MTD-48/MTD-49/MTD-72/MTD-96

Output Selectable PID Temp Controller

Features:

- **Dual display,4 digits,7 segments LED display**
- **Thermocouple input(K,E,J,T,S,R,B,N,Wu3_Re25,PT100)**
- **PID,PID Autotune, ON-OFF Control Mode**
- **Built-in Relay + SSR Drive output, output field selectable**
- **0.3%F.S measuring accuracy**
- **Bar graphic display indication**
- **°C/°F display selectable**
- **Alarm standby function**
- **Zero crossing periodic wave random trigger**
- **Phase angled random trigger**
- **Optional features**
  - -RS485 Modbus RTU Communication
  - -Maximum 2 alarms
  - -RUN/STOP function
  - -Parameter reset to factory default value

Ordering Information

MTD-48 (48mm*48mm)(Width*Height)
MTD-49 (48mm*96mm)(Width*Height)
MTD-72 (72mm*72mm)(Width*Height)
MTD-96 (96mm*96mm)(Width*Height)

—[1]-[2]-[3]*[4]-[5]

1:Main output

C	Relay output+SSR Drive Output

2:Number of Alarms

1	1 alarm
2	2 alarms

3:Power Source

96	85~265Vac 50/60HZ

4:Communication

N	Without Communicaiton
K	With Modbus RTU RS-485 communication

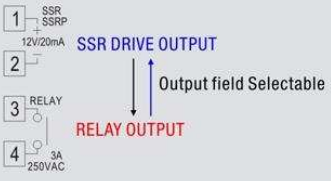
5:Auxiliary Power Supply

N	Without auxiliary power
24	24VDC Auxiliary Power Supply

Example: MTD-48-C-1-96-N-N(MTD, size 48mm*48mm, Relay+SSR Drive , 1 alarm ,85~265Vac source)

Unique Features

1)MTD series Controller with built-in SSR Drive output and Relay output,if you want to use this controller to trigger a AC contractor or bigger load relay , select the Relay output, if you want to use this controller to trigger a solid state relay,select the SSR drive output



2)This controller offers a RUN/STOP feature where you can STOP the output in the middle of a process which is useful for some of application

3)This controller offers a feature where all the parameters can be reset to factory default value in case the parameters was messed up. this helps a new customers to explore this controller yet do not worry about getting lost in the process

Technical Specifications

Display

Digits	4 digits 7 segments LED,Dual display
LED Indicators	OP1,OP2,AT,AL1,AL2,COM,°C,°F,PRG

Input Specifications

Inputs	Thermocouple(K,J,R,S,B,T,E,N,Wu3_Re25) RTD(PT100)
Sampling time	500ms
Input Filter(FTC)	0 to 66(1-30 normal, 31-60 enhanced)
Resolution	1/0.1° for TC/RTD only Decimal point position selectable
Temperature Unit	°C/°F Selectable
Indication Accracy	For TC inputs: 0.2% of F.S. ± 1° For R & S type TC inputs: 0.5% of F.S. ± 2° (20 min of warm up time for TC inputs) For RTD inputs: 0.2% of F.S. ± 1

Output Specifications

Main Control Output	1 main output, heating or cooling selectable
Contact Rating(SPST)	5A @ 250Vac Resistive Load(Main Output) 3A @ 250Vac Resistive Load(Alarm output)
SSR Drive	12V DC(20mA)

Supply Voltage

Supply Voltage	85~265Vac 50/60HZ
Power Consumption	6VA max @230Vac

Environmental Specifications

Temperature	Operating: 0 to 50°C(32 to 122°F) Storage:-20 to 75°C(-4 to 167°F)
Humidity(non-condensing)	95%RH
Weight	0.17kg(48mm*48mm) 0.25kg(48mm*96mm) 0.27kg(72mm*72mm) 0.32kg(96mm*96mm)
Protection	Dust proof for front plate

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Functional Specifications

Control Action	1)PID 2)ON-OFF, when P=0 3)Time proportional when P≠0 I=0 D=0
Proportional Band(P)	0.0 to 200.0
Integral Time(I)	0 to 3600 sec
Derivative Time(D)	0 to 3600 sec
Cycle Time	0 to 999 sec
Hysteresis Width	0.0 to 999.0
Alarms modes	Deviation high / Deviation low Deviation high/low alarm Deviation band alarm Process high alarm/ Process low alarm LBA(loop break alarm)
Input offset	-199 to 199
Lower limit SV	-1999~9999
Higher limit SV	-1999~9999

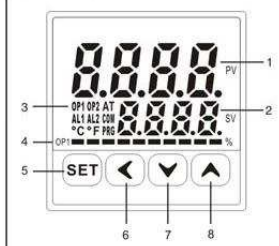
Optional features

Serial communicaiton	
Interface standard	RS-485
Communication address	0 to 127, maximum 36 units per line
Transmission mode	Half duplex
Transmission protocol	Modbus RTU
Transmission format	Support 03 read command, 06 and 10 write command 1 start bit+8 digital bit+N+1 stop bit(8.N.1) 1 start bit+ 8 digital bit+N+2 stop bit(8.N.2)
Transmission speed	2400,4800,9600,19200(9600 default)

Compliance

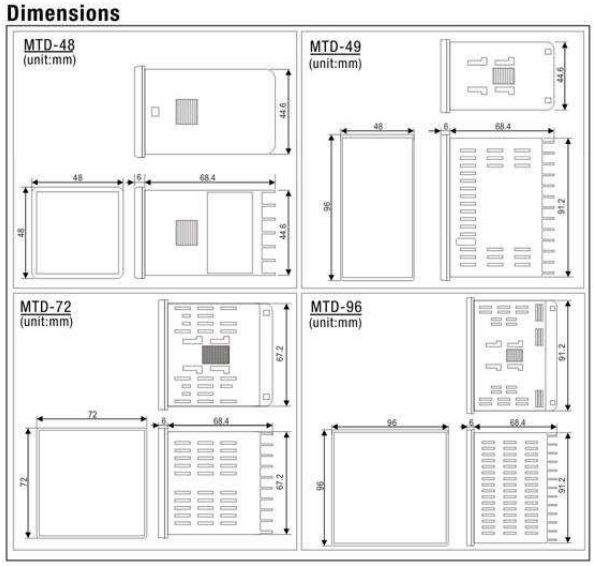
IEC/EN 61326(EMI/EMC)
IEC/EN 61010 Revision 3 2010 Edition(Safety)

Panel Layout

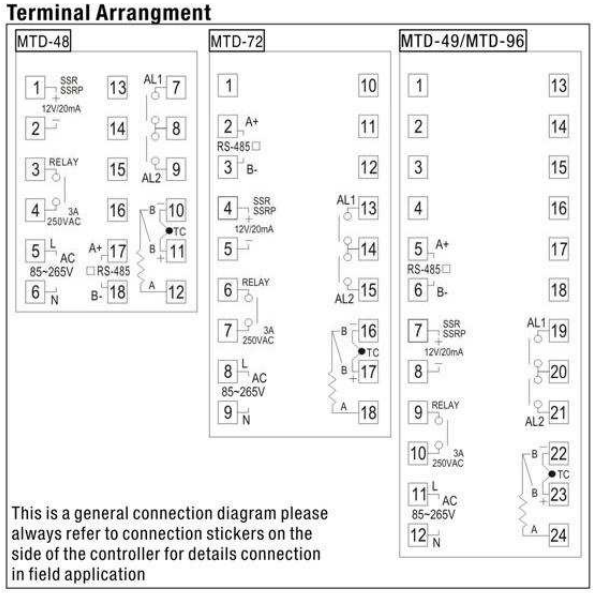


1 PV Display window, display PV
2 SV Display window, display SV
3 OP1 Output indication
AT Auto-tuning indication
AL1 Alarm 1 indication
AL2 Alarm 2 indication
COM Communication indication
°C Celsius indication
°F Fahrenheit indication
4 Bar graphic Output % indication
5 SET Function key
6 ◀: Shift key
7 ▼: Decrement key/STOP KEY
8 ▲: Increment key/RUN KEY
◀ ▲ Reset all parameters

Dimensions



Terminal Arrangment



This is a general connection diagram please always refer to connection stickers on the side of the controller for details connection in field application