



Range Overview

LMV2...
LMV3...

The LMV2... / LMV3... provides all supervisory functions required for forced draft burners of medium to high capacity operating on a single fuel and – using integrated communication interfaces – affords convenient diagnostics, parameter settings and incorporation on the automation system level.

Integrated in the LMV2... / LMV3... basic unit are:

- The burner control, including gas valve proving
- Electronic fuel / air ratio control with a maximum of 2 actuators
- Optional variable speed drive (VSD) control

Documentation

The present documentation gives an **overview** of the product range.

Target groups

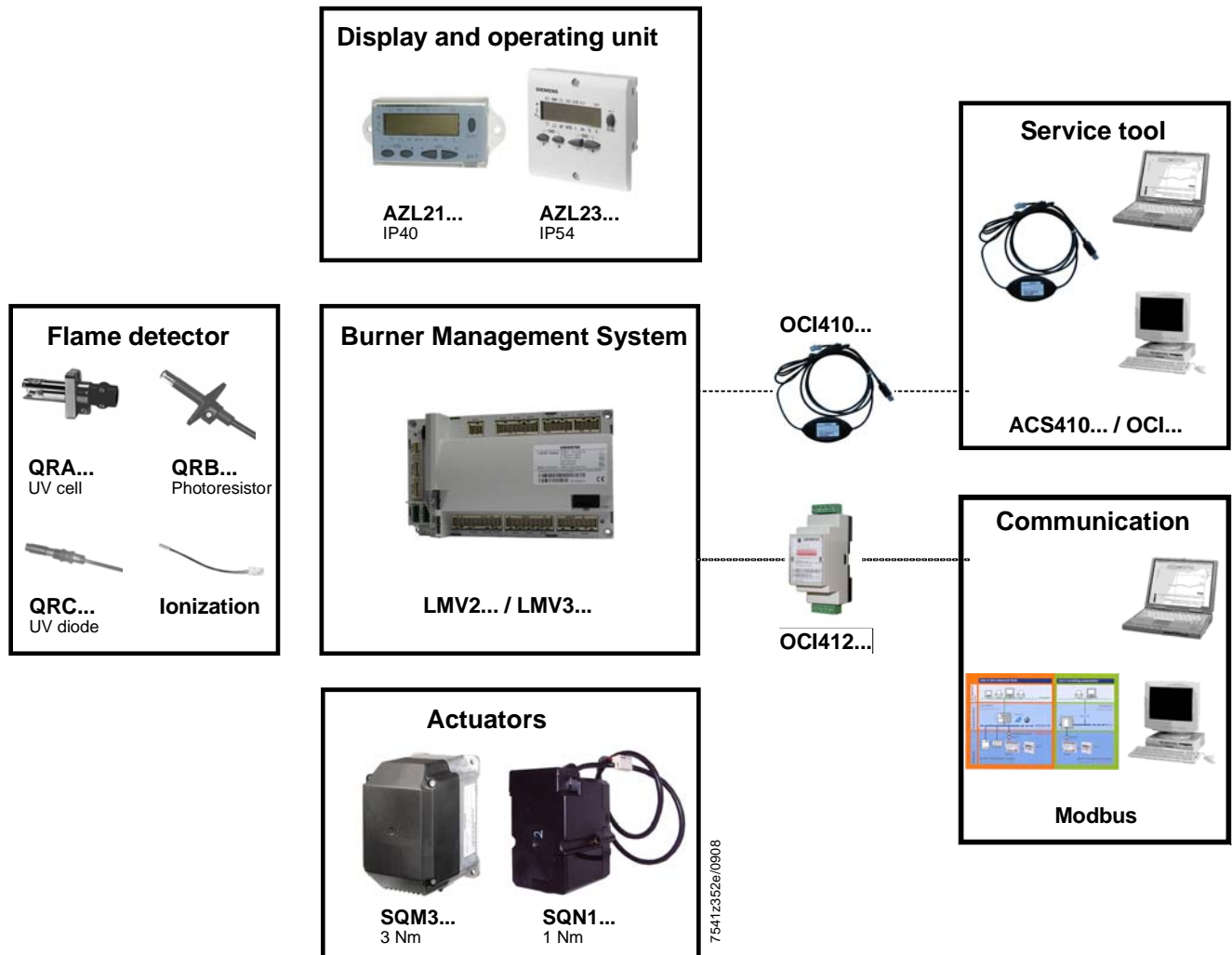
- Sales engineers
- Internal staff
- Burner experts

Functions

	LMV27.100A2	LMV37.400A1	LMV37.400A2	LMV37.420A1 (USA)
Basic applications, single-fuel operation				
Light oil direct ignition, 1-stage electronic ratio control	x	x	x	x
Light oil direct ignition, 2-stage electronic ratio control	x	x	x	x
Light oil direct ignition, 3-stage electronic ratio control	x	x	x	x
Light oil direct ignition, electronic modulating ratio control	x	x	x	x
Gas direct ignition, electronic modulating ratio control	x	x	x	x
Gas pilot ignition, electronic modulating ratio control	x	x	x	x
Gas direct ignition, pneumatic modulating ratio control	x	x	x	x
Gas pilot ignition, pneumatic modulating ratio control	x	x	x	x
Electronic ratio control				
Stepper motor for air damper	x	x	x	x
Stepper motor for fuel damper	x	x	x	x
VSD control speed feedback		x	x	x
Optional automatic speed standardization with VSDs		x	x	x
Separate curve adjustment for air and fuel	x	x	x	x
Separate curve adjustment for VSD		x	x	x
10 curve points per controlling element	x	x	x	x
Linear interpolation between curve points	x	x	x	x
Monitoring the actuator positions	x	x	x	x
Forced travel of actuators	x	x	x	x
Detection of open-circuits of actuators	x	x	x	x
Flame detectors for intermittent operation				
Ionization probe	x	x	x	x
UV detector QRA2..., QRA10...	x	x	x	x
Blue-flame detector QRC...	x	x	x	x
Photo resistive flame detector QRB...	x	x	x	x
Flame detectors for continuous operation				
Ionization probe		x	x	x
Valve proving in connection with gas pressure switch				
Selectable: Before, after or before and after startup	x	x	x	x
Valve proving can be switched on / off	x	x	x	x
External integration of load controller				
Input heat request	x	x	x	x
Input multistage, shifting multistage, or modulating (3-position signal)	x	x	x	x
4...20 mA signal input for preset burner output		x	x	x
Preset burner output via Modbus from building automation	x	x	x	x
Binary inputs / signal loops				
Burner flange	x	x	x	x
Safety loop	x	x	x	x
Air pressure switch	x	x	x	x
Pressure switch valve proving	x	x	x	x
Pressure switch-min-gas / -min-oil	x	x	x	x
Pressure switch-max-gas / -max-oil or POC contact	x	x	x	x
Reset / manual lockout	x	x	x	x
Heat request (priority over all heat sources)	x	x	x	x
Stage 2, OPEN with 3-position controller	x	x	x	x
Stage 3, CLOSED with 3-position controller	x	x	x	x

Functions (cont'd)

	LMV27.100A2	LMV37.400A1	LMV37.400A2	LMV37.420A1 (USA)
Binary outputs				
Fuel valve V1	x	x	x	x
Fuel valve V2	x	x	x	x
Fuel valve V3	x	x	x	x
Extra valve (safety valve SV)	x	x	x	x
Ignition	x	x	x	x
Fan	x	x	x	x
Continuous fan operation	x	x	x	x
Alarm	x	x	x	x
Indication of operation	x	x	x	x
Analog inputs				
Preset burner output 4...20 mA		x	x	x
Analog outputs				
Current burner output DC 0...10 V	x	x	x	x
VSD control DC 0...10 V (alternative to indication of output)		x	x	x
Meters and counters / statistics functions				
Fuel meter (only as an alternative to VSD control)	x	x	x	x
Repetition counter	x	x	x	x
Operating hour meter	x	x	x	x
Error history	x	x	x	x
Cancellation of error history	x	x	x	x
Special functions				
Functions and times can be parameterized via AZL2... or PC tool	x	x	x	x
Alarm in case of start prevention	x	x	x	x
Gas shortage program	x	x	x	x
Program stop function	x	x	x	x
Forced intermittent operation	x	x	x	x
Low-load shutdown	x	x	x	x
Continuous fan	x	x	x	x
Communication interfaces				
BCI interface for AZL2... display or OCI410... interface	x	x	x	x
Via OCI412.10 interface to RS485 Modbus	x	x	x	x
Display				
7-segment display and operating unit AZL21...	x	x	x	x
7-segment display and operating unit AZL23...	x	x	x	x
Brightness of display can be parameterized	x	x	x	x



Presentation of products

Burner management system

LMV2... / LMV3...

The basic unit is the actual burner control featuring all-polar input / output terminals. No operating elements. Operation via detached ancillary units for wire-bound communication



Service tools

OCI410... interface between burner management system and PC

Facilitates viewing, handling and recording setting parameters on site with the help of the ACS410 software package



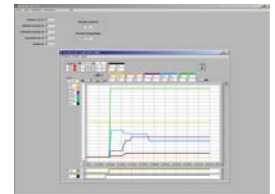
OCI412.10 Modbus interface

Device serving as an interface between the LMV2... / LMV3... and a Modbus system, such as a building automation and control system (BACS). The Modbus interface is based on the RS-485 standard



ACS410

PC software for parameterization and visualization to the burner management system



Display and operating units

AZL21.00A9

Detached display and operating unit, choice of mounting methods, 8-digit LCD, 5 buttons, BCI interface for LMV2... / LMV3... system, degree of protection IP40



AZL23.00A9

Detached display and operating unit, choice of mounting methods, 8-digit LCD, 5 buttons, BCI interface for LMV2... / LMV3... system, degree of protection IP54



Flame detectors

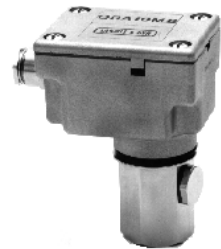
QRA2...

Flame detector for use with Siemens burner controls, for the supervision of gas flames and yellow- / blue-burning oil flames as well as ignition spark checking.
Plastic housing, metalized to prevent static charging caused by the air flow from the fan. For direct mounting on the burner. The detectors can be supplied with or without securing flange and clamp



QRA10...

Flame detector for use with Siemens burner controls, for the supervision of gas flames and yellow- / blue-burning oil flames as well as ignition spark checking.
Die-cast aluminium housing with a 1 in. mounting coupling and connection facility for cooling air. The housing of this detector has a bayonet fitting which allows it to be secured either directly to the 1 in. mounting coupling or to the AGG06. The 1 in. mounting coupling can be screwed to a viewing tube or to the AGG07. The Pg cable gland can be removed and replaced, if some other detector cable shall be used.



QRA4.U

Flame detector for use with Siemens burner controls, for the supervision of gas flames and yellow- or blue-burning oil flames as well as for ignition spark proving.



QRB...

Photo resistive flame detector for use with Siemens burner controls, for the supervision of oil flames in the visible light spectrum.
Especially suited for use with burner controls for small capacity burners



QRC...

Blue-flame detector for use with Siemens burner controls, for the supervision of blue- or yellow-burning oil or gas flames.
Especially suited for use with burner controls for small capacity burners in intermittent operation

Frontal illumination



Lateral illumination



Actuators

SQM33.4...

Rated torque 1.2 Nm (0.8 Nm holding torque when dead),
running time 5 s, stepper motor, front mounting, D-type drive
shaft



SQM33.5...

Rated torque 3 Nm (2.6 Nm holding torque when dead),
running time 5 s, stepper motor, front mounting, D-type drive
shaft

SQN1...

Rated torque 1 Nm (0.2 Nm holding torque when dead),
running time 5 s, stepper motor, front mounting, D-type drive
shaft



Connector sets

AGG3.110

Set of 50 standard connectors for gas / oil applications

AGG3.111

Standard connector set for gas / oil applications,
single packs

Example: X5-03



AGG3.120

Set of 50 extension connectors (complementing the
AGG3.11..., all connector versions are covered)

AGG3.121

Extension connector set (complementing the AGG3.11..., all
connector versions are covered), single packs

AGG3.131

Complete connector set RAST2.5 / RAST3.5 / RAST5 for
gas / oil applications,
single packs

Example: X5-02



AGG3.132

Complete connector set RAST2.5 / RAST3.5 / RAST 5 for
gas- / oil applications, pack of 10

Accessories

KF8894.1A...

Test case for LMV2... / LMV3... system



KF8894.3A...

Demo case for LMV2... / LMV3... system

With integrated basic unit LMV27.200A2, 2 actuators

SQN1..., display and operation unit AZL23.00A9 and Mod-
bus interface OCI412.10



AGV8894.01

Connecting cables for test case (KF8894.1...), consisting of
connecting cable X1 for mains potential and connecting ca-
ble X2 for low-voltage

→ Both cables in one pack

X1



X2



AGV50.100

Signal cable for AZL2..., with RJ11 connector,
cable length 1 m, pack of 10

AGV50.300

Signal cable for AZL2..., with RJ11 connector,
cable length 3 m, pack of 10



Available documentation

Type reference	Designation	Documentation
ACS410	Software	CC1J7352
AGG3.110	Connector set	C7541 (74 319 0515 0)
AGG3.111	Connector set	C7541 (74 319 0515 0)
AGG3.120	Connector set	C7541 (74 319 0515 0)
AGG3.121	Connector set	C7541 (74 319 0515 0)
AGG3.131	Connector set	C7541 (74 319 0637 0)
AGG3.132	Connector set	C7541 (74 319 0637 0)
AGV50.100	Signal cable	---
AGV50.300	Signal cable	---
AGV8894.01	Connecting cable	CC1B7990
AZL21...	Display and operating units	CC1N7542
AZL23...	Display and operating units	CC1N7542
KF8894.1A...	Test case	CC1B7990
KF8894.3A...	Demo case	CC1U7995
LMV27.100...	Burner management system	CC1P7541
LMV37.4...	Burner management system	CC1P7546
OCI410...	Interface	CC1N7616
OCI412.10	Interface	CC1N7615
QRA2...	Flame detectors	CC1N7712
QRA4.U	Flame detectors	CC1N7711
QRA10...	Flame detectors	CC1N7712
QRB...	Photo resistive flame detectors	CC1N7714
QRC...	Blue-flame detectors	CC1N7716
SQM33.4...	Actuators	CC1N7813
SQM33.5...	Actuators	CC1N7813
SQN1...	Actuators	CC1N7803