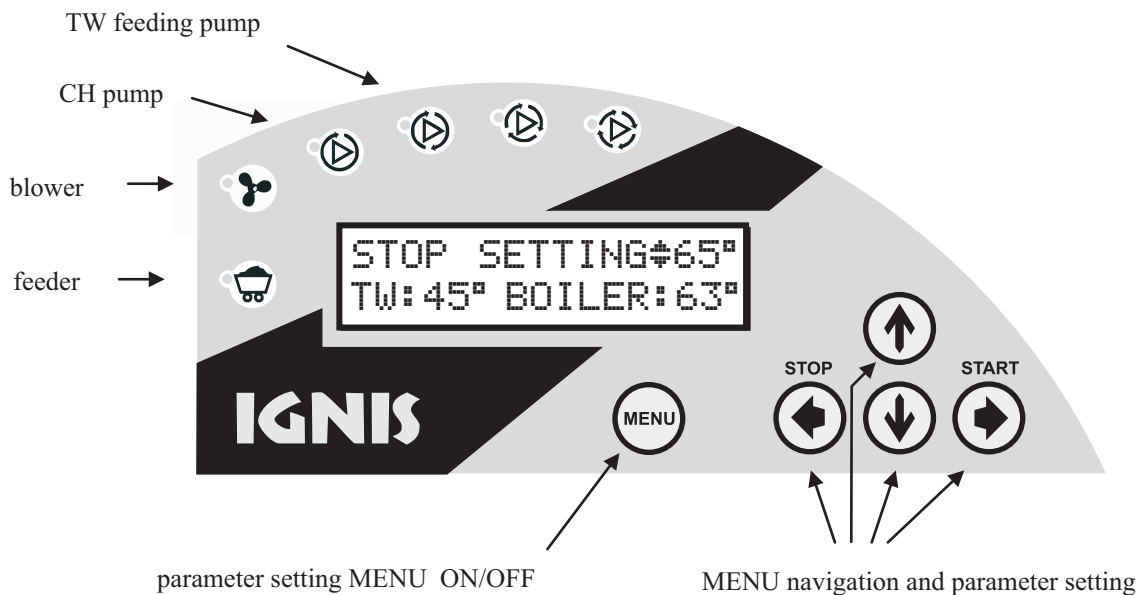# IGNIS alfa v 1.20
TMK Września

Ignis alfa v1.20 is a microprocessor temperature regulator to control the central heating boiler with a solid fuel feeding screw or the fine-coal boiler.
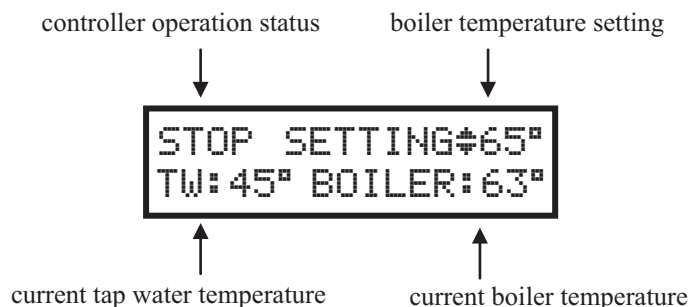
APPLICATION

The purpose of Ignis alfa v1.20 is automatic control of feeding screw, blower, central heating pump (CH pump) and feeding pump for tap water container (TW container). Ignis alfa v1.20 can also control a fine-coal boiler with no feeder. In this case the blower operation must be modified to increase the boiler protection.

FRONT PANEL

Controls:

TW feeding pump

CH pump

blower

feeder

STOP SETTING✦65°
TW:45° BOILER:63°

STOP   START

parameter setting MENU ON/OFF

MENU navigation and parameter setting

MAIN DISPLAYS

controller operation status   boiler temperature setting

STOP SETTING✦65°
TW:45° BOILER:63°

current tap water temperature   current boiler temperature

OPERATION

The boiler is fired up in **MANUAL MODE**. To start **MANUAL MODE** press **MENU** and next use ⊙ and ⊙ . When the feeder is started wait till coal is delivered to retort then stop the feeder and fire up the coal. The blower can be used during this operation with its whole range of power.

If there is fire in the whole retort, you can change operation mode into automatic. For this purpose press **MENU** and next ⊙ - **START**. Operation status changes from **STOP** to **FIRING UP**. The blower is working with its maximum power and the feeder delivers coal regularly.

When the **BURNING OUT TEMPERATURE** (35°C what is set by producer) is exceeded controller starts **HEATING**.

If maximum and minimum power of the blower are different the quantity of delivered air and fuel decreases (feeder operation time is automatically reduced) as the temperature is drawing near the value preset by user and increases as the temperature is drawing away.

When the preset temperature is exceeded, the controller changes to **HOLD** mode. The feeder and blower begin periodical operation to keep fire on. Whereas, there is possibility to stop blower as in case of using the sawdust as solid fuel.

If the boiler temperature decreases, controller changes over to **HEATING**. If the boiler temperature drops below the value of **BURNING OUT TEMPERATURE** controller changes to **STOP** status. However controller cannot change to **STOP**, if the **FIRING UP** time has not been completed since pressing **START**, that is setting of 1 hour - made by producer.

The controller operation can be stopped at any time by pressing ⊙ - **STOP**. In **STOP** status the blower and feeder are stopped.

The CH pump and TW feeding pump control is accordingly relative to the temperatures of boiler and TW container in each operation mode.

RESETING

The flickery arrows ◂, ▸, ▴, ▾ and ↕ inform which button must be used to operate **MENU** and make any resetting.
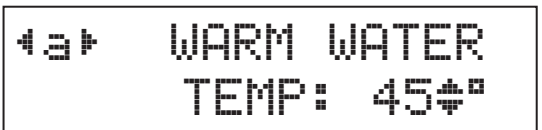
⊙ and ⊙ are for parameter changing
⊙ and ⊙ are for MENU navigation

The **BOILER TEMPERATURE** resetting is being made on the main display.

The other settings can be changed after pressing **MENU**.
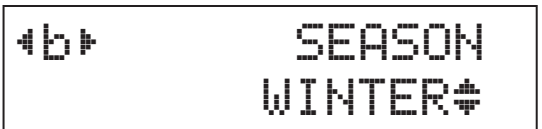
Displays after pressing **MENU**

a) TW(tap water) container temperature

```
◂a▸    WARM WATER
       TEMP: 45↕°
```

b) the season edition
  WINTER - central heating and tap water pumps control
  SUMMER - tap water pump control only

```
◂b▸       SEASON
        WINTER↕
```

c) **MANUAL MODE** ON
  Pressing **MENU** while any parameter is being edited, returns to the **MAIN DISPLAY**. If the operator makes any modifications the controller will ask if those modifications are to be entered to memory. If there is no reaction during 1 minute, controller returns to **MAIN DISPLAY** and does not introduce any new data.

```
◂c▸      MANUAL
       ▴START▴
```

MANUAL MODE

Manual mode enables the blower and feeding screw start and stop at any time. Manual mode is very useful at the firing up process if the feeding screw is empty.

Having the container filled with coal the feeding screw must be started and kept on till the coal appears in the retort. Then the feeding screw must be stopped, the blower must be started and its required power set (percentage value on the display) and next the coal in retort must be fired up.
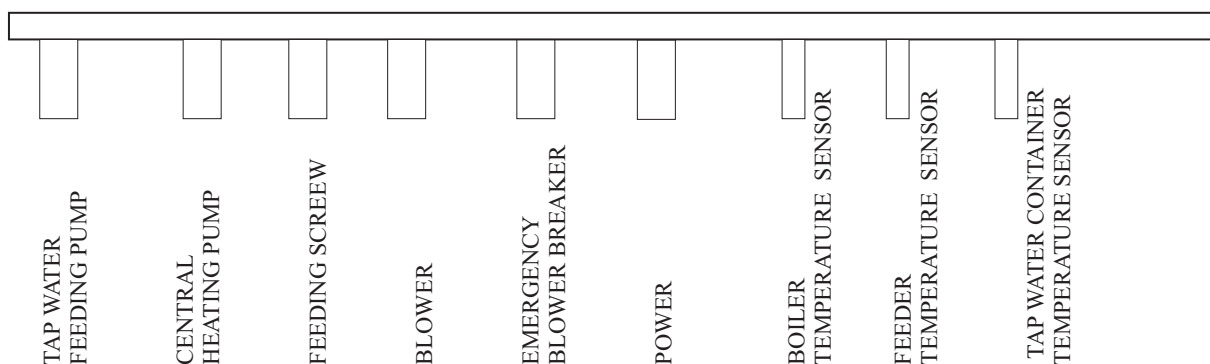
MANUAL mode can be stopped by pushing **MENU**.

MANUAL mode display:

```
Blower  □↑  ◄ 30►%
Feed    □▼
```

blower ON(✓)/OFF(□)
feeding screw ON(✓)/OFF(□)

SEQUENCE OF WIRES CONNECTION

TAP WATER FEEDING PUMP · CENTRAL HEATING PUMP · FEEDING SCREEW · BLOWER · EMERGENCY BLOWER BREAKER · POWER · BOILER TEMPERATURE SENSOR · FEEDER TEMPERATURE SENSOR · TAP WATER CONTAINER TEMPERATURE SENSOR

WARRANTY

TMK (registered partnership) warrants 3 year product warranty for IGNIS alfa v1.20 controller. Warranty starts in the day of purchase and cannot be longer than 4 years since production.

WARANTY CONDITIONS

The warranty is given under condition of the unit application in accordance with this instruction literally and general rules of the electronic units operation. TMK guarantees correct workmanship, high quality and reliability of the IGNIS alfa v1.20 controller. In case of any malfunction or defect due to the fault of manufacturer, TMK undertakes to repair it or replace the controller for a new one in term of 14 days since the fault product return to producer (personally or by post).

Warranty does not include any damage caused by fault of the user, especially due to mechanical failure, incorrect assembling, humidity or if the user fails to comply with general rules of electronic units operation.

DATE OF SALE   ……………………………

……………………………
Stamp and salesman signature

……………………………
MANUFACTURE DATE

MANUFACTURER ADDRESS

TMK sp.j. (registered partnership)
Szosa Witkowska 105
62-300 Września, Poland
Tel./fax +48 61 437 97 60
mail: tmk@tmk.com.pl
www.tmk.com.pl

OPERATING SETTINGS

The majority of preset parameters can be found in OPERATING MENU. To enter the OPERATING MENU press MENU on MAIN DISPLAY and hold it 2 approximately seconds.

A) Feeder operation time for **HEAT** - the boiler temperature below the setting value.

```
◀A▶  OPER. TIME
    HEAT: 10⬍s
```

B) Feeder operation break time for **HEAT**

```
◀B▶  BREAK TIME
    HEAT: 30⬍s
```

C) Feeder and blower operation time for **HOLD** - boiler temperature above the setting value. The blower operation time can be increased by the **blowing time multiplier** (E)

```
◀C▶  OPER. TIME
    HOLD: 10⬍s
```

D) Feeder and blower operation break time for **HOLD**

```
◀D▶ BRAKE TIME
   FOR HOLD: 30⬍m
```

E) Information how many times the blower operation time is longer than feeder operation time at **HOLD**. It informs about the time necessary for blowing fire after the boiler operation break.

```
◀E▶ BLOW TIME
   MULTIPL:  2⬍
```

F) Time since the controller operation **START** during which the boiler is not OFF in spite of temperature decrease below the value of **BURNING OUT TEMPERATURE** .

```
◀F▶    FIRE UP
     TIME:   60⬍m
```

G) CH pump start temperature

```
◀G▶ CH PUMP ON
   TEMP:    35⬍°
```

H) TW (tap water) feeding pump starting temperature

```
◀H▶ TW PUMP ON
   TEMP:    30⬍°
```

I) TW (tap water) container temperature decrease necessary to start the TW pump.

```
◀I▶TW HYSTERESIS
   TEMP:      3⬍°
```

J) TW (tap water) pump priority towards CH (central heating) pump

```
◀J▶TW PUMP PRIOR
       NO ⬍
```

K) Blower maximum power.
   The blower power upper limit.

```
◀K▶ BLOWER POWER
   MAX:    100⬍%
```

L) Blower minimum power.
   The blower power lower limit.

```
◀L▶ BLOWER POWER
   MIN:     30⬍%
```

M) The temperature limit below which controller makes the boiler OFF when the **FIRE UP TIME** is completed.

```
◄M► BOILER OFF
    TEMP:    35◆°
```

N) The coal pushing time when the feeder alarm temperature is exceeded. (To prevent the flashback from the boiler to coal container).

```
◄N► FEEDER ALARM
    TIME:    5◆m
```

O) Feeder alarm temperature value. Exceeding this temperature the feeder starts its operation to withdraw fire from feeder to the boiler. (To prevent the flashback from the boiler to coal container).

```
◄O► FEEDER ALARM
    TEMP:100◆°
```

P) CH pump alarm temperature to start CH pump in SUMMER mode. When this temperature value is exceeded CH pump starts working to cool down boiler. (To avoid boiling water in the boiler).

```
◄P►CH PUMP START
   SUMMER: 80◆°
```

R) Feeding screw operation
   YES for a feeding screw boiler
   NO a fine-coal boiler

```
◄R► FEEDER
    OPER:   YES◆
```

S) Return to the factory settings. Controller makes possible the return to factory settings. After pressing (↑) the question concerning confirmation of your decision will appear.

```
◄S► FACTORY SET
    ▲RETURN▲
```