

General Specifications

YTMX580 Multi-Input Temperature Transmitter



GS 04R01B01-01EN

The model YTMX580 Multi-Input Temperature Transmitter can accept inputs from up to 8 points of measurement such as thermocouples (8 types: K, E, J, etc.) or RTD signals (3 types: Pt100, etc.), converting the corresponding measurement input values to a wireless signal. It can also accept DC voltage, resistance, and 4–20 mA DC signal input. In addition to temperature signals, it can also wirelessly send and receive setting parameters. Internal battery power means eliminating not only signal wires, but also power cables—this offers great installation cost reductions. Also, 24 VDC External power supply (Power supply suffix code: -B) can be specified. The communication is compliant with ISA100.11a* protocol specifications.

* ISA100.11a is an industrial automation wireless communication standard developed by the International Society of Automation (ISA) and is an international standard (IEC 62734) approved by the International Electrotechnical Commission (IEC).



■ FEATURES

● Long Life Battery Design

Ultra low current consumption design using two high capacity lithium-thionyl chloride batteries provide wireless operation for years.

● High Security Wireless Network Configuration

Infrared communication between the devices for wireless network configuration and parameter setting.

● Quick Update Time

Selectable from 1 second to 60 minutes for measured process value to publish wirelessly.

■ STANDARD SPECIFICATIONS

■ WIRELESS SPECIFICATIONS

Communication protocol: ISA100 Wireless (IEEE802.15.4)
Data rate: 250 kbps
Frequency: 2400 - 2483.5 MHz license free ISM band
Radio security: AES 128 bit codified
RF Transmitter power: Max. 11.6 dBm (fixed)
Antenna: +2 dBi Omni directional type

■ PERFORMANCE SPECIFICATIONS

Accuracy

See Table 1.

Cold Junction Compensation Accuracy

For T/C only
 $\pm 0.5^{\circ}\text{C}$ ($\pm 0.9^{\circ}\text{F}$) (added to accuracy when using thermocouple input)

Ambient Temperature Effect (per 1.0°C change)

See Table 2.

Battery Pack (Battery model)

Battery pack with long life lithium-thionyl chloride batteries. With the intrinsically safe type, the battery pack is replaceable in a hazardous area. Typical battery life is 6 years at 60 seconds publication period (update time) in the following conditions.*

- Network connection: JOIN status
- Ambient temperature: $23 \pm 2^{\circ}\text{C}$
- Device role: IO function only
- LED indicator: off

* Environmental condition such as ambient temperature and vibration may affect the battery life.

■ FUNCTIONAL SPECIFICATIONS

Input

channels: 8 points

Input type is selectable: Thermocouples, 2-, 3-, and 4-wire RTDs, ohms, DC millivolts and DC milliamperes (4 to 20 mA, with external shunt resistors). See Table 1.

Note: Explosion proofing not applicable during DC volts and DC milliamperes input.

Maximum Allowable Input voltage

± 2.5 VDC

Category O (Transient overvoltage 330 V)

Input Resistance

10 M Ω or more

Input Signal Source Resistance (for T/C, mV)

1 k Ω or lower

Input Lead Wire Resistance (for RTD, Ohm)

10 Ω per wire or lower

Output

ISA100 Wireless (IEC802.15.4) 2.4 GHz signal.

Measurement Range

See Table 1.

Publication Period (Update Time)

1 to 3600 sec selectable.

Minimum of 2 seconds with 4 or more measuring points.

Zero-gain Adjustment

Set the amount of zero-gain point adjustment.

Status Display

The RDY (green) and ALM (red) LEDs indicate the following statuses: Starting, Running, Waiting to "JOIN" (network), Squawk, Alarm, Deep Sleep

Sensor Burnout

Select HIGH, LOW or OFF as the configuration. (use setting software)

Self Diagnostics

Amplifier failure, sensor failure, configuration error, battery alarm, wireless communication alarm and over-range error for process variables.

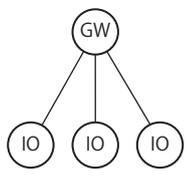
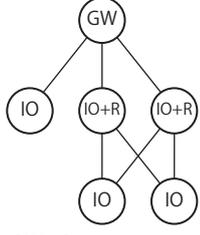
Software Download Function

Software download function permits to update wireless field device software via ISA100 wireless communication.

Device Role

The following 2 device roles are supported depending on the network topology.

- IO Function only (IO)
- IO Function and Routing Function (IO + Router)

Device Role	IO	IO+Router
Network form	Star	Mesh
Example network connections and devices	 <p>GW : Gateway IO : YTMX580</p>	 <p>GW : Gateway IO + R : YTMX580 IO : YTMX580</p>

E01.ai

Infrared Communication

Data rate: 9600 bps

Distance: Infrared surface of the near infrared adapter should be within 30 cm

Power Supply

- Battery Model

2x primary lithium-thionyl chloride batteries (size D)
With battery case (batteries sold separately)

- External Power Supply Model

Rated supply voltage: 24 VDC

Allowable power supply voltage range:
10.5 to 26.4 VDC

Power consumption: Max 1.2W

Insulation Resistance

Measuring input terminal to ground terminal:
100 MΩ or greater (at 500 VDC)

Dielectric Strength

Dielectric strength that can withstand the following conditions

- Battery Model

Measuring input terminal to ground terminal:

500 VAC (50/60 Hz), 1 min, leakage current of 5 mA or less

Between measuring input terminal:

200 VAC (50/60 Hz), 1 min, leakage current of 5 mA or less

- External Power Supply Model

Power terminal to ground terminal:

100 VAC (50/60 Hz), 1 min, leakage current of 5 mA or less

Note: The power supply terminal has a built-in surge protection device. The terminal without the surge protection device has the dielectric strength shown below.

500 VAC (50/60 Hz), 1 min, leakage current of 5 mA or less

Measuring input terminal to ground terminal:

500 VAC (50/60 Hz), 1 min, leakage current of 5 mA or less

Between measuring input terminal:

200 VAC (50/60 Hz), 1 min, leakage current of 5 mA or less

■ **NORMAL OPERATING CONDITION**

(Optional features or approval codes may affect limits.)

Ambient Temperature Limits

-40 to 85°C (-40 to 185°F)

As for explosion protect type, see

REGULATORY COMPLIANCE STATEMENTS

Ambient Humidity Limits

0 to 100 % RH

Storage Temperature

-40 to 85°C (-40 to 185°F)

Vibration

3G or less, at resonant frequencies from 10 to 2000 Hz (IEC 60770-1)

■ REGULATORY COMPLIANCE STATEMENTS

This device contains the wireless module. The wireless module satisfies the following standards.

- * Please confirm that a installation region fulfills a standards, require additional regulatory information and approvals, contact to Yokogawa Electric Corporation.

Safety Standards

EN 61010-1, EN 61010-2-030
 CSA C22.2 No.61010-1-12
 CSA C22.2 No.61010-2-030-12
 UL 61010-1, UL 61010-2-030 (CSA NRTL/C)
 Overvoltage Category I, Pollution Degree 2
 Indoor/Outdoor use

EMC Conformity Standards

EN 61326-1 Class A Table 2 (For use in industrial locations), EN 61326-2-3

- * During the test, the transmitter continues to operate under the electromagnetic effects of within $\pm 1\%$ of the span.

EN 301 489-1, EN 301 489-17

RE Conformity Standards

EN 300 328, EN 301 489-1,
 EN 301 489-17, EN 62311

The CE declaration of conformity for RE for this product can be found at

< <http://www.field-wireless.com/> >

Regulation Conformity of the Wireless Module

- FCC Approval
- IC Approval
- Japanese Radio Law (Construction Design Attestation Number: 007WWCUL0480)

Korea Certification (Radio Wave Act)

KCC-REM-YHQ-WEN007

EMC and Radiocommunications regulatory arrangement in Australia and New Zealand (RCM)

AS/NZS 4268
 AS/NZS 2772.2
 EN 61326-1 Class A, Table2 (For use in industrial location)

Explosion Protection

FM Intrinsically safe, nonincendive Approval

Intrinsically Safe for Class I, Division 1,
 Groups A, B, C & D, Class II, Division 1,
 Groups E, F & G and Class III, Division 1,
 Class I, Zone 0, in Hazardous Locations, AEx ia IIC
 Nonincendive for Class I, Division 2,
 Groups A, B, C & D, Class II, Division 2,
 Groups F & G and Class III, Division 1,
 Class I, Zone 2, Group IIC, in Hazardous Locations
 Input Parameter: $U_i = 28\text{ V}$, $I_i = 135\text{ mA}$,
 $P_i = 850\text{ mW}$, $C_i = 0.013\text{ }\mu\text{F}$, $L_i = 0.24\text{ mH}$
 Sensor Circuit Parameter: $V_{oc} = 5.88\text{ V}$,
 $I_{sc} = 130.1\text{ mA}$, $P_o = 191.2\text{ mW}$, $C_o = 1\text{ }\mu\text{F}$,
 $L_o = 1\text{ mH}$

Ambient temperature: $-50\text{ to }70\text{ }^\circ\text{C}$ ($-58\text{ to }158\text{ }^\circ\text{F}$)

Enclosure: NEMA Type 4X

CSA Intrinsically safe Approval, non-incendive Approval

Certificate No.: 2495456

Intrinsically Safe for Class I, Division 1,
 Groups A, B, C & D, Class II, Division 1,
 Groups E, F & G, Class III, Division 1
 Non-incendive for Class I, Division 2,
 Groups A, B, C & D, Class II, Division 2,
 Groups F & G, Class III, Division 1

Enclosure: Type 4X, IP66/IP67

Temperature Code: T4

Ex ia IIC T4

Input Parameter: $U_i = 28\text{ V}$, $I_i = 135\text{ mA}$,
 $P_i = 850\text{ mW}$, $C_i = 0.013\text{ }\mu\text{F}$, $L_i = 0.24\text{ mH}$
 Sensor Circuit Parameter: $U_o = 5.88\text{ V}$,
 $I_o = 130.1\text{ mA}$, $P_o = 191.2\text{ mW}$, $C_o = 1\text{ }\mu\text{F}$,
 $L_o = 1\text{ mH}$

Ambient temperature: $-50\text{ to }70\text{ }^\circ\text{C}$

ATEX Intrinsically safe Approval

Certificate No.: DEKRA 12ATEX0068 X

II 1 G Ex ia IIC T4 Ga

Input Parameter: $U_i = 28\text{ V}$, $I_i = 135\text{ mA}$,
 $P_i = 850\text{ mW}$, $C_i = 0.013\text{ }\mu\text{F}$, $L_i = 0.24\text{ mH}$
 Sensor Circuit Parameter: $U_o = 5.88\text{ V}$,
 $I_o = 130.1\text{ mA}$, $P_o = 191.2\text{ mW}$, $C_o = 1\text{ }\mu\text{F}$,
 $L_o = 1\text{ mH}$

Ambient temperature: $-50\text{ to }70\text{ }^\circ\text{C}$

Enclosure: IP66/IP67

IECEx Intrinsically safe Approval

Certificate No.: IECEx DEK 12.0013X

Ex ia IIC T4 Ga

Input Parameter: $U_i = 28\text{ V}$, $I_i = 135\text{ mA}$,
 $P_i = 850\text{ mW}$, $C_i = 0.013\text{ }\mu\text{F}$, $L_i = 0.24\text{ mH}$
 Sensor Circuit Parameter: $U_o = 5.88\text{ V}$,
 $I_o = 130.1\text{ mA}$, $P_o = 191.2\text{ mW}$, $C_o = 1\text{ }\mu\text{F}$,
 $L_o = 1\text{ mH}$

Ambient temperature: $-50\text{ to }70\text{ }^\circ\text{C}$

Enclosure: IP66/IP67

TIIS intrinsically safe Approval
 Battery Model (Integral antenna)
 Approval number: TC20543
 Ex ia IIC T4 X
 Power Supply: Battery pack (F9915MA) or battery case (F9915NS) DC 7.2 V
 Sensor Circuit Parameter: $U_o = 5.88$ V,
 $I_o = 130.1$ mA, $P_o = 191.3$ mW,
 $C_o = 1$ μ F, $L_o = 1$ mH
 Ambient temperature: -20 to 60°C
 Enclosure: IP66/IP67

Battery model (Remote antenna)
 Approval number: TC20816
 Ex ia IIC T4 X
 Power Supply : Battery pack (F9915MA) or battery case (F9915NS) DC 7.2V
 Sensor Circuit Parameter: $U_o = 5.88$ V,
 $I_o = 130.1$ mA, $P_o = 191.3$ mW,
 $C_o = 1$ μ F, $L_o = 1$ mH
 Antenna Circuit: $U_o = 5.88$ V, $I_o = 177.4$ mA,
 $P_o = 349.5$ mW
 Ambient Temperature: -20 to 60°C
 Enclosure: IP20

External Power Supply Model (Integral antenna)
 Approval number: TC21262
 Ex ia IIC T4 X
 Input Parameter: $U_i = 28$ V, $I_i = 135$ mA,
 $P_i = 850$ mW, $C_i = 0.013$ μ F,
 $L_i = 0.24$ mH
 Sensor Circuit Parameter: $U_o = 5.88$ V,
 $I_o = 130.1$ mA, $P_o = 191.2$ mW,
 $C_o = 1$ μ F, $L_o = 1$ mH
 Ambient Temperature: -50 to 70°C
 Enclosure: IP20

External Power Supply Model (Remote antenna)
 Approval number: TC21344
 Ex ia IIC T4 X
 Input Parameter: $U_i = 28$ V, $I_i = 135$ mA,
 $P_i = 850$ mW, $C_i = 0.013$ μ F,
 $L_i = 0.24$ mH
 Sensor Circuit Parameter: $U_o = 5.88$ V,
 $I_o = 130.1$ mA, $P_o = 191.2$ mW,
 $C_o = 1$ μ F, $L_o = 1$ mH
 Antenna Circuit: $U_o = 5.88$ V, $I_o = 177.4$ mA,
 $P_o = 349.5$ mW
 Ambient Temperature: -50 to 70°C
 Enclosure: IP20

Enclosure
 In the examination, IP20 enclosure, which is the lowest intrinsically safe explosion-proof requirement, has been verified, but both the integrated antenna model and remote antenna model can be used in an environment that requires IP66/IP67.

■ PHYSICAL SPECIFICATIONS

Enclosure

Housing

Low copper cast aluminum alloy

Coating

- Standard coating
 polyurethane, mint-green paint. (Munsell 5.6 BG 3.3/2.9 or its equivalent)
- High anti-corrosion coating (Option Code /X2)
 Base coating: epoxy resin coating
 Finish coating: polyurethane coating
 The color is same as standard type.

Degrees of Protection

IP66/IP67, NEMA Type 4X

Note: For Intrinsically safe Approval, refer to REGULATORY COMPLIANCE STATEMENTS

Connections

Refer to "MODEL AND SUFFIX CODES."

Connection Terminal

4 mm Screw terminal

Name Plate and Tag

316 SST

Mounting Bracket

316 SST

Select pipe mounting or wall mounting

Weight

3.2 kg (7.05 lb)

Without mounting bracket.

■ ACCESSORIES

Remote Antenna Cable (optional accessories)

(Only by order of option)

Specification of Cable: 8D-SFA(HDPE)
 Outside Diameter of Cable: 11.1 mm
 Minimum Bend Radius: 67 mm (when fixing)
 167 mm (when wiring)

Cable End Treatment: N type connector, one end is male and the other is female.

Operational temperature range: -40 to $+85^\circ\text{C}$
 (-40 to 185°F)

* "When fixing" shows the bending radius for fixing (the state is maintained for a long time).

"When wiring" shows the bending radius while checking the wiring position. This bending radius is set larger than that for fixing in order to prevent damage to the cable because the cable is likely to be repeatedly bent when checking the final wiring position.

Table 1. Sensor type, measurement range, and accuracy

Sensor Type		Standard	Measurement Range	Accuracy
T/C	B	IEC 60584	100 to 1820°C (212.0 to 3308.0°F)	Accuracy not guaranteed for less than 400°C (752.0°F) ± 2.54°C (± 4.57°F) in the range from 400°C (752.0°F) or more to less than 800°C (1472.0°F) ± 1.54°C (± 2.78°F) for 800°C (1472.0°F) or more
	E		-200 to 1000°C (-328.0 to 1832.0°F)	± 0.80°C (± 1.44°F) for less than 0°C (32.0°F) ± 0.40°C (± 0.72°F) for 0°C (32.0°F) or more
	J		-180 to 760°C (-292.0 to 1400.0°F)	± 0.80°C (± 1.44°F) for less than 0°C (32.0 °F) ± 0.70°C (± 1.26°F) for 0°C (32.0°F) or more
	K		-180 to 1372°C (-292.0 to 2501.6°F)	± 1.10°C (± 1.98°F) for less than 0°C (32.0°F) ± 1.0°C (± 1.80°F) for 0°C (32.0°F) or more
	N		-200 to 1300°C (-328.0 to 2372.0°F)	± 2.0°C (± 3.60°F) for less than 0°C (32.0°F) ± 1.0°C (± 1.80°F) for 0°C (32.0°F) or more
	R		0 to 1768°C (32.0 to 3214.4°F)	± 2.00°C (± 3.60°F) for less than 200°C (392.0°F) ± 1.50°C (± 2.70°F) for 200°C (392.0°F) or more
	S		0 to 1768°C (32.0 to 3214.4°F)	± 2.00°C (± 3.60°F) for less than 200°C (392.0°F) ± 1.40°C (± 2.52°F) for 200°C (392.0°F) or more
	T		-200 to 400°C (-328.0 to 752.0°F)	± 0.70 °C (± 1.26 °F)
RTD	Pt100	IEC 60751	-200 to 850°C (-328.0 to 1562.0°F)	± 0.30°C (± 0.54°F) for less than 400 °C (752.0°F) ± 0.40°C (± 0.72°F) in the range from 400°C (752.0°F) or more to less than 500°C (932.0 °F) ± 0.50°C (± 0.90°F) for 500°C (932.0°F) or more
	Pt200		-200 to 850°C (-328.0 to 1562.0°F)	± 0.54°C (± 0.98°F) for less than 400 °C (752.0 °F) ± 0.64°C (± 1.15°F) in the range from 400°C (752.0°F) or more to less than 500°C (932.0°F) ± 0.74°C (± 1.33°F) for 500°C (932.0°F) or more
	Pt500		-200 to 850°C (-328.0 to 1562.0°F)	± 0.38°C (± 0.68°F) for less than 400 °C (752.0°F) ± 0.48°C (± 0.86°F) in the range from 400°C (752.0°F) or more to less than 500°C (932.0°F) ± 0.58°C (± 1.04°F) for 500°C (932.0°F) or more
mV		-	-10 to 100 [mV]	± 0.035 [mV]
V		-	-0.01 to 1 [V]	± 0.001 [V]
Ohm		-	0 to 2000 [Ω]	± 1.0 [Ω]

Note1: For T/C input, add Cold Junction Compensation Accuracy (± 0.5°C) to the total accuracy.

Note2: For RTD input of the 2-wire connection, add a corrected value (± 0.1°C) to the total accuracy.

Note3: For DC milliamperes (4 to 20 mA), connect external shunt resistors.

Note4: Explosion proofing not applicable to [DC volts, DC milliamperes].

Table 2. Effects of ambient temperature

Sensor Type		Temperature Effects per 1.0°C Change in Ambient Temperature	Measurement Range
T/C	B	0.2°C - (0.066 % of (t - 100))	t < 300°C
		0.07°C - (0.0057 % of (t - 300))	300°C ≤ t < 1000°C
		0.037°C	t ≥ 1000°C
	E	0.035°C - (0.00492 % of t)	t < 0°C
		0.035°C - (0.00146 % of t)	t ≥ 0°C
	J	0.0039°C - (0.00529 % of t)	t < 0°C
		0.0039°C + (0.00149 % of t)	t ≥ 0°C
	K	0.00521°C - (0.00707 % of t)	t < 0°C
		0.00521°C + (0.00182 % of t)	t ≥ 0°C
	N	0.0077°C - (0.00918 % of t)	t < 0°C
		0.0077°C + (0.00136 % of t)	t ≥ 0°C
	R, S	0.04°C 0 + (0.0102 % of t)	t < 100°C
		0.0316°C - (0.001 % of t)	100°C ≤ t < 600°C
		0.0175°C + (0.00173 % of t)	t ≥ 600°C
T	0.00513°C - (0.00631 % of t)	t < 0°C	
	0.00513°C + (0.0008 % of t)	t ≥ 0°C	
RTD	Pt100	0.0048 °C + (0.0016 % of absolute value t)	Entire Sensor Input Range
	Pt200	0.0038 °C + (0.0015 % of absolute value t)	t < 650°C
		0.0028 °C + (0.0016 % of t)	t ≥ 650°C
	Pt500	0.003 °C + (0.0014 % of absolute value t)	t < 650°C
0.002°C + (0.0016 % of t)		t ≥ 650°C	
mV		0.0002 mV + (0.0015 % of reading)	Entire Sensor Input Range
V		0.005 mV + (0.0015 % of reading)	Entire Sensor Input Range
Ohm		0.001 Ω + (0.0009 % of reading)	Entire Sensor Input Range

Note1: The " t " on Table 2 means the value of the reading in °C.

Note2: The " absolute value t " on Table 2 means the absolute value of the reading in °C.

[Example of absolute value t]

When the temperature value is 250 Kelvin, abs reading is 23.15, absolute (250 - 273.15).

■ MODEL AND SUFFIX CODES

Model	Suffix Code	Descriptions
YTMX580		Multi-Input Temperature Transmitter
Output Signal	-L	Wireless communication (ISA100 Wireless)
Housing	7	Always 7
Electrical Connection	0	G 1/2 female, nine electrical connections
	2	1/2 NPT female, nine electrical connections
	4	M20 female, nine electrical connections
Integral Indicator	N	None
Mounting Bracket	L	316 SST 2-inch pipe mounting
	W	316 SST wall mounting*1
	N	None
Power Supply	-A	Battery (case only, battery not included), with a blind plug
	-B	24 VDC, without a blind plug
Antenna*5	B	Remote antenna*4
Temperature Unit	-A	Cel, K *2
	-B	Cel, K, degF, degR *3
---	A	Always A
Option Codes		Optional specifications (See Option Code)

*1: For wall mounting, please prepare bolts and nuts.

*2: This is a Japan-only specification (only available to end users inside Japan).

*3: In Japan, degF (°F) and degR (°R) are non-statutory measurement units. Suffix code -B can only be specified by end users outside of Japan.

*4: Order the remote antenna cables separately from accessory option.

*5: Use of antenna is limited by local regulation of radio and telecommunication law. Consult Yokogawa for details.

Note: "Cel" means "°C", "degF" means "°F" and "degR" means "°R".

■ OPTIONAL SPECIFICATION

Item	Description	Option Code
Coating	High anti-corrosion coating	/X2
Factory configured settings	Factory configured settings with multiple input types/ ranges	/FC1*1

*1: If the option code related to explosion protection is specified, Either DCV (mV) or DCV (V) as sensor type is should NOT be applied.

■ OPTIONAL SPECIFICATION (For Explosion Protected type)

Please select appropriate equipment in accordance with the laws and regulations of the relevant country/region, when it is used in a location where explosive atmospheres may be present.

Item	Description	Option Code
Canadian Standards Association (CSA)	CSA Intrinsically safe and non-incendive approval	/CS17*1
Factory Mutual (FM)	FM intrinsically safe and nonincendive approval	/FS17*1
TIIS	TIIS intrinsically safe approval	/JS37*1
ATEX	ATEX intrinsically safe approval	/KS27*1
IECEx Scheme	IECEx intrinsically safe approval	/SS27*1

*1: /CS17, /FS17, /JS37, /KS27, /SS27 cannot be specified together.

■ Standard Accessories

Product	Qty
User's manual (Booklet)	1
Mounting bracket*1 (2-inch pipe mounting or wall mounting)	1 set
Battery case (installed in the main body.) *3	1
Remote antenna*2	1

*1: Not included if specifying no mounting brackets (Mounting bracket suffix code is N).

*2: With the remote antenna option (Antenna type suffix code is B).

*3: When battery is specified for the power supply (Power supply suffix code is -A)

■ Optional Accessories

Product	Model code (part number)	Specification
Remote antenna cable*1	F9193UB	Antenna cable: 3 m, Operational temperature range: -40 to +85°C, With remote antenna mounting bracket.
	F9193UE	Antenna cable: 13 m (3 m+10 m) with arrester, Operational temperature range: -40 to +85°C, With remote antenna mounting bracket.
Antenna*1	F9193DH	+2 dBi Remote Antenna (White)

*1: Use of remote antenna cable is limited by local regulation of radio and telecommunication law. Consult Yokogawa for details.

Product	Model code (part number)	Specification
Battery pack assembly	F9915NQ*1	Battery case, Lithium-thionyl chloride batteries 2 pieces
Battery case	F9915NK*2	Battery case only
Batteries	F9915NR	Lithium-thionyl chloride batteries, 2 pieces
Front door part	B8808DE	Front door Gasket, 1 piece
	B8808DM	Front door Bolt Cap (Long) , 1 piece
	B8808DN	Front door Bolt Cap (Short) , 1 piece
	B8808EM	Front door Bolt SUS316, 1 piece
Bracket	B8808DW	2B Pipe Mounting Bracket SUS316
	B8808DV	Wall Mounting Bracket SUS316
Shunt resistor	X010-050-1	50 Ω± 0.1 %, for 4 mm screw terminals, Operational temperature range: -25 to +80°C

*1: If you need F9915MA, please purchase F9915NQ. F9915NQ is a set of F9915MA and instruction manual.

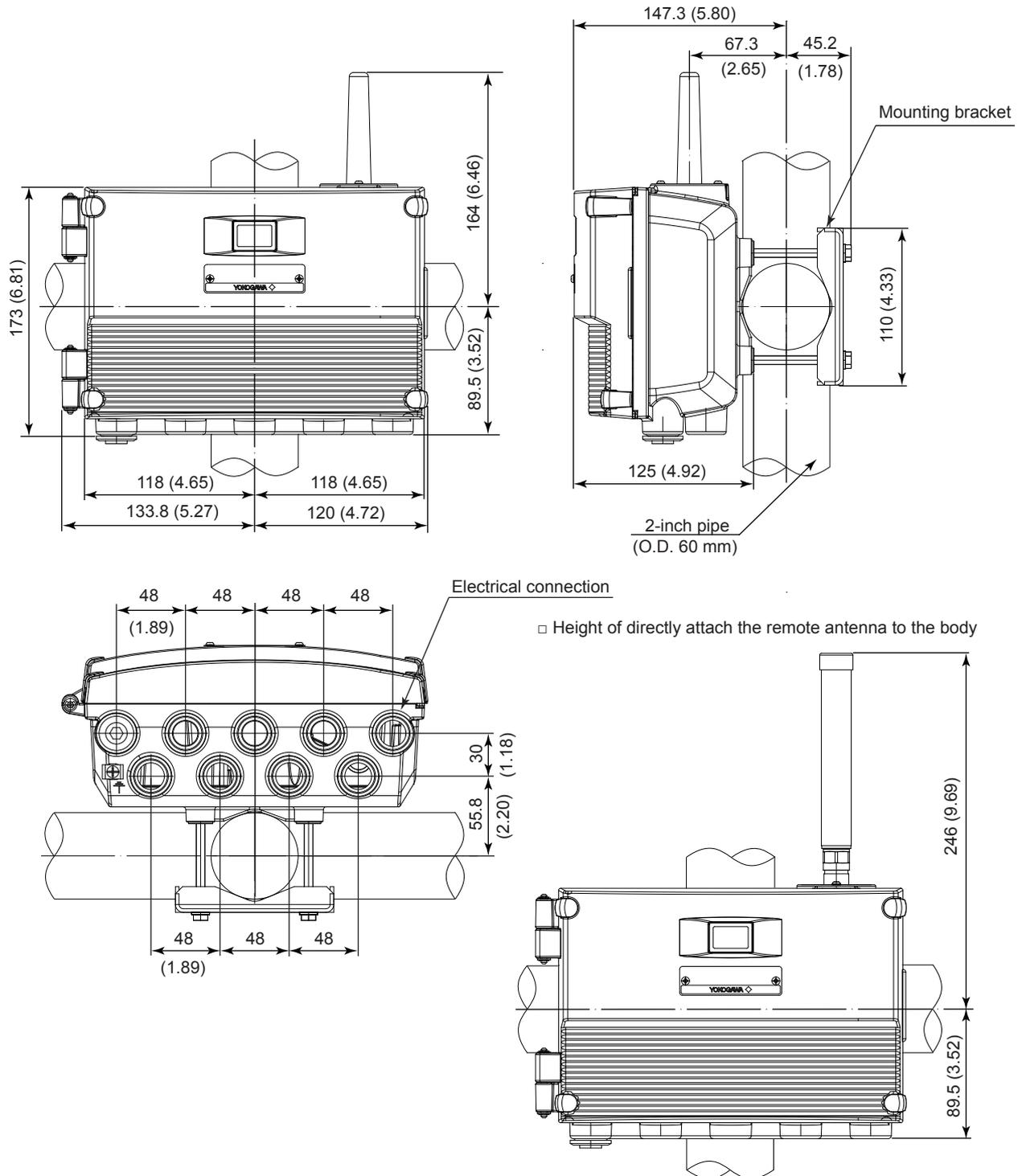
*2: If you need F9915NS, please purchase F9915NK. F9915NK is a set of F9915NS and instruction manual.

Model	Surfix Code	Description
YTMXBP		Blind plug for electrical connection
Type and Quantity	-A1	G 1/2, 1 piece
	-A4	G 1/2, 4 pieces
	-A7	G 1/2, 7 pieces
	-C1	1/2 NPT, 1 piece
	-C4	1/2 NPT, 4 pieces
	-C7	1/2 NPT, 7 pieces
	-D1	M20, 1 piece
	-D4	M20, 4 pieces
	-D7	M20, 7 pieces

■ DIMENSIONS

● 2-inch pipe mounting (vertical or horizontal pipe)

Unit: mm (approx. inch)

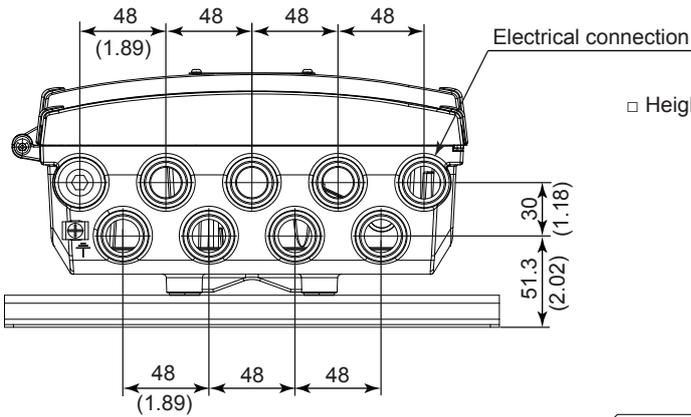
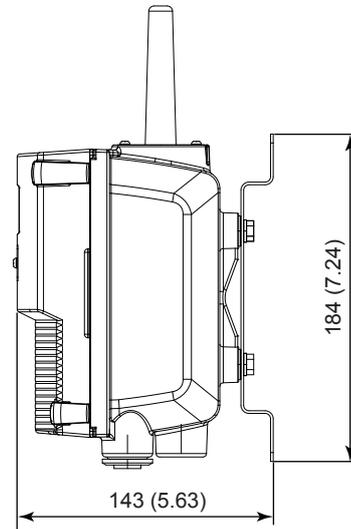
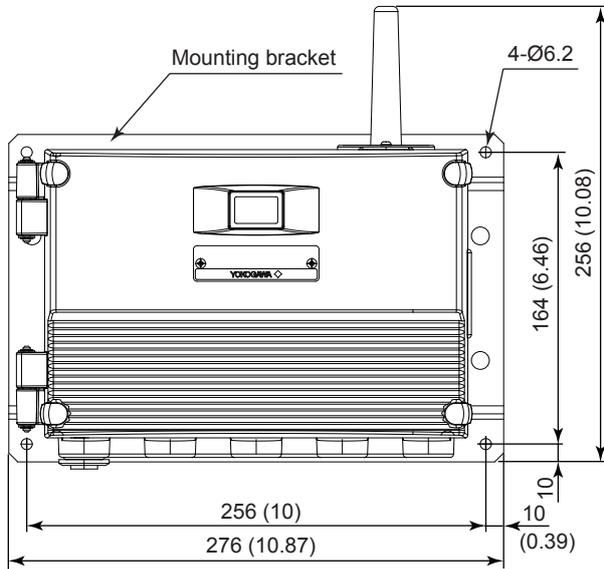


E02.ai

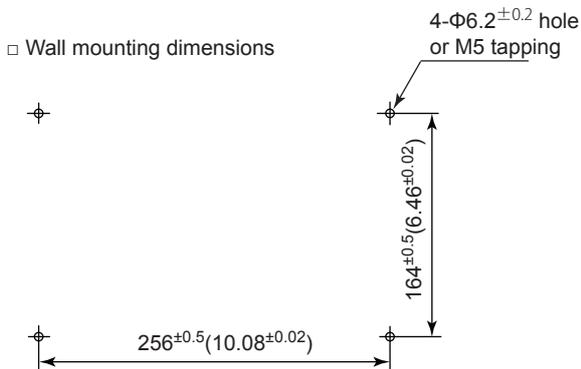
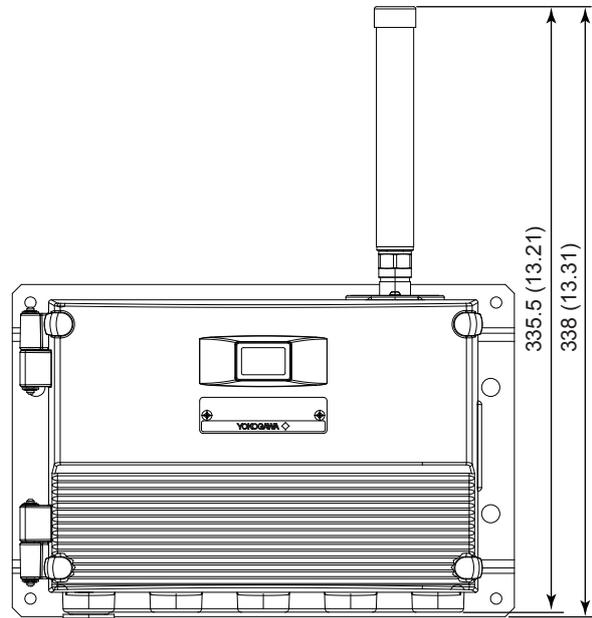
Note: If not specified, the tolerance is 3 %. However, for dimensions less than 10 mm, the tolerance is 0.3 mm.

● Wall mounting

Unit: mm (approx. inch)



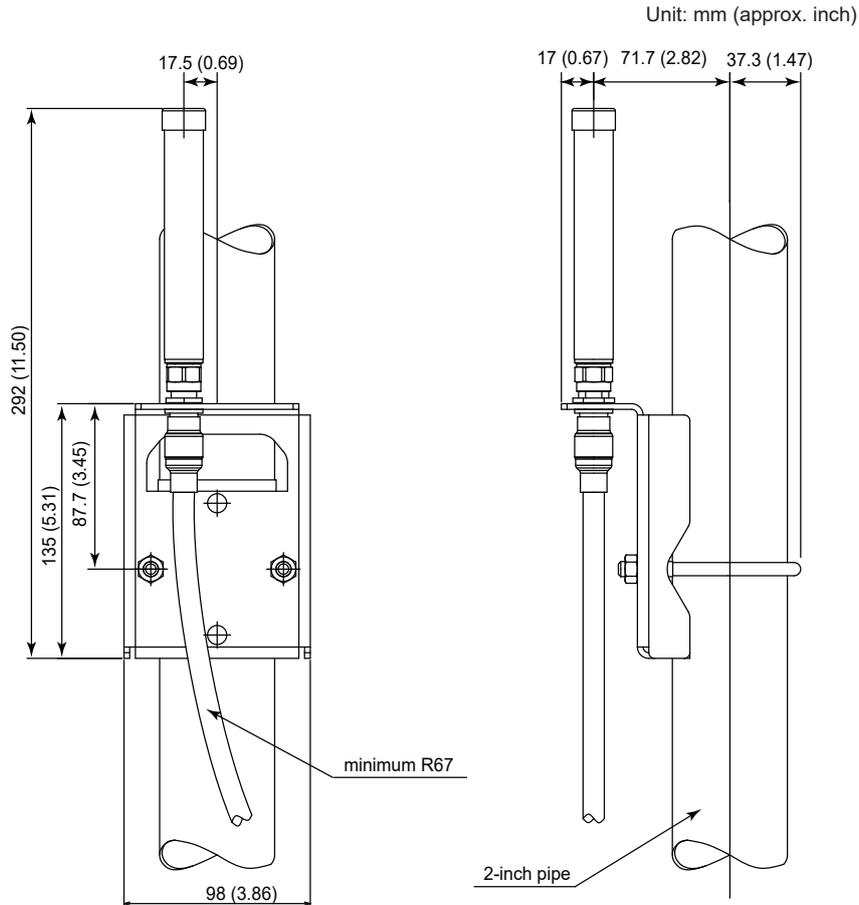
□ Height of directly attach the remote antenna to the body



E03.ai

Note: If not specified, the tolerance is 3 %. However, for dimentiones less than 10 mm, the tolerance is 0.3 mm.

● Remote antenna bracket



● Remote antenna

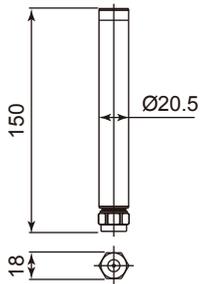
□ Antenna

Antenna

* Non-direction antenna

* Gain : +2 dBi

*Part number: F9193DH



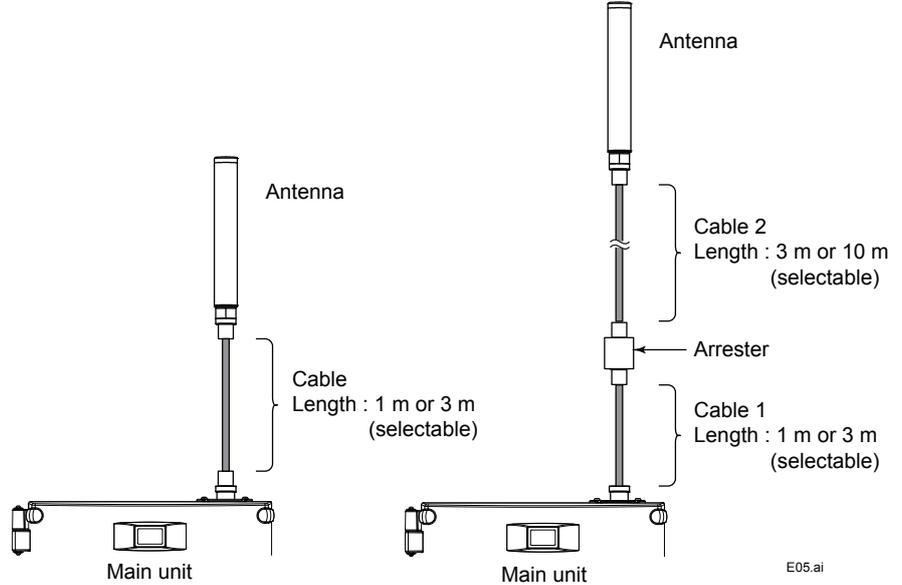
□ Antenna cable

High-frequency coaxial cable

* Sheath dia : 11.11mm

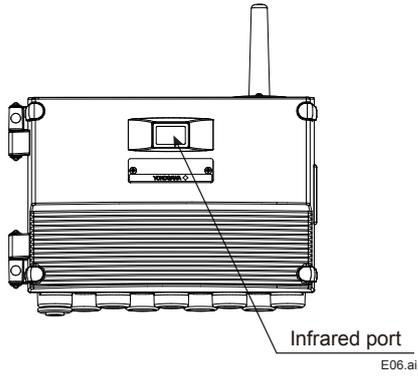
<Without arrester>

<With arrester>

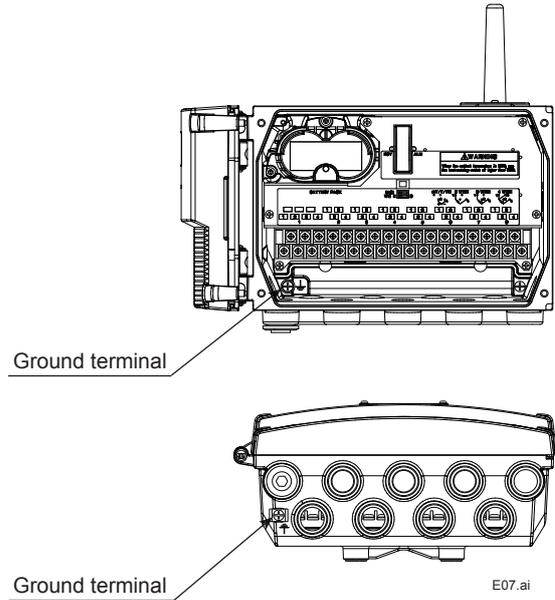


Note: If not specified, the tolerance is 3 %. However, for dimensions less than 10 mm, the tolerance is 0.3 mm.

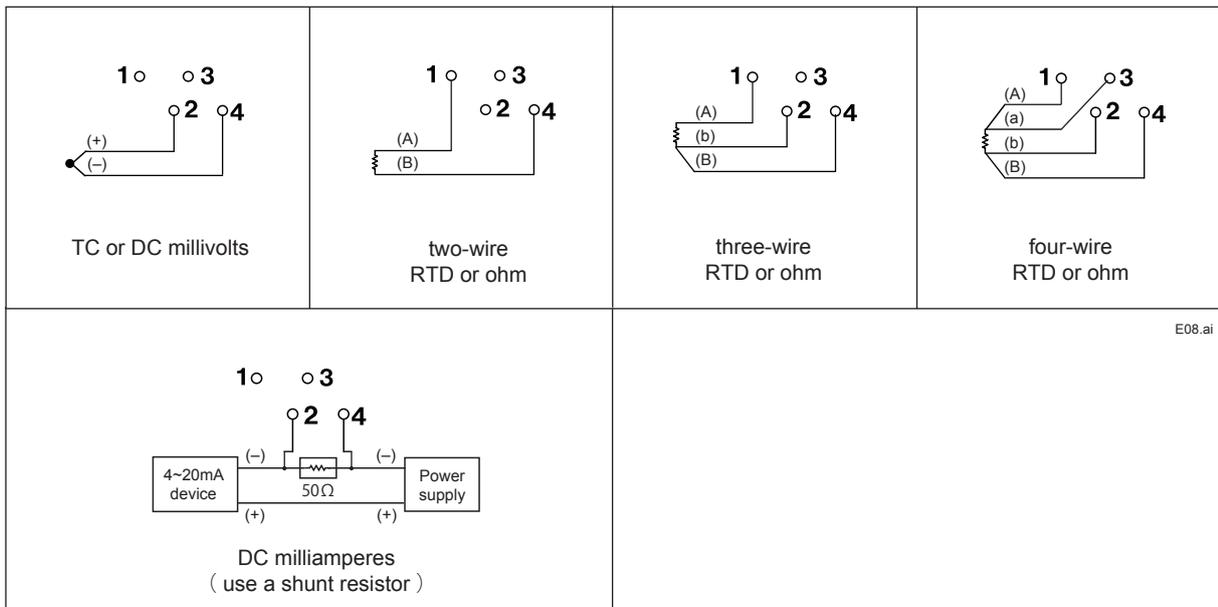
● Infrared Configuration



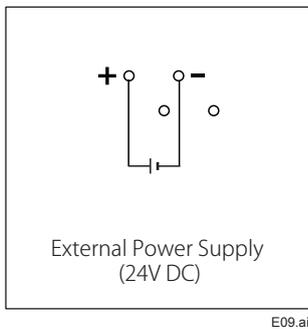
● Terminal Configuration



● Input Wiring



● External Power Supply Wiring



< Ordering Information >

Specify the following when ordering Model, suffix codes, and optional codes. The instrument is shipped with the settings shown in Table A.

1. Sensor type.
 - 1) Select an input sensor type from table 1. Each input is of the same type.
 - 2) For RTD and resistance input, specify the number of wire as well. (Example; Pt100 3-wire system)
 - 3) With the /FC1 option (Factory configured settings with multiple input types/ ranges), please indicate the type of sensor for each input. You can also select "NOT_USED" for inputs 2 through 8.

Note1: If the option code related to explosion protection is specified, Either DCV (mV) or DCV (V) as sensor type is should NOT be applied.

Note2: If the period of measurement is 1 second, the maximum number of measuring points is 3. At a 1-second period, the sensor type for at least 5 points must be set to "NOT_USED."

2. Calibration range and unit (if required)
 - 1) Calibration range can be specified within the measurement range shown in Table 1. With the /FC1 option, please indicate the upper and lower limit values for each input. If /FC1 is not specified, the upper and lower limit values for all inputs will be the same.
 - 2) Please specify the units of temperature for each input (°C, °K, °F, or °R). °F and °R are available when Temperature Unit suffix code -B is specified. (In Japan, °F and °R are non-statutory measurement units. Suffix code -B can only be specified by end users outside of Japan.) With the /FC1 option, please indicate the unit for each input. If /FC1 is not specified, the unit for all inputs will be the same. It is not necessary to specify the unit of mV, V and ohm inputs, for these units automatically will be mV, V or Ohm.
3. Tag Number (if required)

Specify Tag number (up to 16 letters) to be engraved on the tag plate. Also, the specified letters are written to the "Tag_Name" (16 letters) of the amplifier memory. The characters can be specified using alphanumeric and the symbols, [-] and [_]. Do not write anything to Tag number when nothing is engraved on the tag plate.
4. Software tag (if required)

Specify this software tag when the tag number required is different from the tag number specified for the Tag plate. The tag number specified in "Software tag" will be entered on "Tag_Name" (up to 16 letters) in the amplifier memory.
5. Network ID (if required)

Specify the number from 2 to 65535. When not specified, it will be 1.

Note Lower-case alphabet characters and periods [.] cannot be used in Yokogawa's configuration software. Specify the tag name (Tag_Name) using a combination of upper-case alphabet characters, numbers, and hyphens [-].

< Factory Setting >

Table A. Settings upon shipment

Tag No.	"Blank" or as specified in order
Calibration range and unit	See Table 1. Measurement Range or as specified in order

< Related Instruments >

- Paperless Recorder Wireless Model GX20W
Refer to GS 04L51B11-01EN, GS 04L53B01-01EN (I/O Modules)
- Field Wireless Integrated Gateway YFGW710:
Refer to GS 01W01F01-01EN
- Field Wireless Management Station YFGW410:
Refer to GS 01W02D01-01EN
- Field Wireless Access Point YFGW510:
Refer to GS 01W02E01-01EN
- Field Wireless Media Converter YFGW610:
Refer to GS 01W02D02-01EN
- Versatile Device Management Wizard FieldMate:
Refer to GS 01R01A01-01E
- Thermocouple : Refer to GS 06B01B01-00E, GS 06B01E01-00E
- Mineral Insulated Thermocouple :
Refer to GS 06B02D01-00E
- Resistance Temperature Sensor :
Refer to GS 06B03B01-00E, GS 06B04D01-00E
- Protection Tube, Thermowell :
Refer to GS 06B02T02-00E
- Paperless Recorder Model GX10/GX20/GP10/GP20
Refer to GS 04L51B01-01EN (GX10/GX20), GS 04L52B01-01EN (GP10/GP20), GS 04L53B01-01EN (I/O Modules)
- Paperless Recorder DAQSTATION DX1000,DX2000:
Refer to GS 04L41B01-01E, GS 04L42B01-01E
- Data Acquisition System GM :
Refer to GS 04L55B01-01EN, GS 04L53B01-01EN (I/O Modules)
- Data Acquisition Unit MW100:
Refer to GS 04M10A01-01E

< Related Documents >

- Field Wireless System Overview:
Refer to GS 01W01A01-01EN

< Trademarks >

All the brand names or product names of Yokogawa Electric used in this document are either trademarks or registered trademarks of Yokogawa Electric Corporation.

Company and product names used in this manual are trademarks or registered trademarks of their respective holders.

The company and product names used in this manual are not accompanied by the trademark or registered trademark symbols ("™" and "®").

<Information on EU WEEE Directive>

EU WEEE (Waste Electrical and Electronic Equipment) Directive is only valid in the EU.

This instrument is intended to be sold and used only as a part of equipment which is excluded from WEEE Directive, such as large-scale stationary industrial tools, a large-scale fixed installation and so on, and, therefore, subjected to the exclusion from the scope of the WEEE Directive. The instrument should be disposed of in accordance with local and national legislation/regulations.