When replacing any part on this appliance, use only spare parts that you can be assured conform to the safety and performance specification that we require. Do not use reconditioned or copy parts that have not been clearly authorised by Ideal.

For the very latest copy of literature for specification and maintenance practices visit our website www.idealcommercialboilers.com where you can download the relevant information in PDF format.
Lecco, 18th January 2012

The company

Riello SpA Heating Products Direction
Via Risorgimento 13
23900 Lecco
ITALY

hereby declares that the control panels bearing the brand: RIELLO models:

idealtech PRIME,

conform to European Directive 2004/108/EC (Electromagnetic Compatibility), to European Directive 2006/95/EC (Low Voltage) and to the following European standards:

- EN 60730-1:2000: Automatic electrical controls for household and similar use.

Marco Tagliaferri
Heating Products Director
Riello S.p.A.
Dear heating engineer,

Congratulations on having chosen a idealtech control panel. You have selected a quality product that is designed to give dependable, efficient and safe service and to provide comfort in the home for many years to come. This manual provides information that is essential to the installation of the appliance. Used in conjunction with your own knowledge and expertise it will enable you to install the appliance quickly, easily, and correctly.

Once again, please accept our thanks and our congratulations on your choice of product.

ideal Boilers Limited.
The following symbols are used in this manual:

⚠️ = Identifies actions that require caution and adequate preparation

🚫 = Identifies actions that you MUST NOT do
The operation of any appliance that uses electrical power demands that a number of fundamental safety precautions be respected. In particular:

- Always turn the electrical power supply OFF at the main switch before commencing any cleaning or maintenance.
- Never switch the control panel on even for a short period if the safety devices are not functioning correctly or have been tampered with.
- Do not tamper with or adjust the safety or control devices without prior authorisation and instructions from the boiler’s manufacturer.
- All maintenance and repairs must be carried out by a legally competent person.
- Do not use water to extinguish fire in the control panel. Switch power OFF at the mains power switch to isolate the control panel electrically first. Then use a class E fire extinguisher (marked “SUITABLE FOR LIVE ELECTRICAL ITEMS”) to extinguish the flames.
- Do not use water to extinguish fire in the control panel. Switch power OFF at the mains power switch to isolate the control panel electrically first. Then use a class E fire extinguisher (marked “SUITABLE FOR LIVE ELECTRICAL ITEMS”) to extinguish the flames.
- Dispose of packaging materials in compliance with applicable standards and legislation governing the disposal of urban, domestic and industrial waste.
idealtech PRIME control panels are thermostatic control panels for use with dedicated central heating boilers equipped with single stage jet burners. All thermostatic control devices comply with applicable technical and safety standards, and are housed in an ABS box.

All the electrical control and safety devices in idealtech PRIME control panels are factory tested in compliance with applicable technical standards. Control panels may be installed on top of the boiler or on one of its side panels, using the optional side panel mounting kit.

APPLICATION CHART

<table>
<thead>
<tr>
<th>Burner</th>
<th>Cascaded boilers</th>
<th>Cascaded boilers</th>
<th>Solar water heating systems</th>
<th>DHW storage cylinders</th>
<th>Direct zone</th>
<th>1st mixed zone</th>
<th>2nd mixed zone</th>
</tr>
</thead>
<tbody>
<tr>
<td>idealtech PRIME</td>
<td>2-stage with kit</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

⚠️ To make the electrical connections to the various system components and to the burner, refer to the instructions on page 12 and to the specific instructions supplied with each item and with the burner. The control panel may also be used with a self controlled fully modulating burner.

IDENTIFICATION

ideal tech PRIME control panels are identified by:

- the code number on the box
- the technical data label

Cod.: 20010820
Mod.: RIELLO TECH PRIME
## TECHNICAL SPECIFICATIONS

<table>
<thead>
<tr>
<th>Description</th>
<th>idealtech PRIME</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power supply</td>
<td>230 (+/-10%) ~ 50 V ~ Hz</td>
</tr>
<tr>
<td>Maximum current draw</td>
<td>6,3 A</td>
</tr>
<tr>
<td>Main power switch (two pole)</td>
<td>250 ~ 10(4) V ~ A</td>
</tr>
<tr>
<td>Fuse</td>
<td>250 ~ 6,3 T V ~ A</td>
</tr>
<tr>
<td>Power consumption</td>
<td>- W</td>
</tr>
<tr>
<td>Function indicators</td>
<td>230 V</td>
</tr>
<tr>
<td>Manual reset safety thermostat (TS) (*)</td>
<td>110 (+0/-6) °C</td>
</tr>
<tr>
<td>Control thermostat (TR) field of adjustment</td>
<td>30 ÷ 82 (+/-3) °C</td>
</tr>
<tr>
<td>Minimum temperature thermostat (Tm)</td>
<td></td>
</tr>
<tr>
<td>control range</td>
<td>30 ÷ 90 (+/-3) °C</td>
</tr>
<tr>
<td>working setting</td>
<td>40 °C</td>
</tr>
<tr>
<td>Boiler temperature gauge (TeC)</td>
<td>0 ÷ 120 °C</td>
</tr>
<tr>
<td>Index of protection</td>
<td>X4D IP</td>
</tr>
<tr>
<td>Cable length</td>
<td>3 m</td>
</tr>
</tbody>
</table>

(*) Homologated

## ACCESSORIES

The following accessories are available, to be ordered separately:

<table>
<thead>
<tr>
<th>ACCESSORY</th>
<th>UIN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Two-stage burner control kit</td>
<td>212644</td>
</tr>
<tr>
<td>Return Water Temperature Control Kit</td>
<td>215475</td>
</tr>
</tbody>
</table>


idealtech PRIME control panels come in a cardboard box that also contains the instruction manual.

### DIMENSIONS AND WEIGHT

<table>
<thead>
<tr>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>348 mm</td>
</tr>
<tr>
<td>B</td>
<td>353 mm</td>
</tr>
<tr>
<td>C</td>
<td>160 mm</td>
</tr>
<tr>
<td>D</td>
<td>170 mm</td>
</tr>
<tr>
<td>E</td>
<td>236 mm</td>
</tr>
<tr>
<td>F</td>
<td>75 mm</td>
</tr>
<tr>
<td>G</td>
<td>208 mm</td>
</tr>
<tr>
<td>H</td>
<td>218 mm</td>
</tr>
<tr>
<td>Weight</td>
<td>2.7 kg</td>
</tr>
</tbody>
</table>
idealtech PRIME control panels can be installed either on the top of the boiler or on one of its side panels. Before commencing installation, check the arrangement of the holes on the top panel or side panel of the boiler.

Once you have identified the right holes for the type of installation required, proceed as follows:

- Push out the pre-formed slots on the boiler casing corresponding to the oval cable grommets in the control panel
- Perforate the membranes of the control panel cable grommets. Pull out the thermostat cable and route it through the slot in the top panel
- Secure the control panel to the boiler casing.
Before you can install the control panel on a boiler side panel, proceed as follows:

- Remove the 4 screws (A).
- Remove the front trim (B), turn it through 180°, and fit it back on the body of the control panel (C).
- Install the control panel as instructed above.
Carefully unwind the thermostat cables and route them through the relevant grommets. Insert the thermostat sensors in the corresponding sockets in the boiler. Fix the sensors securely in place. Use the cable straps provided to secure the sensor cables.

Only legally competent persons are allowed to access components inside the control panel.

Proceed as follows if you need to access components inside the control panel:

- Turn the system OFF at the mains power switch
- Remove the top panel (1) by pulling it outwards.
The following instructions are mandatory:
1. Use a single pole MCB conforming to IEC-EN standards (with a contact gap of at least 3 mm);
2. Respect the L (Phase) - N (Neutral) polarity. Keep the Protective Earth (PE) wire about 2 cm longer than the power wires.
3. Use cables with a cross section of 1.5 mm² or more, complete with ferrules.
4. Always refer to the electrical wiring diagrams in this manual when performing any electrical work.
5. Make sure the appliance is connected to an effective ground.

- Proceed as instructed in the “ACCESSING INTERNAL COMPONENTS” section above to access the terminals inside the control panel.

- Route the connection cables through the cable grommets in the casing of the boiler or secured by the side mounting bracket. Alternatively, use the holes provided for cable glands or spiral sleeving. To use these holes, push out the pre-formed hole covers in the corresponding positions on the control panel.

- See the “WIRING DIAGRAMS” section for information on how to connect up the individual devices.

- Tighten the screws on the cable clamps and screw up the cable glands to secure the cables against pulling. Secure the cables to the casing of the boiler as necessary.

- Use the terminals provided to connect all 230 V power users to ground.

- It is strictly forbidden to use gas and/or water pipes to ground the appliance.

- Do not route the power cable or room thermostat cables near hot surfaces (like heating circuit flow pipes). Use a suitable class of cable if there is any possibility of contact with parts at temperatures above 50°C.

The manufacturer declines all responsibility for damage caused by failing to ground the appliance adequately or by failure to respect the wiring diagrams provided in this manual.
Refer to the manual supplied with the boiler to identify the sensor sockets correctly.

Insert the thermostat sensors in the corresponding sockets and fix them securely in place. Use the cable straps provided to secure the sensor cables.
WIRING DIAGRAMS

L1-N-PE  230V–50Hz power supply
FU    Fuse 6.3 A-T
IP    Main switch
TS    Manual reset safety thermostat (110°C)
TR    Control thermostat (30-82°C)
Tm    Minimum temperature thermostat (30-90/R40°C)
KA1   Relay contacts
BA1   Relay coil
BR    Burner
H1    Burner lockout indicator
H2    Overtemperature indicator

Connections to be made by the installer:
TA    Room thermostat
PI    CH pump
1 - Overtemperature indicator
2 - Manual reset safety thermostat (110°C)
3 - Control thermostat (30-82°C)
4 - Boiler temperature gauge
5 - Fuse
6 - Burner lockout indicator
7 - Two pole ON/OFF switch
8 - Minimum temperature thermostat sensor (Tm) (accessible from inside)
9 - Safety thermostat sensor (TS)
10 - Control thermostat sensor (TR)
11 - Boiler temperature gauge sensor (TeC)

⚠️ The cables for the TS, TR, TeC and Tm sensors must be routed out of the electric control panel and through the cable grommets in the boiler during installation.
**DESCRIPTION OF FUNCTIONS**

*idealtech PRIME* control panels are equipped with 3 approved electromechanical thermostats, a temperature gauge, a main power ON/OFF switch, function indicators and a protective fuse.

**Main control panel ON/OFF switch ( الطبيعي)**
This switch connects power to all controlled devices and appliances.

⚠️ A delayed action 6.3 A fuse is installed inside the control panel upstream from this switch (see wiring diagram).

**Control thermostat (ثاني)***
The control thermostat lets you adjust boiler temperature between 60 and 82°C. The recommended setting is around 70°C.

**Safety thermostat (TS)***
The safety thermostat shuts down the burner if boiler temperature exceeds 110°C. To restore normal functioning, remove the protective cover and press the button ⬇️. Use a suitable tool if necessary.

⚠️ If the safety thermostat (TS) shuts down the burner, the red warning light ⬇️ comes on and any burner error signals on the burner controller are lost.

**Minimum temperature thermostat (Tm)***
This thermostat prevents cold water from circulating and causing condensation inside the boiler. It is located inside the control panel, and is preset to 40°C. Adjustment requires a suitable tool and is reserved for personnel from Ideal Boilers Service Department.
SELLER:
Mr. ......................................................................................................................................................
Address ...........................................................................................................................................
tel. ......................................................................................................................................................

TECHNICAL ASSISTANCE SERVICE:
Mr. ......................................................................................................................................................
Address ...........................................................................................................................................
tel. ......................................................................................................................................................

INSTALLER:
Mr. ......................................................................................................................................................
Address ...........................................................................................................................................
tel. ......................................................................................................................................................

BOILER DETAILS
(From Data label):
Make ..................................................................................................................................................
Type ...................................................................................................................................................
Serial number ...........................................................................................................................
Date of initial start-up ....................................................................................................................

CONTROL PANEL DETAILS
(From product label):
Serial number ...........................................................................................................................
Lot ......................................................................................................................................................

USEFUL INFORMATION
Technical Training

The Ideal Boilers Technical Training Centre offers a series of first class training courses for domestic, commercial and industrial heating installers, engineers and system specifiers. For details of courses please ring: .......................... 01482 498 432

Installer Support Helpline: 01482 498 376
www.idealcommercialboilers.com