SIEMENS

LMO

user-friendly burner controls.

LMO burner controls

ensure reliable operation and supervision of 1- or 2-stage oil burners. The products have proven their reliability since many years and excel in a high level of safety while offering ease of operation.

Burner controls of the LMO line feature a redundant, 2-channel microprocessor system and 2 independent shutdown paths for safety-related outputs. For flame supervision, the photoresistor QRB1 is used for yellow flame and the flame detector QRC1 for blue flame.

Finally the PC software tool ACS410, for data analysis and parameterization, completes the range. The PC tool can be used with all product variants.

HIGHLIGHTS

- Program versions for forced draft oil burners and air heaters
- LMO versions with postpurge function available
- Multicolor indication of operating status and fault status messages
- Controlled intermittent mode after 24 hours of continuous operation
- Limitation of the number of repetitions
- Remote reset facility
- Approval based on EN298:2012, suitable for applications based on EN267

Technical data (extract)

For further information, see data sheets CC1N7130, CC1N7138 and CC1N7154.

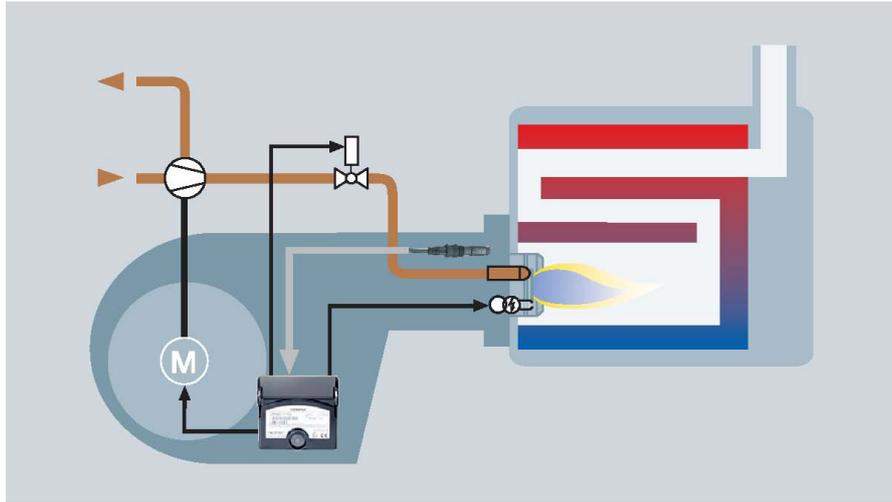| Mains voltage	AC 230 V
	AC 120 V on request
Perm. cable length	Max. 3 m at 100 pF/m line capacitance
- Sensor	Max. 10 m at 100 pF/m laid separately
- Remote reset/alarm	Max. 20 m at 100 pF/m laid separately

LMO – simple and yet so good

Figure: Overview of the burner system with LMO burner control

Power and performance in a small package

The AZL2 display and operator units are designed for use with LMO39 burner controls to be mounted directly on the burner or in control panels close to the burner.

They are designed for the display, operation and parameterization of specific safety and non-safety-related burner functions. Key plant data and lockout codes can be called up and displayed.

Alternatively the ACS410 software tool can be used with all standalone LMO burner controls. It serves as a tool to display data, to set parameters and to store data.

Type reference (extract)

The type reference applies to the LMO burner control without plug-in base and without flame detector. Further informationen, see data sheets CC1N7130, CC1N7138 and CC1N7154.

Type references	Mains voltage	Fuel valve stages	Burner capacity	Bridging contact for oil preheater	Remote reset	Prepurge/ Purge time min.	Safety time max.	Preignition time min.	Postpurge time max.
Standard versions									
LMO14.111C2	AC 230 V	1	<30 kg/h	•	•	15 / 16 s	10 s	15 s	---
LMO14.113C2	AC 230 V	1	<30 kg/h	•	•	15 / 16 s	10 s	15 s	---
LMO24.111C2	AC 230 V	2	<30 kg/h	•	•	15 / 16 s	10 s	15 s	---
LMO24.111C1	AC 120 V	2	<30 kg/h	•	•	15 / 16 s	10 s	15 s	---
LMO24.113C2	AC 230 V	2	<30 kg/h	•	•	15 / 16 s	10 s	15 s	---
LMO24.255C2	AC 230 V	2	< / > 30 kg/h	•	•	25 / 26 s	5 s	25 s	---
Version for flash-steam generators									
LMO24.011C2	AC 230 V	2	<30 kg/h	•	•	5 / 6 s	10 s	5 s	---
Suited for direct-fired air heaters									
LMO44.255C2	AC 230 V	2	< / > 30kg/h	•	•	25 / 26 s	5 s	25 s	---
Versions with postpurge function									
LMO64.300C2	AC 230 V	1	<30 kg/h	•	•	15 / 16 s	10 s	15 s	20 s
LMO64.301C2	AC 230 V	1	<30 kg/h	•	•	15 / 16 s	10 s	15 s	90 s
Version with communication									
LMO39.100C2	AC 230 V	2	< / > 30kg/h	•	•	0 - 1237 s	1 - 15 s	5.6 - 1237 s	0 - 1237 s

Standards and certificates (extract)

CE DIN TÜV CERT

Conformity to EC directives
- Electromagnetic compatibility EMC (immunity) 2014/30/EC
- Low-voltage directive 2014/35/EC

SQS Zertifiziertes Managementsystem ISO 9001 / 14001 / OHSAS 18001

ISO 9001: 2015
ISO 14001: 2015

Color code table for multicolor signal lamp (LED)

Status	Color code	Color
Waiting time «tw», other waiting states	○ (Off)	Off
Oil preheater heats	●.............................	Yellow
Ignition phase, ignition controlled	●○●○●○●○	Flashing yellow
Operation, flame o.k.	□.............................	Green
Operation, flame not o.k.	□○□○□○□○	Flashing green
Extreneous light on burner startup	□▲□▲□▲□▲	Green-red
Undervoltage	●▲●▲●▲●▲	Yellow-red
Fault, alarm	▲.............................	Red
Error code ouput (refer to Error code table *)	▲○ ▲○ ▲○	Flashing red
Interface diagnostics	▲ ▲ ▲ ▲ ▲ ▲	Red flicker light

*Error code table

Red blink code	Possible cause
2 x blinks	No establishment of flame at the end of «TSA»
4 x blinks	Extraneous light when burner startup
7 x blinks	Too many losses of flame during operation
8 x blinks	Time supervision oil preheater
10 x blinks	Wiring error or internal error, miscellaneous errors

Figure: Diagnostic possibilities of the LMO burner controls