HANDYHEAT®
DANSK VARMEKABEL A/S

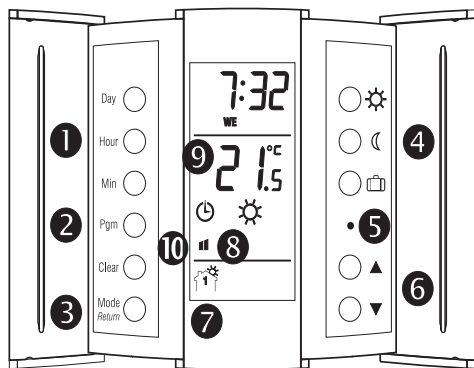## Control Module
HandyHeat132 A/F/AF

Owner's Guide

Thank you for choosing HandyHeat 132, a programmable thermostat, that provides both energy savings and total comfort.

HandyHeat 132 Description

DAY/HOUR/MIN - Set the day and clock setting.
PGM - Program the schedule (programs).
MODE - Select the operating mode.
RETURN - To exit a function.

To configurate temperature setpoints:

☀ Comfort , ☾ Economy and ⌂ Vacation.

Adjust the floor temperature (AF only).

▲▼ —Increase and decrease temperature.

⌂ ⌂ ⌂ ⌂ —Indicates the number of the current program when Automatic mode is enabled.

Current operating mode (auto ⏱ / manual ✍). In Auto mode , the program's associated setpoint is also displayed (☀ ☾).

Indicates the room or floor temperature.

Heating indicators (see "Temperature Control" below).

Model Overview

HandyHeat 132-A

This model has been designed to control a room's ambient temperature.
The HandyHeat 132-A has one temperature sensor located in the control module.

HandyHeat 132-AF

This model is designed to use a floor sensor to control the room temperature.
The HandyHeat 132-AF has two temperature sensors:
- The first one, installed in the control module, controls the ambient temperature.
- The second one, installed in the floor (and connected to the power base), limits the temperature of the floor (the default setting of this limit is 28°C).

HandyHeat 132-F

This model is designed to control floor heating systems. The HandyHeat 132-F has a temperture sensor installed in the floor (sensor is connected to the power base).

❶ Configure the Switches

HandyHeat 132 has two switches, located on the upper-left part on the rear of the control module, which are used to set the following options:

Early Start
When the Early Start function is enabled disabled by default), HandyHeat 132 calculates the optimum system start time to obtain the desired temperature by the set time. To enable function:

Position switch #1 down.

Note: When this function is enabled, the system can be activated before the program's start time.

⬆ E.S. OFF
⬇ E.S. ON
1
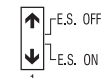
Temperature Display
By default, HandyHeat displays the temperature in °C. If you wish to change to °F.
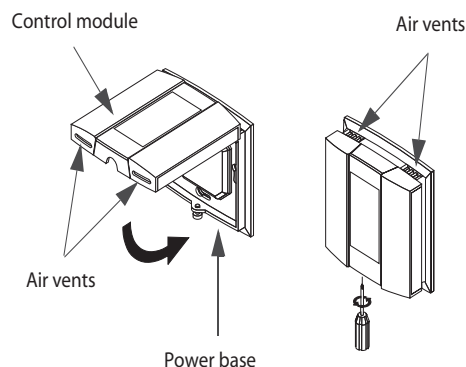
Position switch #2 down.

Note: When you switch from °C to °F or vice versa, the ☀, ☾ and ⌂ setpoints must be redefined.

⬆ °F
⬇ °C
2

❷ Install the Control Module

Align the bracket tabs on the control module with the holes located on top of the power base.
This control module must be installed on a PB130 series power base.

Control module

Air vents

Air vents

Power base

Note: Keep the thermostat's air vents clean and free from obstructions.

Note: The screw cannot be removed completely.

First Power ON

On the first installation , the screen displays:
0:00, MO, ✍ and temperature (room/floor).

For Floor Heating Installations:

One of the two following messenges may be displayed when a problem occurs:

LO: The floor temperature is below 0°C, the temperature sensor is defective, or not connected.
The heating indicator ▂▃▅ is displayed and the relay is closed (energized).

HI: The floor temperature is above 60°C, or the temperature sensor is defective.

0:00
20.2°C
⚡

0:00
LO
⚡

0:00
HI
⚡
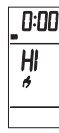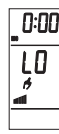
❸ Set the Time and Day

Set the time (HOUR - MIN).

Set the day (DAY).

If you remove the module from its base for more than 2 hours, the time and day will have to be reprogrammed.

Hour   Min

7:32
Day   WE

❹ Adjust the Temperature Setpoints

Comfort ☀ and Economy ☾ Setpoints.

These setpoints are associated with the schedule's programs (programs 1 &3 = Comfort, programs 2 & 4 = Economy) and are preprogrammed as follows:

A & AF mode is - ☀20°C, ☾ 18°C
F mode is - ☀ 28°C, ☾ 20°C

To modify a setpoint:
Set the temperature using ▲▼ and press and hold the ☀ or ☾ button until it is displayed on the screen. Press MODE/RETURN to exit.

Vacation Setpoint ⌂

The vacation setpoint is associated to the Vacation operating mode and is preprogrammed to 10°C. To modify this setpoint, repeat above step.

Floor Temperature Setpoint (AF mode only)

The floor temperature limit is preprogrammed to 28°C to avoid damage to your floor.
To modify, press the adjustment button (below ⌂) using a pointed object, set the desired temperature using ▲▼ and press MODE/RETURN to exit.

❺ Select the Operating Mode

HandyHeat 132 offers three operating modes:
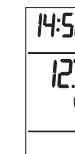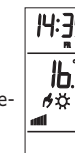
Automatic ⏱ - Executes the schedule.

Press MODE to select ⏱. The current program number is displayed.
You can temporarily pass the current program by setting a specific temperature setpoint using ▲▼ or by selecting one of the pre-defined setpoint buttons (☀ ☾). The new setpoint will be maintained until the beginning of the next program.

Manual ✍ - Maintains constant temperature.

Press MODE to select ✍.
Set temperature ▲▼ or selsct one of the predefined setpoint buttons (☀ ☾).

Vacation ⌂ - Maintains the Vacation setpoint during a prolonged absence.

Press ⌂.

14:20
20.2°C
⏱ ☾
⌂

14:35
16.2°C
✍☀
▂▃▅

14:50
12.4°C
⌂

❻ Program Your Schedule

The schedule is used with the Automatic mode. The schedule controls the heating system to automatically switch between the Comfort and Economy temperature setpoints at the times you have programmed.

The schedule consists of 4 programs per day defined as follows:

Programs	Setpoint	Time
☀	☀	Wake-up
☽✦	☾	Leave home
☽✦☀	☀	Back home
☽	☾	Night

i. The programs' start time can be different for each day of the week.

To enter the programs' start time

To shorten programming, you simply should enter the start time for each program.

> Press PGM.
> Press DAY to select the day (hold for 3 seconds to select all days of the week).

Note: It is sometimes faster to program the same schedule for the entire week and then to modify the exception days.

> Press PGM to select the program number (e.g. 1).
>
> Press HOUR and MIN to set the start time.
>
> Repeat steps 3 and 4 for remaining programs (e.g. 2, 3 and 4)
>
> Press MODE/RETURN to exit.

Note: After 60 seconds of inactivity, the thermostat will automatically exit programming mode.

To clear a program time:

When you clear a program time entry, the HandyHeat 132 will maintain the temperature setpoint of the last executed program until the beginning of the next program.

> Repeat steps 1 to 3 above.
>
> Press CLEAR to erase the time entry. The time portion of the LCD indicates --:-- when the program is inactive.
>
> Press MODE/RETURN to exit.

Programming Examples

Programs		MO	TU	WE	TH	FR	SA	SU
☀	☀	6:00	6:00	6:00	6:00	6:00	6:00	6:00
☽✦	☾	8:30	8:30	8:30	8:30	8:30	--:--	--:--
☽✦☀	☀	16:00	16:00	16:00	16:00	16:00	--:--	--:--
☽	☾	23:00	23:00	23:00	23:00	23:00	23:00	23:00

☀ Comfort:

> - Monday to Friday, between 6:00 and 8:30 and between 16:00 and 23:30.
> - Saturday and Sunday, between 6:00 and 23:00

☾ Economy:

> - Monday to Friday, between 8:30 and 16:00 and between 23:00 and 6:00.
> - Saturday and Sunday, between 23:00 and 6:00.

To program this schedule:

> Press PGM.
> Press and hold DAY for 3 seconds to select all days of the week.
> Press PGM to select program 1.
> Set the time(6:00) using the HOUR and MIN buttons.
> Press PGM to select program 2.
> Set the time (8:30) using HOUR and MIN buttons.
> Repeat step 4 for remaining programs:
> program 3 (16:00) and program 4(23:00).
> When all programs are configurated, press MODE/ RETURN to exit.

To erase programs 2&3 for Saturday and Sunday:

> Press PGM.
> Press PGM to select program 2.
> Press DAY to select Saturday (SA).
> Press CLEAR to erase the time (--:--).
> Press DAY to select Sunday (SU).
> Press CLEAR to erase the time (--:--).
> Press PGM to select program 3.
> Repeat steps 3 to 6.
> Press MODE/RETURN to exit.
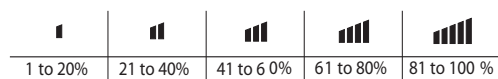

Temperature Control

HandyHeat 132 thermostat works differently than conventional electromechanical thermostats.

It is equipped with a proportional integral adaptive (PIA) controller which determines heating cycles by analyzing the temperature behavior history within the room.

The PIA controller reduces temperature swings providing accurate temperature control while increasing user comfort.

The controller determines the amount of power required by the heating system to maintain the setpoint temperature.

When the heating system is activated, one of the following icons is displayed:

1 to 20%	21 to 40%	41 to 6 0%	61 to 80%	81 to 100 %

Technical Specifications

Model : HandyHeat 132 A/AF/F

Display range : 0°C to 60°C
Setting range (ambient) : 5°C to 30°C
Setting range (floor) : 5°C to 40°C

Pre-programmed temperature setpoints:
Comfort: A/AF   20°C and 28°C
Economy: A/AF 18°C and 20°C
Vacation: A/F/AF 10°C
Floor limit: AF 28°C

Temperature resolution display scale : 0.1°

Storage : -4°F to 120°F (-20°C to 50°C)
Software : Class A
Controller : Electronic

Temperature control : Proportional integral adaptive, 15-minute heating cycles.

Programming protection : Protected memory
Clock protection : 2 hours
Size (H/W/D) : 3.3 x 3.1 x 0.5 in (83 x 79 x13 mm)

Warranty

HandyHeat TWO YEAR LIMITED WARRANTY

This product is guaranteed against workship defects for a two-year period following the initial date of purchase. During this period HandyHeat will repair or replace, at our option and without charge, any defective product which has been used under normal conditions.

The warranty does not cover delivery costs and does not apply to products poorly installed or randomly damaged following installations.

This warranty cancels and replaces any other manufacturer's express or implied warranty as well as any other company commitment. HandyHeat cannot be held liable for related or random damages following the installation of this product.

The defective product as well as the purchase invoice must be returned to the place of purchase or mailed, prepaid and insured, to the nearest shipping address.
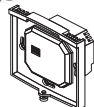
If you have any questions concerning the programming of HandyHeat 132 programmable thermostat, contact our technical support at:

HANDYHEAT®
DANSK VARMEKABEL A/S

Lundagervej 102
DK-8722 Hedensted
Denmark

Tel. +45 7675 8030
Fax +45 7675 8032
Email: info@handyheat.net
www.handyheat.net

ENERGY STAR

Power Base
PB130-230
Installation Instructions

❶ Introduction

The PB 130-230 power base is designed to power a HandyHeat 13x series control module. The resistive load must not exceed 3680 watts (NI) 230 VAC (16A).

❷ Installation Guidelines

Turn off power to the heating system at the mail power panel to avoid electrical shock. Installation should be carried out by an electrician.
All work must be conform to the most recent country's regulations for electrical installations and wiring.
This thermostat should be connected on a circuit equipped with a fuse or a circuit breaker. It must be installed on a certified electrical box.
For a new installation choose a location abput 1.5 m (5 ft.) above the floor.
The thermostat must be installed facing the heating system and on the inside wall.
Avoid locations where there are air drafts (top of staircase, air outlet), dead air spots (behind a door), direct sunlight or concealed chimneys or stove pipes.

❸ Material

One (1) PB130-230 power base
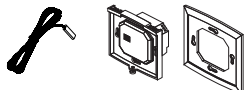
One (1) floor sensor (for floor heating modules AF & F)

One (1) wall plate (optional, in certain countries)

Technical Specifications

Model: PB130-230
Supply: 230 VAC, 50 Hz
Load: 16 A maximum (resistive only)
Power: 3680 Watt (NI), 230 VAC
Certification: EN60730-2-9 / EN50081-1 / EN3082-2
Storage: -20°C to 50°C
Protection: Class 2
Protection degree: IP20
Automatic action: Type 1.B
Environment: Normally polluted
Size (H•W•D): 75 x 75 x 14 mm (7.5 x 7.5 x 1.4 cm)

NOTE: The terminals are designed to handle a wire size between 0.33 to 3.1 mm2

If you have any questions concerning the installation of the PB130-230 power base, contact our technical support team at :
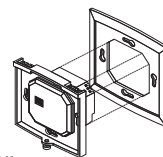
❹ Installation and Wiring

Remove the screw holding the control module to the power base.
Note that the screw cannot be completely removed.
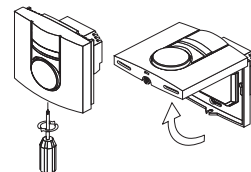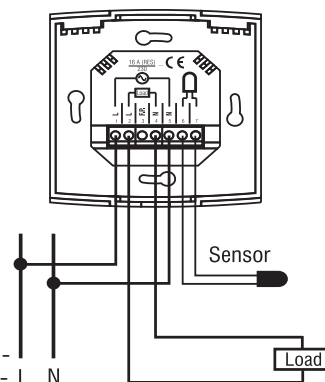
If you have a wall plate:
Before making the connections, make sure that the base covers the electrical box entirely. If not, insert the cover plate on rear of the base.

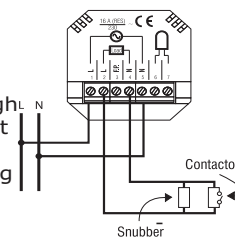NOTE: The cover plate can be used to cover the plate for aesthetics.

Connect the wires:
- Power:
  Terminals 1 and 5
- Load:
  Terminals 2 and 4
- Floor sensor:
  Terminals 6 and 7
  (no polarity needs to be respected)
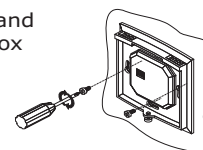
Sensor

Load

Do not place the floor sensor directly next to an element but rather for maximum performance, the floor sensor should be centred between the wires in the mat (80°C max.). The temperature sensor wire cannot lay across any heater wires.
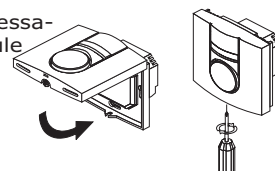
If the load is driven through a contractor, a snubber must be installed at the contractor's coil terminal. See wiring diagram below.

Contactor

Snubber

Push wires into the electrical box and secure the base to the electrical box anchorage. The head of the screw must be less than 2 mm thick.

Conigure the switches (if necessary) and istall the control module onto the power base (refer to the user guide).

Return power to the heating system.