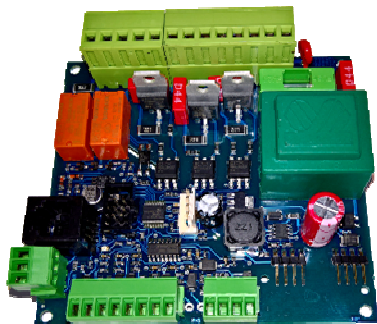


Control board for biomass combustion systems Information sheet

UniPel MB03 system is organized in two modules, main board and display.
The link between these two modules is made by standard 6p telephone cable.

Main board

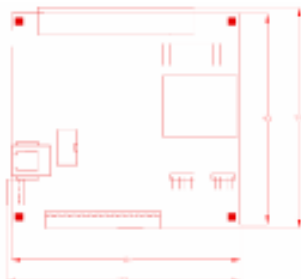


Display

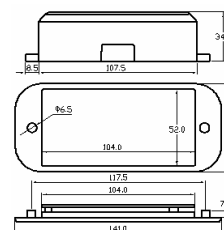


Dimensions

Overall with connectors 105x103x30mm
Board 100x95mm



Overall 141x61x34mm
Installation hole 104x52mm



Main board characteristics:

5 Outputs; 8 Inputs;
Expandable

Preprogrammed Applications:

- Air /Water system
- Basic Stove / Burner / Boiler
- Combined boiler-dual fuel

Display characteristics:

Display Type: LCD graphics – 2”
Push buttons – 4; buzzer
Backlight with dimming
Analog inputs - 2

Other characteristics

Build in menu languages 6
Language sets available
RTCC; WiFi

Main board (build in)

	Outputs – total 5		Inputs – total 11 (9 in main board and 2 at display)
TRIACS	3	Analog - temperature	4
- Voltage control function	.2	Analog - photo sensor for flame presence	1
- ON/OFF function	.2	* optional 1x K type thermocouple	1*
RELAYS ON/OFF, At Line voltage	2	Analog – temperature (at display)	2
- SPST – 5A	.1	Digital inputs (ON/OFF)	4
- SPDT – 5A	.1	Hall sensor for main fan	1
		Optional feedback (air flow/O ₂ , Lambda)	1*
		Others:	
- Real Time Clock		- Serial Interface for link and programming	
- Expansion socket			
- Power Supply 230V/50Hz ±10%		- Optional WiFi module for remote access	

TYPICAL APPLICATIONS - EXAMPLES

BURNER

Mandatory Outputs		Mandatory Inputs	
Blower fan (main fan)	VCT	Boiler temperature	LT
Dosing screw	T.O.	Photo sensor for flame presence	PS
Igniter	R.O.	Room Thermostat Switch	NCC
Main CH Pump	T.O.	Alarm input (back fire)	NCC
DHW Pump	R.O.	DHW Tank temperature	LT
		Over pressure/ low air flow switch	NCC
Additional Outputs (with exp. board - example)		Additional Inputs	
Secondary feeding screw	R.O.	Flux temperature (for efficiency)	HT
Ash extraction	R.O.	Hall sensor for main fan	HS
Mechanical Cleaning	R.O.	Water system low pressure switch	NCC

STOVE - HYDRO

Mandatory Outputs		Mandatory Inputs	
Flux Fan (main fan)	VCT	Boiler temperature	LT
Dosing screw	T.O.	Flux temperature	HT
Igniter	R.O.	Room Thermostat Switch	NCC
Main CH Pump	T.O.	Alarm input (back fire)	NCC
DHW Pump	R.O.	DHW Tank temperature	LT
		Over pressure/ low air flow switch	NCC
		Hall sensor for main fan	HS
Additional Outputs (with exp. board - example)		Additional Inputs	
Cleaning by AIR	R.O.	Room temperature	LT
Flux Fan	VCT	Water system low pressure switch	NCC
Secondary feeding screw	R.O.		

BURNER/BOILER with STORAGE TANK

Mandatory Outputs		Mandatory Inputs	
Flux Fan (main fan)	VCT	Boiler temperature	LT
Dosing screw	T.O.	Photo sensor for flame presence	PS
Igniter	R.O.	Room Thermostat Switch	NCC
Main CH Pump	T.O.	Alarm input (back fire)	NCC
DHW Pump	R.O.	DHW Tank temperature	LT
		Over pressure/ low air flow switch	NCC
		Hall sensor for main fan	HS
Additional Outputs		Additional Inputs	
Flux Fan	VCT	Storage tank temperature	LT
Storage Tank Pump	R.O.	Mixing valve output temperature	LT
Mixing valve Command	R.O.	Water system low pressure switch	NCC
Mixing valve Direction (Open/Close)	R.O.		
Cleaning/Ash extraction	R.O.		

Other functions and/or input/output configurations are available at request
 STB should be connected in series to feeding screw power supply for safety

Legend:

VCT – Voltage Control by Triac; T.O. – TRIAC ON/OFF function ; R.O. – Relay ON/OFF function;
 LT – Low Temperature sensor input (t≤100°C); PS – Photo Sensor input
 HT – High Temperature (pt1000, t≤300°C) or (TC.K. t≤550°C) sensor input;
 NCC –Normally Closed Contact; HS –Hall Sensor for RPM stabilization