Application
The wall socket MS-K is used for wall mounting application of control units. After plugging into the wall socket and after finishing of the electrical wiring the control unit is ready for start up.

Mounting and electrical installation
1 - Break out the pre-punched cable inlets due to the required number and seize on top side or lower side of the wall socket according to the position of the cable duct. Cable strain relief is prescribed if no cable duct is used.
2 - Turn locking screws (1) horizontally and pull off terminal cover (2) to the side.
3 - Fix wall socket on a flat background using enclosed screws and plugs. Use drilling template (see last page).
4 - Electrical installation has to be carried out according to plant and connectivity as shown on next page.
5 - Remove terminal cover and lock
6 - Insert control unit (3) with evenly distributed pressure. The electrical connection is done by plugging the instrument into the terminals at the socket print. Lock control unit with both quick clamping devices left and right.

Caution: The connecting terminals of terminal blocks X5 and X6 at the left side lead safety low voltage and must not get into contact with the mains voltage. At non-observance the instrument will definitely be destroyed and any warranty gets lost.

The connecting terminals of terminal blocks X7 to X10 principally may work with mains voltage according to the current operation conditions.

Note: The wall socket is equipped completely with screwless terminals. Press lever before inserting stripped wire into terminal.

General safety instructions
All electrical connections and safety measures have to be carried out by a specialist according to the valid norms and VDE-guidelines as well as the local instructions.

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5 - Remove terminal cover and lock
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Note: Cables with mains voltage must be installed separate from low voltage cables (data bus, sensors etc.). It is strictly prohibited to use one cable for both voltages. Sensor cables and data bus cables may not be installed together with mains voltage cables supplying electrical appliance which are not suppressed according to EN 60555-2.

General safety instructions
All electrical connections and safety measures have to be carried out by a specialist according to the valid norms and VDE-guidelines as well as the local instructions.

The electrical connection must be fix (see instructions by VDE 0100).

Caution!
Switch off plant completely before opening boiler control panel. Do not plug or unplug electrical connectors under voltage. This may cause a defect to the control or a dangerous electrical shock.
### Terminal assignment of wall socket MS-K

#### Connections leading mains voltage

<table>
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<tr>
<th>X7</th>
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<th>X9</th>
<th>X10</th>
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<tr>
<td><img src="image" alt="Connections leading mains voltage diagram" /></td>
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#### Sensor and data bus connections

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<td><img src="image" alt="Sensor and data bus connections diagram" /></td>
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#### Burner connections

- **T1**  Control terminal stage 1
- **T2**  Control terminal stage 1
- **B4**  Op. hours counter burner stage 1
- **B5**  Op. hours counter burner stage 2
- **T6**  Control terminal stage 2
- **T7**  Control terminal stage 2
- **T8**  Control terminal stage 2

#### Mains

- **L1**
- **N**  Mains connection 230V~+6/-10%, 50Hz

#### Pumps and actuators

- **HCP**  Pump for unmixed heating circuit
- **DHWP**  Domestic hot water pump
- **MC1**  Mixer heating circuit 1
- **MC2**  Mixer heating circuit 2
- **1 ▲**  Actuator mixer 1 (open)
- **1 ▼**  Actuator mixer 1 (closed)
- **2 ▲**  Actuator mixer 1 (open)
- **2 ▼**  Actuator mixer 1 (closed)
- **LVA1**  Variable output 1 (live)
- **LVA2**  Variable output 2 (live)

Connections have to be carried out according to type and version of control unit.
Safety measures for EMC - conform installation

1. Cables with mains voltage must be generally installed separately from sensor- and data bus cables. In this case a minimum distance of 2 cm must be observed.

2. Controls with own mains connection require a separate installation of mains- and sensor- or data bus cable. Use twin duct with internal separator.

3. Installing control- or remote units close to other components with electro magnetic emission such as solid state relays, motors, transformers, dimmers, micro wave ovens, TV-sets, loudspeakers, computers, radio telephones etc. a minimum distance of 40 cm must be observed.

4. Between remote units and standard unit a minimum distance of 40 cm has to be observed. Several standard units may be installed side by side.

5. The mains connection of the heating plant (standard unit or boiler control panel) must be carried out as an independent electric circuit. It is not permitted to install fluorescent tubes or other machines that could produce interferences to the same electrical circuit.

6. All data bus cables must be carried out in shielded version. Recommended cable: J-Y(St)Y 2 x 2 x 0.6

7. The shielding of the cable has to be connected with earth potential, i.e. boiler covering, connecting terminals for earth potential etc. Multiple grounding is not permitted (humming loop).

Cable dimensions and maximum cable length

For all 230V~ cables such as power supply, burner, pumps, actuators: 1,5 mm²

Maximum cable length: Unlimited cable length within house installation

Sensor cables: 0.5 mm² (minimum)

Data bus connections: 0.6 mm²

Recommended cable: J-Y(St)Y 2 x 0.6, shielded

Maximum cable length: 50 m

Longer distances are possible but increase the risk of interferences.
Drilling template for wall socket MS-K