



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 298: 2003 and EN230: 2005
- For oil and gas forced draft burners conforming to EN267 and EN 676

Features of the LME...:

- Undervoltage detection
- Air pressure supervision with function check of the air pressure switch during start-up 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

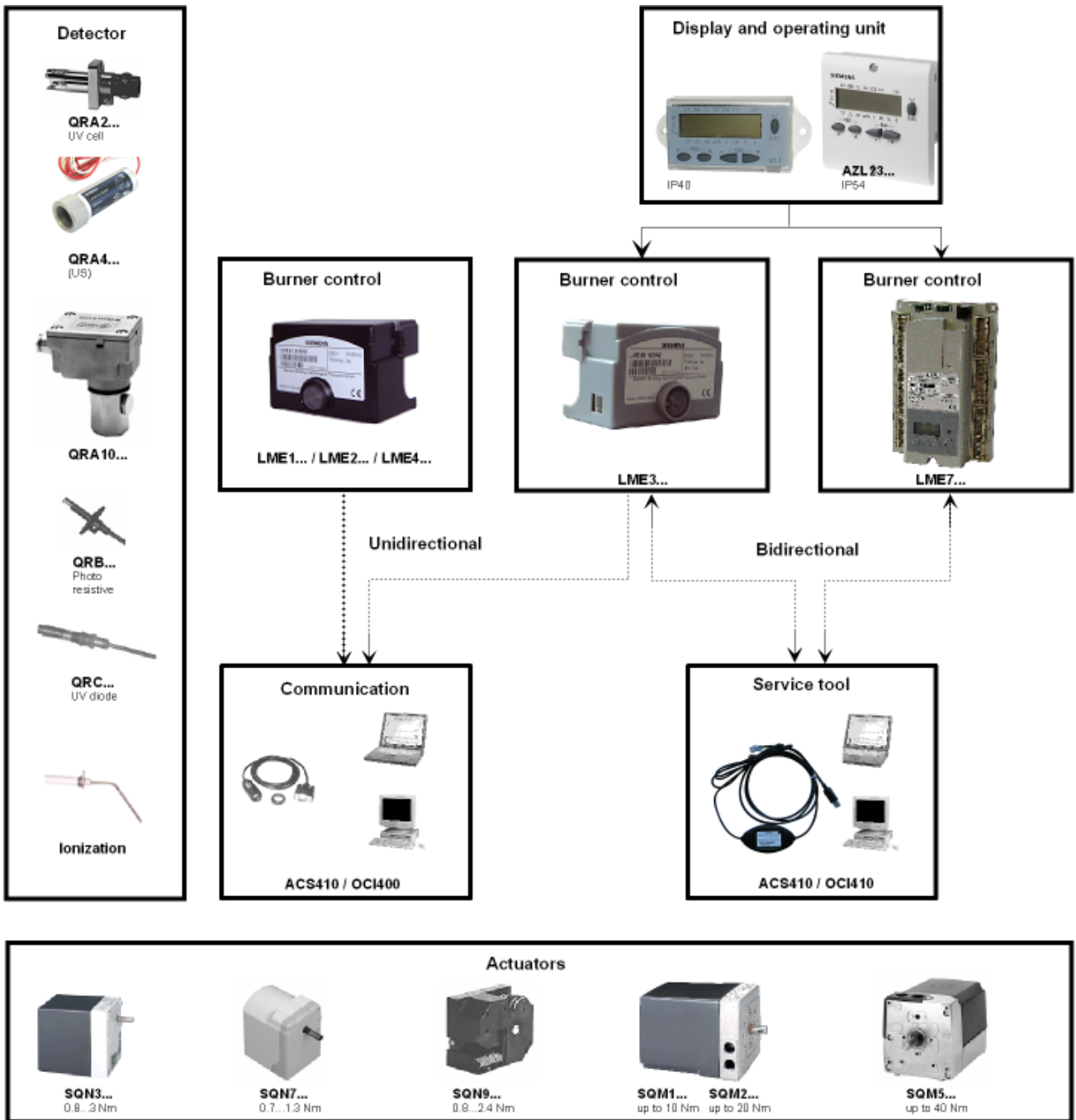
The present documentation gives an **overview** of the product range.

### Target groups

- Sales engineers
- Internal staff
- Burner specialists

## Functions

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



T10120641 2017

## Presentation of products

### 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 1- or 2-stage or modulating oil / forced draft gas burners and atmospheric burners of medium to large capacity, in intermittent operation. With controlled air damper control.



## Presentation of products (cont'd)

### 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.



**AGK67...**  
Cable strain relief elements for use with AGK11...plug-in base.



**AGK13...** (not for LME39...)  
Plug-in base complete with **AGK68...** cover for connecting small burner controls to the burner plant.



(Example: 4-pole)

**AGK56...**  
Connector casing for use with AGK13...plug-in base.



**Connector sets for  
LME7...**

**AGG3.710**

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

**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.

Example: X5-03



**AGG3.730**

50 standard connector sets complete for LME7...  
RAST5 and RAST3.5  
Single packs

The several connectors are delivered into bags to 50 pieces  
each as a unit.

## Presentation of products (cont'd)

### 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

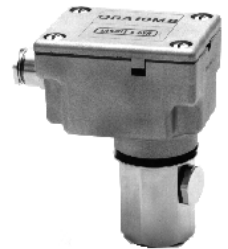
Flame detector for use with Siemens burner controls, for the supervision of gas flames, yellow- / blue-burning oil flames and for ignition spark proving



#### 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 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.



#### 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...**

Interface between burner control and PC  
Facilitates viewing and recording setting parameters on site  
in connection with the ACS410 software



---

**OCI410...**

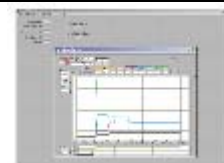
Interface between burner control and PC  
Facilitates viewing, handling and recording setting parameters on site  
in connection with the ACS410 software



---

**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



**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... / LMV27.1... system, degree of protection IP40

---



**AZL23.00A9**

Display and operating unit, detached, choice of mounting methods, 8-digit LCD, 5 buttons, BCI for LME39... / LMV27.1... system, degree of protection IP54

---



**Optional: Built-in in the LME7...**

3-colored LED, reset button, 3 other buttons for operation in connection with 3 x 7-segment display

## Presentation of products (cont'd)

### Accessories

#### **KF8895.1A...**

Test case for LME... / LMV2... / LMV3...

- For simulations of burner functions as startups, sequence of operations in connection with the specified burner controls
- For check and test purposes of burner controls
- For operation in laboratories by expert qualified personnel



#### **AGV8895.01**

Connection cable set for LME7..., consisting of:

##### **AGV8895.01X1**

Connection cable for mains potential



##### **AGV8895.01X3**

Connection cable for extra-low voltage, PELV



#### **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)

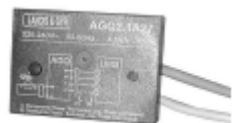


#### **AGQ3...**

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

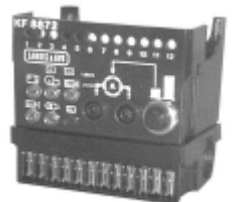


#### **KF8872** (not at LME39...)

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.



## Available documentation

Type reference (ASN)	Title	Documentation no.
ACS410	Software	CC1J7352
AGG...	Connection set	C7105 (74 319 0642 0)
AGK11...	Connection accessories for small burner controls	CC1N7201
AGK13...	Connection accessories for small burner controls	CC1N7203
AGK25	PC resistor	---
AGK56...	Connector casing	CC1N7203
AGK65...	Cable holder	CC1N7201
AGK66...	Cable holder	CC1N7201
AGK67...	Cable strain relief element	CC1N7201
AGK68...	Cover	CC1N7203
AGQ3...	Ancillary unit	---
AGV50.100	Signal cable	---
AGV50.300	Signal cable	---
AGV8895.01X...	Connection cable set	---
ARC466890660	RC unit	---
AZL21...	Display and operating units	CC1N7542
AZL23...	Display and operating units	CC1N7542
KF8872	Service adapter	---
KF8895.1A...	Test case	CC1U7993
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	CC1N7105
OCI400...	Interface	CC1N7614
OCI410...	Interface	CC1N7615
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
SQM5...	Actuators	CC1N7815