Bosch
Data Entry Panel
BT 6
Data Entry Panel BT 6
Hardware Configuration

• based on BOSCH Operating Terminal BT 5 with LCD display, new film keyboard and high performance Siemens processor SAK80C167

• plastic housing with magnetic mounting for handheld version

• panel mounted version supplied with cable and connectors suitable for internal cabinet wiring

• handheld version supplied with cable and connector to connect with cabinet mounted bulkhead connector

• wiring harness with bulkhead connector available to adapt weld cabinet for use with handheld version
Data Entry Panel BT 6
Software - Basic Functions

- The BT 6 communicates directly with only one welding timer via the V24 Interface
- It automatically identifies the type of welding timer and displays only the data for this timer type
- Functions, not needed for routine operation of the welding process are not supported by the BT 6 “calibration, selection of Stepper-Curves, etc.”
- Only active parameters are displayed. (e.g. the parameters for setting the Upslope are displayed only when Slope is ON)
- All menus are available in German and English language and are selected via setup mode
Keyboard BT 6

Direct-Select Menu
- F1 Weld sequence
- F2 Monitoring
- F3 Last sequence
- F4 Stepper
- F5 Correction in %
- F6 Sequence setup

Keys 0 - 9

Decimal Point

Display

Print
Fault Display
Quick-mode
Delete, Acknowledge
Start menu
Plus, increase
Quit, Home
Minus, decrease
ENTER

Cursor Keys
BT 6 Key Functions

- Cursor left: one page back
- Cursor right: one page ahead
- Cursor up: up to the next parameter within one page
- Cursor down: down to the next parameter within one page
- Startmenu: jumps directly to the start-menu
- Quit/Home: leaves the current page and jumps to the next higher level. If the current page or menu was reached via Direct-Select or Quickmode, it jumps to the former page or menu.
Direct-Select Function Keys:

- **F1** - Weld sequence
- **F2** - Monitoring
- **F3** - Last sequence / last weld data
- **F4** - Stepper Status
- **F5** - Correction in %
- **F6** - Sequence setup

F1 - F6 are active at all times

Pressing **F5** switches back to the starting page, prior to selecting F1 - F6. LED's integrated in the key, flash to alert the operator of a status update within the corresponding menu. (e.g. F4 flashes for Electrode Prewarning / End of Life)
<table>
<thead>
<tr>
<th>Function</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fault display</td>
<td>The integrated LED flashes when a fault message is active.</td>
</tr>
<tr>
<td></td>
<td>Pressing the key will display the fault message.</td>
</tr>
<tr>
<td></td>
<td>Pressing Quit/Home will return screen to previously selected page.</td>
</tr>
<tr>
<td>Quickmode</td>
<td>QUICKMODE provides direct access to a specific parameter.</td>
</tr>
<tr>
<td></td>
<td>By entering the number of a parameter and again pushing the key, the screen</td>
</tr>
<tr>
<td></td>
<td>changes to the selected parameter.</td>
</tr>
<tr>
<td></td>
<td>With the key Quit/Home the screen returns to the starting point.</td>
</tr>
<tr>
<td>ENTER</td>
<td>Data entry, i.e. the entered data is valid and transferred to the welding</td>
</tr>
<tr>
<td></td>
<td>timer.</td>
</tr>
<tr>
<td>Delete</td>
<td>Deletes the selected parameter value or Resets Errors.</td>
</tr>
<tr>
<td>Reset Errors</td>
<td></td>
</tr>
<tr>
<td>Print</td>
<td>Printing via V24 Interface, (Function not available at this time)</td>
</tr>
</tbody>
</table>
BT 6 Key Functions

- **Keys 0-9:** Numerical data input
- **Decimal Point:**
- **Plus:** Increases the value of the selected parameter. Used with the minus key to select options like ON/OFF or Single/Repeat/Seam.
- **Minus:** Decreases the value of the selected parameter. Used with the Plus key to select options like ON/OFF or Single/Repeat/Seam. The minus key is also used to input negative Data (e.g. Weld Complete Contact).
- **Attention:** In this case the plus-/minus-key can not be used to increase or decrease the value of the parameter!
BT 6 Operation

Menu List

Weld sequence F1

Monitoring F2

Last sequence F3

Stepper F4

Correction in % F5

Setup sequence F6

mask 1

mask 2

mask n

Schedule 123
1. Squeezetime 1000ms
   Squeezetime 1234ms

Menus can be selected directly or via Cursor keys

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BT 6 Operation

Menu List:
Menu Selection: Cursor up or down to required menu

- Weld sequence
- Monitoring
- Last sequence
- Stepper

- Correction in %
- Pressure
- Diagnostic
- FP-Output

- Sequence setup
- Setup BT

To access the selected menu press →
BT 6  Operation

Direct Mode:

```
   DIRECTMODE
   Schedule 1
   Parameter # 12
   Downslopeheat
```

```
   Schedule 1
   Weld/no weld(S) OFF
   1. Hw.a.Cool 55.00 Sv
   Slope OFF
```

The key selects Directmode of operation from any page. In Directmode every parameter can be selected directly by entering the number of the parameter and the applicable weld schedule. The name of the entered parameter is shown in the last line.

Pushing the key again, accesses the programming page for the schedule and selected parameter. Pushing the key again switches back to Directmode.

The key switches back to the page from which Directmode was selected.
BT 6 Menus

Menu: Weld sequence: selection via Menu List or F1

- Schedule 123
  - 1. Squeezetime 1000ms
  - Squeezetime 1234ms

- Schedule 123
  - 1. Weldtime 1410ms
  - 8.9kA
  - Cooltime 1234ms

- Schedule 123
  - Upslopetime 1000ms
  - Upslopeheat 3.0kA

- Schedule 123
  - 3. Weldtime 1410ms
  - 5.0kA
  - Cooltime 1234ms

- Schedule 123
  - 2. Weldtime 1600ms
  - 8.95kA
  - Cooltime 240ms

- Schedule 123
  - Holdtime 1000ms
  - Offtime 1234ms
  - Impulse 2. wld 1

- Schedule 123
  - Sequence mode
  - Single
  - Startinhibit(S) ON

- Schedule 123
  - Sequence mode
  - Weld/no weld(S) ON
  - 1. Hw.a. Cool 55.00Sv
  - Slope ON

Current is indicated in kA for Constant Current Mode, and SKV (%)I for Phase Angle Mode
BT 6 Menus

Menu: Monitoring:
selection via Menu List or F2

Schedule 123
Monitoring Standard

Schedule 123 Std
Current Monitor ON
Reference current
7.87kA

Schedule 123 Std
Cond. Tol. Band
2.00%
Repeat factor 2

Schedule 123 Std
Tolerance band
upper 5.00%
lower 3.00%

Schedule 123 1.weld
Current Monitor ON
Reference current
6.50kA

Schedule 123 1.weld
Cond. Tol. Band
2.00%
Repeat factor 2

Schedule 123 1.weld
Tolerance band
upper 5.00%
lower 3.00%

same for 2nd and 3rd weldtime

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**BT 6 Menus**

**Menu: Last Sequence**

Selection via Menu List or F3

<table>
<thead>
<tr>
<th>Schedule 1234</th>
</tr>
</thead>
<tbody>
<tr>
<td>last weld was made</td>
</tr>
<tr>
<td>with schedule 123</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Refer. curr.</td>
</tr>
<tr>
<td>Actual curr.</td>
</tr>
<tr>
<td>% heat</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>1.Weldtime</th>
</tr>
</thead>
<tbody>
<tr>
<td>Refer. Curr.</td>
</tr>
<tr>
<td>Actual Curr</td>
</tr>
<tr>
<td>% heat</td>
</tr>
</tbody>
</table>

same for 2nd and 3rd weldtime

When the menu, Last Sequence is selected, the cursor will be placed on the Schedule # in the first page. This is the only input data in this menu. All other parameters and information are displayed data from the selected schedule. The last line, of the first page, displays the number of the last sequence to be executed.

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BT 6 Menus

Menu: Stepper

Selection via Menu List or F4

<table>
<thead>
<tr>
<th>Electr.</th>
<th>% Rem Parts</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>100 S 0</td>
</tr>
<tr>
<td>1</td>
<td>3 164</td>
</tr>
<tr>
<td>23</td>
<td>4 F 10262</td>
</tr>
</tbody>
</table>

F  Tipdress request
V  Prewarning
S  End of Stepper

Acknowledge Electrode replacement

<table>
<thead>
<tr>
<th>Electr.</th>
<th>% Rem Parts</th>
</tr>
</thead>
<tbody>
<tr>
<td>31</td>
<td>64 V 1231</td>
</tr>
<tr>
<td>9</td>
<td>98 12345</td>
</tr>
<tr>
<td>0</td>
<td>100 S 0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Electr.</th>
<th>% Rem Parts</th>
</tr>
</thead>
<tbody>
<tr>
<td>31</td>
<td>64 V 1231</td>
</tr>
<tr>
<td>9</td>
<td>98 12345</td>
</tr>
<tr>
<td>0</td>
<td>100 S 0</td>
</tr>
</tbody>
</table>

Electrode replaced? ENTER

ENTER
BT 6 Menus

Menu: Correction in %

selection via Menu List or F5

Schedule 2
Correction
Heat    -1.29 %
Pressure 2.19 %

Electrode 1
Correction
Heat    2.31 %
Pressure -0.93 %

range of Correction:

Heat   +/-20%
Pressure +/-20%
BT 6 Menus

Menu: Pressure

selection via Menu List

Pressure
Schedule 1
Base-Press. 10.00
Press. profil ON

Pressure
Schedule 1
1.Press. Time 1000.0
1.Press. value 10.0

Pressure
Schedule 1
10.Press. time 1000.0
10.Press. value 10.0

10 Pressure-values and Pressure-times are programable
**BT 6 Menus**

**Menu: Diagnostic**

selection via Menu List

<table>
<thead>
<tr>
<th>DIAGNOSTIC Inputs</th>
<th>DIAGNOSTIC Inputs</th>
<th>DIAGNOSTIC Outputs</th>
</tr>
</thead>
<tbody>
<tr>
<td>ext.   E00:0</td>
<td>E01:0</td>
<td>ext.   A00:0</td>
</tr>
<tr>
<td>E02:1   E03:1</td>
<td>E04:0</td>
<td>E10:1   E11:1</td>
</tr>
<tr>
<td>E05:0   E06:0</td>
<td>E07:0</td>
<td>E13:0   E14:0</td>
</tr>
<tr>
<td>A02:1   A03:1</td>
<td>A04:0</td>
<td>A05:0   A06:0</td>
</tr>
</tbody>
</table>

The conditions of the Inputs and Outputs are only displayed and can not be changed with the BT 6!
Menu: FP-Output

selection via Menu List

Free program. Output
Schedule 1
ON

Free program. Output
Schedule 1
1. Offtime 100.0
1. Onetime 100.0

To switch from ON/OFF press Plus or Minus key
BT 6 Menus

Menu: Sequence Setup

selection via Menu List or F6

Robert Bosch GmbH
Typ: PSI6100.310L
1070099999-100A

Sequence Setup
Weld/no weld (T) ON
Start-Inhibit (T) OFF

To switch from ON/OFF press Plus or Minus key
**BT 6 Menus**

**Menu Setup BT**

Selection via Menu List

- **SETUP BT**
  - Typ: BT6.00
  - 1070 920852-100
  - 22.11.1999

- **SETUP BT**
  - LCD-Contrast: 70

- **SETUP BT**
  - Select Language: 0
  - Deutsch: 0
  - NA English: 1

Reset on default-values with

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