1 Description and use

The Protronic 100/500/550 process controllers are instruments in the Protronic range which can be used universally. They can be operated as individual instruments under local control as well as with other Protronic controllers in system interconnection with other Protronic controllers, or interconnected to overlayed systems. Protronic 100 and Protronic 500/550 differ in their complementation, Protronic 100/500 differ in respect of their front panels.

Protronic 100/500
This front panel indicates the current measured values and the operating modes qualitatively by LEDs from a long distance. All information is displayed clearly on an LC display for operating purposes.

Protronic 550
Protronic 550 has a graphical front panel. Large volumes of different information can be displayed on a graphics display with 108 x 240 dots. A parallel display of several control channels or the changes with time of measured variables can be selected with keys.

The basic models of Protronic 100/500/550 have...
... an universal input. Thermocouples, Pt100 resistance thermometers, as well as 0/4 to 20 mA standard analog signals, can be connected without changing the hardware of the unit. Linearization is performed in the controller if non-linearizing temperature transmitters are used. The linearization tables for all standard sensors are stored in the unit.

... a mA input, which can be used as disturbance variable or set point input. With step controllers, this input can be used for the position feedback signal.

... a mA output for the positioning signal or other values such as for set point or actual value.

... four binary inputs/outputs. These inputs/outputs can be configured by the user as inputs or outputs, so that they can be used optionally as controller outputs or alarm outputs, as well as inputs for transfers in the controller, such as from manual to automatic.

... a front-panel TTL interface for connecting a parameter-setting and configuring PC. This reduces the setting work during commissioning.

The basic model of Protronic 100 has...
... 1 Module slot for taking up the interface module.

The basic models of Protronic 500/550 have...
... 7 Module slots for expanding the function.
... 1 slot for a MEMORY-Card (front panel).

Front panel
The front panel provides information on the status of the process and makes possible selective intervention into the process action. Luminous pointers on the screen indicate the status of the process from a distance. Numerical displays and clear text information permit precise readout and setting of set point and correction values.

1.1 Programmer

Every device includes a configurable programmer to preset a time-dependent set point. The Protronic can save up to 10 programs with 15 sections for each program.

1.2 Controller outputs

Z1 2-point PID controller action with or without preliminary contact for strong-weak-off control.
Z2 Controller for heat-off-cool optionally with two switching or one continuous and one switching output.
S Step controller.
C Continuous controller, also optionally split-range output with two continuous positioning signals.

1.3 Parameter setting

The parameter-setting level is reached via the <Menu> key after entering a password. At this level it is possible to set parameters such as controller gain Gp or time constants for the existing equipment functions.

1.4 Configuration

Configuration can be performed in two ways:

1.4.1 List configuration

The password-protected configuration level is reached via the <Menu> key, and standard functions are selected at this level from a list available in the equipment. Alternatively to using the operator keyboard, it is also possible to make the selection via the **IBIS_ R** PC program. In this case the setting is particularly simplified if several units are to be set at one time (see Data Sheet 62-6.70 EN). The configuration of a Protronic 100 is acceptable by Protronic 500/550.

1.4.2 **Free configuration** (not Protronic 100)

Duly prepared Protronic 500/550 units permit customer-specific configuration, i.e. functions which go beyond the standard functions of the controller.

By adding binary inputs/outputs using the function plan editor (PC program **IBIS_ R**+, see Data Sheet 62-6.70 EN) it is for example possible to set up an additional logic control in the controller, which intervenes in both the controller and the process.