

PID temperature regulation

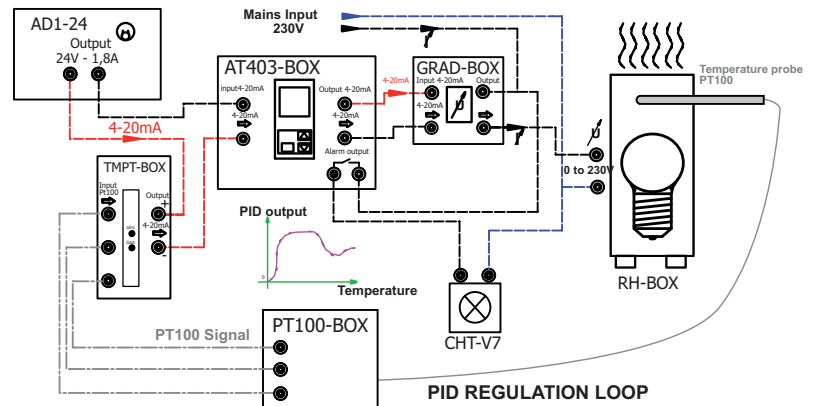
EDUCATIONAL OBJECTIVES

- Understanding and wiring of a regulation chain of temperature by PID
- Studying, setting, control of a PID regulator
- Retrieving information by computer.
- Understanding of the link resistance / temperature as measuring principle.

USER'S MANUAL & THEORETICAL COURSES

Set of components for the study of a 4-20mA temperature regulation loop with a PT100 temperature sensor and a dimmer switch, all controlled by PID regulator.

These solutions of regulation are delivered with all the necessary safety leads, a user's manual for each component and also wiring diagrams.



ref. REGUL-G communicating model

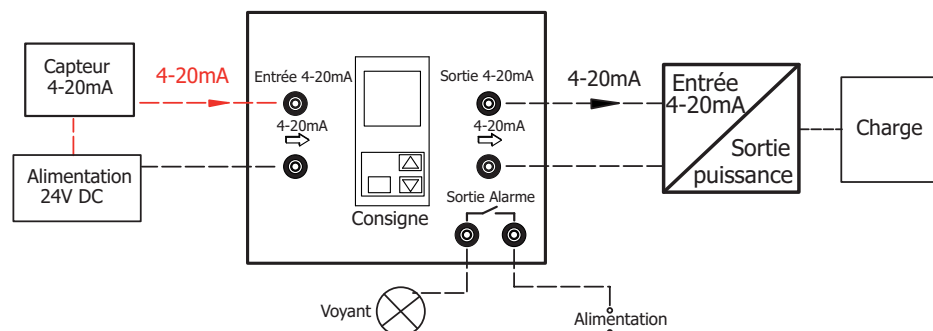
MAIN COMPONENT - REGULATOR



The PID regulator is the correcting component into a regulation loop for the monitoring of a process (boiler, compressor, pump ...). It receives a 4-20mA signal from the sensor which is the image of the value to regulate (temperature, pressure, flow...). It compares it to the set-point (programmed in the PID) and drive the process to reduce the difference "process variable / set-point"

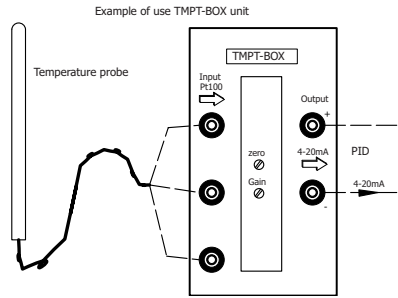
The communicating version has the same features and includes in addition a possible programming by software and retrieving datas (files + curves).

- Universal input on safety sockets
Configurable according the different types of signals like thermocouple, thermoresistance, thermistance 0-10V and 4-20mA linear outputs.
- Configurable output in 0-10V and 4-20mA on safety sockets.
- All-or-nothing alarm relay output on safety sockets.
- The PID unit is fully configurable from the keys on the front panel or from the software.
- Power supply (230VAC – 50Hz) – power cord
- Programming software + connection lead to PC delivered with the unit
- Dims: 150 x 200 x 100 mm



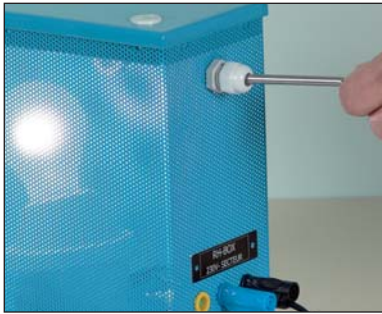


PT100 - 4-20mA TEMPERATURE CONVERTER



- This unit allows the connection of a temperature probe to the 4-20mA input of the PID.
- Adjustment of the signal gain & zero thanks 2 potentiometers
- Compatibility with the 2 or 3 wires temperature probes (see PT100-BOX)
- Input/output connection on safety sockets 4mm
- Works without any external supply
- DIMS: 77 x 106 x 92 mm

HEATING UNIT



Heating unit fitted with a 75W lamp and completely safe 230V power supply, thanks to two 4mm double channel terminals. The Pt100 temperature probe, with a maximum diameter of 7mm, can be inserted sideways (e.g. PT100-BOX). Powered via 230V mains supply or SCR power unit (e.g. GRAD-BOX), which regulates the light intensity and therefore the temperature in the unit. This temperature can be measured by a temperature probe (e.g. PT100-BOX)

FEATURES

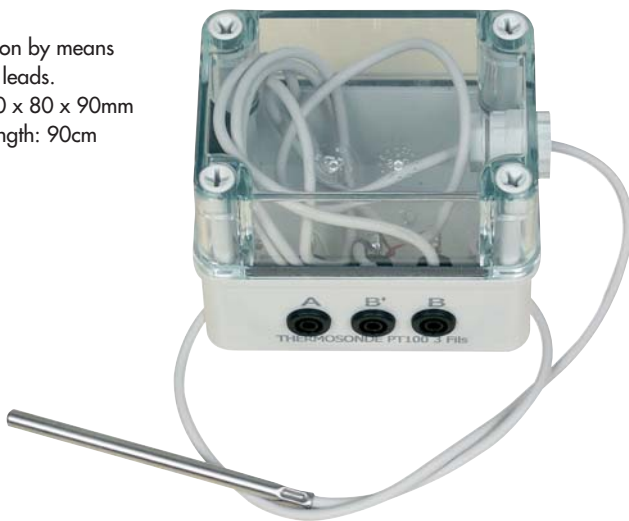
- 75W incandescent lamp – E27
- Mains power supply via 2 safety terminals
- Inlet port can accommodate temperature probe up to 7mm in Ø
- Dim: 250 x 250 x 110mm



PT100 TEMPERATURE SENSOR

FEATURES

- Connection by means of safety leads.
- Dim: 100 x 80 x 90mm
- Cable length: 90cm



SINGLE-PHASE SCR POWER CONTROL

Controls the power in the charge by varying the conduction angle of the thyristors according to the control current of 4-20mA. Can be connected directly to the built-in PLC unit ref. AUTO-BOX-A.

FEATURES

- Connection by means of safety leads.
- Max. current output: 15A
- Dim: 100 x 80 x 90mm



DC POWER SUPPLY



24V / 1.8A DC Supply
Output on safety sockets 4mm
Protection: overload and short-circuit: by electronic limitation

HOUSING COMPONENT

- Green light: terminals - 5W lamp
- Double insulation
- Dimensions : 150 x 73 x 57mm

