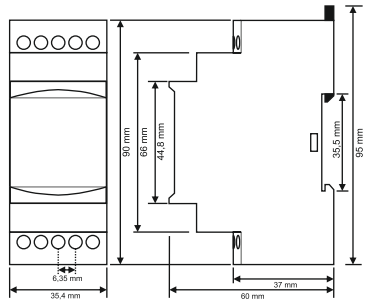
General Specifications

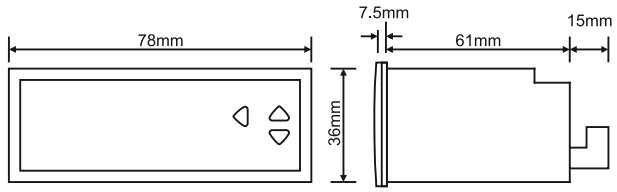
- This device is designed for basic temperature control applications only in light industrial environments.
- µP based, digital temperature controller with control and alarm output
- Sensor: NTC
- ON-OFF control form
- Outputs: Out and Alarm
- Heating and Cooling Function
- Adjustable delay timer before OUT ON for cooling function
- Adjustable Hysteresis Value
- Adjustable Upper and Lower Limit for SET and Alarm Value
- Offset feature
- Password Protection
- Displays SET and PROCESS values
- Excellent linearity with °C/Ohm look-up table
- High accuracy
- EEPROM memory to store settings
- Easy connection with plug-in connectors

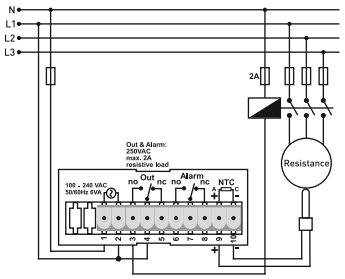
Technical Specifications

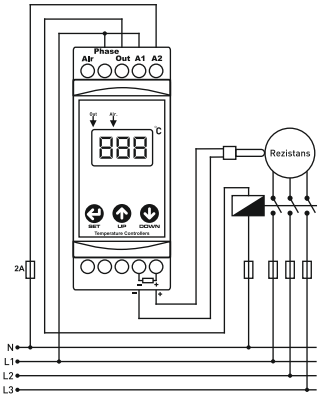
- **Dimensions** : DT-321, DT-322; 35x77mm, DT-321-DIN; 36x90x65mm, rail mount
- **Panel Cut-out** : DT-321, DT-322; 29x71mm
- **Display** : 3 Digits 7 Segment
- **Sensor Type** : NTC
- **Measuring Scale** : -30 .. 150 °C (DT-321, DT-321-DIN), or -19,9 .. 99,9 °C (DT-322)
- **SET Interval** : LoL .. UPL °C (HSt)
- **Hysteresis Interval** : 1 .. 20 °C (DT-321, DT-321-DIN), or 0,1 .. 20,0 °C (DT-322); (Ahs, Hhs)
- **Alarm Interval** : AtP = Abs, -Ab; LoL .. UPL °C (Ast)
  AtP = rEL,-rL; (HSt+rAL) , (HSt-20)..(HSt+20) °C
- **Offset** : -20 .. 20 °C (DT-321, DT-321-DIN), or -19,9 .. 20,0 °C (DT-322)
- **Resolution** : ± 1 °C (DT-321, DT-321-DIN), or ± 0,1 °C (DT-322)
- **Accuracy** : ± 3 % (Over full scale)
- **Control Form** : ON-OFF
- **Heating/Cooling** : H-C; Ht (heating), CL (cooling); selectable
- **Out Output** : Relay (NO + NC), 250VAC, 2A, Resistive load
- **Alarm Output** : Relay (NO + NC), 250VAC, 2A, Resistive load
- **Sensor Failure** : In case of sensor failure, measurement out of range or hardware fails, OUT output is first OFF for TOf and then ON for Ton periodically. For continuous OFF, enter TOn=0 & TOf=0. For continuous ON, enter TOn=1 & TOf=0. In case of sensor failure, measurement out of range or hardware fails, and Alarm type is selected as "SnS", ALARM output is always ON, otherwise under normal in scale measurement, always OFF.
- **Supply Voltage** : 100..240VAC, 50-60Hz – or (optional 24VDC/AC; max. isolation voltage 40VAC)
- **Power Consumption** : < 6VA
- **Humidity** : < 70% (non-condensing)
- **Altitude** : < 2000m
- **EMC** : EN 61000-6-1, EN 61000-6-3 (Only light industrial environment)
- **Safety** : EN 61010-1; Pollution degree 2, measurement category II,
  (Only light industrial environment, double/reinforced isolated)
- **Protection Class** : IP20; according to EN 60529
- **Operating Temp.** : 0 .. 50 °C
- **Storage Temp.** : -10 °C .. 60 °C (no icing)
- **Weight** : < 0.5 kg.
- **Keys** : Micro Switch
- **Torque for screwing** : Max. 0.5 Nm.

Dimensions:



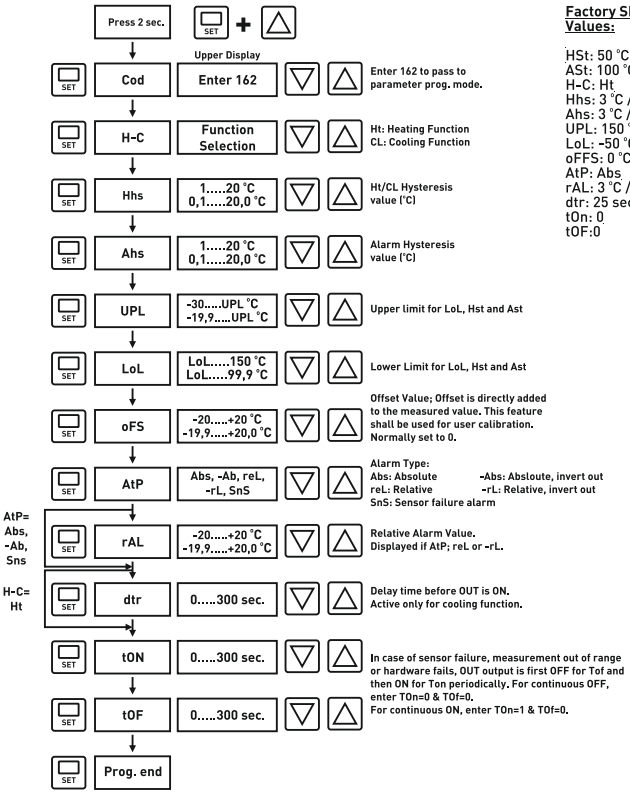






⚠ Warning: Pay attention to the polarities (+ & -) of NTC leads. Wrong connection may cause wrong measurement or sensor failure.

Programming Parameters:



Factory SET Values:

HSt: 50 °C / 30,0 °C
ASt: 100 °C / 80,0 °C
H-C: Ht
Hhs: 3 °C / 0,5 °C
Ahs: 3 °C / 0,5 °C
UPL: 150 °C / 99,9 °C
LoL: -50 °C / -19,9 °C
oFFS: 0 °C / 0,0 °C
AtP: Abs
rAL: 3 °C / 0,5 °C
dtr: 25 sec.
tOn: 0
tOF:0

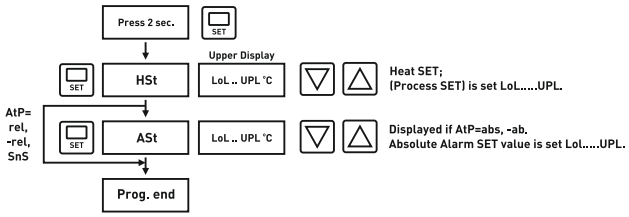
Error Message:

or: Displays "or" message in case of sensor failure, measurement out of range or hardware fails to measure input signal.

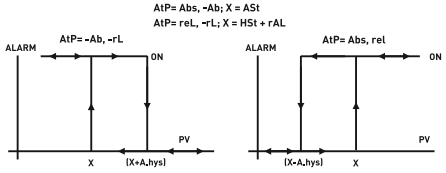
Cleaning:

Do not use any solvents (alcohol, thinners, benzine, acid, etc.) or corrosive substances to clean the device. Use only a dry and clean non-abrasive cloth. Before cleaning, disconnect the power supply and mains connections.

Programming Heat SET and Absolute Alarm SET:

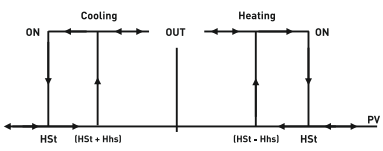


ALARM Output:



If **Alarm mode (AtP)** is selected as "**SnS**"; in case of sensor failure, measurement out of range or hardware fails (when "or" is displayed), OUT output is first OFF for Tof and then ON for Ton periodically. For continuous OFF, enter TOn=0 & TOf=0.
For continuous ON, enter TOn=1 & TOf=0.

ON-OFF Control:



Heating Function: OUT relay is OFF when process value (PV) is greater then or equal to SET value. OUT relay is ON when PV is less then or equal to (SET-Hhs) value.

Cooling Function: OUT relay is OFF when process value (PV) is less then or equal to SET value. OUT relay is ON when PV is greater then or equal to (SET-Hhs) value.