

Digital Temperature Controller TTM J4/J5



- Self-Tuning PID
- Blind Function
- Simplified Timer
- Priority Display
- Multiple Inputs : Thermocouple/
R.T.D. (Pt 100 & JPt 100) are selectable by front key.
- Compact Size
- Manual Control (Balance less & Bump less)
- Digital PV Filter
- PID Over-Shoot Protection
- Heating/Cooling Control
- Shift setting of OFF position during ON/OFF control, for both output 1 & 2.



Input Switchable	Thermocouple	K, J, T, R, N, S, B (JIS1602 1995)	
	R.T.D.	Pt100, JPt100 (Load resistance : 10Ω or less)	
Indication	PV (Character)	4 digits, 7 segments Green 10mm height	
	SV (Setting Value)	4 digits, 7 segments Red 8mm height	
	Various Function Indication	LED : Red (AL1, AL2, OUT1, OUT2 or RDY)	
Control Method	PID Auto-Tuning	Proportional band (P1)	0.1 to 200.0% of setting limiter span
	PID Self-Tuning	Proportional band (P2) at Output 2	0.10 to 10.00 times (Times per P)
		Reset time (Integral) (I)	1 to 3600 sec (0 : OFF)
		Rate time (Deviation) (D)	1 to 3600 sec (0 : OFF)
		Cycle time (T1, T2)	1 to 120 sec
		Dead band (DB)	-100.0 to +100.0 or -100 to +100 ()
	ON/OFF	Control sensitivity (C1, C2)	0 to 999 or 0.0 to 999.9 ()
OFF Point of Output 1 & 2	Position of setting	-199 to 999 or -199.9 to 999.9 ()	
Control Output	Relay Contact	250V AC, 3A (Load resistance) 1a contact (On heating/cooling operation, output 2 is 250V AC, 2.4A load resistance, 1a contact)	
	SSR Drive Voltage	0 to 12V DC (Load resistance : Max 600Ω or more)	
Sampling Time		0.5 sec (Output change period is the same)	
Setting and Accuracy	Thermocouple	±(0.3% + 1 digit) of process value or ±2 , either of bigger numerical values is taken. (Ambient temperature : 23 ±10)	
Indication Accuracy		-100 to 0 : ±3 , -200 to 100 : ±4 Thermocouple B under 400 is not regulated.	
	R.T.D.	±(0.3% + 1 digit) of process value or ±0.9 , either of bigger numerical values is taken. (Ambient temperature : 23 ±10)	
		Ambient temperature 0 to 50 : ±(0.5% + 1 digit) or 1.5 , either of bigger numerical values is taken.	
Memory Element		EEPROM	
Voltage Source		100V AC to 240V AC (50/60Hz)	
Weight		TTM-J4 : less than 180g. TTM-J5 : less than 240g.	



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Digital Temperature Controller

TTM J4/J5



Power Consumption	Less than 10VA (240V AC)
Accessories	Instruction manual & installation attachment (TTM-J4) or installation metal instruments (TTM-J5)
Operating Condition	0 to 50 °C, 20 to 90%RH (under non-condensation)
Storage Condition	-25 to 70 °C, 5 to 95%RH (under non-condensation)
Functions	Manipulated Variable Limiter (ML1, MH1, ML2, MH2)
	Setting Limiter (SLL, SLH)
	See "Input and Range".
Selectable Control Mode (CNT)	Auto-Tuning PID Type A \longleftrightarrow B, Normal \longleftrightarrow Reverse, Auto-Tuning PID \longleftrightarrow ON/OFF
PV Correction Setting 0 Point (PVS)	-199 to 999 or -199.9 to 999.9 (°C)
PV Correction Setting Gain	0.50 to 2.00 (times)
Input Filter	0 to 99 (sec)
Manual Reset (PBB)	0.0 to 100.0%, -100.0 to 100.0 (heating & cooling) of proportional band.
Timer Operation Mode (TMM)	0.00 minute to 59.59 minutes, 0.00 hour to 99.59 hours: Accuracy : \pm (1.5% + 0.5 sec) of setting time.
Decimal Point Shift (DP)	Decimal point display available (up to 999.9)
Manual Control	Auto/Manual control can be switched by key.
Run/Ready	Run and Ready can be switched by key.
Blind Function	No indication available for non-required display.
Auto-Tuning (AT) Coefficient	After AT, the computed PV band is newly to set up with another coefficient.
FUNC Key	"Digit Shift" "AT" "RUN/READY" "Timer Start/Reset"
Priority Display	Arbitrary parameter screens are shifted to indication of operation mode by key. (max : 9 screens)
Lock Function (LOC)	4 modes (OFF, ALL, Operation Lock, Lock except Operation Mode)
Watch Dog Function	Data checked by EEPROM (Err0), A/D converter check (Err1), and Auto-Tuning check (Err2), Built-in watch dog timer.
Event Output 1 (AL1)	Function : PV contact output (8modes), Special contact output (3 modes), additional functions (3 modes)
Event Output 2 (AL2 or OUT2)	Setting Range : -199.9 to 999.9 or -1999 to 9999 (°C)
	Sensitivity : 0.0 to 999.9 or 0 to 9999 (°C)
	Rating : 250V AC 2.4A (Load resistance) 1a contact When selecting output 2 at contact output 2, the output generates on cooling side
Heating & Cooling	During heating/cooling. Contact polarity is selectable, either normal open or normal close.



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