

OJ Waterline™
WLM2

Intelligent Control
Maximum comfort with
low energy consumption

Save up to 55% CO₂

HYDRONIC UNDERFLOOR HEATING & COOLING

OJ Waterline™

Master System

Intelligent Temperature Control

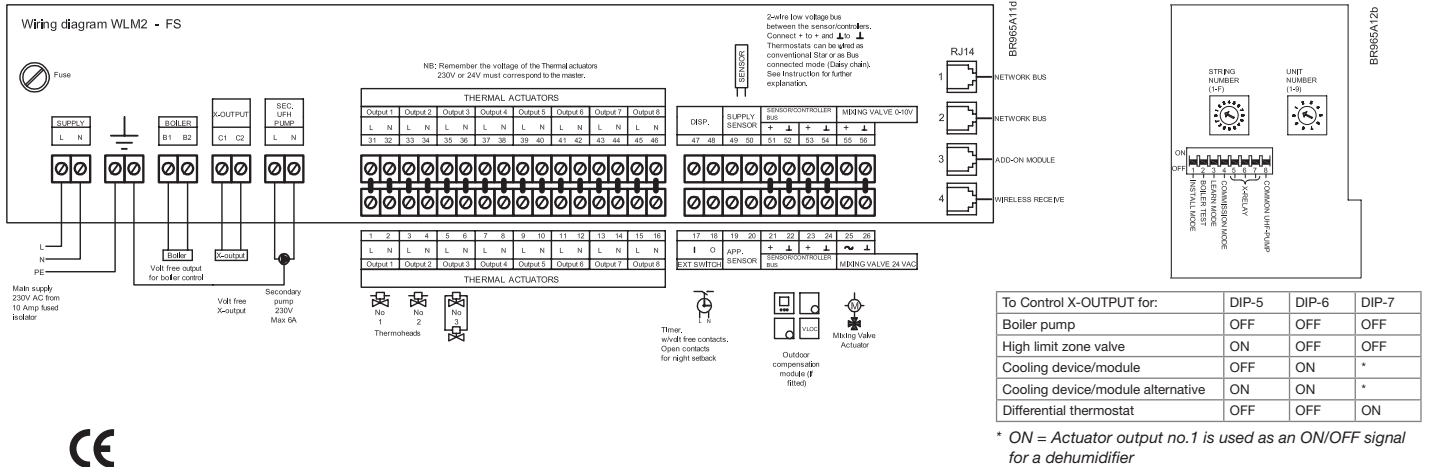
The OJ Waterline™ ensures the best possible comfort and reduces energy consumption.

The WLM2 has been developed as a temperature control system for room heating and cooling, integrating the switching of primary heating and cooling sources with the precise control of water temperature and mixing devices.

The WLM2 has a number of built-in software features which makes it suitable for both domestic and large commercial installations. Used on its own or as part of a larger network the WLM2 offers flexibility, ease of installation and cost saving benefits for every part of the installation and user process.

WLM2 features

- Heating & cooling control.
- PI controlled room temperatures for true comfort.
- 8 outputs on Master module, 6 outputs on Add-on module.
- Low voltage connection to all room controllers/sensors.
- A range of elegant controllers/sensors available.
- Sensors can be wired in a combination of 'Star' and/or 'Daisy chain' to suit the installation.
- Optional Dew point calculation on cooling systems to prevent condensation on floors.
- Energy saving comfort with adaptive function (early start) - ensuring comfort at the "right" time.
- Flexible installation combining hardwired and wireless connection.
- Network communication for large applications - Support for more than 1800 zones.
- Modbus® communication interface for Building Management Systems (BMS).
- Easy installation of interconnections.
- Relay outputs for boiler and two pumps.
- Optional weather compensation (output for mixing valve)



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

In addition to controlling heating, all WLM2 Masters 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. If cooling is being limited due to high humidity a dehumidifier can be enabled by the Master.

Room temperature control

To ensure optimum room temperatures, 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.

Product

OJ WATERLINE™ MASTERS	PRODUCT INFORMATION
WLM2-xBA	8 outputs, pump & boiler control.
WLM2-xFS	8 actuator outputs, display, 0-10Vdc mixing valve control output and optional weather compensation.
WLM2-xFS/B	As WLM2-xFS but with additional BMS interface based on the standard RTU Modbus® protocol.
WLM2-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™ UNITS	PRODUCT INFORMATION
WLTP-x9	Non adjustable room sensor
WLTA-x9	Room sensor with +/- 4°C adjust button,
WLTM-x9	Room sensor with +/- 4°C adjust button, function selector and external sensor input
WLTD-x9	Room sensor with +/- 4°C adjust button, function selector and floor limit sensor
WLCT2-x9	Room Controller with built-in 4-event timer and area control

WLCT2-x9/HW	Special versions of the Room Controller to control Hot Water cylinders, Radiator zones or two stages heating
WLCT2-x9/R	
WLCT2-x9/2	
WLRC2-19	Receiver for wireless room sensors/controllers
WLH-19	Humidity sensor for calculation of DEW point.
WLAC-1	Manual Heating / Cooling changeover switch.
WLM-NET	Connection kit for WLM2 Networks.
WLOC-19	Digital outdoor sensor for weather compensation
ETF-1899A	Spare supply sensor
WLM-DINRAIL	DIN RAIL kit for WLM2 Masters
WLM2-BA-COOL	"What you need" Cooling kit for WLM2-xBA Masters. Contains a WLH-19, WLAC-1 and ETF-1899A.
WLM2-FS-COOL	"What you need" Cooling kit for WLM2-xFS Masters. Contains a WLH-19 and WLAC-1.

"x" represents the type: 1 = Hard wired, 3 = Wireless (includes batteries)

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
Secondary pump	230V AC, 50Hz Max. 4A
Output for thermal actuators:	
WLM2-1xxxxx (Max. 2A per output. Max. 5A in total)	6/8 x 230V
WLM2-3xxxxx...(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 (max 100 meters between units and 300 meters in total)
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-1899A for water temp.

Only on WLM2-xFS and WLM2-xFS/B types:

Control signal for mixing valve actuator	0-10V DC
Power supply for mixing valve actuator	24V AC. Max 6VA

Only on WLM2-xFS/B types:

BMS protocol	Standard RTU Modbus®
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