

# Master Module - Intelligent Temperature Control

OJ Waterline™

## WLM3

- Heating & cooling control in one
- Network communication
- Modbus® communication for BMS & remote access



**The OJ Waterline™ system ensures the best possible comfort and reduces energy consumption.**

The WLM3 has been developed as a temperature control system for room heating and cooling, integrating switch of primary heating and cooling sources with precise control of water temperature and mixing devices.

The WLM3 has a number of built-in features, which makes it scalable for both domestic as well as large commercial installations. Used on its own or as part of a larger network, the WLM3 offers flexibility, ease of installation and cost saving benefits in every part of the installation and user process.

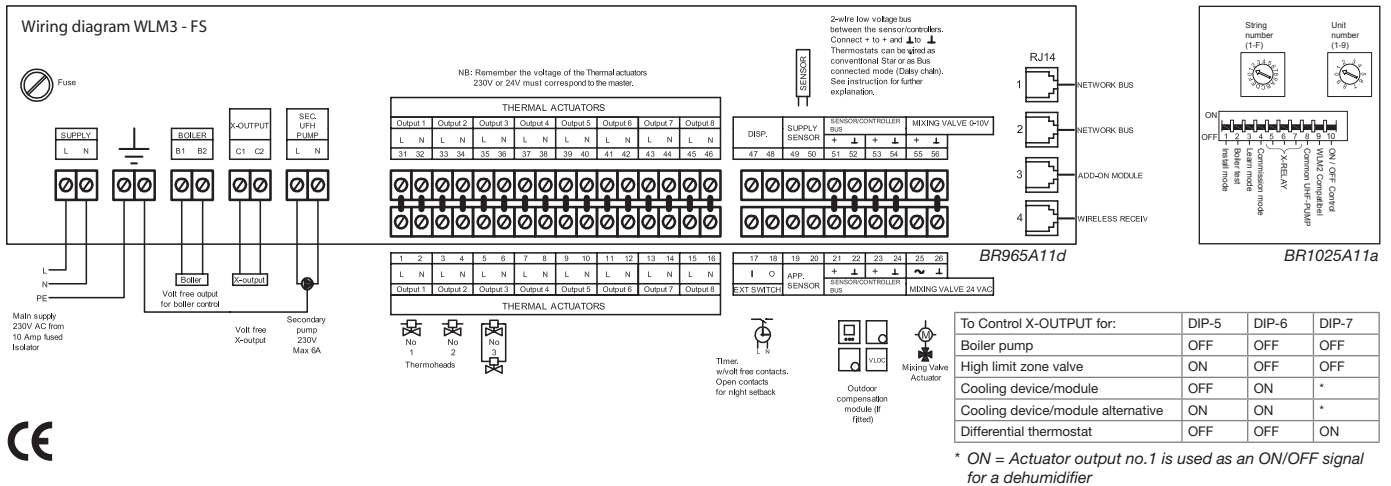
### WLM3 features

- Heating & cooling control in one on the same or two separate manifolds (e.g. divided ceiling and floor control).
- Network communication for large applications – Support for more than 1800 zones.
- Modbus® communication interface for Building Management Systems (BMS) and remote access.
- High Power relay outputs for boiler and pump.
- A wide range of hardwired & wireless controllers/sensors.
- Flexible installation combining hardwired and wireless connection.
- Safe 5 volt connection to hardwired room controllers/sensors.
- Optional Dew point calculation on cooling systems to prevent condensation on floors.
- Optional outdoor temperature compensation with output for mixing valve.



**Intelligent Control**  
 Maximum comfort with  
 low energy consumption

Save up to 55% energy



### Heating functions

The OJ waterline™ system provides true comfort through precise room temperature control, always ensuring optimal energy savings through advanced control of boilers, pumps, etc.

### Cooling functions

All WLM3 Masters also have the ability to control the system for cooling. To enable the cooling function, just add a heating/cooling changeover switch and a humidity sensor to handle dew point problems. A dehumidifier also can be controlled by the Master.

### Room temperature control

Different types of room sensors/controllers can be connected offering true comfort PI controlled temperatures, area control, automatic temperature setback and many other possibilities. Even hard wired and wireless versions can be combined in the same system.

### Remote smart access

The FMS Gateway has been designed to create a total user interface. Suitable for use in all installation types from domestic to large commercial, the simplicity and flexibility of the FMS offers a level of control suitable for all applications.

- WiFi and Bluetooth connectivity
- Local and remote monitoring and control via tablet, computer and Smartphone
- Compatible with Android, iOS, Windows, Linux, etc.

### Products

OJ WATERLINE™ MASTERS	PRODUCT INFORMATION
WLM3-xBA	8 actuator outputs, pump & boiler control.
WLM3-xFS	8 actuator outputs, display, 0-10Vdc mixing valve control and optional outdoor temperature compensation. BMS and remote access interface based on the standard RTU Modbus® protocol.
WLM3-xAO	Add On module that extends the system with additional 6 outputs.

"x" represents the output voltage for the thermal actuators: 1 = 230V , 3 = 24V

### OJ WATERLINE™ MASTERS PRODUCT INFORMATION

WL-FMS-BASIC	FMS Gateway for remote control of up to 22 rooms
WL-FMS-PRO	FMS Gateway for remote control of up to 50 rooms
WL-FMS-PROPLUS	FMS Gateway for remote control of up to 106 rooms

### OJ WATERLINE™ UNITS PRODUCT INFORMATION

WLRC3-19	Receiver for wireless room sensors/controllers
WLHX3-19	Humidity sensor for calculation of DEW point
WLAC3-1	Manual Heating / Cooling changeover switch
WLM-NET	Connection kit for WLM3 Networks
WLOC3-19	Digital outdoor temperature compensation sensor
ETF-522	Spare supply sensor
WLM-DINRAIL	DIN RAIL kit for WLM3 Masters
WLM3-BA-COOL	"What you need" Cooling kit for WLM3-xBA Masters. Contains a WLH3-19, WLAC3-1 and ETF-522.
WLM3-FS-COOL	"What you need" Cooling kit for WLM3-xFS Masters. Contains WLH3-19 and WLAC3-1.

### Technical data

Power Supply	230V AC +10/-15%, 50 Hz
Max load pumps, Boiler & Thermal actuators	10A
Boiler & Main pump (X-output) relay	Volt free signal. Max 4A (Boiler 10A)
Secondary pump	230V AC, 50Hz Max. 10A
<b>Output for thermal actuators:</b>	
WLM3-1xxxxx (Max. 2A per output. Max. 5A in total)	6/8 x 230V
WLM3-3xxxxx.... (Max. 10VA per output. Max. 35VA in total)	6/8 x 24V
Timer input for night setback	Open for NSB / Closed for day operation
Communication bus to Room sensors and Controllers	5VDC 2-wire
Communication bus on RJ14 connection	24Vdc - standard RS485 (Cables: CAT5, max 300 meters between masters and 600 meters in total)
Supply water sensor type	NTC ETF-522 for water temp.

### Only on WLM3-xFS types:

Control signal for mixing valve actuator	0-10V DC
Power supply for mixing valve actuator	24V AC. Max 6VA
BMS and smart access protocol	Standard RTU Modbus®