tank
- Effluent flow
- – Monitor and record alarms on site upon occurrence of abnormalities

**Display and Recording in a Thermal Zone (Acquisition of Temperature For Data for Cemnetic Preheating)**

- Automatically computes F0 value according to temperature
- Statistical computation: Statistical type: MAX, MIN, AVE, SUM, MAX-MIN

**Measurement inputs**

- Data link: 1-5V, 0 to 5V, 0-5V, 0 to 10V, 4-20mA

**Power supply**

- Rated Power Voltage 100-240 VAC (automatically selected)
- Power Voltage Range: 90-120 VAC, 180-260 VAC
- Rated Power Frequency 50/60 Hz (automatically selected)
- Power Consumption

**Specifications**

- See the general specification (GS04IP01B01-01E, GS04IP02B01-01E) for the detailed specifications.

**Input**

- Measurement inputs
  - pR1000: 1, 2, 3, 4 (penn) and 6 (dot) points
  - pR2000: 1, 2, 3, 4 (penn) and 6 (dot) points

**Outputs**

- Current output
  - 4-20mA, 0-20mA, 2-10mA, 5-10V, 10-20mA

**Environmental Data**

- Temperatures from 0°C to 50°C
- Display brightness level: 1 to 8

**Specifications**

- General Specification
  - Ambient Temperature and Humidity: 36°F to 104°F (3°C to 40°C)
  - Altitude: up to 6000 ft

- Power supply

- Power Consumption

- General Specification

- Alarm

- Number of Levels
  - Up to 4 level for each channel.

- Alarm Type
  - Various levels of high and low limits, and high and low alarm change limits and high and low internal limits of rate-of-change alarms.

- Display
  - Set value is indicated as a point on the bar graph (only for bar graph display).
  - In case of an alarm: - For digital display: Alarm type indicator
  - Alarm occurrence channel No. is displayed
  - For bar graph display: Flashing point indicator

**Alarm**

- Number of Levels
  - Up to 4 level for each channel.

- Alarm Type
  - Various levels of high and low limits, and high and low alarm change limits and high and low internal limits of rate-of-change alarms.

- Display
  - Set value is indicated as a point on the bar graph display. In case of an alarm: - For digital display: Alarm type indicator - Alarm occurrence channel No. is displayed - For bar graph display: Flashing point indicator

**Superior ease-of-operation**

- Easy-to-see display

**Accurate measurement**

- Reliable recording

**Supports our customers' site monitoring needs.**

- Offers optimal solutions and a user-friendly operating environment.
### Model Codes

<table>
<thead>
<tr>
<th>Model Code</th>
<th>Suffix Code</th>
<th>Option Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>436101</td>
<td></td>
<td></td>
<td>μR10000 1 pen recorder</td>
</tr>
<tr>
<td>436102</td>
<td></td>
<td></td>
<td>μR10000 2 pen recorder</td>
</tr>
<tr>
<td>436103</td>
<td></td>
<td></td>
<td>μR10000 3 pen recorder</td>
</tr>
<tr>
<td>436104</td>
<td></td>
<td></td>
<td>μR10000 4 pen recorder</td>
</tr>
<tr>
<td>436106</td>
<td></td>
<td></td>
<td>μR10000 6 dot recorder</td>
</tr>
</tbody>
</table>

### Standard Accessories

<table>
<thead>
<tr>
<th>Name</th>
<th>1 pen</th>
<th>2 pen</th>
<th>3 pen</th>
<th>4 pen</th>
<th>dot</th>
</tr>
</thead>
<tbody>
<tr>
<td>Z-fold chart</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>6 color ribbon cassette</td>
<td></td>
<td></td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Disposable felt-pen</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>cartridge</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Plotter pen</td>
<td>Purple</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Mounting brackets</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
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<tr>
<td>Instruction manual</td>
<td>1</td>
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<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Operation manual</td>
<td>1</td>
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<td>1</td>
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<td>1</td>
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</tbody>
</table>

### Spares/Optional Accessories

<table>
<thead>
<tr>
<th>Name</th>
<th>Model Code (Parts No.)</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Z-fold chart</td>
<td>89565AW</td>
<td>10 (sales unit)</td>
</tr>
<tr>
<td>6 color ribbon cassette</td>
<td>89901AX</td>
<td>1 (sales unit)</td>
</tr>
<tr>
<td>Disposable felt-pen</td>
<td>89902AM</td>
<td>1 (sales unit, 3 piece/unit)</td>
</tr>
<tr>
<td>cartridge</td>
<td>89902AP</td>
<td>1 (sales unit, 3 piece/unit)</td>
</tr>
<tr>
<td>Plotter pen</td>
<td>89902AR</td>
<td>1 (sales unit, 3 piece/unit)</td>
</tr>
<tr>
<td>Mounting brackets</td>
<td>89900BX</td>
<td>2 (sales unit)</td>
</tr>
<tr>
<td>Shunt resistor</td>
<td>415920</td>
<td>250 Ω ± 0.1%</td>
</tr>
<tr>
<td>(for screw input terminal)</td>
<td>415921</td>
<td>100 Ω ± 0.1%</td>
</tr>
<tr>
<td>Shunt resistor</td>
<td>438920</td>
<td>250 Ω ± 0.1%</td>
</tr>
<tr>
<td>(for clamped input terminal)</td>
<td>438922</td>
<td>100 Ω ± 0.1%</td>
</tr>
</tbody>
</table>

### Dimensions

- **μR10000**
  - Length: 345 (13.6)
  - Width: 178 (7.01)
  - Height: 220 (8.66)

- **μR20000**
  - Length: 360 (14.17)
  - Width: 202 (7.95)
  - Height: 220 (8.66)

### Notes

- Before operating the product, read the instruction manual thoroughly for proper and safe operation.
- If this product is for use with a system requiring safeguards that directly involve personnel safety, please contact the Yokogawa sales offices.

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**Model Code**

- RXA10-01: RXA10 configuration software
- RXA10-02: RXA10 configuration software (With interface unit)

**OS**
- Windows 2000/XP

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**Subject to change without notice.**

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**YOKOGAWA ELECTRIC CORPORATION**

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