EN

Push Control

User’s manual

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INTRODUCTION

Dear Customer,

Thank You for choosing the AUTOTERM Push Control control device! We are doing everything to make this product meet Your requirements, so its quality satisfies every customer.

AUTOTERM Push Control is designed to be simple and intuitive to use, to ensure the best experience when it comes to controlling your climate. It being designed as a small and compact control device for AUTOTERM heaters to simplify heater's control as much as possible, as well to divide control possibilities for your convenience.

The AUTOTERM Push Control is compatible with all AUTOTERM AIR and FLOW series heaters.

	In case of any problems, we strongly recommend to contact certified service centers. Contact information and location of certified service centers can be found at our website www.autoterm.com.
	Please read carefully this manual before operating the AUTOTERM Push Control and the AUTOTERM heaters. This manual contains needful information in order to use this product correctly. Disregard of these instructions can void the warranty of the product, lead to damage to the product and/or property and be a risk to health.
	If the heater is handled and/or installed improperly, there is a possibility of a fire hazard and damage to property because fuel and electrical components are being used. That is why all safety precautions, operation and installation instructions must be observed.

For other languages of this manual, please see www.autoterm.com/manuals.

SAFETY INSTRUCTIONS

Risk to health and/or damage of product

- AUTOTERM Push Control may only be used for the purposes specified in this operation manual.
- Before using AUTOTERM Push Control read carefully according heater operation manual and its safety instructions.
- Please use this product only with AUTOTERM brand heaters. AUTOTERM is not responsible for any damages or losses caused by using the Push Control for any other purposes.

Risk of fire and explosion

- When installing Push Control, heater must be shutdown. Please ensure this and do not take off your heater from power supply while it won't shutdown completely. Note: the shutdown process can take up to 10 minutes.
- Do not use or install the Push Control and AUTOTERM heaters in places where flammable vapors, gases or large amounts of dust may form and accumulate.
- Do not use or install the Push Control and AUTOTERM heaters in places where flammable and/or explosive items or substances are stored.

Risk of fire and explosion

- Do not connect or disconnect any wiring of the heater while it is connected to the power supply or operating.
- Do not connect the heater to the power circuit when the engine is operating and there is no battery.
- Length of the Push Control wire from the Push module cannot exceed 10 meters.

Certified support

- In case of faults in the operation of Push Control and AUTOTERM heater, contact specialized repair organizations authorized by AUTOTERM. Contact information and location of certified service centers can be found at our website www.autoterm.com/partners.

LIABILITY

Manufacturer is not liable for any damage as a result of installation and repairs by uncertified personnel and/or use of third-party parts and accessories without the approval of manufacturer.

PACKAGE CONTENT

AUTOTERM Push Control kit contents:

- AUTOTERM Push Control LED RGB momentary, made from stainless steel, with mounting nut;
- Sealing ring;
- Push Control module;
- Connection wire from the heater to the Control module 30 cm;
- Connection wire from the Control module to the Push Control – 2 meters;
- User's manual.

PRODUCT MODELS

The AUTOTERM Push Control has 2 different models and connection variations:

12mm Round connector

Assy. AT13-0002-AF0

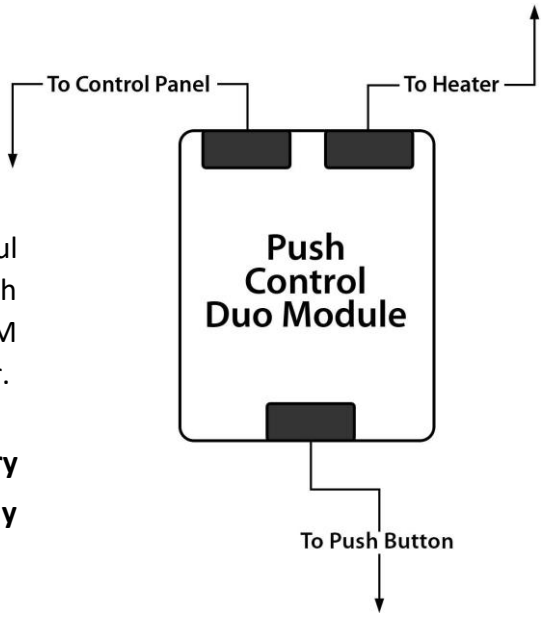
6mm Molex connector

Assy. AT13-0001-AF0

INSTALLATION

The Push Control module has 3 connection ports:

1) From heater to module (right port)
2) From module to Push Control (bottom connector)
3) From module to Control Panel (left port)



After connecting the module to the heater, successful connection with the heater is indicated by LED flash RED/Green. When it stops, it indicates that AUTOTERM Push Control has successfully connected with the heater.

The Module must be mounted in a secure and dry environment as the module by itself does not have any ingress protection!

When installing the Push Control, make sure not to exceed the following wiring lengths:

- Max wiring length from Air heaters to the Module – 10 meters;
- Max wiring length from Flow heaters to the Module – 5 meters;
- Max wiring length from Module to the Push Control – 10 meters;
- In case of using an additional Control Panel, the wiring length sum from the module to the additional panel should not exceed the allowed distance to the module.

PUSH CONTROL PINOUT/WIRE COLOR

1 & 6 - Control input (white and black)
2 - Positive supply to LED (yellow)
3 - Red LED light (red)
4 - Green LED light (green)
5 - Blue LED light (brown)

GENERAL OPERATION CONDITIONS

Starting your heater.

To start the heater with the Push Control, press and hold the button for more than 1 second, the LED will light up, indicating that the heater is in state and will start to operate.

Setting up your heater.

To adjust power, temperature or mode (for liquid heaters), make a short press on the Push Control. The LED will indicate the operating power, temperature or mode preset with different colors.

Stopping your heater.

To stop your heater with the Push Control, press and hold the button for more than 1 second, the LED will blink between Blue and RED colors indicating that the heater is switching off. LED will blink until your heater switches off.

OPERATION WITH AIR HEATERS

With the Air heaters, by default, the Push Control operates in power settings ranging from min to max power. Each press and each power setting are represented by the corresponding LED light. In case of a heater or Push Control malfunctions, the LED will flash red (Error codes you can find below).

When connecting an external temperature sensor (assy.1458) to an air heater, the Push Control automatically starts working in Temperature mode. The heater will operate to maintain the desired temperature according to pre-installed setpoints of Push Control. Each press and each temperature setpoint are represented by the corresponding LED light.

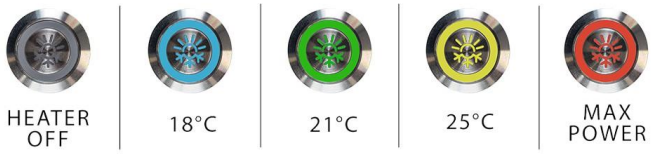
After set temperature achieved, the heater will switch to “minimum” mode. The further operation of the heater depends on the temperature of the space:

- If the temperature keeps increasing, the heater will continue to operate with “minimum” output.
- If the temperature begins to decrease, the heater will gradually increase the heat produced to maintain the required temperature in the space.

The Push Control commands follow one after another in a circle:

WITHOUT AN EXTERNAL TEMPERATURE SENSOR

WITH AN EXTERNAL TEMPERATURE SENSOR



Standard operation modes:

- MIN/Blue – 0,9 kW
- LOW/Purple – 1,2 kW
- MID/Green – 1,5 kW
- HIGH/Yellow – 1,7 kW
- MAX/RED – 2 kW

Operation modes with an external temperature sensor (Assy. 1458.):

- 18°C/Blue
- 21°C/Green
- 25°C/Yellow
- MAX/RED

Additional temperature mode by air intake sensor.

This mode works the same as Temperature mode, but for temperature measurements use the sensor located at the heater's air intake.

To establish this mode, observe the following steps:

1) Ensure the heater is switched off;
2) Remove the Module cable from the heater;
3) Press and hold the Push Control;
4) Connect the Module back and release the button within 1 sec after connection => BLUE LED will blink 4 times, indicating that temperature mode by air intake is activated.

18°C = blue; 21°C = green; 23°C = yellow

NOTE! After power is disconnected from the heater or the Push Control module, this setting will be replaced with the default setting (power mode) or temperature mode if the external temperature sensor is connected.

NOTE! We strictly advise not to use the temperature mode by air intake function if the heater is taking heated air from outside or from a separate compartment.

OPERATION WITH FLOW HEATERS

The Push Control commands follow one after another in a circle so to go from operation for 2 hours to turning off the heater, you must press the button 2 times in succession.

Operation modes:

- Blue – heater will operate for 2 hours;
- Red – heater will work Infinite operation time.

For Flow heaters, settings like coolant temperature, and fan initiation temperature are stored inside the heaters settings and can be adjusted with Comfort Control or the AUTOTERM diagnostic tool.

The heater settings will remain factory settings:

- Coolant temperature 80°C;
- Air blower initiation ON/45°C;
- Alarm input ON;
- Auxiliary heating OFF (Heater starts with engine);
- Coolant pump ON in Wait mode;
- Coolant pump OFF when the engine is on (auxiliary coolant pump).

This applies for all Flow 5 heaters and the new Flow 14D heaters (MO-5260 and MO-5255), also known as Flow 14D v2.

Please take note that all previous generations of AUTOTERM FLOW 14D heaters do not have the option to adjust the following settings:

- Coolant temperature 80°C;
- Air blower initiation ON/40°C;
- Alarm input ON;
- Coolant pump ON in Wait mode.

ADDITIONAL CONTROL PANEL

It is possible to connect an additional Control Panel with a specific cable (Assy. AT4-0014-AF0, being supplied separately) as a secondary control option. With an additional Control Panel, the Push Button settings remain the same, and the heater will operate in a heating mode based on which control option it was adjusted. The additional Control Panel can allow the user to:

- Starting and stopping the heater from the Push Button or Control Panel:
    - If started from the Control Panel, heater will work at the time that is set in the Control Panel.
    - If started from the Push Button then the heater operation time is infinite, till settings are done from the Control Panel on the mode and operation time section.
    - Both devices indicate switching off the status.
- Any adjustment from the Control Panel will change the previous power or temperature setting (if Assy. 1458 was connected) previously set on the AUTOTERM Push Control.
- Any adjustment from the Push Button will change the previously set power and temperature mode to the corresponding LED power or Temperature if External temperature sensor was connected to the heater.
- Indications of the heater's current operating status:
    - The Push Button will remain lit in the last known LED color if settings were done with the Control Panel right after settings from Push Button (in this case the LED just indicates status ON).
    - By changing settings with Push Button, the Control Panel Comfort Control will indicate the actual operation mode and settings.

NOTE! The additionally added Control Panel gets noticeably slower due to multiple sources of data being sent to the heater back forwards.

ERROR CODES

Number of Red LED blinks	Description	Fault cause
1	Overheating of the heat exchanger.	The sensor sends a signal to shut down the heater. The heat exchanger temperature in the sensor zone is over 250°C.
12	Possible overheating at the intake temperature sensor. The sensor temperature (control unit) is more than 55 degrees.	The control unit is insufficiently cooled down for 5 min. purging before startup; or overheating of the control unit during operation.
	FLOW heater rapid temperature Liquid increase.	Air in the system, poor liquid circulation.
5	Faulty temperature sensor or flame indicator.	Short circuit to the casing or open circuit in the wiring of the sensor.
6	Faulty temperature sensor in the control unit.	Temperature sensor out of order (located in the control unit, cannot be replaced).
	FLOW temperature sensor set fault.	Short circuit to one of two sensors.
	Overheat sensor - open circuit.	Faulty sensor. Oxidation of contacts in the terminal block.
4	Faulty glow plug.	Short circuit, open circuit, faulty control unit.
11	The electric motor of the air blower does not develop the necessary speed.	Increased friction in the bearings or contact between the impeller and fan shroud in the blower. Faulty electric motor.
	Faulty air temperature sensor (intake) only for Air 8D.	Mechanical fault. Oxidation of contacts in the block.
9	Shut down, overvoltage more than 30V (for 24V) or more than 16V (for 12V).	Faulty voltage regulator. Faulty battery.
2	The heater does not start - two automatic start attempts failed.	No fuel in the tank.
		Clogged exhaust duct or combustion air intake.
		Insufficient pre-heating of the glow plug, faulty control unit.
		Fuel grade does not match the operating conditions at low temperatures.
		The impeller touches the fan shroud in the blower, and, as a result, flow of air into the combustion chamber is reduced.
		The glow plug housing in CC is clogged. Clogged glow plug screen or it is not installed all the way into housing.
10	During the purge time, the temperature sensor was not cooled down. The time for ventilation was exceeded.	During 5 min purge before start-up, temperature sensor was not sufficiently cooled.
7	Faulty fuel pump.	Short circuit or open circuit in the wiring of the fuel pump.
	Liquid pump fault.	Stuck or short circuit on the liquid pump.
8	The heater does not start.	Burnt out fuses on the power harness.
		There is no communication between the controller and the control unit. The controller receives no data from the control unit.
11	The motor does not rotate.	Damaged bearing or rotor, foreign objects, etc.
	Motor rotates. Speed is not regulated.	Faulty electric motor control board or heater CU.

Number of Red LED blinks	Description	Fault cause
3	Flame failure during operation of the heater.	Insufficient fuel supply, faulty fuel pump or faulty flame indicator.
8	The electric motor of the air blower does not develop the necessary speed.	No communication between the controller and the control unit.
	Flow heater has no communication with ECU.	The control unit receives no data from the controller.
13	Flame failure.	Supply voltage drop.
3	Flame failure during operation.	Air bubble in the fuel system, faulty fuel pump, faulty flame indicator.
16	Flow Heater Locked.	The heater could not start more than 3 times.

REMINDER!

To ensure reliable operation of the heater, it is required to start it once in 30 days on max heating power for 30 minutes including the warm seasons of the year, when heater is out of operation. This action is necessary to remove any viscous film sediments on moving parts of the fuel pump. Failure to do so may lead to premature failure of the heater.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