TECHNICAL SPECIFICATION

Sensor Box Features

- Connection for Control Sensor
- Connect to multiple sensor boxes in a network (Modbus)
- Connection for motion (safety) PIR
- Connection for ventilation circuit
- Maximum number of sensor boxes in a single network = 31

Standards and Approvals

The Rada Sense upgrade kit complies with all relevant directives for CE marking.

Usage

Suitable for indoor use only.

Materials

Sensor Box: PC/ABS.

Configuration Tool

The programmer software available is designed to run on Microsoft Windows 7, XP and Vista operating systems.

Sense Network Control Panel

Protection Rating	IP47
Ambient Temperature	Greater than 1 °C, max. 40 °C
Maximum Relative Humidity	95% non-condensing
Supply Voltage	9 V DC
Maximum Load	5 W
Cable Length	3.5 m supplied

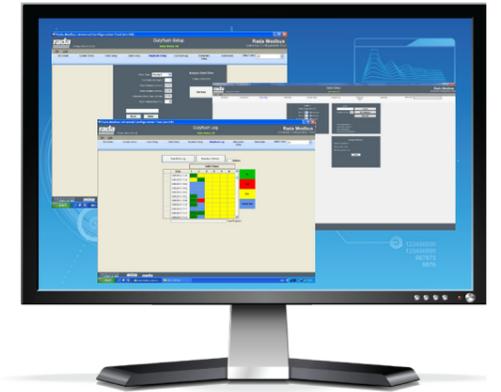### Network Sensor Box

Protection Rating	IP20
Ambient Temperature	Greater than 1 °C, max. 40 °C
Maximum Relative Humidity	95% non-condensing
Supply Voltage	12 V DC from the Mixer Valve
Maximum Load	20 W
Cable Length	1.5 m to the Mixer Valve

Default Settings & Programmable Ranges

Parameter	Default Setting	Programmable Range
Outlet Water Temperature	Shower = 38 °C Washbasin = 38 °C Bath / Shower Mixer: Bath = 40 °C Shower = 38 °C	30 - 50 °C (full cold also available)
Flow Time to Auto Shut-Off	Shower = 30 seconds Washbasin = 15 seconds Bath / Shower Mixer: Bath = 300 seconds Shower = 30 seconds	min. 5 seconds max. 60 minutes
Duty Flush Cycle	DISABLED (Duty Flush Type = None) Use Rada Universal Configuration Tool to enable and alter settings	
Duty Flush Type	None	None / Standard / Smart
Duty Flush Interval	3 days	1 - 983 hours
Duty Flush Warmup	1 minute	1 - 59 minutes
Duty Flush Duration	2 minutes	1 - 59 minutes
Scheduled Flush Time	02:00 am	24 hour clock
Duty Flush Temperature	36 °C	30 - 45 °C
Thermal Disinfection	Use Rada Universal Configuration Tool to enable and alter settings	
Thermal Disinfection Type	Standard	Standard / Exponential / Standard cold supply / Exponential cold supply
Max. Warmup Time	2 minutes	1 - 59 minutes
Target Disinfection Time	5 minutes	1 - 59 minutes
Disinfection Timeout	10 minutes	1 - 59 minutes
Target Temperature	60 °C	60 - 80 °C

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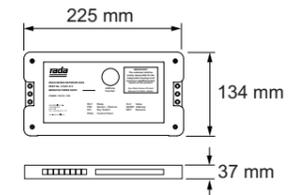

RADA INFORMATION RECORDING & MONITORING

- Rada Information Recording & Monitoring Upgrade Packs are available for Rada Sense Washbasin, Shower, Bath Shower Mixer and Dual Shower
- Saves time and saves resources
- Remotely program temperature, flow times and duty flush settings
- Datalog and extract usage, duty flush and thermal disinfection data for Legislative compliance
- Program valves and access data through an intuitive Windows based Configuration Tool
- USB connection to laptop/PC. Modbus protocol connection to Building Management Systems
- Holds data detailing last 12 months duty flush history and the latest supervised thermal disinfection data
- Connectivity for auxiliary functions such as PIR (Passive Infra Red) Occupancy Sensors, Extractor Fans and System Key Switches
- Link up to 31 Rada Sense units together
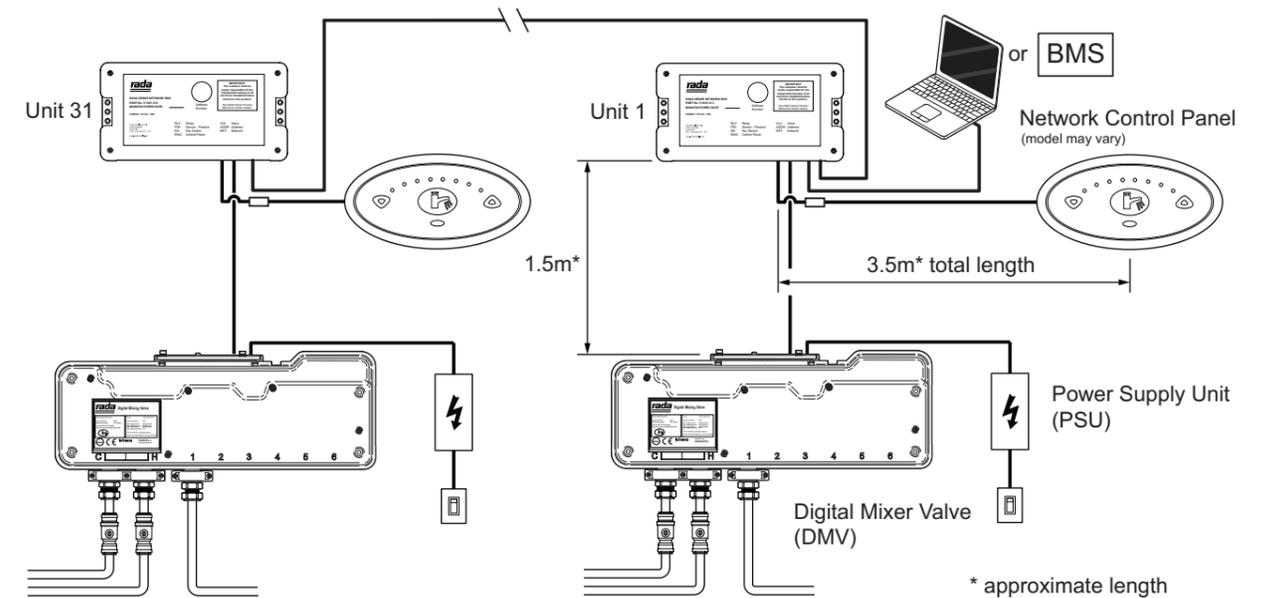- Upgrade pack choice dependent on Sense valve manufacture date & application

Universal Configuration Tool
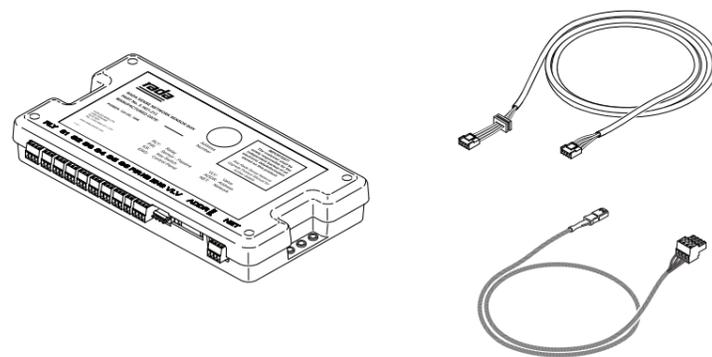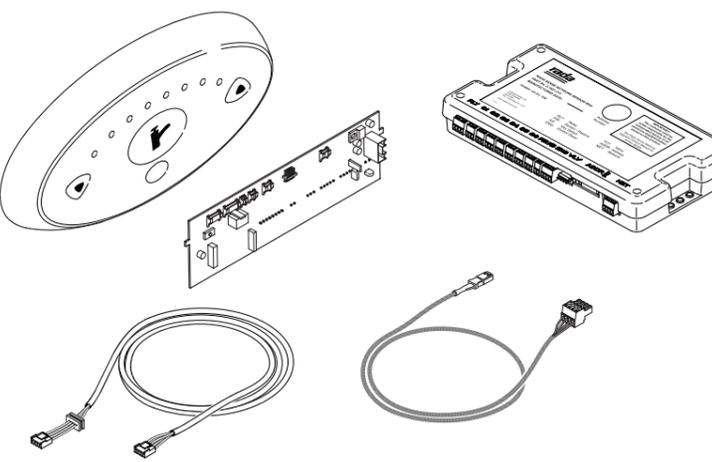
Sensor Box

225 mm
134 mm
37 mm

Wire Length Schematic

Unit 31

Unit 1

or BMS

Network Control Panel
(model may vary)

1.5m*

3.5m* total length

Power Supply Unit (PSU)

Digital Mixer Valve (DMV)

* approximate length

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UPGRADE PACK SELECTION

- Each installed Rada Sense valve requires one Upgrade Pack.
  Only one Universal Configuration Tool is required per site.
- Upgrade Pack choice is dependent on:
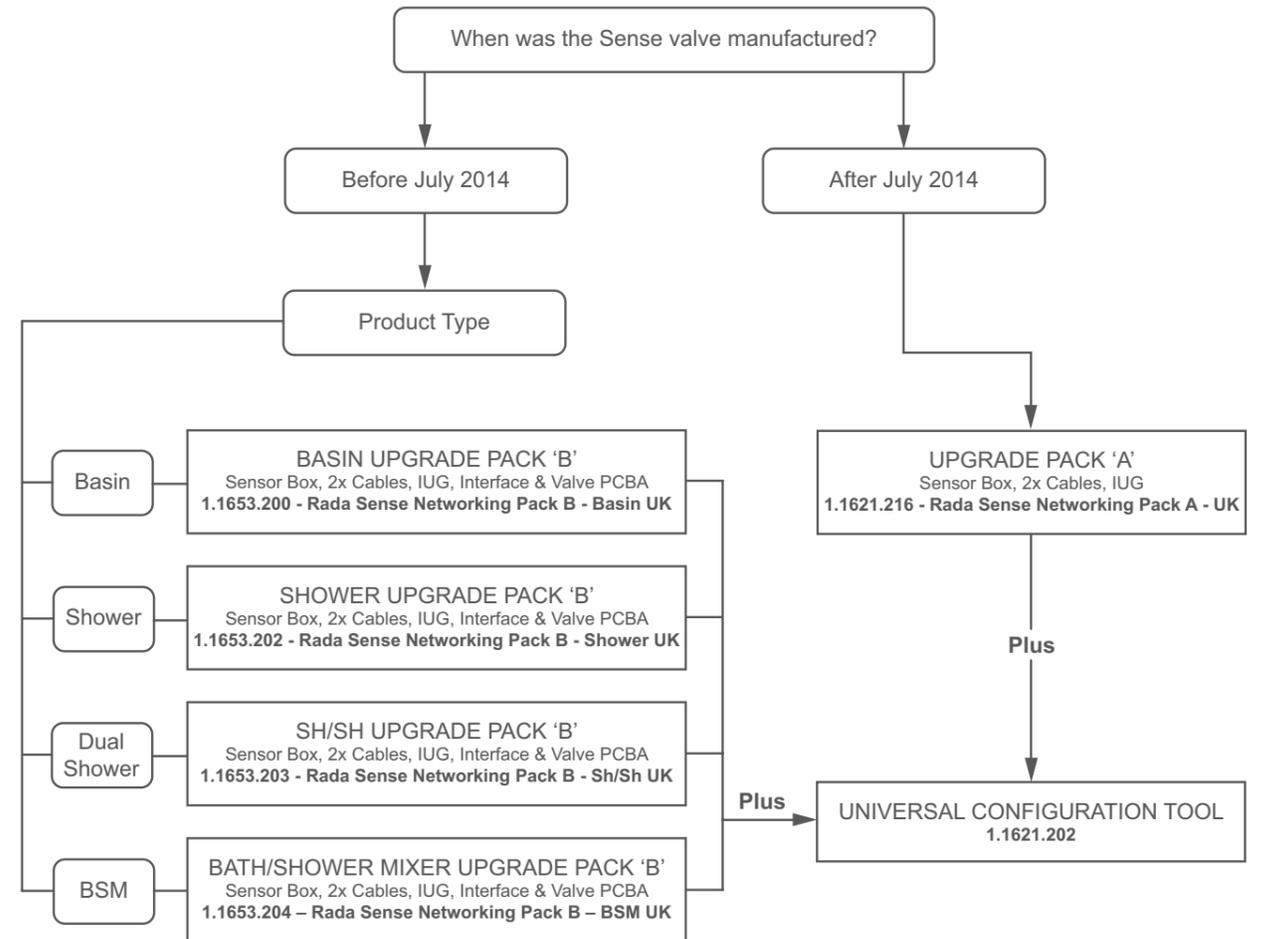 - Rada Sense manufacture date
  - Rada Sense product type

UPGRADE PACK A

Rada Sense products **manufactured after July 2014** are 'network-ready'.

Pack contents:

- Sensor box
- 2 sets of cables (valve-to-box, interface-to-box)
- Installation manual (IUG)

UPGRADE PACK B

Rada Sense products **manufactured before July 2014** are not network-ready. Pack B is available in four options, Basin, Shower, Dual Shower and BSM.

Pack contents:

- Sensor box
- Replacement Interface and Valve PCBA
- 2 sets of cables (valve-to-box, interface-to-box)
- Installation manual (IUG)

UNIVERSAL CONFIGURATION TOOL

Pack contents:

- Rada RS485 - USB cable
- Rada Modbus Universal Configuration Tool

See flow chart opposite to help specify the right product for your installation.

UPGRADE PACK SELECTION

When was the Sense valve manufactured?

Before July 2014 → Product Type

After July 2014 →

Basin — BASIN UPGRADE PACK 'B' — Sensor Box, 2x Cables, IUG, Interface & Valve PCBA — **1.1653.200 - Rada Sense Networking Pack B - Basin UK**

Shower — SHOWER UPGRADE PACK 'B' — Sensor Box, 2x Cables, IUG, Interface & Valve PCBA — **1.1653.202 - Rada Sense Networking Pack B - Shower UK**

Dual Shower — SH/SH UPGRADE PACK 'B' — Sensor Box, 2x Cables, IUG, Interface & Valve PCBA — **1.1653.203 - Rada Sense Networking Pack B - Sh/Sh UK**

BSM — BATH/SHOWER MIXER UPGRADE PACK 'B' — Sensor Box, 2x Cables, IUG, Interface & Valve PCBA — **1.1653.204 – Rada Sense Networking Pack B – BSM UK**

UPGRADE PACK 'A' — Sensor Box, 2x Cables, IUG — **1.1621.216 - Rada Sense Networking Pack A - UK**

Plus

UNIVERSAL CONFIGURATION TOOL — **1.1621.202**

Specify as:

All Products Upgrade Pack A
Part No. 1.1621.216 - Rada Sense Networking Pack A (UK)

Basin Upgrade Pack B
Part No. 1.1653.200 - Rada Sense Networking Pack B Basin (UK)

Shower Upgrade Pack B
Part No. 1.1653.202 - Rada Sense Networking Pack B Shower (UK)

Dual Shower Upgrade Pack B
Part No. 1.1653.203 - Rada Sense Networking Pack B Sh/Sh (UK)

Bath/Shower Mixer Upgrade Pack B
Part No. 1.1653.204 - Rada Sense Networking Pack B BSM (UK)

For each site:
Universal Configuration Tool
Part No. 1.1621.202 - Universal Configuration Tool