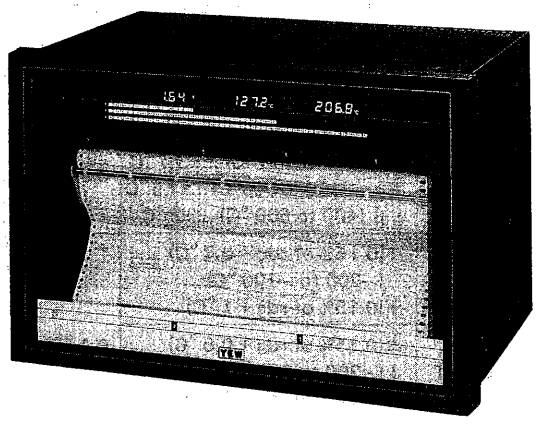
General Specifications

μR250 Recorders

μR250

The μR250 is a new, programmable 250 mm recorder line-up including three basic models – one-, two- and three-pen writing models. Input type can be DC voltage and nine types of thermocouples, or resistance bulbs. Full-scale range, chart speed and alarms can be programmed via front-panel keyboard. In addition to analog data recording, the μR250 also provides both digital and analog (bar graph) monitoring displays, and digital monitoring printout. *All models include versatile computing, recording and alarm modes such as delta T, scaling, square root, ZONE and expanded-scale recording.*



μR250 (3-pen model)

STANDARD SPECIFICATIONS

Input

Number of Inputs: 1, 2 or 3 (continuous writing pen models).

Input Signal Levels: DC V ... 20 mV to 50 V ranges, TC ... more than 100 °C span (and 3 mV), RTD ... more than 50 °C span (Pt100/JPt100).

Full-Scale Range Setting: Programmable via keyboard on the front panel.

Measuring Ranges: ANSI, JIS (°C) model ...

Input Type	Range Code	Measuring Range
DC V	00	–20.00 to 20.00 mV
	01	–200.0 to 200.0 mV
	02	–2.000 to 2.000 V
	03	–6.000 to 6.000 V
	04	–20.00 to 20.00 V
	05	–50.00 to 50.00 V
TC (ANSI, JIS)	10	Type R ... 0 to 1,760 °C
	11	Type S ... 0 to 1,760 °C
	12	Type B ... 400.0 to 1,820 °C
	13	Type K ... –200.0 to 1,370 °C
	14	Type E ... –200.0 to 800.0 °C
	15	Type J ... –200.0 to 1,100 °C
	16	Type T ... –200.0 to 400.0 °C
	17	Type N** . 0 to 1,300 °C
	18	Type W** . 0 to 2,315 °C
RTD (JIS)	20	JPt100 ... –200.0 to 550.0°C Pt100
DC V (linear scaling) *mA	30	–20.00 to 20.00 mV
	31	–200.0 to 200.0 mV
	32	–2.000 to 2.000 V
	33	–6.000 to 6.000 V (1-5 V or 4-20 mA)
	34	–20.00 to 20.00 V
	35	–50.00 to 50.00 V

*μR250 can accept a current input when a current shunt is used.

**Type N (Nicrosil-Nisil), Type W (W5%Re-W26%Re) ..... not specified in ANSI, DIN and JIS.

Range Code 40 to 45: Square root.

ANSI, DIN (°F) model

Input Type	Range Code	Measuring Range
TC (ANSI)	10	Type R ... 32 to 3,200 °F
	11	Type S ... 32 to 3,200 °F
	12	Type B ... 752 to 3,308 °F
	13	Type K ... –328 to 2,498 °F
	14	Type E ... –328 to 1,472 °F
	15	Type J ... –328 to 2,012 °F
	16	Type T ... –328 to 752 °F
	17	Type N ... 32 to 2,372 °F
	18	Type W ... 32 to 4,200 °F
RTD	20	Pt100 .... –328 to 1,022 °F

Other ranges correspond to the ANSI, JIS (°C) model.

DIN (°C) model

Input Type	Range Code	Measuring Range
TC (DIN)	10	Type R ... 0 to 1,760 °C
	11	PtRh-Pt ... 0 to 1,760 °C
	12	Type B ... 400.0 to 1,820 °C
	13	NiCr-Ni ... –200.0 to 1,370 °C
	14	Type E ... –200.0 to 800.0 °C
	15	Fe-CuNi ... –200.0 to 900.0 °C
	16	Cu-CuNi ... –200.0 to 400.0 °C
	17	Type N ... 0 to 1,300 °C
	18	Type W ... 0 to 2,315 °C
RTD	20	Pt100 .... –200.0 to 550.0 °C

Other ranges correspond to the ANSI, JIS (°C) model.

(JPt100: JIS C 1604-1989, JIS C 1606-1989
Pt100 : JIS C 1604-1989, JIS C 1606-1989
DIN IEC 751, IEC 751)

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MODEL AND SUFFIX CODES

1-Pen Model

Model	Suffix Codes	Description
4181	.....	1-pen continuous writing model
Input type	**-100**	DC V & TC (ANSI, JIS), °C
	-200	RTD (JPt100), °C
	-300	DC V & TC (ANSI, JIS), °C
	-400	RTD (Pt100), °C
	-500	DC V & TC (ANSI), °F
	-600	RTD (Pt100), °F
	-700	DC V & TC (DIN), °C
	-800	RTD (Pt100), °C
Power requirements	**-1**	100V AC
	-3	115V AC
	-5	200V AC
	-7	230V AC
	1	50Hz
	2	60Hz
Optional features	/□..	Refer to OPTIONAL FEATURES

Possible Combination of Suffix Codes

Model	Model & suffix codes	Possible combination of suffix codes in □
1-pen	**4181-□00**	**1** to **8**
2-pen	**4182-□□0**	**1** or **2**, **3** or **4**, **5** or **6**, **7** or **8**
3-pen	**4183-□□□**	

STANDARD ACCESSORIES AND SPARES

Item		Standard accessories 1-pen	2-pen	3-pen	Part No. as spares
Z-fold chart		1	1	1	**B9538RN** (6 charts)
Disposable felt-tip pen cartridge	Red	1	1	1	**B9565AP** (3 pcs.)
	Green	—	1	1	**B9565AQ** (3 pcs.)
	Blue	—	—	1	**B9565AR** (3 pcs.)
Plotter pen (purple)		1	1	1	**B9565AS** (3 pcs.)
Key		2	2	2	**B9567AR** (2 pcs.)
Fuse		1	1	1	100V **A9050KF** (1A) (1 pc.) 200V **A9049KF** (0.5A) (1 pc.)
Battery (1.5V)		3	3	3	**A9024ED** (1 pc.)
Rack adapter		2	2	2	**B9573BW** (1 pc.)
Screw for terminal		5	5	5	**B9565AZ** (1 pc.)
Lubricating oil		1	1	1	**G9621AD** (6 pcs.)

OPTIONAL ACCESSORIES

Current shunt
415920 (250Ω ±0.1%), **415921** (100Ω ±0.1%),
415922 (10Ω ±0.1%)

2-Pen & 3-Pen Models

Model	Suffix Codes	Description
4182	.....	2-pen continuous writing model
4183	.....	3-pen continuous writing model
Input type (1st pen)	**-1**	DC V & TC (ANSI, JIS), °C
	-2	RTD (JPt100), °C
	-3	DC V & TC (ANSI, JIS), °C
	-4	RTD (Pt100), °C
	-5	DC V & TC (ANSI), °F
	-6	RTD (Pt100), °F
	-7	DC V & TC (DIN), °C
	-8	RTD (Pt100), °C
Input type (2nd pen)	**1**	DC V & TC (ANSI, JIS), °C
	2	RTD (JPt100), °C
	3	DC V & TC (ANSI, JIS), °C
	4	RTD (Pt100), °C
	5	DC V & TC (ANSI), °F
	6	RTD (Pt100), °F
	7	DC V & TC (DIN), °C
	8	RTD (Pt100), °C
Input type (3rd pen of 3-pen model)	**0**	Always **0** (2-pen model)
	1	DC V & TC (ANSI, JIS), °C
	2	RTD (JPt100), °C
	3	DC V & TC (ANSI, JIS), °C
	4	RTD (Pt100), °C
	5	DC V & TC (ANSI), °F
	6	RTD (Pt100), °F
	7	DC V & TC (DIN), °C
	8	RTD (Pt100), °C
Power requirements	**-1**	100V AC
	-3	115V AC
	-5	200V AC
	-7	230V AC
	1	50Hz
	2	60Hz
Optional features	/□	Refer to OPTIONAL FEATURES

Note: Input combinations are limited to the Suffix Codes as shown in the table.

ORDERING INSTRUCTIONS

Specify the following, when ordering:
1. Model, suffix and option codes.
2. Name and part No. of spares, if required.