Protronic 550

Controllers for
Process engineering

Supplement to the operating manual   42/62-55013 EN   Rev. 01

ABB

Notes

All safety notes and displays in these operating instructions
apply to both the Protronic 500 and the Protronic 550

Contents

Process operation

Description of the operator panel
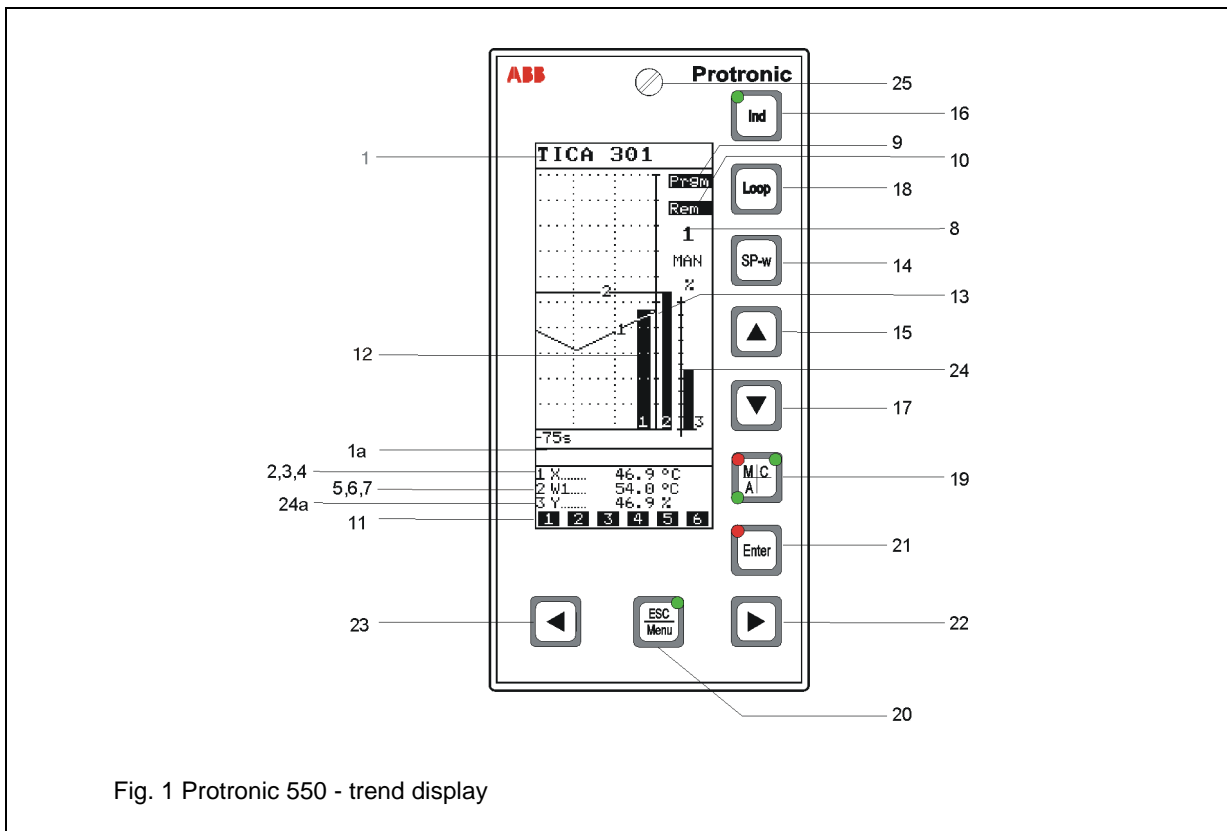
Fig. 1 Protronic 550 - trend display

1	Measurement point number (TAG 12-digit)	15	"Raise" adjustment of the value displayed in 5,6,7
1a	Message line		
2	Digital display controlled variable X	16	Display selector switch for 5,6,7 LED lights up in past-history mode
3	Label controlled variable X		
4	Dimension controlled variable X	17	"Lower" adjustment of the value displayed in 5,6,7
5	Digital display which can be changed over with <Ind>: in automatic mode normal W, in manual mode normal Y	18	Channel (loop) switch-over, shift key for key 16
6	Label of the value displayed	19	Operating mode transfer, manual-automatic (cascade) with associated LEDs
7	Dimension of the value displayed		
8	Number of the control loop displayed changes with "A" in alarm	20	Entry into the parameter-definition and configuration levels. Associated LED lights up immediately the operator control level has been left.
9	Display for active programmer		
10	Display for activated remote control		
11	Binary flags (freely configurable messages for binary events)	21	Acknowledgement of alarms and parameter setting and configuration data
12	Analog display controlled variable X	22	Manual mode "raise"
13	Analog display setpoint W	23	Manual mode "lower"
14	Setpoint switch-over	24/24a	Controller output Y
		25	Closing screw

The numbers of the individual control and display elements are used identically in all parts of the documentation of the unit.

Setpoint SP (2)

Process Variable PV (1)

Ind-line

actual operating mode

Message line

Output OUT (3)

Fig. 2. Trend display

TICA 301-100

Prgm
Rem
1
MAN
%

1
2
3

-75s

1 PV...... 61.3 °C
2 SP1.. 54.0 °C
3 Out.. 61.3 %

1

act. Oper. mode

Process Variable PV (1)

Ind-line

Output OUT (3)

Setpoint bargraph (2)

Message line

Fig. 3. Numerical display

TICA 301

Prgm
Rem
1
MAN

100.0

1 X........ °C
50.6
2 P01.. °C
54.0
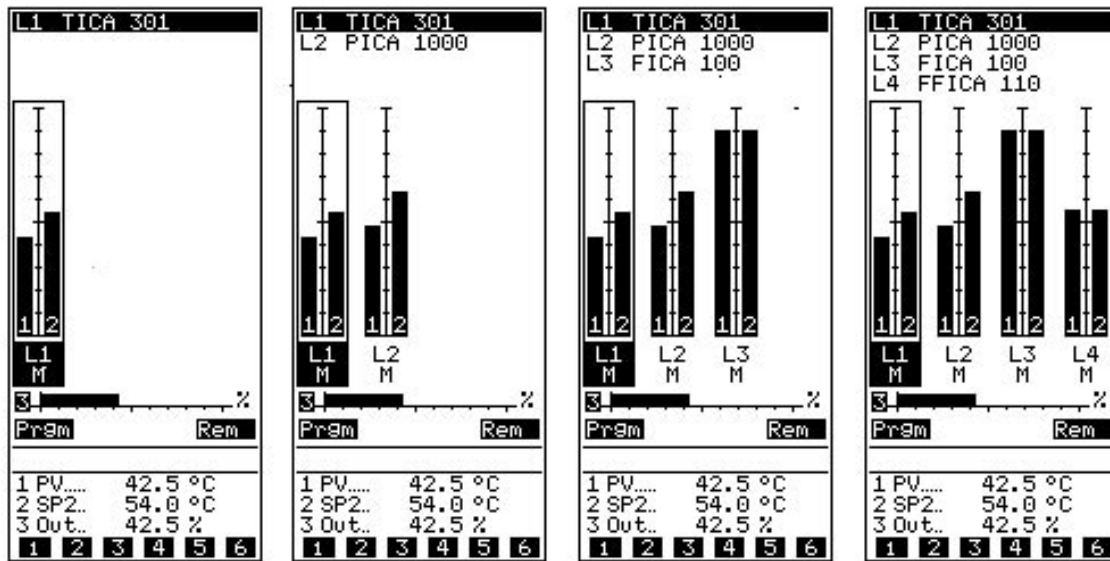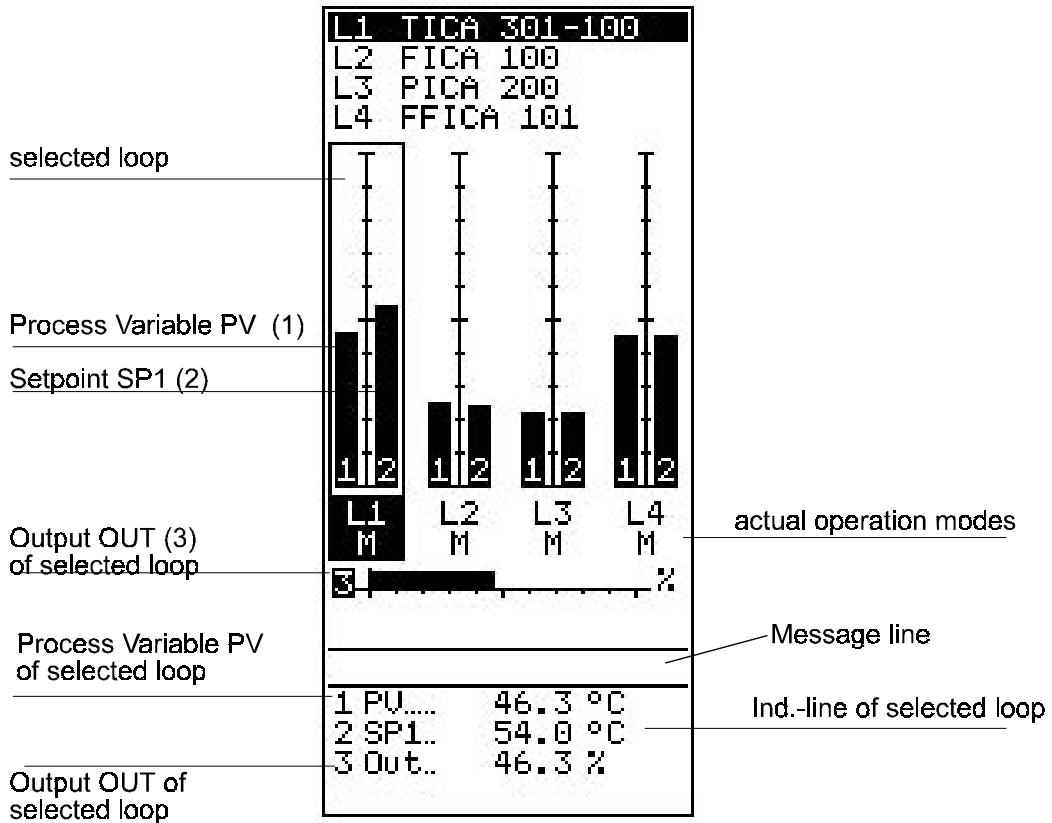3 Y........ %
50.6

%

1
2
3

0.0

1 2 3 4 5 6
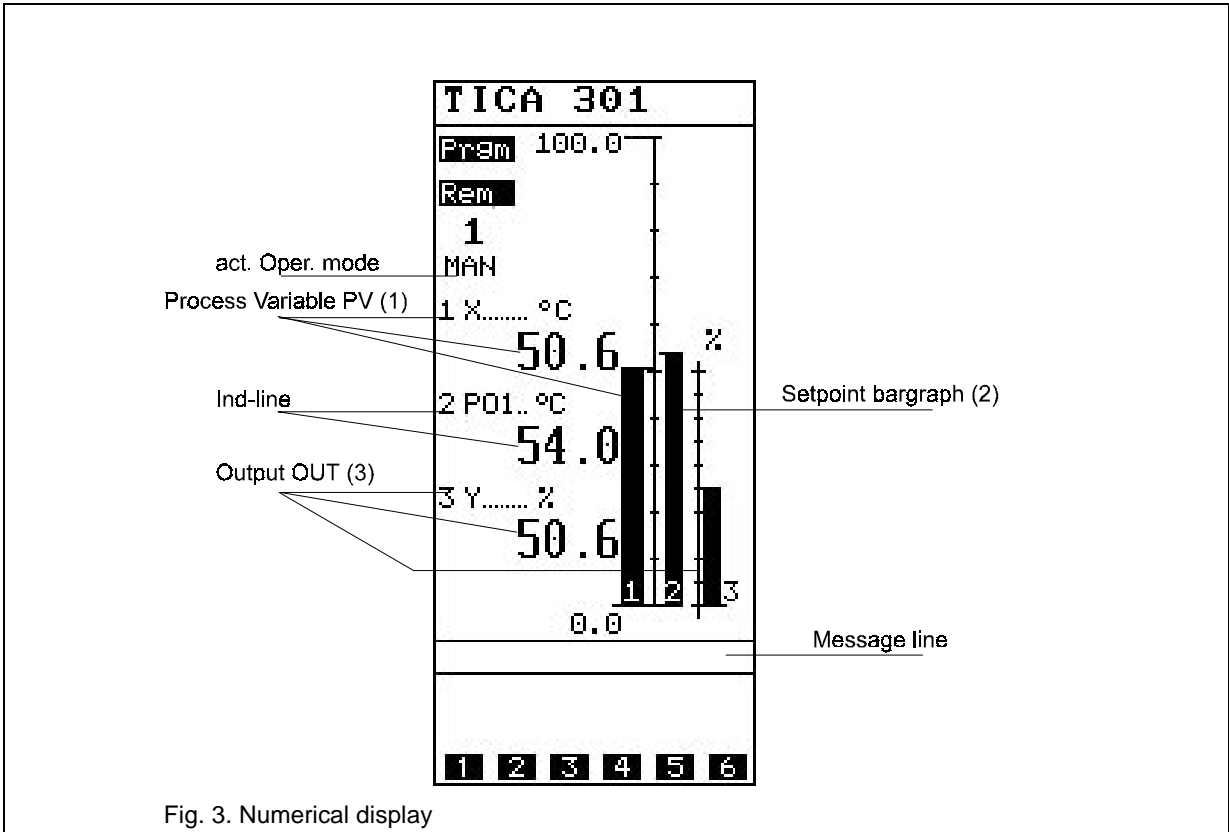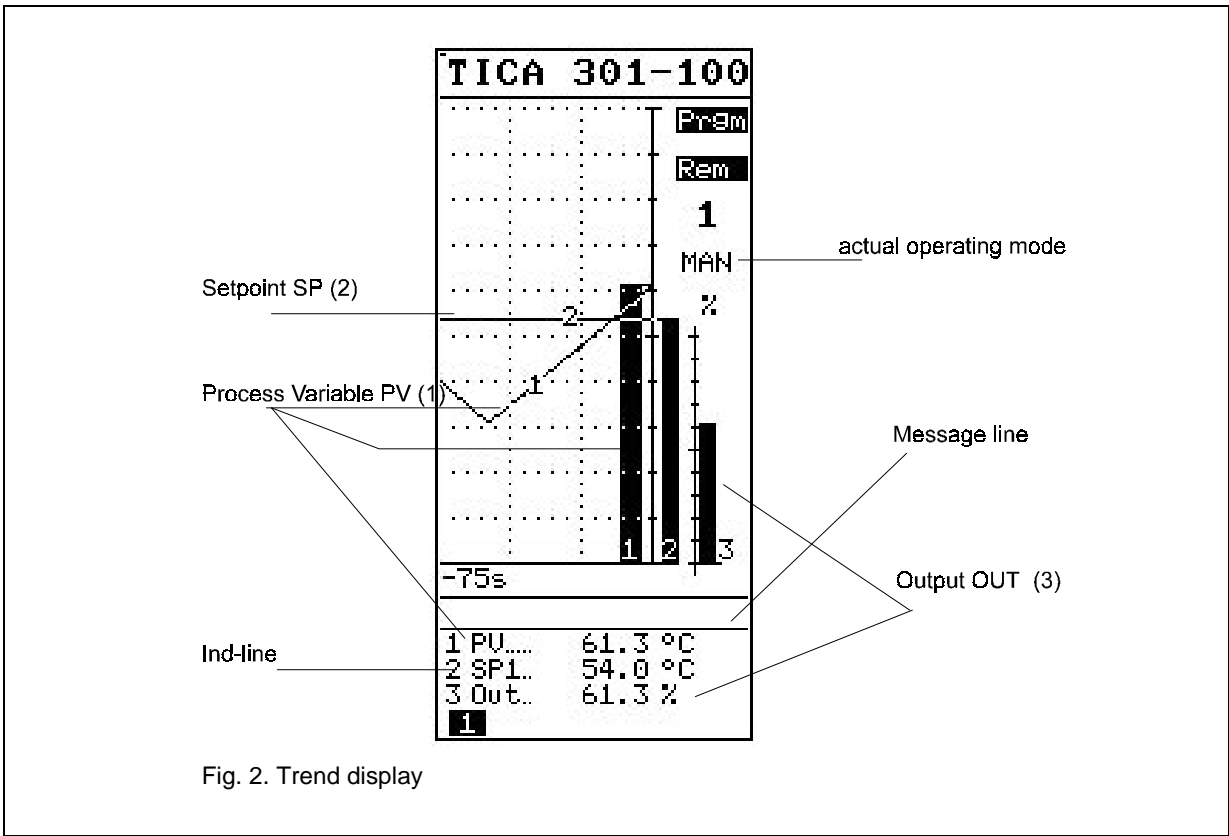
Fig. 5 Overview display with one to four loops

Display switch-over

Holding down <Loop> switches over the displays cyclically at intervals of 2 seconds.
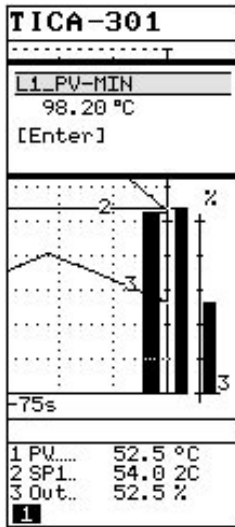
Alarm handling

Alarm message

```
TICA-301
................T
L1_PV-MIN
 98.20 °C
[Enter]

         2         ％

          3

-75s                3

1 PU...   52.5 °C
2 SP1..   54.0 2C
3 Out..   52.5 ％
1
```

Fig. 6. Trend display with alarm window

If an alarm message has been configured in the display,

− a flashing error message with precise information on the cause of the fault and the value of the infringed alarm value is entered in the display field
− the red LED next to the <Enter> key lights up,

when an alarm value infringement or an error in the operating cycle occurs.

Alarm acknowledgement

Alarms displayed are acknowledged with <Enter>.

If further alarms are present, they are acknowledged either singly or collectively, depending on the configuration.

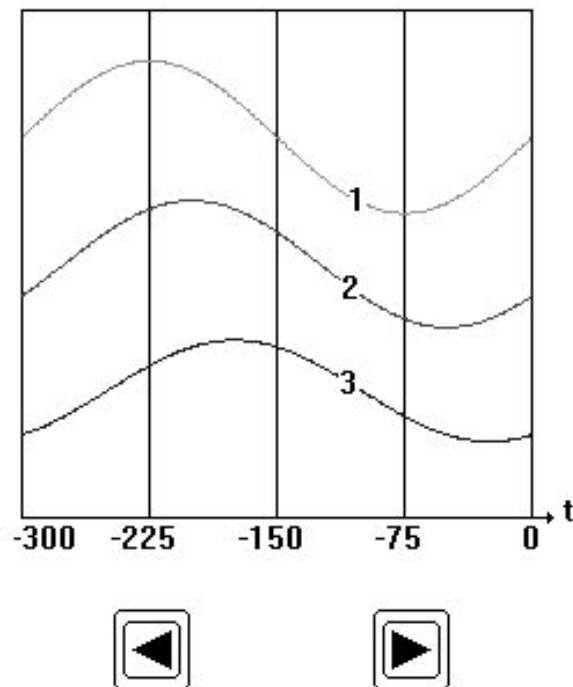Acknowledged alarms are no longer visible.

Past-history mode

Fig. 7 Past-history mode

"The transfer to "past-history" mode is achieved by holding down the **<Loop>** key and actuating the **<Ind>** key. The LED in the <Ind> key lights up.

300 values (each) which were stored up to the moment of mode transfer, are displayed for X, W and Y. After this they are then no longer updated automatically and remain until an updating, or a new calling of the past-history mode (see "Quitting").

The interval between the measured values is defined by the configuration of the trend display.

The controller cannot be operated in this mode. It is not possible to change setpoint, correction value or operating mode.

The recording of the current values continues without interruption In the configured loops (1 to 4).

It is possible each time to scroll 75 points of the recording using the **<>>** and **<<>** keys.

Quitting past-history mode

There are two ways of quitting the past-history mode:

1. Temporary quitting

Quitting without deleting the display
- during an update or
- in order to look at the stored values again later.

Key **<Ind>**

2. Final quitting

If the past-history mode is called again, the current values of the current loop are automatically brought into the display.
Key **<Esc>** followed by key **<Ind>**
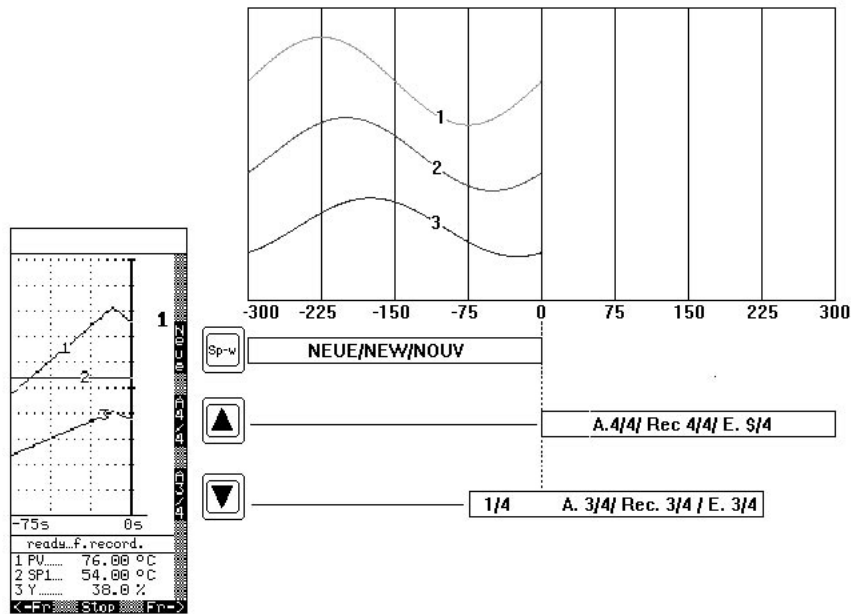
Updating the recording

Fig. 8. Updating

After the past-history mode has been called, the values stored for the display can be updated at any time. This possibility is signalled in the message line.

```
Ready f. record
```

Three options are offered for this.

1. 300 measured values stored in the direct past history
2. 75 measured values in the direct past history and the recording of a further 225 updated measured values
3. The recording of 300 new measured values.

The keys <Sp-w>, <<> and <>> are used to call one of these updates. These keys now have the following functions:

<Sp-w> = <New> copies 300 values from the direct past into the display memory. The transfer of the measured values into the memory is confirmed in the message line.

```
new rec. ready
```

<∧> = < A4/4> starts the recording of 300 new values. The fact that recording is taking place is confirmed in the message line:

```
rec 4/4 runs
```

<∨> = <A3/4> copies the 75 newest values into the display memory and starts the recording of 225 new values. The fact that recording is taking place is confirmed in the message line.

```
rec 3/4 runs
```

Immediately the measured values are available the message appears in the message line

```
rec 3/4 ready
```

or

```
rec 4/4 ready
```

The data are always stored in the display memory and they remain available in this until they are overwritten by new data.

It is possible each time to scroll 75 points of measurement with the <<> and <>> keys.

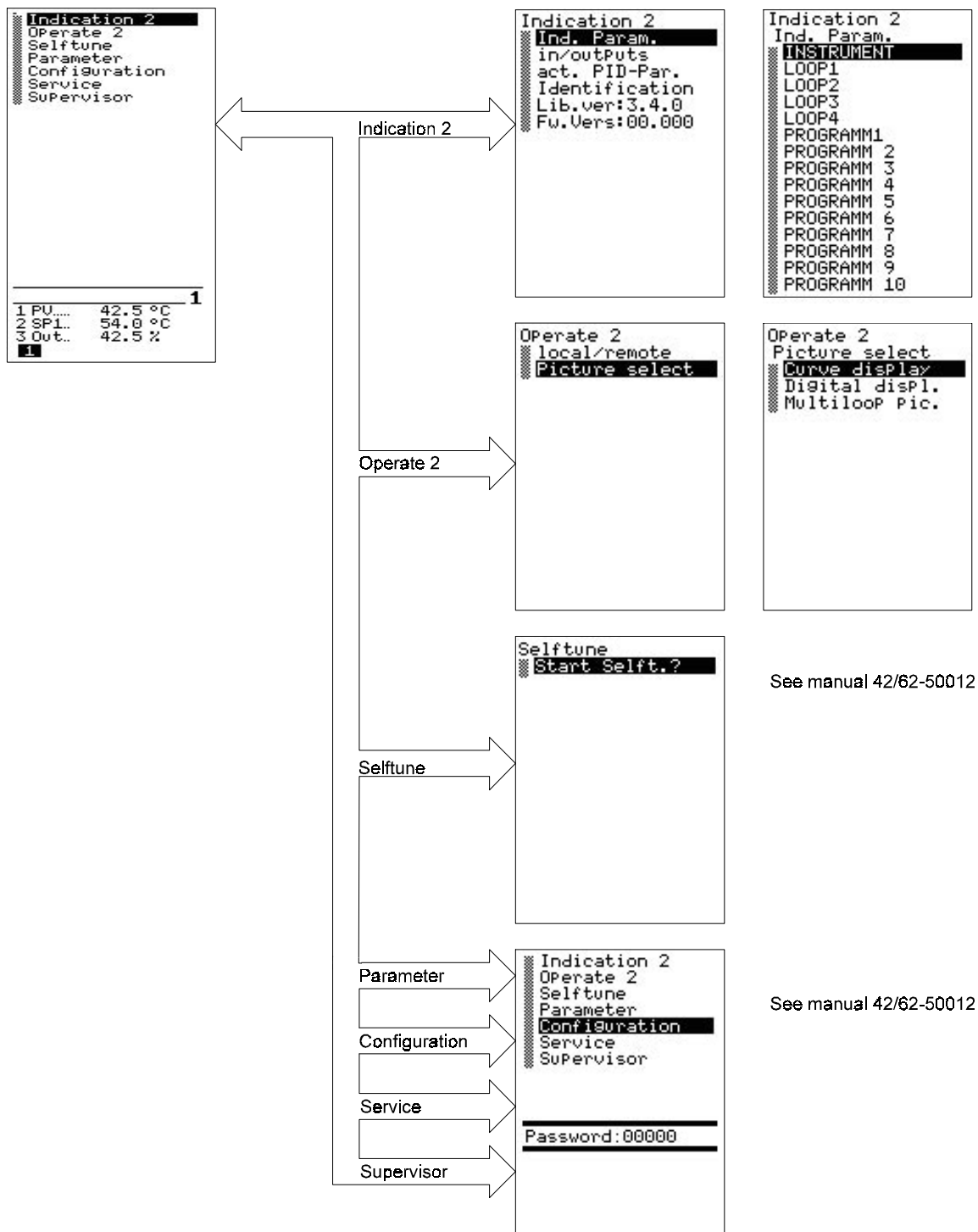**<Esc> = <Stop>** aborts the updating.

Operator control level 2

Indicating 2

Fig. 9 Operator control level 2, displays 2

ABB