



Digital Controller

FP93 Series

SHIMADEN

BASIC FEATURES

- Full multi-input and multi-range performance
User selectable Thermocouple, RTD, V, mV and Current inputs
A 250 Ω resistor is required across the input terminal for 4-20mA DC.
- Large 20mm bright display
- Readable from a distance and in a low light area
- 40-step programs function
- RS232C or RS485 Interface available
- Dust and splash proof front panel equivalent to IP66



ORDERING INFORMATION

ITEMS	CODE	SPECIFICATIONS
SERIES	FP93-	96x96 DIN size Program controller (External control input 4 points, event output 3 points - standard)
INPUT	8	Thermocouple B, R, S, K, E, J, T, N, PLII, Wre5-26, U, L
		R.T.D. Pt100, JPt100
		Voltage mV: -10~10, 0~10, 0~20, 0~50, 10~50, 0~100mV DC V: -1~1, 0~1, 0~2, 0~5, 1~5, 0~10V DC
	4	Current 4~20, 0~20mA DC (equipped with external 250Ω shunt resistor)
CONTROL OUTPUT	Y-	Contact 1c Contact capacity: 240AC 2.5A/resistive load Proportional cycle: 1~120 seconds
	I-	Current 4~20mA DC Load Resistance: 600Ω max.
	P-	SSR drive voltage 12V ±1.5V DC 30mA max. Proportional cycle: 1~120 seconds
	V-	Voltage 0~10V DC Load current: 2mA max.
POWER SUPPLY	90-	100~240V AC ±10% 50/60Hz
	08-	24V AC/DC ±10% 50/60Hz
STATUS OUTPUT (DO) (OPTION)	0	None
	1	Open collector darlington output Rating: 24 V DC max, 20mA
ANALOG OUTPUT (OPTION)	0	None
	3	Voltage: 0~10mV DC Output resistance: 10Ω
	4	Current: 4~20mA DC Load resistance: 300Ω max.
	6	Voltage: 0~10V DC Load current: 2mA max.
COMMUNICATION FUNCTION (OPTION)	0	None
	5	RS-485 Connectable instruments: up to 31 (Depending on condition)
	7	RS-232C Connectable instruments: 1
REMARKS	0	Without
	9	With (Please consult before ordering.)

MEASURING RANGE CODES

Type of input	Code	Scaling range		
Thermocouple	B *1	0 ~ 1800 °C	0 ~ 3300 °F	
	R	0 ~ 1700 °C	0 ~ 3100 °F	
	S	0 ~ 1700 °C	0 ~ 3100 °F	
	K *3	04	-199.9 ~ 400.0 °C	-300 ~ 750 °F
		05	0.0 ~ 800.0 °C	0 ~ 1500 °F
		06	0 ~ 1200 °C	0 ~ 2200 °F
	E	0 ~ 700 °C	0 ~ 1300 °F	
	J	0 ~ 600 °C	0 ~ 1100 °F	
	T *3	09	-199.9 ~ 200.0 °C	-300 ~ 400 °F
		N	0 ~ 1300 °C	0 ~ 2300 °F
		PLII *4	0 ~ 1300 °C	0 ~ 2300 °F
	Wre5-26 *5	12	0 ~ 2300 °C	0 ~ 4200 °F
	U *2, *3	13	-199.9 ~ 200.0 °C	-300 ~ 400 °F
		L *2	0 ~ 600 °C	0 ~ 1100 °F
R.T.D.	Pt100	31	-200 ~ 600 °C	-300 ~ 1100 °F
		32	-100.0 ~ 100.0 °C	-150.0 ~ 200.0 °F
		33	-50.0 ~ 50.0 °C	-50.0 ~ 120.0 °F
		34	0.0 ~ 200.0 °C	0.0 ~ 400.0 °F
	JPt100	35	-200 ~ 500 °C	-300 ~ 1000 °F
		36	-100.0 ~ 100.0 °C	-150.0 ~ 200.0 °F
		37	-50.0 ~ 50.0 °C	-50.0 ~ 120.0 °F
		38	0.0 ~ 200.0 °C	0.0 ~ 400.0 °F

Type of input	Code	Scaling range
Voltage (mV)	-1010 ~	71
	0 ~ 10	72
	0 ~ 20	73
	0 ~ 50	74
	10 ~ 50	75
	0 ~ 100	76
Voltage (V)	-11 ~	81
	0 ~ 1	82
	0 ~ 2	83
	0 ~ 5	84
	1 ~ 5	85
Current (mA)	0 ~ 10	86
	0 ~ 20	91
Current (V)	4 ~ 20	92

- Note:** *1 Thermocouple B: Accuracy guarantee not applicable temperature below 400°C.
 *2 Thermocouple U, L: DIN 43710
 *3 Thermocouple K, T, U: Accuracy guarantee not applicable temperature below -100°C. ± (0.7%FS+1digit)
 *4 Thermocouple PLII: Platine
 *5 Thermocouple Wre5-26: A product of Hoskins

Note: Unless otherwise specified, the measuring range will be set as listed below during the shipment from the factory.

TERMINAL COVER (AVAILABLE SEPARATELY)

Model	Mounting
QCR003	One-touch mount

Input	Specification/Rating	Measuring range
Multi input	K thermocouple	0.0 ~ 800.0 °C
Current (mA)	4 ~ 20mA DC	0.0 ~ 100.0