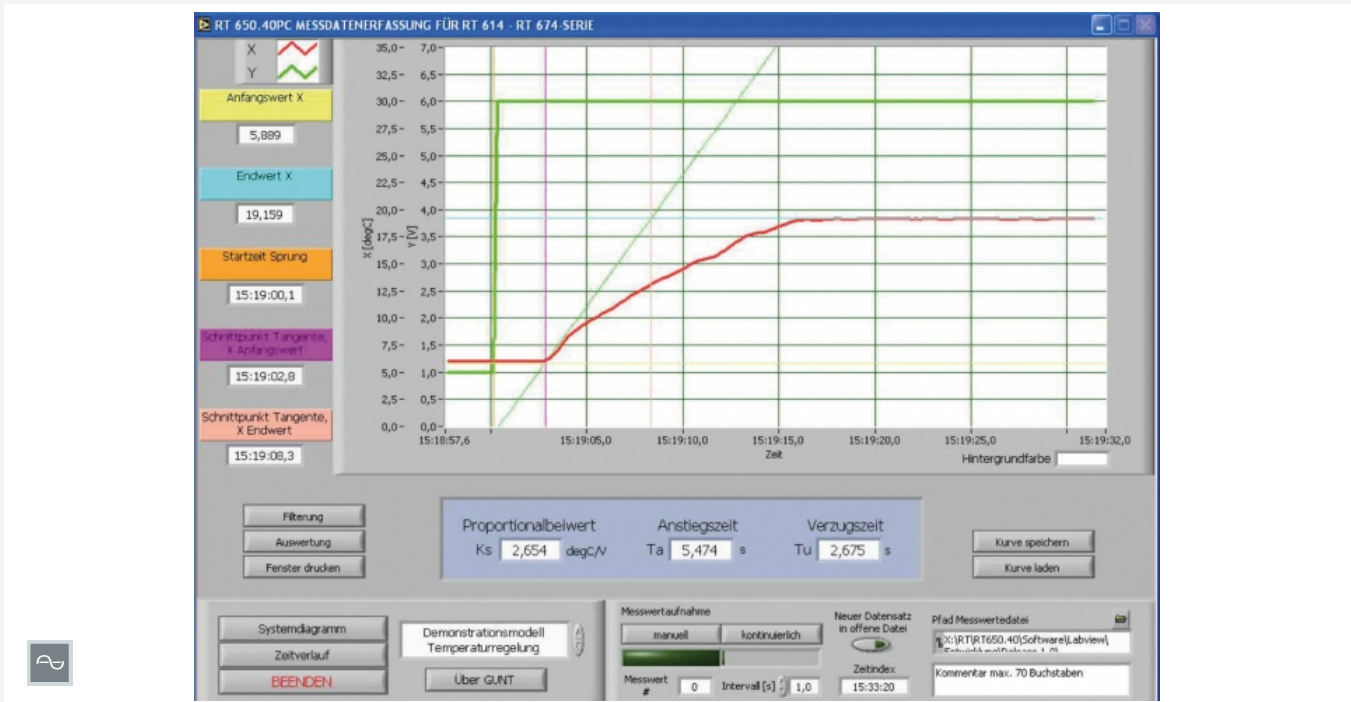# RT 650.40
I&C Software for RT 614 - RT 674 Series

Description

- **software controller with freely settable parameters**
- **continuous and switching controller selectable**
- **language freely selectable**
- **process schematic with display of real-time data**
- **recorder functions**

The software ideally supports the experimentation and learning process of demonstration models RT 614 – RT 674. Its key features are the software controller and the recorder function. The controller can operate as a configurable PID controller and as a 2-point controller. In the latter case, as well as the setting of the reference variable, the hysteresis can also be pre-set. The recorder function provides continuous recording of controlled, manipulating and reference variables. It plots responses to changes in the reference (e.g. step input) and disturbance variables. Measured values can be printed out and saved to data media. Connection to a PC is by a USB port. The supplied USB interface module provides an adequate number of analogue inputs and outputs, enabling even complex circuits, such as a cascade (RT 674), to be controlled.

The controller included with each demonstration unit can also be used instead of the software controller. In this case, controlled, manipulating and reference variables can be plotted, displayed and saved by the program's recorder function.

Choosing different program windows makes it possible to display the relevant process schematic with locally assigned real-time data and the time functions of these parameters.
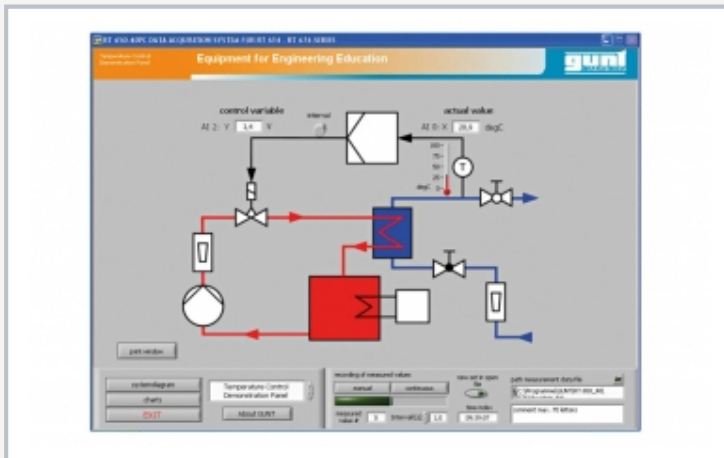
The learning process is assisted by the well structured manual, with its description of the software functions and instructions for use with the control engineering demonstration models RT 614 – RT 674.

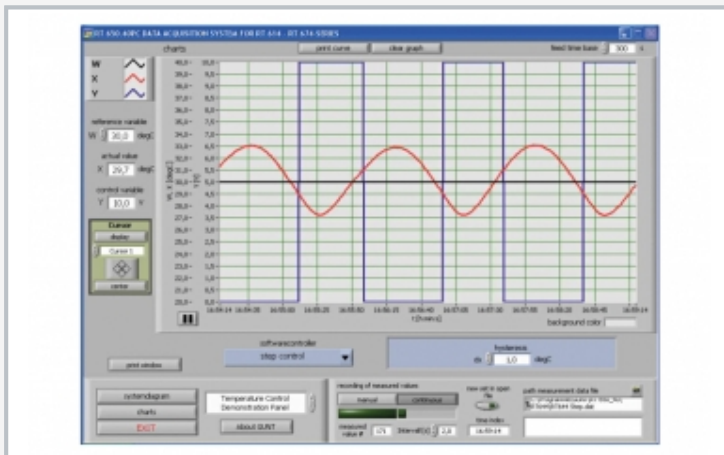## Learning objectives/experiments

- familiarisation with and use of software-aided control systems
- connection of a PC to the port and correct interfacing to different control processes
- saving data
- different control methods:
  - ▶ switching
  - ▶ continuous
- configuring a continuous controller
- recording and evaluating step responses
- Investigation of disturbance and control response

G.U.N.T. Gerätebau GmbH, Hanskampring 15-17, D-22885 Barsbüttel, Telefon (040) 67 08 54-0, Fax (040) 67 08 54-42, Email sales@gunt.de, Web www.gunt.de
We reserve the right to modify our products without any notifications.

Page 1/2 - 03.2017

RT 650.40
I&C Software for RT 614 - RT 674 Series

Screenshot: process schematic window of temperature control demonstration model (RT 644)

Screenshot: 2-point temperature control

USB interface module

Specification

[1] instrumentation and control software to present relevant data on a PC
[2] selectable continuous or switching software controller mode
[3] continuous controller parameters settable
[4] the controller included in the demonstration model can be replaced by a software controller
[5] the controller included in the demonstration model can also be used with the software recorder function
[6] real-time data can be displayed in different windows
[7] language freely selectable
[8] easy connection to PC via USB port with 4 analogue inputs and 2 analogue outputs

Technical data

Software controller (continuous mode)
■ configurable as P, PI or PID controller
■ cascade control

Software controller (switching mode)
■ 2-point response
■ input of reference variable and hysteresis

Recorder function with data saving
■ recording and saving of time functions
■ evaluation of step responses with automatically generated inflectional tangent

Language selection
■ 4 pre-selectable languages
■ 1 user-defined language possible

Software basis
■ LabVIEW
■ system requirements: Windows Vista or Windows 7, USB port

Required for operation

PC with Windows

Scope of delivery

1   GUNT software CD
1   USB interface module
1   set of cables
1   manual with description of software functions and instructions for use with demonstration models RT 614 – RT 674