Boiler Management Units (BMUs)   LMS...

LMS… are digital Boiler Management Units (BMUs) for use in gas-fired appliances equipped with premixing burners.

They are used for the startup, control and supervision of premix burners having capacities from <10 kW to 1 MW in intermittent operation with direct ignition of the main flame.

Suitability of the LMS… for the application in question must be checked by the OEM.

- Uniform and consistent operating philosophy with cleartext, including menu-driven operation
- All-polar connections
- Extensive service and diagnostics functions
- Remote supervision

Use

The LMS... provide all supervision and control functions required for burner operation, space heating and DHW heating. They also offer modular system extensions in the form of integrated communication interfaces.
Output modulation is performed with LMS14... via a PWM-controlled fan with pneumatic gas-air ratio control; with LMS15…, via electronic fuel-air ratio control with Sitherm Pro for optimization of combustion.

Documentation

The product range overview below is a brief technical description of the available products/product ranges.

Target group
- OEMs

Functions
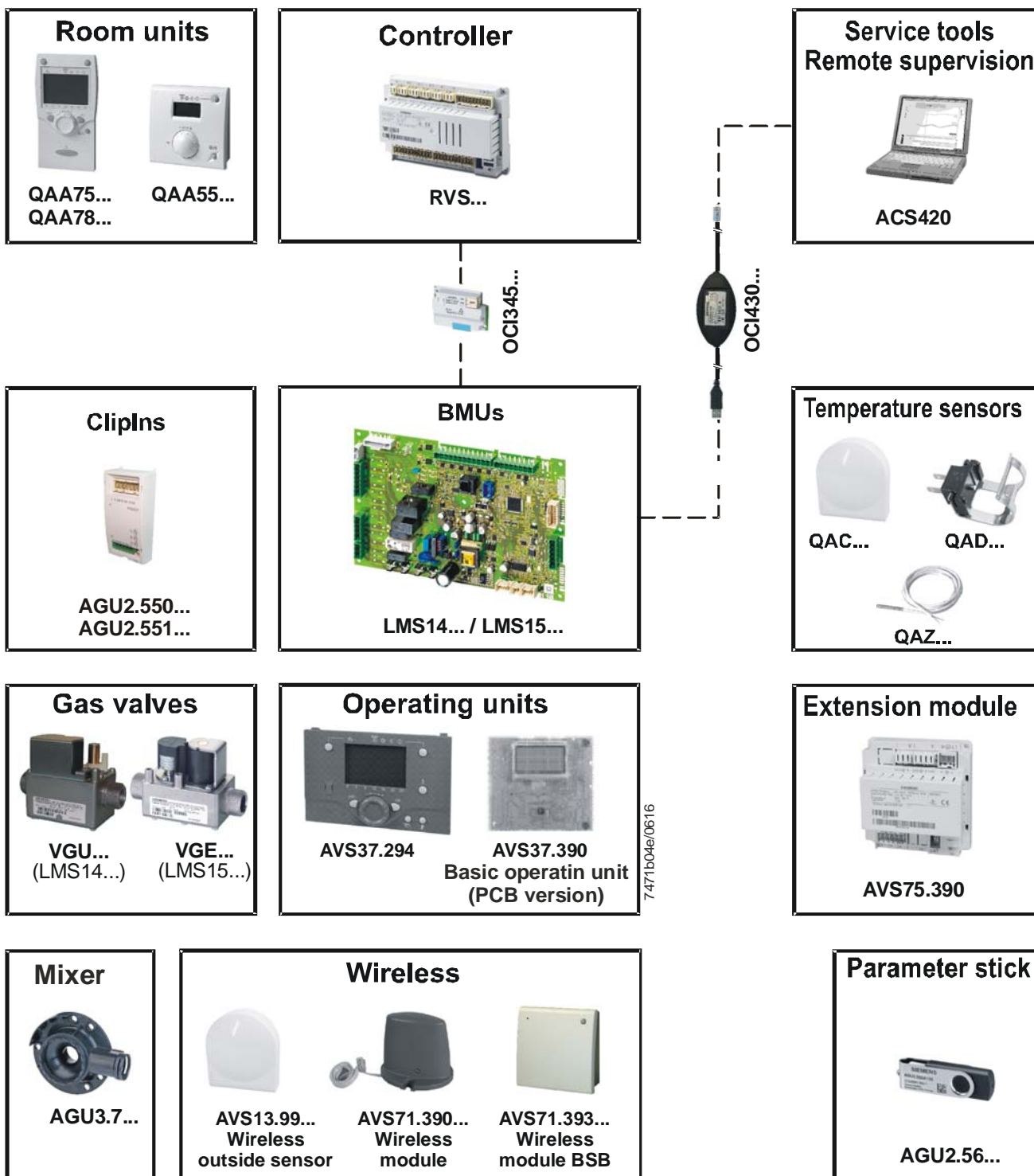
☞ **Note!**
For function description covering the LMS14..., refer to User Manual U7471; for LMS15..., refer to User Manual U7472.

LMS14... / LMS15…

Room units	Controller	Service tools Remote supervision
QAA75... QAA78... QAA55...	RVS...	ACS420

OCI345...

OCI430...

ClipIns	BMUs	Temperature sensors
AGU2.550... AGU2.551...	LMS14... / LMS15...	QAC... QAD... QAZ...

Gas valves	Operating units	Extension module
VGU... (LMS14...) VGE... (LMS15...)	AVS37.294 AVS37.390 Basic operatin unit (PCB version)	AVS75.390

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Mixer	Wireless	Parameter stick
AGU3.7...	AVS13.99... Wireless outside sensor / AVS71.390... Wireless module / AVS71.393... Wireless module BSB	AGU2.56...

Presentation of products

BMUs

The basic unit is the actual burner control and heating controller with input/output terminals for external plant components. It has no operating elements. Operation takes place via detached ancillary units featuring wired or wireless communication.

LMS14…
PCB version, without combustion optimization

LMS15…
PCB version, with combustion optimization

ClipIn

AGU2.550A109
Extension ClipIn for LMS...
Used to extend the functions of LMS…. boiler management units.

AGU2.551A109
Extension ClipIn for PWM (DC 0...10 V)
The PWM module is used in connection with the LMS… or other controls with PWM output and serves as an interface to convert PWM signals to DC 0...10 V signals.

Parameter sticks

The parameter settings of units installed in the field can be changed with the help of parameter sticks. Using the stick, the heating engineer can create a spare LMS... and set basic parameters. This means that he can use an LMS... with factory-set parameters and replace them by any parameters defined by the OEM.

AGU2.560A109
Parameter stick for LMS..., readable

AGU2.561A109
Parameter stick for LMS..., writable

AGU2.563A109
Parameter stick for direct programming of LMS...

AGU2.564A109
Parameter stick for programming the LMS... as a spare part

Wireless outside sensor

AVS13.399...
The outside sensor is part of a kit consisting of sensor and RF module. It is used as an extension to the RF module and permits wireless outside temperature measurements.

Operating units

AVS37.294... (Cleartext)
The operating units are for integration into the boiler and are wired to the basic unit. They display the functions and settings of the basic unit, thus ensuring ergonomic and straightforward operation.
The operating units are also available as housing versions with cutout dimensions 96 x 144 mm.
Optional accessories:
Connecting cable AVS82.491 (1 m) to basic unit
Cover AVS92.290 for touch protection at the rear

AVS37.390... (Basic)
The operating units are for integration into the boiler and are wired to the basic unit. They display the functions and settings of the basic unit, thus ensuring ergonomic and straightforward operation.
The operating units are also available as PCB versions.
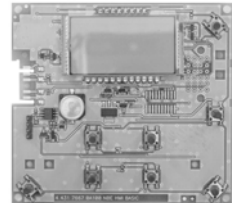
Wireless module

AVS71.390...
The RF module with transmitter, receiver and antenna makes possible the wireless connection from the basic unit to the room unit and the outside sensor. Connection to the basic unit is via ribbon cable.

Wireless module BSB

AVS71.393
The RF BSB module extends the range with the option of wireless communication. The RF BSB module allows the intended devices, such as a room unit, for example, to transmit data wirelessly, with the result that no wired installation is required.

Extension module

AVS75.390...
Using the extension module, the basic unit can be extended by other functions.
The available functions depend on the type of basic unit. For details, refer to the respective User Manual.
Connection via ribbon cable, other connection terminals are integrated.

Presentation of products (cont'd)

Connecting cables	**AVS82.490...** - Connecting cable to LMS... - Cable length 0.4 m - RAST5 connector (AGP...) - Optional

Room unit

QAA55.110…
The room unit offers basic applications together with room temperature acquisition.

Room units (Cleartext)

The room units offer cleartext operation together with room temperature acquisition.
They can be fitted in the room or on the boiler and display the functions and settings of the basic unit, thus ensuring ergonomic and straightforward operation.
Available in 2 versions: Wireless (QAA78...) or wired (QAA75...).

Optional accessories:
Service cable AVS82.495

QAA75.610... without backlit display

QAA75.611... with backlit display

QAA78.610... (wireless)

Sensors for use with LMS…

QAC34/101
Outside sensor NTC 1k
Passive sensor for acquiring the outside temperature and – to a small extent – solar radiation, the influence of wind and the temperature of the wall.

QAD36/101
Surface-mounted temperature sensor NTC 10k.
For installation on pipes, for acquiring the medium temperature.

QAK36…
Screwed immersion temperature sensor NTC 10 kΩ
For acquiring the medium temperature in boilers, DHW storage tanks and heat exchangers through direct immersion.

QAL36.225
Universal temperature sensor NTC 10 kΩ
For indirect acquisition of the medium temperature in boilers and heat exchangers through immersion in the respective hole / protection pocket, or by fitting on pipes with the help of a clamping band.

QAR36...
Surface-mounted temperature sensors NTC 10 kΩ
- For acquiring the medium temperature in pipes
- ClipOn version for fitting to pipes
- Flat-mounted version for screwing to flat services

QAZ36.522/109
Cable temperature sensor NTC 10k, cable length 2 m.
For acquiring the medium temperature in boilers, DHW storage tanks, heat exchangers and solar plants. For installation with protection pockets.

QAZ36.526/109
Cable temperature sensor NTC 10k, cable length 6 m.
For acquiring the medium temperature in boilers, DHW storage tanks, heat exchangers and solar plants. For installation with protection pockets.

PC tools

ACS420
PC software for OCI430A109.

ACS432
Parameter stick manager

ACS435
Setup manager
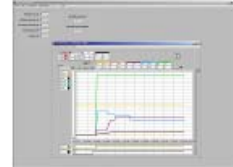PC software for setting LMS14.../LMS15… parameters and data

ACS434
Setup assistant
PC software for converting of LMS14... / LMS15... parameters and data

ACS790
Software for remote supervision/parameter settings.

☞
Note!
Can only be used in connection with interface module OCI700.1.
Connection can be established via AVS37.294..., AVS37.390..., AVS75.390... or OCI345

LPB module

OCI345.06/101
LBP module for communication in LPB systems

Interface module to the PC

OCI430A109
The OCI430A109 is an interface module featuring galvanic isolation, enabling the LMS… basic units to be connected to a PC.

On the PC side, the OCI430A109 is to be connected to the USB port, on the basic unit side to the PSS port.

When used in connection with the ACS420 PC software, the following functions are provided:
- Visualization of unit data
- Parameterization of the basic units
- Logging

Service tool

OCI700.1
Service tool incl. PC tool ACS790, for startup and diagnostics of basic units LMS...

Presentation of products (cont'd)

Gas valves

The combination gas valves have been developed for use in gas-fired domestic central heating boilers and water heating appliances with automatic ignition systems. The controls are also suited for use on a wide variety of gas-fired appliances such as catering equipment, warm air furnaces and back boilers.

VGU7xS…
- Gas-air ratio 1:1
- 2 shutoff valves
- Servo pressure regulator
- Inlet/outlet pressure test points
- All adjustments accessible from the top of the valve
- Fine-mesh screen integrated on the inlet side
- Setting parallel shift

VGU8xS…
- Gas-air ratio 1:1 with main flow throttle
- 2 shutoff valves
- Servo pressure regulator
- Inlet/outlet pressure test points
- All adjustments accessible from the top of the valve
- Fine-mesh screen integrated on the inlet side
- Setting parallel shift
- Test point for gas pressure on the ratio regulator
- Adjustment of gas volume

VGE5…
- 2 autonomous shutoff valves
- First magnetic shutoff valve of conventional design
- Combination of linear actuator control section and second shutoff valve
- Choice of valve versions and control characteristics for different applications
- Output limitation or change of gas type via control electronics
- Inlet/outlet pressure test points accessible from the top of the valve
- No mechanical settings
- Fine-mesh screen integrated on the inlet side

Presentation of products (cont'd)

Gas-air mixer

Gas-air mixing unit for compact gas control loops in connection with combination gas valves VGU…
Suited for gas-fired appliances of low capacity (wall-hung and floor-standing models) with modulating premix burners.

AGU3.6...

AGU3.7...

Electronic ignition equipment

TQG42...
Consisting of cable for connection to the safety shutoff valves of the VGUxxS… gas valves and electronic ignition equipment for use on gas boilers with single- or double-pole ignition.

Available documentation

LMS14...	LMS15...	Product no. (ASN)	Description	Documentation no.
●		LMS14...	Boiler Management Unit	CC1E7471 CC1N7471 CC1U7471
	●	LMS15...	Boiler Management Unit with Sitherm Pro ➜ For LMS15..., also use the LMS14… User Manual U7471!	CC1E7471 CC1N7471 CC1U7472
●	●	Product range	Product range overview Albatros²	CE1Q2359
●	●	Sub-schematics	Albatros² Hydraulic sub-schematics and extra functions	CE1U2359
●	●	AGU2.550...	Extension ClipIn for LMS...	CC1N7492
●	●	AGU2.551...	Extension ClipIn for PWM (DC 0...10 V)	CC1N7493
●	●	AGU2.560...	Parameter stick for LMS..., can be read out	CC1U7471
●	●	AGU2.561...	Parameter stick for LMS..., writable	CC1U7471
●	●	AGU2.563...	Parameter stick for direct programming of the LMS...	CC1U7471
●	●	AGU2.564...	Parameter stick for spare part programming of the LMS...	CC1U7471
●	●	AGU3.6...	Gas-air mixer	CC1N7211
●	●	AGU3.7...	Gas-air mixer	CC1N7214
●	●	AVS13.399...	Wireless outside sensor	CE1U2354
●	●	AVS37.294...	Operating unit (Cleartext)	CE1U2353
●	●	AVS37.390...	Operating unit (Basic)	CE1U2358
●	●	AVS71.390...	RF module	CE1U2354
●	●	AVS71.393...	RF module BSB	CE1U2358
●	●	AVS75.390...	Extension module	CE1U2353
●	●	AVS75.391...	Extension module	CE1U2354
●	●	AVS82.490...	Connecting cable for LMS...	---
●	●	QAA55.110...	Room unit (Basic)	CE1U2353
●	●	QAA75.610...	Room unit (Wired)	CE1U2353
●	●	QAA75.611...	Room unit (Wired), with backlit display	CE1U2353
●	●	QAA78.610...	Room unit (Wireless)	CE1U2353
●	●	QAC34/101	Outside sensor NTC 1k	CC1Q1701
●	●	QAK36...	Screwed immersion temperature sensor	CE1Q1845

LMS14...	LMS15...	Product no. (ASN)	Description	Documentation no.
●	●	QAL36.225	Universal temperature sensor	CE1Q1842
●	●	QAR36...	Surface-mounted temperature sensors	CE1Q1806
●	●	QAD36/101	Contact temperature sensor NTC 10k	CC1Q1808
●	●	QAZ36.522/109	Immersion temperature sensor NTC 10k	CC1Q1843
●	●	QAZ36.526/109	Immersion temperature sensor NTC 10k	CC1Q1843
●	●	OCI345.06/101	LPB ClipIn	CC1U2355xx_03
●	●	OCI430A109	Interface module for PC-LMS... connection	CC1N7635
●	●	OCI700	Service tool	CC1E5655
●		TQG42...	Ignition module, complete with connecting cable for LMS14..., suitable for VGUSmart gas valves	CC1N7630
	●	VGE5...	Combination gas valves	CC1N7669
●		VGU7xS...	Combination gas valves	CC1N7668
●		VGU8xS...	Combination gas valves	CC1N7668
●	●	ACS420	Software for OCI430...	
●	●	ACS432	Parameter stick manager	CC1J7474
●	●	ACS434	Setup assistant	CC1J7475
●	●	ACS435	Setup manager	CC1J7471
●	●	ACS790	Remote supervision software/parameterization software for OCI700.1	---

Building Technologies Division

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