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Push Control User's manual

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INTRODUCTION

The AUTOTERM Push Control is a small and compact control device for AUTOTERM heaters, which is easy to operate. Depending on the heater, the Push Button has multiple operation modes and features.

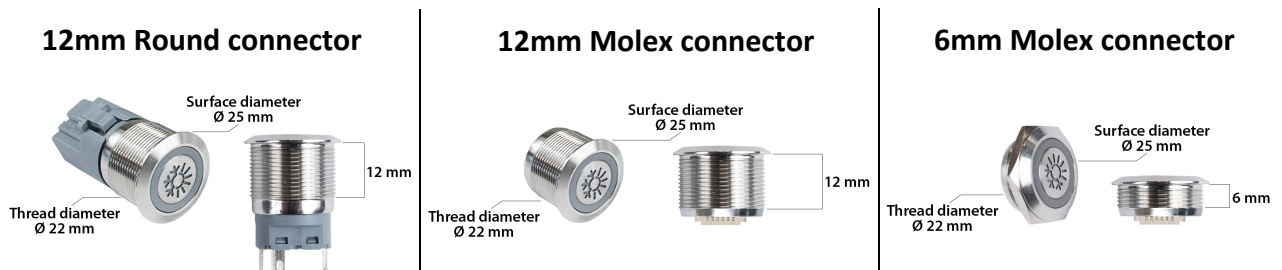
With Air heaters, by default, the Push Button operates power settings from min to max power. Each press and each power setting is represented by the corresponding LED light. In case of a heater or Push Button malfunctions, the LED will flash red.



Before operating the AUTOTERM heaters, please read this manual carefully. This manual contains the necessary information in order to use this product correctly. Disregarding these instructions can void the warranty of the product, lead to damage to the product and/or property, and be a health risk.

CONNECTION


The AUTOTERM Push Control has 3 different models and connection variations:



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 Push Control module has 3 connection ports:

- 1) From heater to module (right port)
- 2) From module to push control (bottom connector)

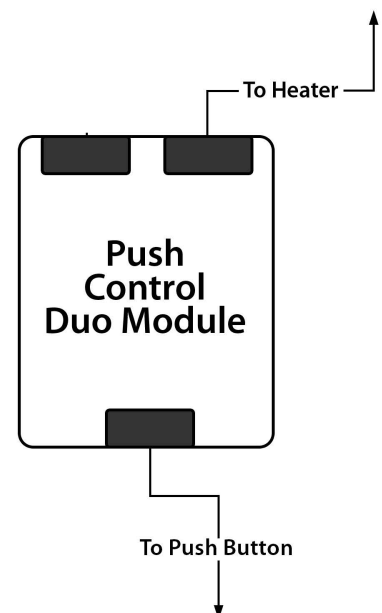
 Connection Wire (assy. AT4-0014-AF0) must be purchased separately!

Start:

To start the heater with a Push Button, 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.

Settings:

To adjust power or temperature, make a short press on the Push Button. The LED will indicate the operating power or temperature depending on the Push Button LED color.



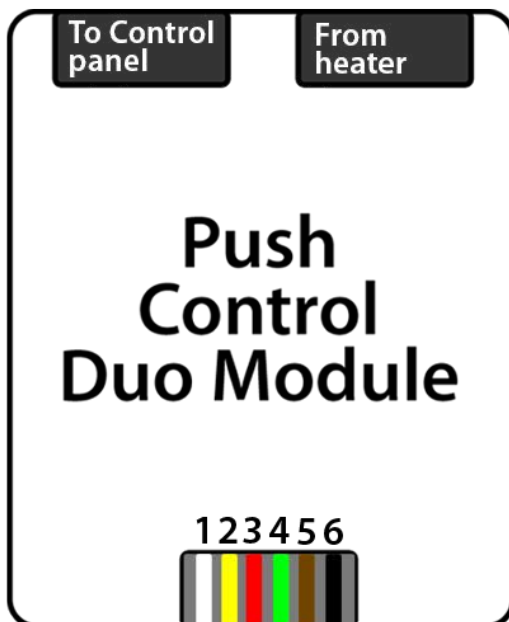
INSTALLATION

The AUTOTERM Push Control is a device that has a separate control box (control module) and LED RGB Push Button momentary that is made from stainless steel. The control module must be mounted in a secured and dry environment as the module by itself does not have any ingress protection.

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

- Max wiring length for Air heaters to Push Control module - 10m
- Max wiring length for Flow heaters to Push Control module - 5m
- Max wiring length from module to button to Push Control module - 10m

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)

OPERATION WITH AIR HEATERS

WITHOUT AN EXTERNAL TEMPERATURE SENSOR



WORKMODES WITH AIR HEATERS



WITH AN EXTERNAL TEMPERATURE SENSOR



Standard operation modes :

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

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

- 18°C/Blue
- 21°C/Green
- 25°C/Yellow
- MAX/RED 2kW

OPERATION WITH FLOW HEATERS



WORKMODES WITH FLOW HEATERS



Operation modes:

- Blue - 2h
- Red - 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 with software.

For a new heater, 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.

All previous generation 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

STOPPING THE HEATER

To stop the heater with the AUTOTERM 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.

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.

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.

***Additional temperature mode by air intake sensor.**


To establish this mode, observe the following steps:


- 1) Remove the Control module cable from the heater;
- 2) Press and hold the AUTOTERM Push Button;
- 3) Connect the control 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 disconnection from the heater or the Push Control module, this setting will be replaced with the default 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 a separate compartment.

PACKAGE CONTENT

- AUTOTERM Push Control
- 2m Push Button cable
- 30cm Push Control heater connector
- O-ring
- Fixation nut
- Instruction manual