LME1... / LME2... / LME4...

LME3...

LME7...

Product Range Overview LME…

LME... are used for the startup and supervision of stage or modulating oil / gas burners in intermittent operation. Flame supervision is ensured with an ionization probe or a QRA... flame detector with / without AGQ3... ancillary unit, in the case of yellow-burning flames, with a QRB... photo resistive flame detector or, in the case of blue-burning flames, with a QRC... blue-flame detector.

- Burner controls conforming to EN 230: 2005 and EN 298: 2003
- For oil and gas forced draft burners conforming to EN 267 and EN 676

Features of the LME...:

- Undervoltage detection
- Air pressure supervision with function check of the air pressure switch during startup and operation
- Electrical remote lockout reset facility
- Multicolor indication of fault status messages and operating states
- Limitation of repetitions
- Accurate sequence times thanks to digital signal handling
- Controlled intermittent operation after 24 hours of continuous operation

Documentation

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

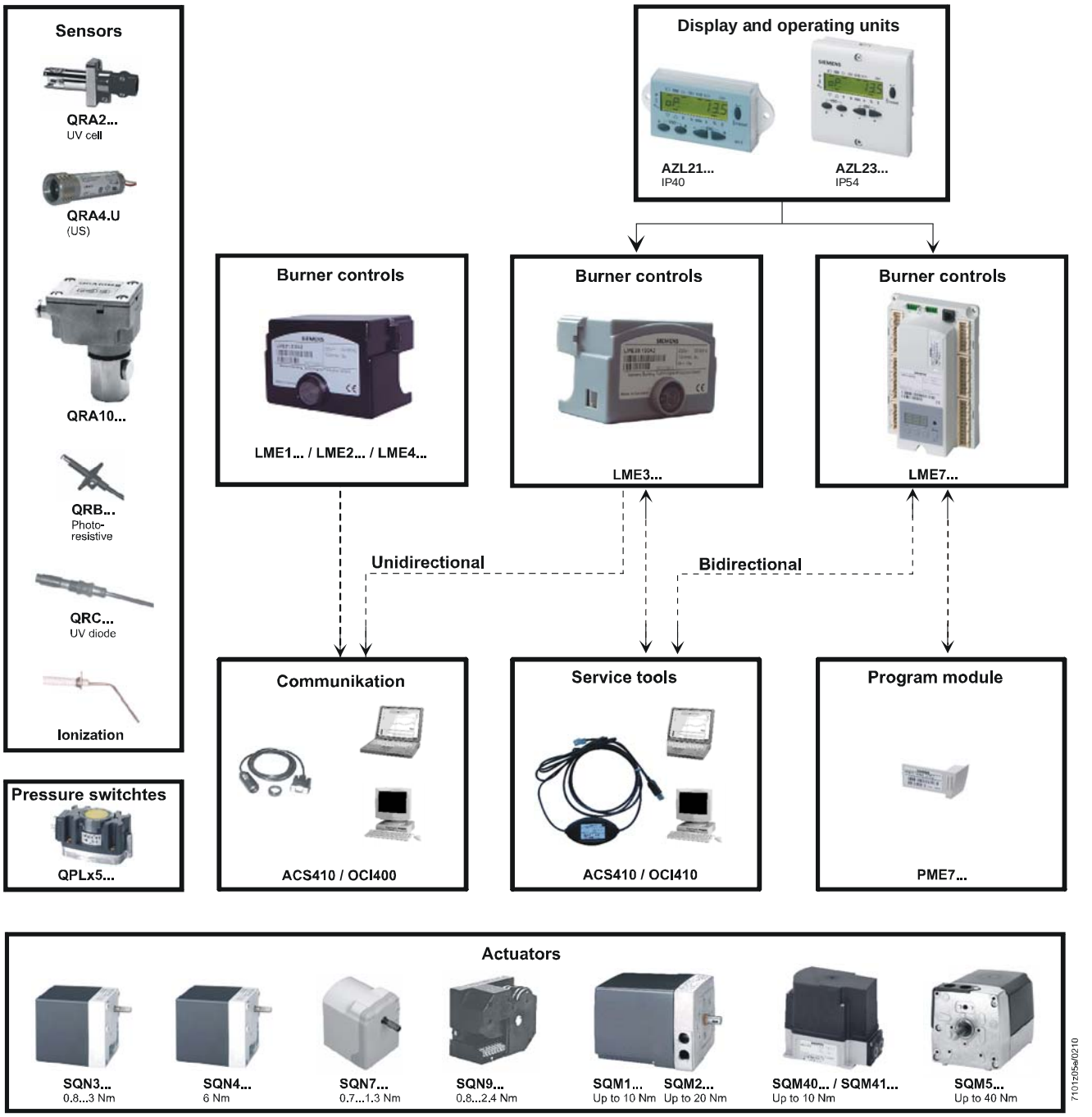
Target groups

- Sales engineers
- Internal staff
- Burner specialists

Functions

	LME11…	LME21…	LME22…	LME23…	LME39.1…	LME39.4…	LME41…	LME44…	LME7…
Basic applications									
Single-stage forced draft burners	●								●
2-stage forced draft burners		●	●	●	●				●
Atmospheric burners, single stage, with / without auxiliary fan						●	●		●
Atmospheric burners, 2 stage, with / without auxiliary fan						●		●	●
Control of ignition valve						●	●	●	●
Air damper control			●	●	●				●
Controlled air damper control									●
Temperature controller in mains supply line	●	●	●	●			●	●	
Temperature controller in control loop					●	●			●
Air pressure supervision with function check of air pressure switch during startup and operation	●	●	●	●	●				●
Status input CPI						●	●	●	●
Modulating burner via PWM fan in the pneumatic ratio control									●
Modulating burner via actuator in the mechanical or pneumatic ratio control									●
General									
Undervoltage detection	●	●	●	●	●	●	●	●	●
Electrical remote lockout reset facility	●	●	●	●	●	●	●	●	●
Multicolor indication of operating state and fault status messages	●	●	●	●	●	●	●	●	●
Accurate sequence times thanks to digital signal handling	●	●	●	●	●	●	●	●	●
Controlled intermittent operation	●	●	●	●	●	●	●	●	●
Limitation of repetitions	●	●	●	●	●	●	●	●	●
Unit parameter adjustable					●	●			●
Optional: Analog input for load controller setpoint setting									●
Optional: 3 x 7 segment display for faults, operating notifications and parameter display									●
Optional: Program sequence in the separate program module									●
Flame detectors for intermittent operation									
Ionization probe	●	●	●		●	●	●	●	●
UV flame detector QRA… with AGQ3… (only for AC 230 V)		●	●		●	●	●	●	
UV flame detector QRA…									●
Photo resistive flame detector QRB...									●
Blue-flame detector QRC…				●					●
Valve proving system LDU11…									
Pressures switch – valve proving		●	●		●				
Communication interfaces									
BCI for AZL2… or OCI410…					●	●			●
OCI400... for optical interface	●	●	●	●	●	●	●	●	
OCI410... BCI / USB interface converter					●	●			●
PC Windows software ACS410 for visualization	●	●	●	●	●	●	●	●	●
PC Windows software ACS410 for parameter settings					●	●			●
Display									
7-segment display and operating unit AZL21…					●	●			●
7-segment display and operating unit AZL23…					●	●			●
3-colored LED, build-in	●	●	●	●	●	●	●	●	●

Product range overview



Burner control

LME1… / LME2... / LME4...
Gas burner controls for supervision of single- or 2-stage forced draft gas burners and atmospheric burners of small to medium capacity, intermittent operation.

LME3...
Parameterized gas burner controls for the supervision of 1- or 2-stage forced draft gas burners and atmospheric burners of small to medium capacity (typically up to 350 kW), in intermittent operation.

LME7...
Parameterized burner controls for the supervision of stage or modulating oil / forced draft gas burners and atmospheric burners of medium to large capacity, in intermittent operation. With controlled air damper control.

Program module

PME7...
Program module for LME7...
With program sequences for oil or gas burners for LME7... basic unit

Connection accessories for small burner controls

AGK11… (not for LME39...)
Plug-in base for connecting small burner controls to the burner plant.

AGK11.6
Plug-in base (Grey) for connecting LME39... to the burner plant.

AGK66…
Cable holder for use with AGK11…plug-in base.

AGK65…
Cable holder for use with AGK11…plug-in base.

Connector sets for LME7...

AGG3.710
Connector set complete for LME7…
RAST5 and RAST3.5
Single packs

Example: X5-03

AGG3.720
10 standard connector sets complete for LME7…
RAST5 and RAST3.5
Single packs
The several connectors are delivered into bags to 10 pieces each as a unit.

AGG9.xxx
The individual connectors are supplied in packaging units of 200 pieces each.

Example**:**

Type	Type of connector	Terminal
AGG9.201	RAST5	X2-09B
AGG9.203	RAST5	X3-02
AGG9.209	RAST5	X10-06
AGG9.301	RAST5	X2-01
AGG9.302	RAST5	X2-03
AGG9.304	RAST5	X4-02
AGG9.306	RAST5	X5-01
AGG9.309	RAST5	X6-03
AGG9.310	RAST5	X7-01
AGG9.311	RAST5	X7-02
AGG9.313	RAST5	X9-04
AGG9.401	RAST5	X2-02
AGG9.403	RAST5	X5-03
AGG9.405	RAST5	X7-04
AGG9.501	RAST5	X3-04
AGG9.504	RAST5	X10-05
AGG9.601	RAST5	X2-09A
AGG9.822	RAST3,5	2-pole
AGG9.831	RAST3,5	3-pole
AGG9.841	RAST3,5	4-pole

Flame detectors

QRA2…

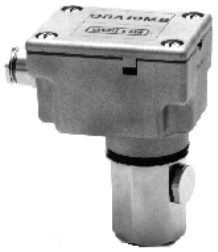
Flame detector for use with Siemens burner controls, for the supervision of gas flames, yellow- / blue-burning oil flames and for ignition spark proving.
Plastic insulated housing, metalized to prevent static charging caused by the air flow from the fan. For direct mounting on the burner.
Delivery optional with / without flange and clamp

QRA4.U

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

QRA10…

Flame detector for use with Siemens burner controls, for supervision of gas flames, yellow- / blue-burning oil flames and for ignition spark proving.
Die-cast aluminum 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.



QRB…

Photo resistive detector for use with Siemens burner controls, for the supervision of oil flames in the visible light spectrum.
The QRB… are used primarily in connection with burner controls for burners of small capacity.

QRC…

Blue-flame detector for use with Siemens burner controls, for the supervision of blue- and yellow-burning oil or gas flames.
QRC… is used especially in connection with burner controls for burners of small capacity.

Frontal illumination:

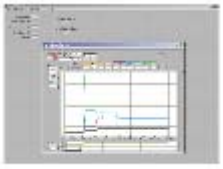
Lateral illumination:

Service tools

OCI400…
Optical interface between burner control and PC
Facilitates viewing and recording setting parameters on site in connection with the ACS410 software

OCI410…
BC interface module between burner control and PC
Facilitates viewing, handling and recording setting parameters on site in connection with the ACS410 software

ACS410
PC software for setting the parameters and for visualizing the burner controls



Actuators

SQN3… / SQN4...

Electromotoric actuators for use with air dampers and control valves of oil or gas burners of small to medium capacity.

- Impact-proof and heat-resistant plastic housing
- Screw terminals for the electrical connections
- Maintenance-free gear train, which can be disengaged
- Internal and external position indication
- Easy-to-adjust end and auxiliary switches for setting the switching points

Holding torque:

- SQN3...	0.8...3 Nm
- SQN4...	6 Nm

Running time:

- SQN3...	4.5...30 s
- SQN4...	120 s

Direction of rotation:

- SQN30...	counterclockwise
- SQN31... / SQN41...	clockwise

SQN7…

Electromotoric actuators for air dampers and control valves of oil and gas burners of small to medium capacity.

- Impact-proof and heat-resistant plastic housings
- Screw terminals for the electrical connections
- Maintenance-free gear train, which can be disengaged
- Internal position indication
- Easy-to-adjust end and auxiliary switches for adjusting the switching points
- Integrated electronic circuits
- With synchronous motor

Holding torque:

- SQN70... / SQN71... / SQN75...	0.7...1.3 Nm
- SQN74...	0.7 Nm

Running time:

- SQN70... / SQN71... / SQN75...	4...30 s
- SQN74...	4 s

Direction of rotation:

- SQN70... / SQN74...	counterclockwise
- SQN71... / SQN75...	clockwise

Actuators

SQN9…

Electromotoric actuators for air dampers and control valves of oil and gas burners of small to medium capacity.

- Impact-proof and heat-resistant plastic housings
- Screw terminals for the electrical connections
- Maintenance-free gear train, which can be disengaged
- Internal position indication
- Easy-to-adjust end and auxiliary switches for adjusting the switching points
- Integrated electronic circuits

Holding torque:	0.8...2.4 Nm
Running time:	4...24 s

Direction of rotation:

- SQN90...	counterclockwise
- SQN91...	clockwise

SQM1… / SQM2...

The reversible electromotoric actuators SQM... range are for use in connection with controllers or switching devices equipped with changeover contacts.

Holding torque:

- SQM1...	4...15 Nm
- SQM2...	12 Nm

Running time:

- SQM1...	14...100 s
- SQM2...	29...66 s

Direction of rotation:	clockwise or counterclockwise rotation

SQM40… / SQM41...

The actuators are suited for driving flow control valves, butterfly valves, dampers or for use on other applications that require rotary motion. Areas of application are oil and gas burners of medium to larger capacity as well as thermal process plants.

Holding torque:	Up to 10 Nm
Running time:	15 s and 30 s
Direction of rotation:	clockwise or counterclockwise rotation

Actuators

SQM5...

The reversible electromotoric actuators SQM5... are used to drive air or gas dampers of oil and gas burners of medium to large capacity

- With 1 or 2 drive shaft ends; drive shafts can be exchanged and are available as separate items
- Can be equipped with electronic modules for control and position feedback via steady signals
- Internal and external position indication
- Drive shaft and cam shaft can be separately disengaged
- Choice of UL-listed types for use in the U.S. and Canada
- Supplementary Data Sheets, refer to N7921 and N7922

Holding torque:

- SQM50...	10...15 Nm
- SQM53... / SQM54...	20...25 Nm
- SQM56...	30...40 Nm

Running time:

- SQM50...	10...87 s
- SQM53...	30...43 s
- SQM54...	30...65 s
- SQM56...	60...87 s

Direction of rotation: Facing the gear train side: counterclockwise or clockwise (selectable)
Delivery: counterclockwise

Display and operating units

AZL21.00A9

Display and operating unit, detached, choice of mounting methods, 8-digit LCD, 5 buttons, BCI for LME39... / LME7..., degree of protection IP40

AZL23.00A9

Display and operating unit, detached, choice of mounting methods, 8-digit LCD, 5 buttons, BCI for LME39... / LME7..., degree of protection IP54

7-segment display (optional)

Built-in in the LME7... and 3 other buttons for operation in connection with 3 x 7-segment display

Accessories

AGK20...
Extension of lockout reset button

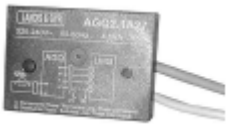
AGV50.100
Signal cable for AZL2..., with RJ11 connector, cable length 1 m, pack of 10

AGV50.300
Signal cable for AZL2..., with RJ11 connector, cable length 3 m, pack of 10

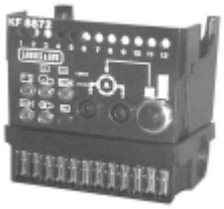
ARC 4 668 9066 0
RC unit for ionization current supervision in networks with non-earthed neutral conductor

AGK25
PTC resistor (AC 230 V) as a burden for terminal 3 (for burners without fan motor, such as atmospheric gas burners)

AGQ3…
Ancillary unit for UV supervision, can be fitted under the plug-in base
AGQ3.1A27: Cable length 500 mm
AGQ3.2A27: Cable length 300 mm



KF8872 (not for LME39…)
Service adapter for checking the functions of burner controls on the plant. Function checks via control lamps. Detector current measurements via 4 mm dia. jacks.



☞ Note:
When there is no load on the output terminals, the respective control lamp might light up.

LDU11... (only LME22… and LME39.1…)
The valve proving system for monitoring the leakage of the shutoff valves for gas burners and gas devices.
In the event of inadmissible leakage, the system prevents the burner from starting up.
See Data Sheet N7696.

QPLx5…
The pressure switches are used for monitoring gas or air pressures. When the pressure falls below or exceeds the adjusted switching point, the respective electrical circuit will be opened or changes over.

Available documentation

Type reference (ASN)	Title	Documentation no.
ACS410	Software	CC1J7352
AGG3...	Connection set	C7105 (74 319 0642 0)
AGG9...	Connection set	---
AGK11…	Plug-in base	CC1N7201
AGK20...	Extension of lockout reset button	---
AGK25	PTC resistor	---
AGK65…	Cable holder	CC1N7201
AGK66…	Cable holder	CC1N7201
AGQ3…	Ancillary unit	---
AGV50.100	Signal cable	---
AGV50.300	Signal cable	---
ARC466890660	RC unit	---
AZL21…	Display and operating units	CC1N7542
AZL23…	Display and operating units	CC1N7542
KF8872	Service adapter	---
LDU11…	Valve proving system	CC1N7696
LME11…	Burner control	CC1N7101
LME21…	Burner control	CC1N7101
LME23…	Burner control	CC1N7101
LME39…	Burner control	CC1N7106
LME41…	Burner control	CC1N7101
LME44…	Burner control	CC1N7101
LME7…	Burner control	CC1P7105
OCI400…	Optical interface	CC1N7614
OCI410…	BC interface module	CC1N7615
PME7...	Program module	CC1P7105
QPLx5...	Pressure switch	CC1N7221
QRA2…	Flame detector	CC1N7712
QRA4.U	Flame detector	CC1N7711
QRA10…	Flame detector	CC1N7712
QRB…	Photo resistive flame detector	CC1N7716
QRC…	Blue flame detector	CC1N7714
SQN3…	Actuators	CC1N7808
SQN4…	Actuators	CC1N7808
SQN7…	Actuators	CC1N7804
SQN9…	Actuators	CC1N7806
SQM1...	Actuators	CC1N7812
SQM2...	Actuators	CC1N7812
SQM40... / SQM41...	Actuators	CC1N7817
SQM5...	Actuators	CC1N7815