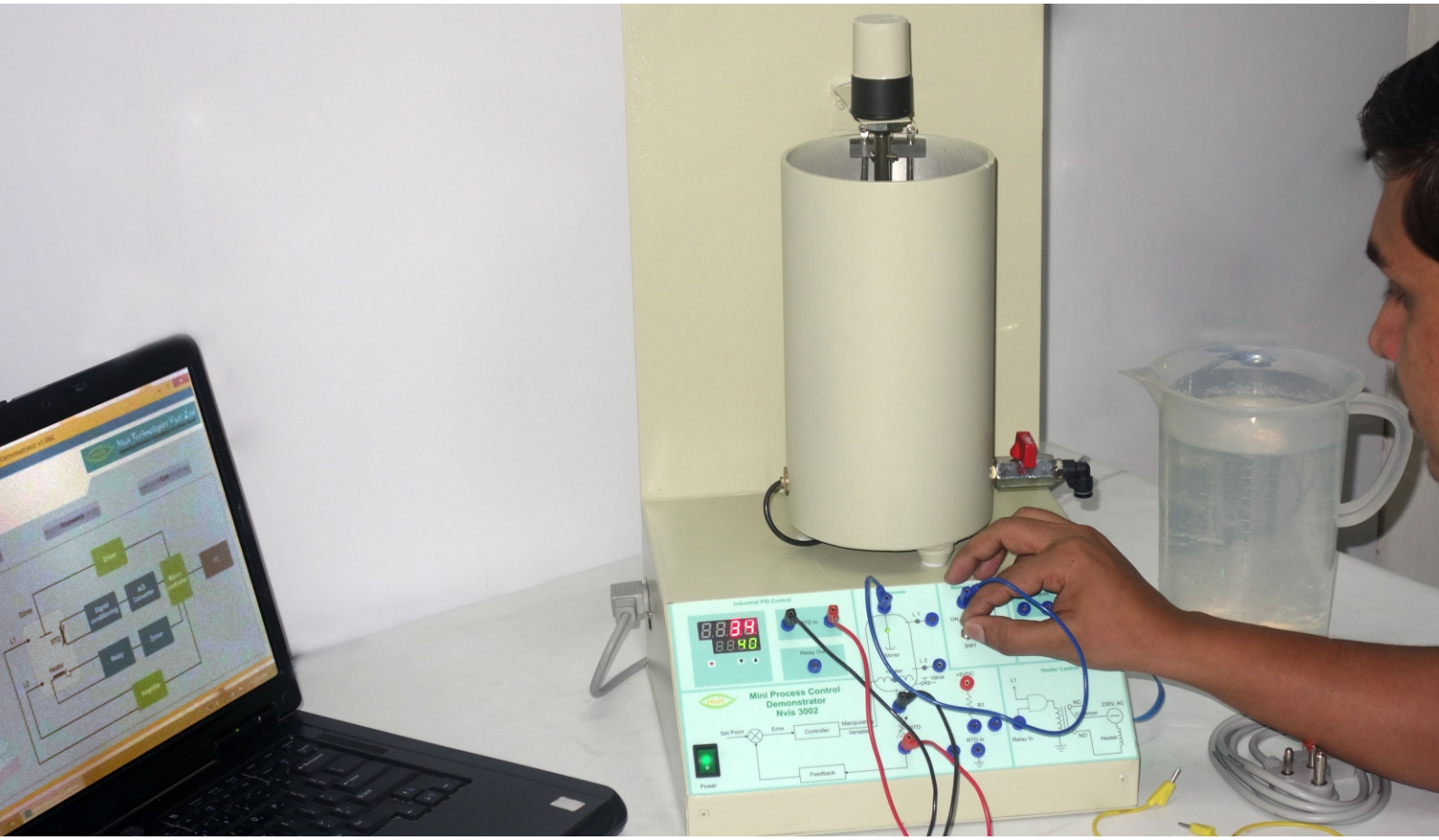
Mini Processor Control Demonstrator

Nvis 3002



In this Technological world, instrumentation & control engineering is used in almost every industrial process and generating system, where consistent and reliable operation are required.

Nvis 3002 Mini Process Control Demonstrator explains students and professionals the concepts and working of Thermal Process Control which enables them to learn advance and more complex thermal process; and contribute in the growth of instrumentation arena. Instrumentation provided the means of monitoring recording and controlling a process to maintain it at a desired state. It formulates students to accumulate, develop and practice the fundamentals of thermal process control.

Mini Process Control Demonstrator Nvis 3002 has Temperature Sensor, Level Sensor, Level Indicators, Additionally it has safety measures too such as emergency shutdown and overheat protector. There is a wide range of experiments that can be performed on the Platform. It also has facility of computer interfacing with real time graphical analysis which helps to perform mathematical calculations required to state stability of process using methods of control system. Control system is a broad concept and the following might apply to on automated system such as a Robot or to a process control system such as a temperature controlling of chemical/water in a boiler. This feature increases the scope of doing research and implementing one's innovative ideas related to thermal process control.

Features

- **Study of Thermal Process Control**
- **Temperature Controller**
- **Use of Industrial Process Control Elements**
- **Process Loop Tuning & Stable Process**
- **Real-time PC interface with ADC & Digital input/output**
- **Process Control by ON/OFF Controller**
- **Process Control by P, PI & PID with Auto Tuning**
- **Point to point Water Level Sensor**
- **Process Control Loops**
- **Mathematical Modeling and Calculations**
- **Process Indicators**
- **PC Interface for Open Loop & Closed Loop Control**
- **PC Based Temperature Indicator**
- **Print and Save Feature for Real Time Data and Graph**
- **Data logging of Temperature & Set Point**
- **Real Time Graphical Representation**
- **User Friendly Software**
- **Online Product Tutorial**

Mini Processor Control Demonstrator

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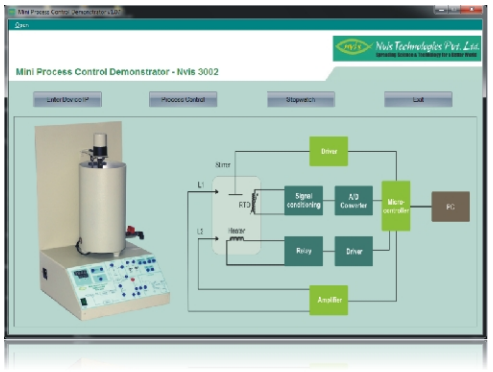
Scope of Learning

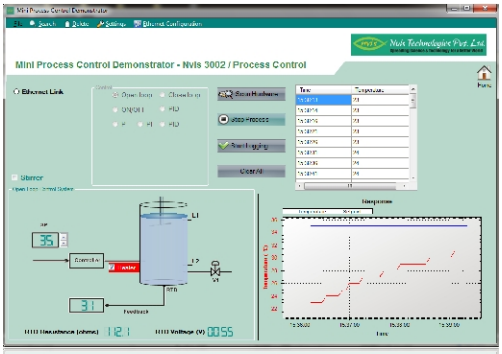
- Study of Thermal Process Control
- Study and use of Process Control Platform using Software
- Study and use of RTD characteristics
- Study and use of Open loop for Temperature.
- Study and use of Temperature on/off action using Software
- Study of P, PI and PID control action using the Software for Temperature
- Study of Industrial PID Controller as on/off Controller
- Study of Industrial PID Controller as P, PI and PID Controller
- Study of auto tuning mode of Industrial PID Controller

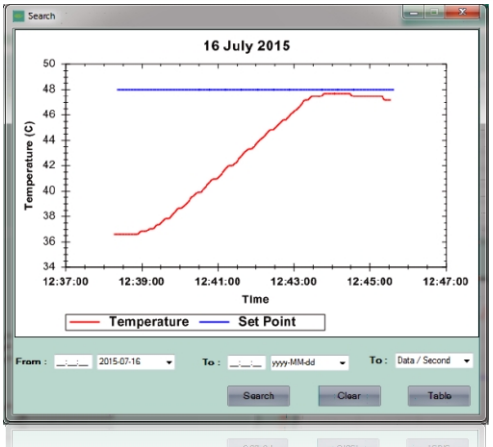
Technical Specifications

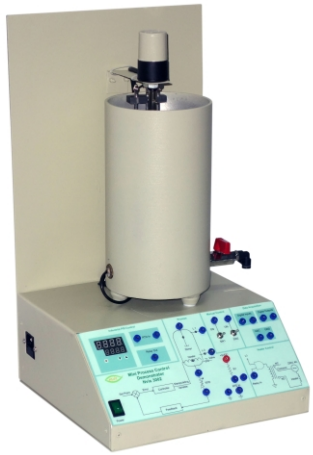
Vessel Capacity	: 2 litter
Temperature Measurement	: RTD (-99 to 850°C)
Heater	: 230V AC
Temperature Range	: From room temperature to 100°C
Temperature Indicator	: 0 to 850°C
Control Valve	: Manually Operated
Stirrer	: 0 or 5V DC
Level Sensor	: 0 or 5V DC
Indicators	: Level Indicators, Stirrer Indicator and Heater Indicator
Relay Action	: Forward for Cooling and Reverse for Heating
PID Controller	: Hardware based & Computer based
ON/OFF Controller	: Hardware based & Computer based
Computer Interface	: Ethernet
Analog Input	: One (0 to 5V DC)
Digital Input	: Two (TTL)
Digital Output	: Two (TTL)
Switches	: Two (TTL)
PC Based Temp. Indicator	: 0 to 80ºC
Power Supply	: 230V ±10%, 50Hz
Dimensions (mm)	: W 280 x D 275 x H 460
Weight	: 5.5kg
Accessories	: Patch cord (2mm) -12nos Ethernet cable-1no Plastic jar-1no Mains cord-1no
Product Tutorial	: Online on www.Nvistech.com

Software window









Subject to change - Version 2.0

Designed and Manufactured in India by -

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