

Temperature Controller

DF series Economical digital temperature controller

Specification

Model	DF2	DF2(SUB)	DF4	
Appearance				Temperature Controller
W×H×D(mm)	48 X 96 X 100	48 X 96 X 100	48 X 48 X 100	Recorder
Power voltage	110 / 220 V a.c. (50/60 Hz)		220 V a.c. (110 V, option)	Digital Counter
Power consumption	3 VA	4 VA	3 VA	Timer
Input	See range and input code chart(TC, RTD, 4 to 20 mA d.c., 1 to 5 d.c.) ※ Range(0 to 99) of Current and voltage input			Analog
Control output	Relay contact : 250 V a.c. 3 A (Resistive load), SSR : 12 V d.c. (constant voltage pulse) (Load resistance min. 800 Ω), Current: 4 – 20 mA d.c. (Load resistance max. 600 Ω)			Timer
Control action	–	Proportional or ON/OFF control	–	Panel Meter
Alarm	Relay contact : 250 V a.c. 3 A			Multi Pulse Meter
Setting	By BCD S/W			
Display range	Setting value			
Display	Digital indicator			
Setting and display accuracy	Display ±0.5 % of FS Range, Max. Set value ±1.0 % of FS			Proximity Sensor
Hysteresis	0.2 % FS (fixing), ON/OFF control.			
Proportional cycle	Relay contact : 25 ~ 30 sec SSR : 2 ~ 4 sec			Photo Sensor
Reset range	±1.5 % of Max. Range			
Dielectric strength	2,000 V a.c. 50/60 Hz for 1 minute (Primary terminal–secondary terminal)			
Vibration	Malfunction Resistance	2 – 55 Hz, X, Y, Z each position for 10 minutes		Rotary Encoder
	Mechanical Durability	10 – 55 Hz, 0.76 mm, X, Y, Z each position for 2 hours		
Shock	Malfunction Resistance	100 % 6 positions, Each 3 times		Thyristor
	Mechanical Durability	300 % 6 positions, Each 3 times		Power Regulator
Life	Mechanical	More than 10 million times		
	Electrical	More than 0.3 million times		Solid State Relay
Ambient temperature and humidity	0 ~ 50 °C(32 ~ 122 °F) 35 ~ 85 % RH (Without condensation)			Power Supply

Suffix code

Model	Code	Information
DF	□-□□□□□□	Economical digital temperature controller
Dimension	2	48(W) X 96(H) mm
	4	48(W) X 48(H) mm (socket type, 8 pin)
Control type	F	ON/OFF control
	P	Proportional control
Input	K	K thermocouple
	J	J thermocouple
	D	RTD KPt100 Ω
	P	RTD Pt100 Ω (IEC)
	V	1 – 5 V d.c.
	C	4 – 20 mA d.c.
Control output	M	Relay
	C	Current output (4 – 20 mA d.c.)
	S	S.S.R (voltage pulse output, 12 V d.c.)
Auxiliary output (SUB) ※ only with DF2	N	None
	O	High deviation
	P	Low deviation
	W	High/Low deviation
Control action (internal selection)	R	Reverse action (heating control)
	D	Direct action (cooling control)
Range code		Refer to the range and input code

※ Model DF4 selects proportional control/ON–OFF control by using internal dip switch.

※ Model DF4 with 110 V power voltage is available as order–made.

Range and input code chart

Classification	Code	DF2		DF4	
		Input type	Range (°C)	Input type	Range (°C)
Thermocouple	4	K, J	–	K, J	0 ~ 199
	5		0 ~ 199		0 ~ 299
	6		0 ~ 299		0 ~ 399
	7		0 ~ 399		0 ~ 599
	8	–	K	0 ~ 799	
RTD	1	Pt100 Ω	–99 ~ 99	Pt100 Ω	–
	2		–		–99 ~ 99
	3		–		0 ~ 99
	4		0 ~ 99		0 ~ 199
	5		0 ~ 199		0 ~ 299
	6		0 ~ 299		0 ~ 399
	7		0 ~ 399		–
DC voltage	–	1 – 5 V	0 ~ 99	1 – 5 V	0 ~ 99
DC current	–	4 – 20 mA	0 ~ 99	4 – 20 mA	0 ~ 99

Terminal Block / Power Buzzer / Fuse Holder / Control Box