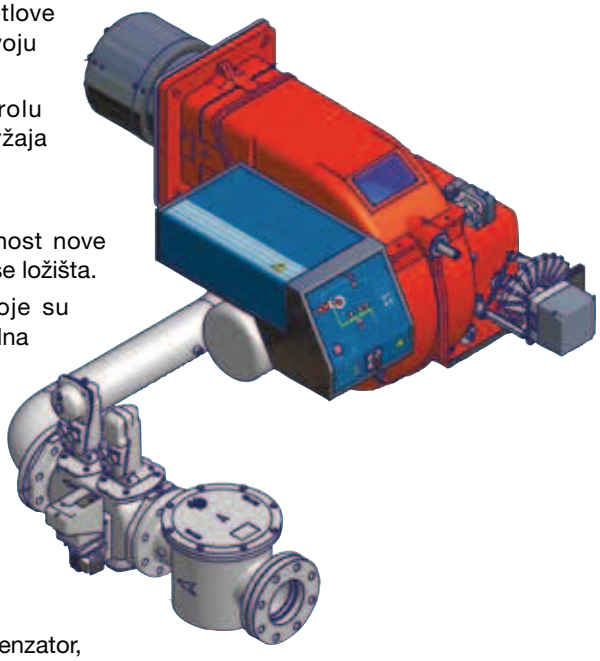
HG-EX serija

HG-EX 150 – HG-EX 210 – HG-EX 380
HG-EX 470 – HG-EX 560

Low NOx GORIONICI

gas



Ova serija gorionika je specijalno razvijena za industrijske kotlove kapaciteta do 5,8 MW, i predstavlja najbolji napredak u razvoju tehnologije za smanjenje emisije azotnih oksida (<70 mg/kWh).

Serija je konstruisana za mehaničku ili elektronsku kontrolu sagorevanja, sa ili bez invertora, sa ili bez podešavanja sadržaja kiseonika. Ona garantuje pouzdanost i efikasnost.

Elektronska izvedba gorionika vrši komunikaciju preko bus-a.

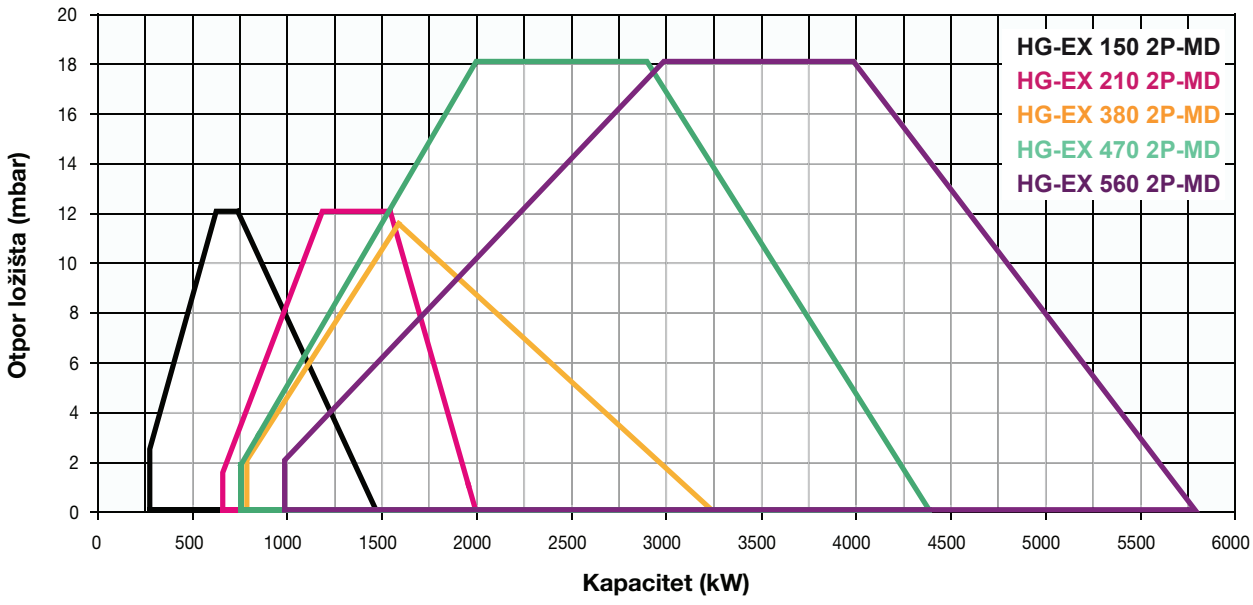
Zahvaljujući podešenom odnosu vazduh / gas, velika fleksibilnost nove plamene glave omogućava formiranje homogenog plamena duž ose ložišta.

Kućište gorionika je izrađeno od livenog aluminijuma, na koje su montirani svi mehanički i elektronski delovi za regulaciju. Pregledna komandna tabla prikazuje faze rada gorionika. Nova konstrukcija vazdušnog usisa obezbeđuje najniže nivoe buke tokom rada.

Opseg isporuke: telo gorionika, gasna rampa, plamena cev, Low NOx mešačka glava, elektrode za potpalu, jonizaciona elektroda, vazdušna klapna, gasna klapna, elektromotor, ventilator, presostat vazduha, servomotor, poklopac sa staklom za posmatranje plamena, visokonaponski trafo, električni orman na gorioniku (automatika, sinoptički panel, reset dugme, glavni prekidač).

Gasna rampa sadrži: ručnu kuglastu slavinu, antivibracioni kompenzator, gasni filter, prekidač za minimalni pritisak gasa, regulator i stabilizator pritiska gasa, glavni magnetni ventil, pomoćni magnetni ventil i kontroler nepropusnosti (isporučuje se iznad 350 kW).

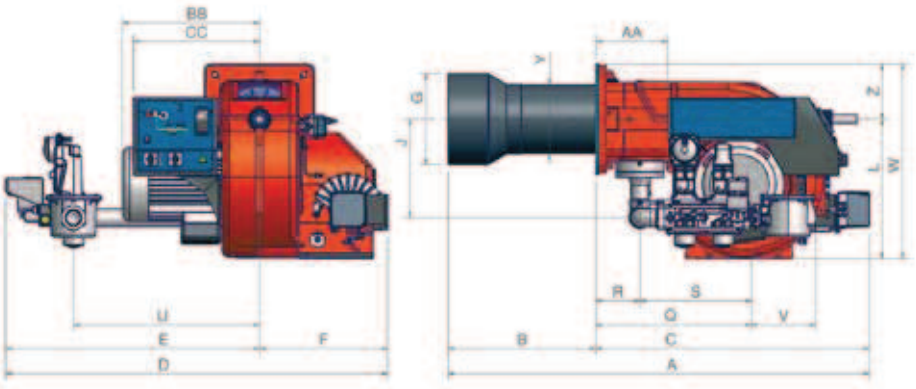
Gorionici su izrađeni u skladu sa sledećim standardima:
EN 676:2003 (Automatski gorionici sa ventilatorom za gasovita goriva.), EN 60335-1:2003-07 (Sigurnost električnih uređaja za domaćinstva i sličnu namenu, deo 1: Opšti zahtevi.) i EN 50165:1997 (Električni delovi neelektričnih i sličnih uređaja za domaćinstva. Bezbednosni zahtevi.).

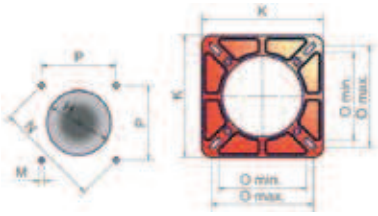


TEHNIČKI PODACI

Gorionik			HG-EX 150 M2P-MMD 2”-DN65-DN80-DN100	HG-EX 210 M2P-MMD 2”-DN65-DN80-DN100
Kapacitet	min.–max	[kW]	288 – 1480	674 – 2008
Gorivo*			zemni gas	zemni gas
Kategorija			I_{2H}	I_{2H}
Protok gasa	min.–max.	[Stm³/h]	30,5 – 157	71 – 213
Pritisak gasa	min.–max.	[mbar]	***	***
Električni priključak			400V 3N ~ 50Hz	400V 3N ~ 50Hz
Ukupna potrošnja energije		[kW]	3,5	4,5
Motor ventilatora		[kW]	3	4
Zaštita			IP40	IP40
Masa		[kg]	250	250
Dimenzija gasne rampe			2” - DN65 - DN80 - DN100	2” - DN65 - DN80 - DN100
Gasni priključak			Rp 2 - DN65 - DN80 - DN100	Rp 2 - DN65 - DN80 - DN100
Regulacija			klizno-dvostepena / modulisana	klizno-dvostepena / modulisana

U skladu sa gasnom direktivom 90/396/EEZ.
Svi gasni protoci (Stm³/h) su dati prema standardnim uslovima: 1013 mbar, 15°C.
* zemni gas G20: H_d=34,02 MJ/Stm³ (9,44 kWh/Stm³)
*** minimalni pritisak gasa: pogledajte krivu pada pritiska na gasnoj rampi
maksimalni pritisak gasa: 500 mbar sa Siemens VGD gasnom rampom
Za konfiguraciju gasne rampe pogledajte strane 78-79.





Otvori na kotlovskim vratima

Prirubnica gorionika

Tip	Dimenzije pakovanja* (mm)			
	dužina	*širina*	*visina*	kg
HG-EX 150	1730	1280	1020	250
HG-EX 210	1730	1280	1020	260

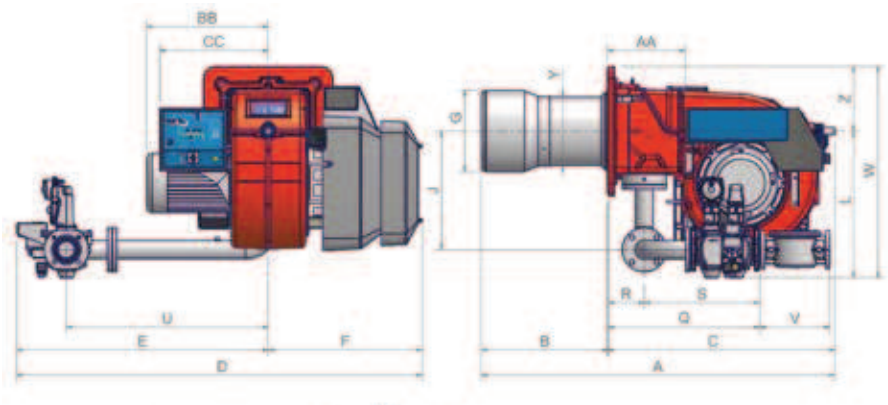
* Približne vrednosti

Tip	Model	Dimenzije (mm)														Otvori na kotlu (mm)				Prirubnica gorionika (mm)		
		A	B	BB	C	D	E	G	J	L	Q	S	U	W	Y	H	M	N	P	O min	O max	K
HG-EX 150	**M2P-MMD 2” BS CT**	1253	300	419	918	1283	852	219	329	466	522	374	624	651	215	258	M12	417	295	280	310	360
HG-EX 150	**M2P-MMD DN65 BS CT**	1253	300	419	918	1388	957	219	288	466	551	403	750	651	215	258	M12	417	295	280	310	360
HG-EX 150	**M2P-MMD DN80 BS CT**	1253	300	419	918	1390	959	219	307	466	592	444	750	651	215	258	M12	417	295	280	310	360
HG-EX 150	**M2P-MMD DN100 BS CT**	1253	300	419	918	1480	1049	219	447	592	672	524	824	777	215	258	M12	417	295	280	310	360
HG-EX 210	**M2P-MMD 2” BS CT**	1243	290	419	918	1283	852	265	329	466	522	374	624	651	228	295	M12	417	295	280	310	360
HG-EX 210	**M2P-MMD DN65 BS CT**	1243	290	419	918	1388	957	265	288	466	551	403	750	651	228	295	M12	417	295	280	310	360
HG-EX 210	**M2P-MMD DN80 BS CT**	1243	290	419	918	1390	959	265	307	466	592	444	750	651	228	295	M12	417	295	280	310	360
HG-EX 210	**M2P-MMD DN100 BS CT**	1243	290	419	918	1480	1049	265	447	592	672	524	824	777	228	295	M12	417	295	280	310	360

TEHNIČKI PODACI

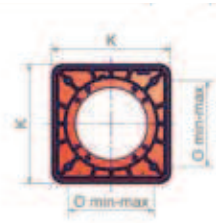
Gorionik	HG-EX 380 M2P-MMD 2”-DN65-DN80-DN100	HG-EX 470 M2P-MMD 2”-DN65-DN80-DN100	HG-EX 560 M2P-MMD 2”-DN65-DN80-DN100
Kapacitet min.–max [kW]	800 – 3250	770 – 4400	1000 – 5800
Gorivo*	zemni gas	zemni gas	zemni gas
Kategorija	I_{2H}	I_{2H}	I_{2H}
Protok gasa min.–max. [Stm³/h]	85 – 344	81,5 – 466	106 – 614
Pritisak gasa min.–max. [mbar]	***	***	***
Električni priključak	400V 3N ~ 50Hz	400V 3N ~ 50Hz	400V 3N ~ 50Hz
Ukupna potrošnja energije [kW]	8	11,5	15,5
Motor ventilatora [kW]	7,5	11	15
Zaštita	IP40	IP40	IP40
Masa [kg]	350	350	350
Dimenzija gasne rampe	2” - DN65 - DN80 - DN100	2” - DN65 - DN80 - DN100	2” - DN65 - DN80 - DN100
Gasni priključak	Rp 2 - DN65 - DN80 - DN100	Rp 2 - DN65 - DN80 - DN100	Rp 2 - DN65 - DN80 - DN100
Regulacija	klizno-dvostepena / modulisana	klizno-dvostepena / modulisana	klizno-dvostepena / modulisana

U skladu sa gasnom direktivom 90/396/EEZ.
Svi gasni protoci (Stm³/h) su dati prema standardnim uslovima: 1013 mbar, 15°C.
* zemni gas G20: H_d=34,02 MJ/Stm³ (9,44 kWh/Stm³)
*** minimalni pritisak gasa: pogledajte krivu pada pritiska na gasnoj rampi
maksimalni pritisak gasa: 500 mbar sa Siemens VGD gasnom rampom
Za konfiguraciju gasne rampe pogledajte strane 78-79.





Otvori na kotlovskim vratima



Prirubnica gorionika

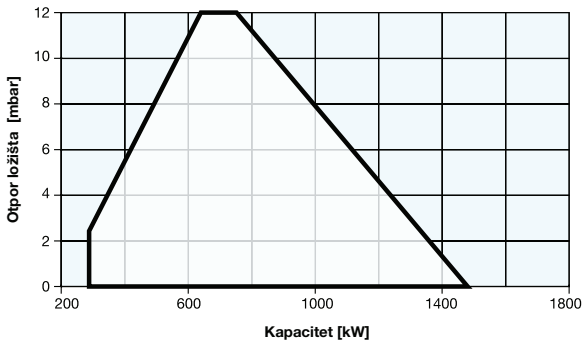
Tip	Dimenzije pakovanja* (mm)			
	dužina	*širina*	*visina*	kg
HG-EX 380	1730	1430	1130	330
HG-EX 470	1730	1430	1130	340
HG-EX 560	1730	1430	1130	350

* Približne vrednosti

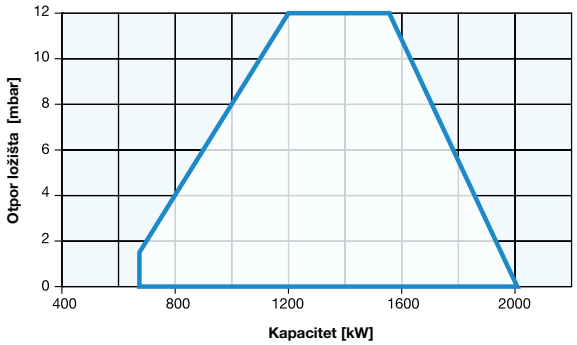
Tip	Model	Dimenzije (mm)														Otvori na kotlu (mm)				Prirubnica gorionika (mm)	
		A	B	BB	C	D	E	G	J	L	Q	S	U	W	Y	H	M	N	P	O min-max	K
HG-EX 380	**M2P-MMD 2” BS CT**	1445	390	511	1021	1429	938	310	337	498	685	525	710	733	306	368	M14	552	390	390	460
HG-EX 380	**M2P-MMD DN65 BS CT**	1445	390	511	1021	1448	957	310	337	498	563	403	750	733	306	368	M14	552	390	390	460
HG-EX 380	**M2P-MMD DN80 BS CT**	1445	390	511	1021	1450	959	310	354	498	604	444	750	733	306	368	M14	552	390	390	460
HG-EX 380	**M2P-MMD DN100 BS CT**	1445	390	511	1021	1540	1049	310	392	498	684	524	824	772	306	368	M14	552	390	390	460
HG-EX 470	**M2P-MMD 2” BS CT**	1601	520	511	1021	1429	938	305	337	498	685	525	710	733	305	345	M14	552	390	390	460
HG-EX 470	**M2P-MMD DN65 BS CT**	1601	520	511	1021	1448	957	305	337	498	563	403	750	733	305	345	M14	552	390	390	460
HG-EX 470	**M2P-MMD DN80 BS CT**	1601	520	511	1021	1450	959	305	354	498	604	444	750	733	305	345	M14	552	390	390	460
HG-EX 470	**M2P-MMD DN100 BS CT**	1601	520	511	1021	1540	1049	305	392	498	684	524	824	772	305	345	M14	552	390	390	460
HG-EX 560	**M2P-MMD 2” BS CT**	1601	520	511	1021	1429	938	332	337	498	685	525	710	733	328	372	M14	552	390	390	460
HG-EX 560	**M2P-MMD DN65 BS CT**	1601	520	511	1021	1448	957	332	337	498	563	403	750	733	328	372	M14	552	390	390	460
HG-EX 560	**M2P-MMD DN80 BS CT**	1601	520	511	1021	1450	959	332	354	498	604	444	750	733	328	372	M14	552	390	390	460
HG-EX 560	**M2P-MMD DN100 BS CT**	1601	520	511	1021	1540	1049	332	392	498	684	524	824	772	328	372	M14	552	390	390	460

DIJAGRAMI RADNOG POLJA
GORIONIKA

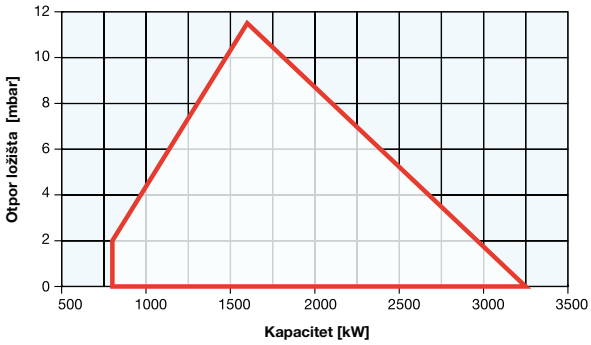
HG-EX 150 M2P-MMD 2”-DN65-DN80-DN100



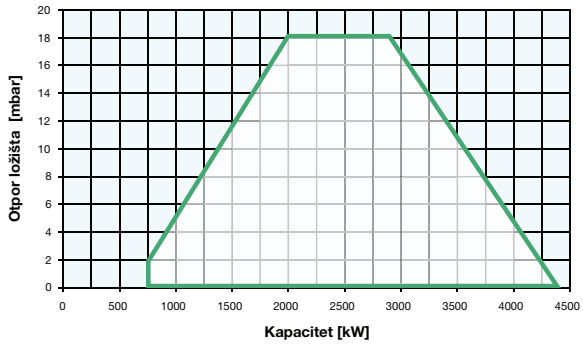
HG-EX 210 M2P-MMD 2”-DN65-DN80-DN100



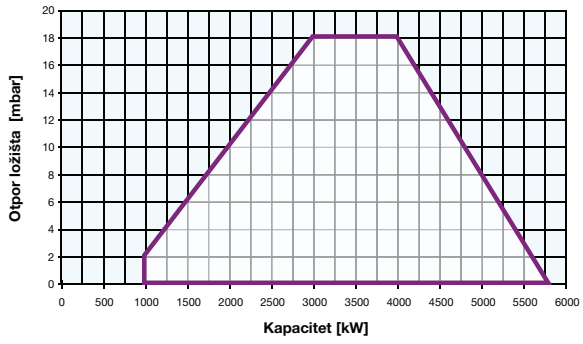
HG-EX 380 M2P-MMD 2”-DN65-DN80-DN100



HG-EX 470 M2P-MMD 2”-DN65-DN80-DN100

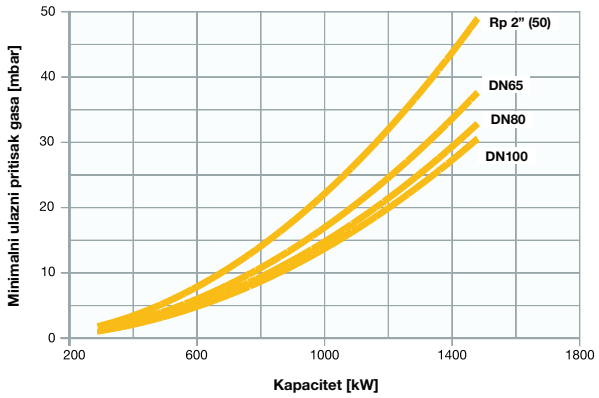


HG-EX 560 M2P-MMD 2”-DN65-DN80-DN100

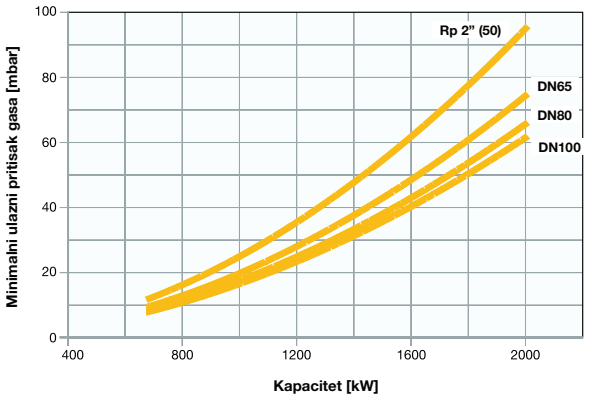


DIJAGRAMI PADA PRITISKA NA
GASNOJ RAMPI

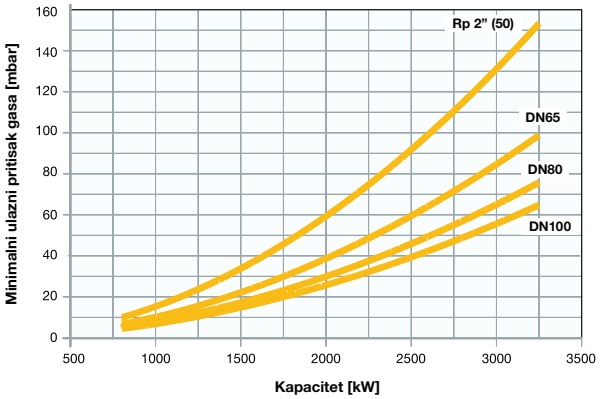
HG-EX 150 M2P-MMD 2”-DN65-DN80-DN100



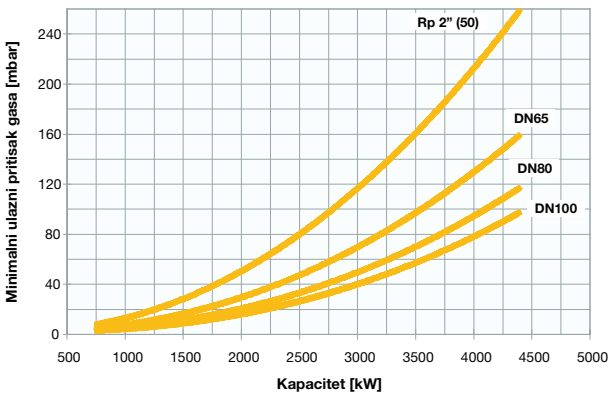
HG-EX 210 M2P-MMD 2”-DN65-DN80-DN100



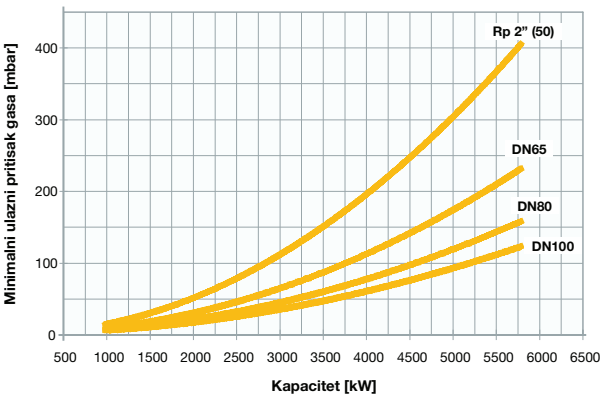
HG-EX 380 M2P-MMD 2”-DN65-DN80-DN100



HG-EX 470 M2P-MMD 2”-DN65-DN80-DN100



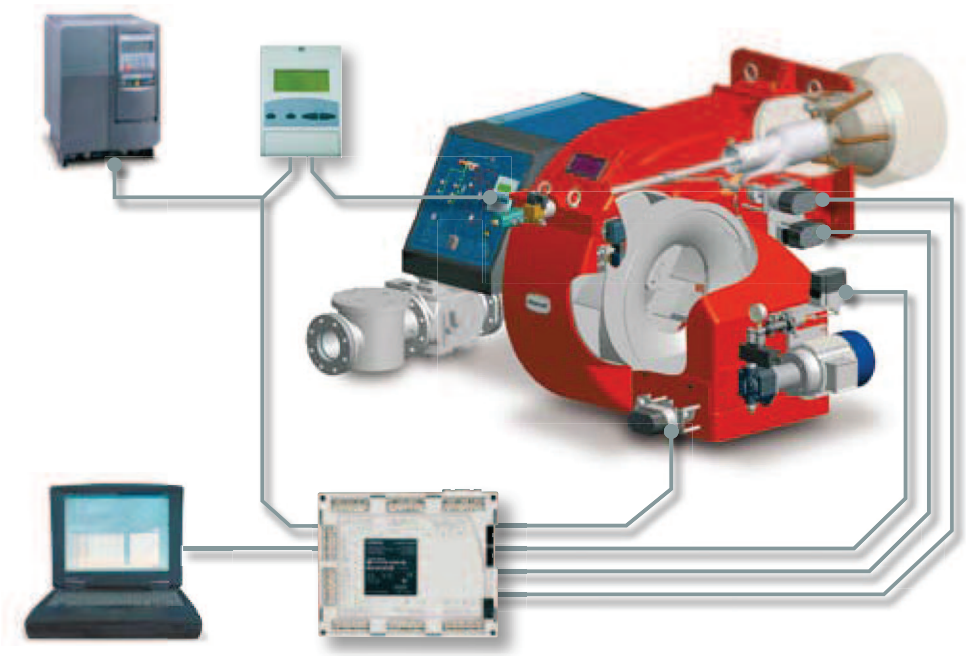
HG-EX 560 M2P-MMD 2”-DN65-DN80-DN100



elektronski regulacioni i kontrolni sistem sagorevanja

za gasne, uljne, mazutne i kombinovane gorionike srednjeg i velikog kapaciteta

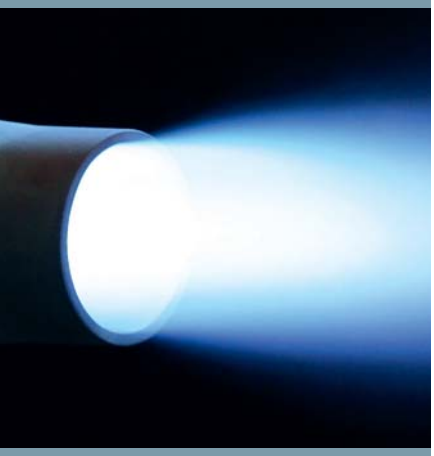
Hoval primenjuje elektronski sistem kontrole kapaciteta u svom asortimanu gorionika.
Ovaj inovativni sistem, koji je podeljen u dve vrste kontrolera plamena, može se koristiti u civilne svrhe (od 140 kW) kao i za industrijske namene (do 70 MW), sa gorionicima konstruisanim za rad sa jednim ili dva goriva, sa kontinualnim ili naizmeničnim (isprekidanim) načinom rada, i omogućava komande i regulaciju svih delova koji imaju ulogu u stvaranju pravilne smeše goriva i vazduha za sagorevanje, putem odgovarajuće programiranog kontrolera plamena.
Ovo prilagodljivo rešenje, orijentisano ka budućnosti, omogućava postizanje maksimalne preciznosti u podešavanju sagorevanja. Sistem se takođe može proširiti pomoću priključka sa sondom za merenje kiseonika i/ili invertora za podešavanje brzine ventilatora, sve u cilju daljeg poboljšanja performansi gorionika, i na taj način postiže se najveća ušteda energije kako u pogledu goriva tako i pogledu potrebne električne energije.
Regulacioni i kontrolni sistem se sastoji od elektronske jedinice sa dvostrukim mikroprocesorom za integraciju svi regulacionih i kontrolnih funkcija gorionika, kao i od uređaja za lokalno programiranje i podešavanje.
Integrisane funkcije obuhvataju podešavanje odnosa vazduh/gorivo (sa mogućnošću konfiguracije radne tačke), PID regulatora temperature i pritiska, kontrolera nepropusnosti gasne rampe, podešavajuća vremena ciklusa, predkonfigurisani vodovi goriva i konfiguraciju ulaza/izlaza.
Programski nivoi su zaštićeni lozinkom za tri vrste korisnika (proizvođač, servisno osoblje i krajnji korisnik); komunikacija između servo-regulatora i senzora obavlja se putem dvokanalnog CAN Bus protokola u cilju garantovanja najveće bezbednosti i pouzdanosti, a uređaj se može ugraditi direktno na gorionik ili unutar zasebne električne komandne table postavljene na udaljenosti od maksimalno 100 m.



Upotrebom adekvatnog, namenskog opcionog programa, sistem se može konfigurisati direktno putem PC-a.

Komandna kutija za kontrolu sagorevanja integriše sledeće funkcije:

- Kontrolu gorionika;
- Elektronsku podešavajuću traku sa ekscentrom;
- Regulator snage;
- Kontroler nepropusnosti gasne rampe;
- Kontrolu sadržaja kiseonika;
- Invertorsku kontrolu;
- Komunikaciju sa BMS sistemom ili sa PLC (putem MOD Bus);
- Puštanje u pogon i konfiguraciju gorionika putem alata PC-tool;
- Jednostavno programiranje sa AZL programatorom i PC-tool;
- Potpuno samo-dijagnostikujuće funkcije (memorija greške, broj uključenja gorionika, vreme rada gorionika, časovnik, ...);
- 3 nivoa pristupa parametrima: proizvođač, servisno osoblje i krajnji korisnik;
- Daljinsko dijagnostikovanje;
- Svi delovi se mogu veoma lako zameniti;
- Nadogradnja parametara sa PC-tool;
- Komunikacija preko MOD Bus protokola.



OEM Heat Control Systems

LMV

Innovative electronic air-fuel ratio control



Answers for infrastructure.

SIEMENS





LMV – complete solutions from a single source

Economical operation and environmental protection are important criteria with plant for large building complexes and in industrial process heat generation. With large burner and boiler capacities, efficiency becomes a major cost factor. Also, high emission levels can cause problems to plant operators. Up to now, burners have been equipped with mechanical air-gas ratio control (cam with mechanical linkage between air and gas damper or oil controller).

A complicated mechanical system, poor repetition accuracy and difficult and time-consuming settings were the rule, leading to inadequate efficiency, considerable strain on the environment and a reduced modulation range.

Here, electronic air-fuel ratio control can bring into play a number of benefits: Simpler burner design and greater precision ensure higher efficiency levels while reducing emissions. So, all in all, it's a more economical and more environment-friendly solution.



Safety, efficiency and user friendliness

Future-oriented burner management from Siemens

In addition to products for floor-standing and wall-hung boilers, Siemens develops, produces and supplies components for use with forced draft standard burners and industrial burners.

The comprehensive range of products includes burner controls, actuators, sensors and flame detectors, control systems, valves, test equipment and integrated system solutions.

These products and systems enable us to offer optimum solutions for our customers' market segments. They include single- and multi-family houses (residential buildings), commercial buildings and complex firing systems for industrial processes.

Interplay of a special class

This is the compact LMV burner management system for the control and supervision of single- or dual-fuel forced draft burners of medium or large capacity.

All system components used are matched to the microprocessor-based LMV burner controls.

This approach ensures a perfect combination of all devices, eliminating the need for making nuisance adjustments.

The extensive range of standard components, such as temperature and pressure sensors, boiler controllers, process automation systems and gas valves, round off our product portfolio and give consideration to almost any kind of requirement.

One example are the VGD40 double gas valves for large capacities. They offer very compact, flexible design and optimized flow characteristics.

Safety and security

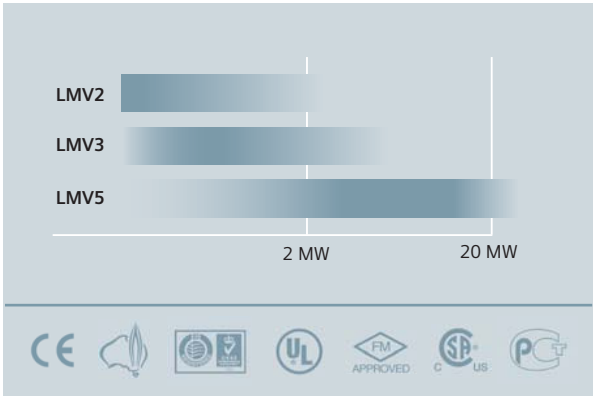
Siemens also sets new standards in terms of safety and security: The LMV uses 2 powerful microprocessors to ensure parallel handling of all signals via 2 channels. The signals are continuously compared with one another. So we are fully aware of our responsibility as market leader and system provider for burner control equipment.

Highlights

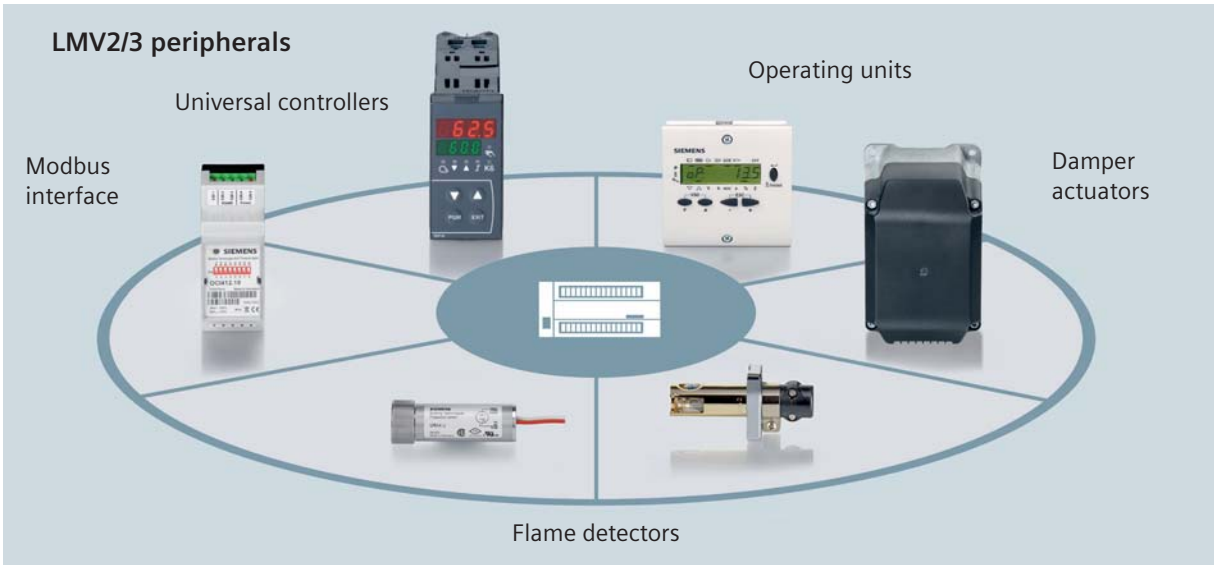
- Broad range of products
- Optimum systems for demand-related solutions
- Global approvals (UL, CSA and CE)

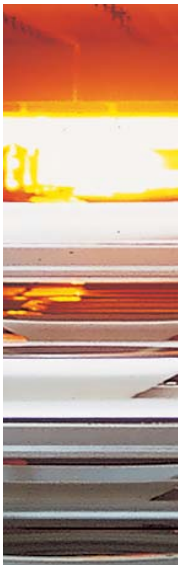
Fields of use











Flexibility in standard applications

Application areas

The LMV2/3 air-fuel ratio control system is used for the control of modulating or multi-stage oil or gas burners of medium capacity.

A simple user and service friendly interface with LCD enables the LMV2/3 to be commissioned quickly and ensures efficient and cost-saving maintenance of the entire system.

The benefits offered by electronic air-fuel ratio control are independent ratio curve settings and flexibility in terms of burner design. Fuel and air actuators can be fitted anywhere without having to give consideration to mechanical linkage.

Optimum conditions

Key components of the LMV2/3 system are the SQM3 and SQN1 actuators. They ensure accurate positioning of the air and fuel dampers, thus warranting optimum combustion with low emission levels. Variable actuator running times provide for quick start up when there is a request for heat, and good control performance in modulating mode.

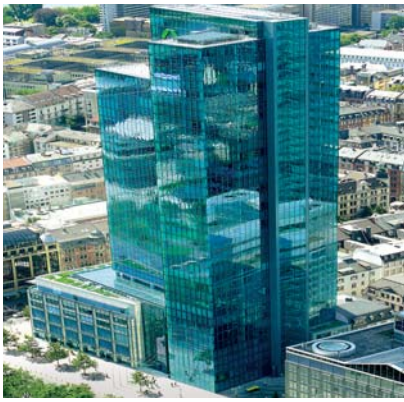
The burner management system brings its benefits into play not only in operation but also during the development and design phase of new generations of burner: The LMV2/3 has the burner control, electronic ratio control and gas valve proving integrated in its basic unit.

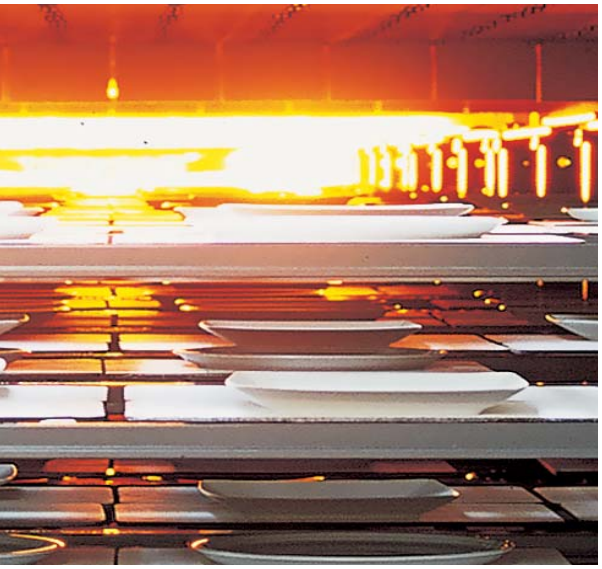
Highlights

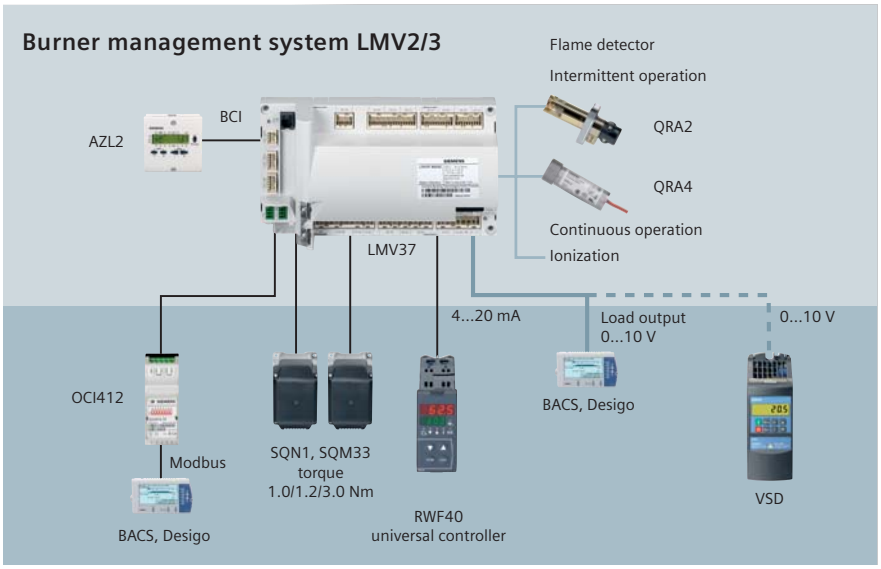
- Straightforward commissioning
- Integrated air-fuel ratio control
- One unit for oil- and gas-fired operation
- Integrated gas valve proving

Summary of key features

	LMV2	LMV3	LMV51	LMV52
Torque of actuators				
Dual-fuel operation				
Integrated load controller				
VSD control				
O_2 combustion optimization				







Ease of use and extensive functionality

Extremely straightforward

The LMV2/3 burner management system not only simplifies burner design but also makes the production process, mounting and service work more efficient: The complex linkage required with mechanical air-fuel ratio control is no longer needed and flexibility is increased considerably when using the basic unit.

Depending on the individual unit versions, the LMV2/3 burner management system provides a number of variable program sequences for control of the burner. There is a choice of gas and oil programs, with or without pilot burner, depending on the application and the basic unit version. Even dual-fuel applications with the AGM60 fuel changeover unit are possible.

Extra functions

For a quick burner commissioning, the gas valve proving can be optionally activated during post purging. Operation with only one actuator for pneumatic air-fuel ratio control is possible also. Furthermore, the extensive choice of configurations and parameter settings enables the LMV2/ LMV3 to be matched to almost any type of medium-capacity burner – easily and efficiently.

The LMV3 is approved for continuous operation with ionization probe, enabling it to be used also in connection with steam boilers or in plants for generating process heat.

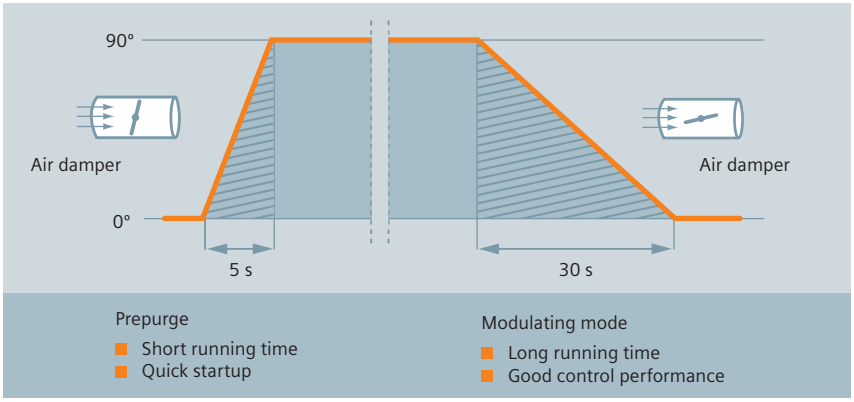
The LMV2/3 system is designed for mounting on the burner itself or adjacent to the burner components.

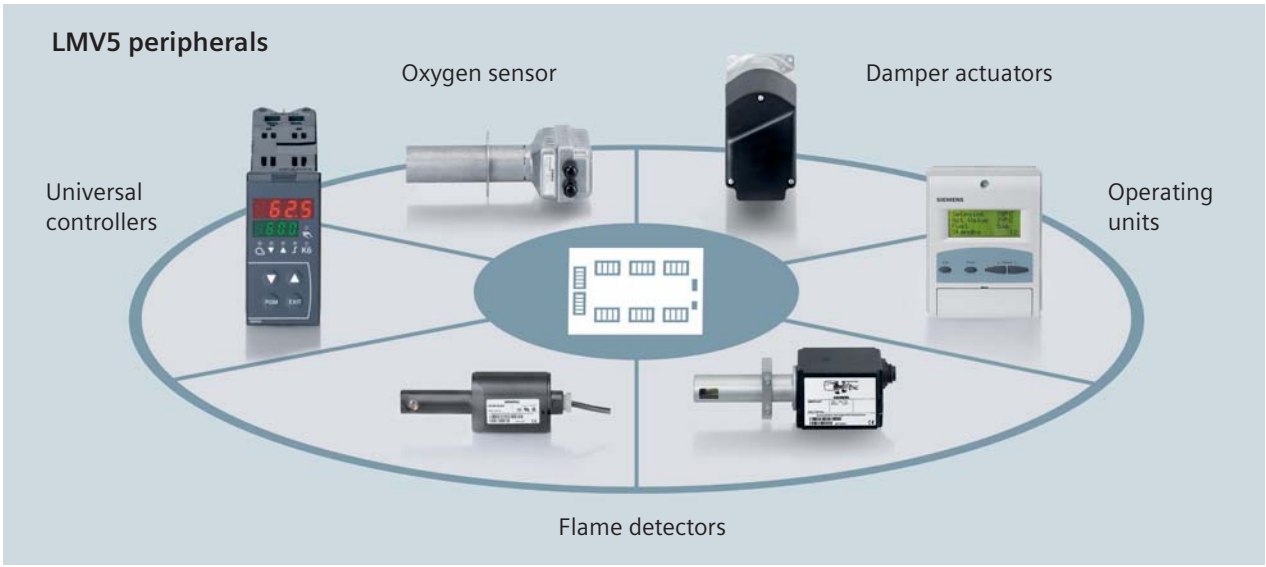
Highlights

- Modbus communication
- Analog 4...20 mA input for load controller
- Continuous operation with ionization current supervision
- Simple dual-fuel operation
- Variable actuator running times

Variable actuator running times for quick burner starts







Assistant for heavy duties

Application areas

The LMV5 burner management system demonstrates its capabilities and benefits not only in operation but also when it comes to the development and design of new generations of burner: The system has the burner control, electronic air-fuel ratio control and gas valve proving integrated in its basic unit. Optionally, the system can be equipped with a load controller, VSD control and O_2 combustion optimization. The load controller features an electronic safety limit thermostat.

Everlasting operation

Load control is in the form of a PID temperature/pressure controller featuring an algorithm for cold start of hot water or steam boilers, thus ensuring low wear and tear. Furthermore is the load controller equipped with an electronic safety limit thermostat. Continuous operation poses no problem to the LMV5 when used in connection with universal infrared flame detectors, UV flame detectors or ionization probes. Separate inputs and outputs for oil- or gas-fired operation deliver accurate diagnostics of the connected components and facilitate dual-fuel operation with no need for additional relay changeover.

Economical operation and environmental protection are important issues, especially in connection with technical systems for large building complexes and in industrial process heat generation. Together with the excellent price-performance ratio, the new burner management system now offers the opportunity to switch from mechanical to electronic air-fuel ratio control.

Highlights

- Including gas valve proving
- Optional load controller
- Modbus communication
- All versions suited for continuous operation
- Excellent price-performance ratio
- Combustion optimization via O_2 trim control







Straightforward service and ease of operation

Extremely straightforward

The LMV5 burner management system not only simplifies burner design but also makes the production process, mounting and service work more efficient: The complex linkage required with mechanical air-fuel ratio control is no longer needed and flexibility in terms of mounting is considerably increased.

The compact basic unit can be fitted directly in or on the burner or, using a powerful data bus, in a control panel. Since mechanical linkage is no longer required, electronic air-fuel ratio control offers a new kind of flexibility when it comes to adjusting the actuators. Also, system integration of functions cuts mounting and commissioning costs.

Clear conditions

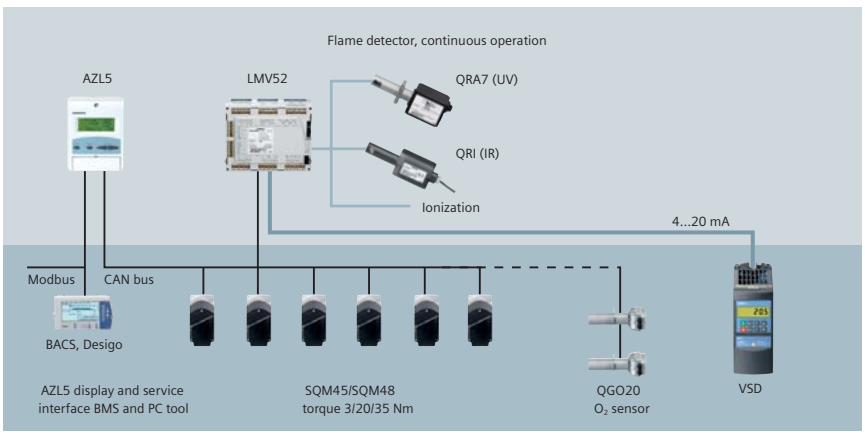
The new burner management system talks clear-text – in 17 different languages. The system can be configured and parameterized in accordance with the user-oriented, password-protected access level: Plant operator, service engineer or burner manufacturer. An extra software tool offers even more convenience. It is designed for setting the parameters on the production line and for commissioning the system in the field: It affords excellent process observation, graphic curve presentations based on the drag-and-drop method, plus trend recordings.

Highlights

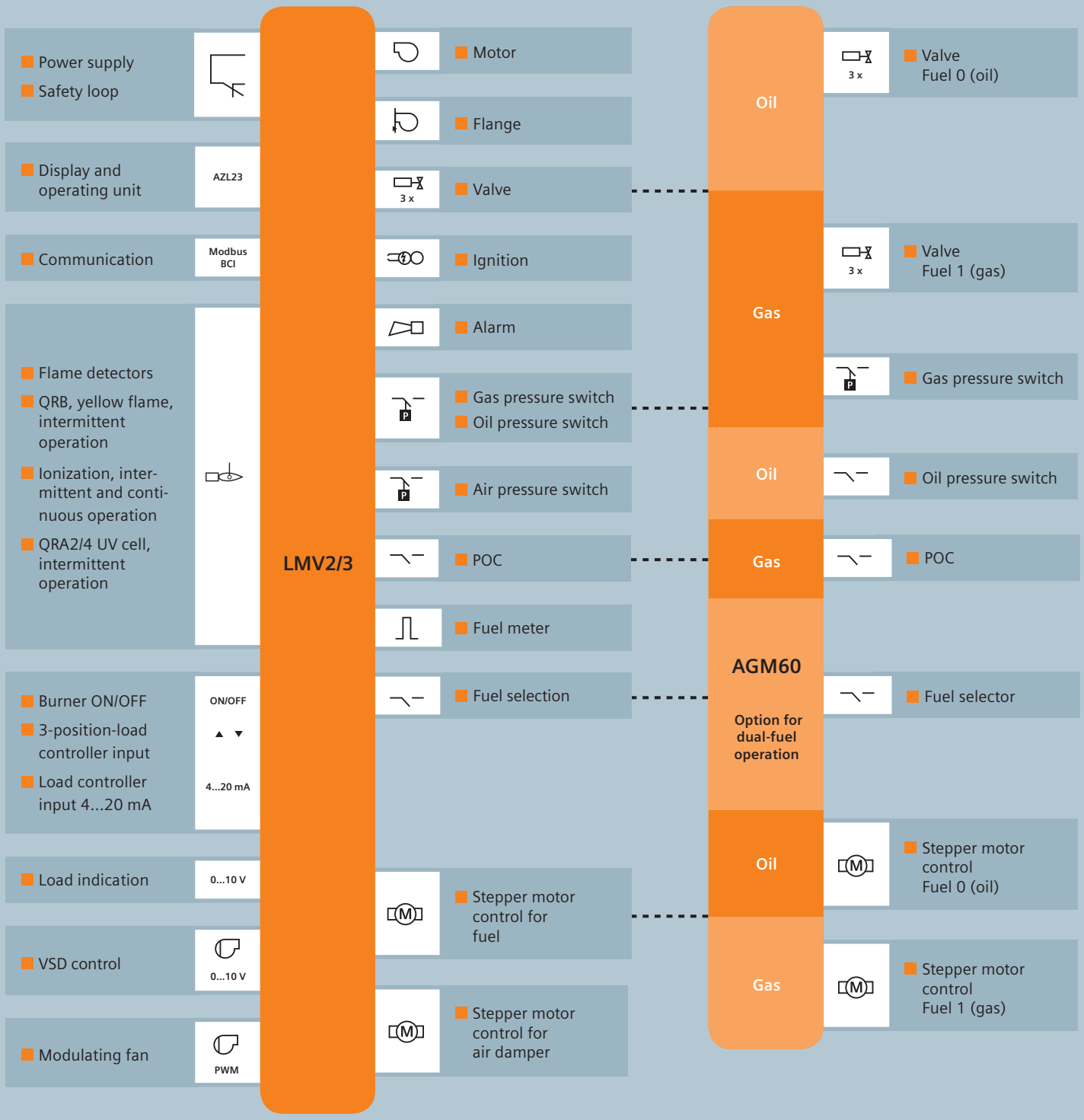
- Total of 17 languages available
- Optimized configuration by the user
- Straightforward installation and maintenance

LMV5 burner management system, LMV52 system with O_2 trim control





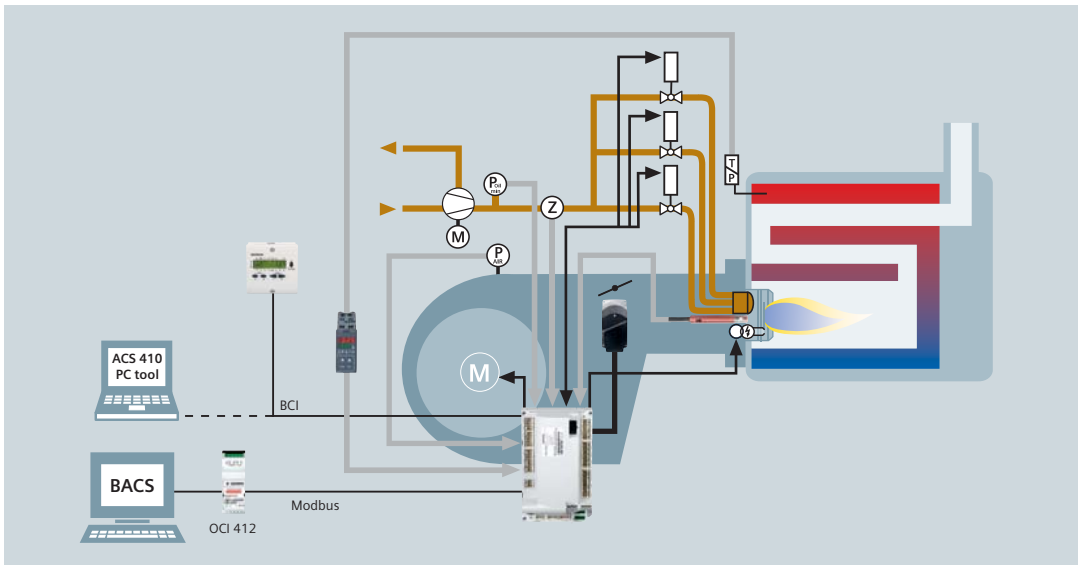
The connection facilities at a glance



Perfectly equipped
The LMV2/3 is suited for all standard applications ranging from the basic unit for intermittent operation to continuous operation with analogue interfaces.

The inputs and outputs can be used for both oil and gas burners. Actuators with torques up to 3 Nm can be connected via an integrated power pack.

Continuous operation
A connection facility is available for fuel meters. The LMV3 ensures trouble-free continuous operation when used in connection with an ionization probe.



LMV2/3 and its uses

Perfectly matched to the type of burner

The LMV2/3 is the ideal basic unit for any type of burner of medium capacity, be it oil, gas or even dual-fuel burner (modulating or multi-stage) – a solution is always at hand. By selecting the type of fuel train, the required parameters, such as type of flame detector, are automatically preset. This simplifies the configuration and saves commissioning time.

You can choose whether you want to use the LMV2/3 as a proper burner control for pneumatic or electronic air-fuel ratio control.

In the case of LMV26 dual-fuel burner controls for Europe, or LMV36 for North America, any 2 fuel trains can be combined.

The most important are gas modulating and oil multi-stage, with or without gas pilot.

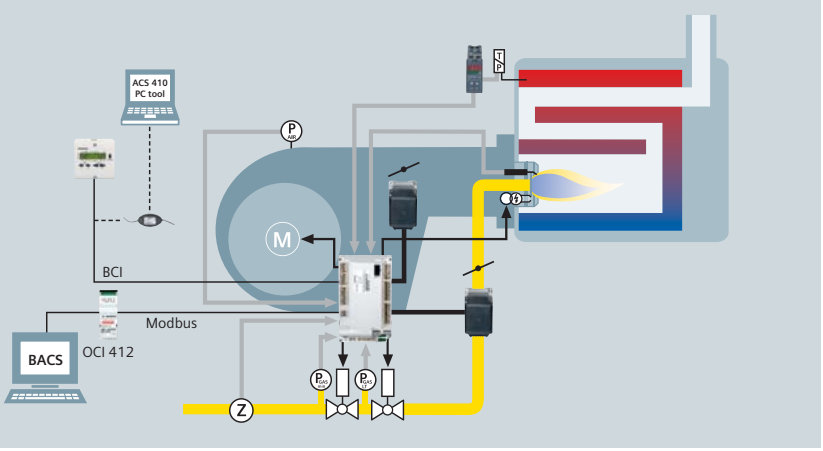
Straightforward service and clear diagnostics

Parameters and air-fuel ratio curves ascertained in the customer's laboratory can be stored with the PC software tool ACS410 to be transferred to new units. This also facilitates straightforward documentation of the delivered burners.

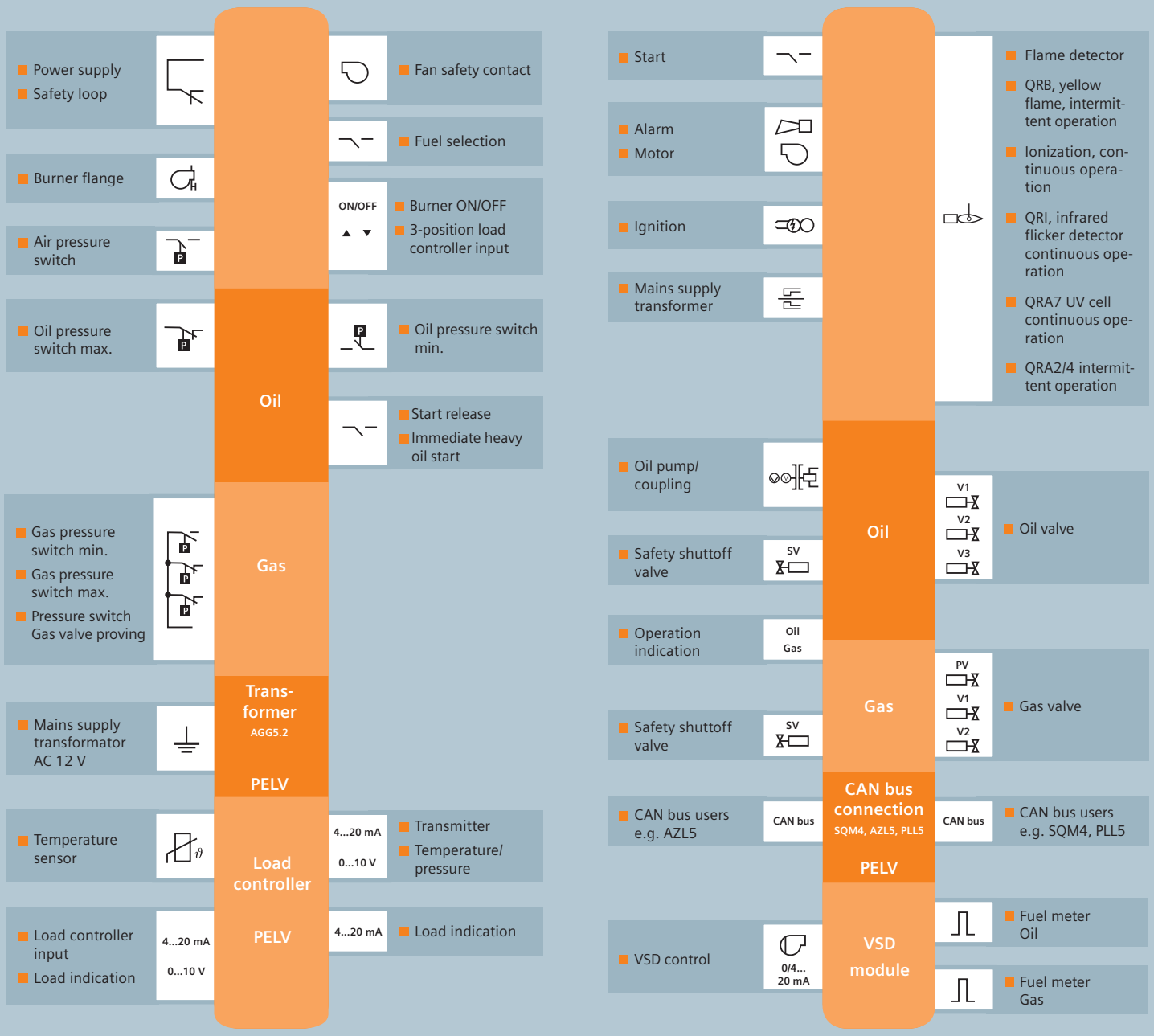
The parameters stored in the LMV2/3 are also stored in the AZL2 display and operating unit. When service work is due, the parameters can be transferred to a new unit. In addition to output via display or ACS410, diagnostics can be made via Modbus and remote maintenance.

Highlights

- Predefined fuel trains
- Integrated electronic air-fuel ratio control
- Pneumatic air-fuel ratio control with only one actuator
- 3 fuel valves
- Service-friendly thanks to backup/restore facility with AZL2 display and operating unit



The connection facilities at a glance

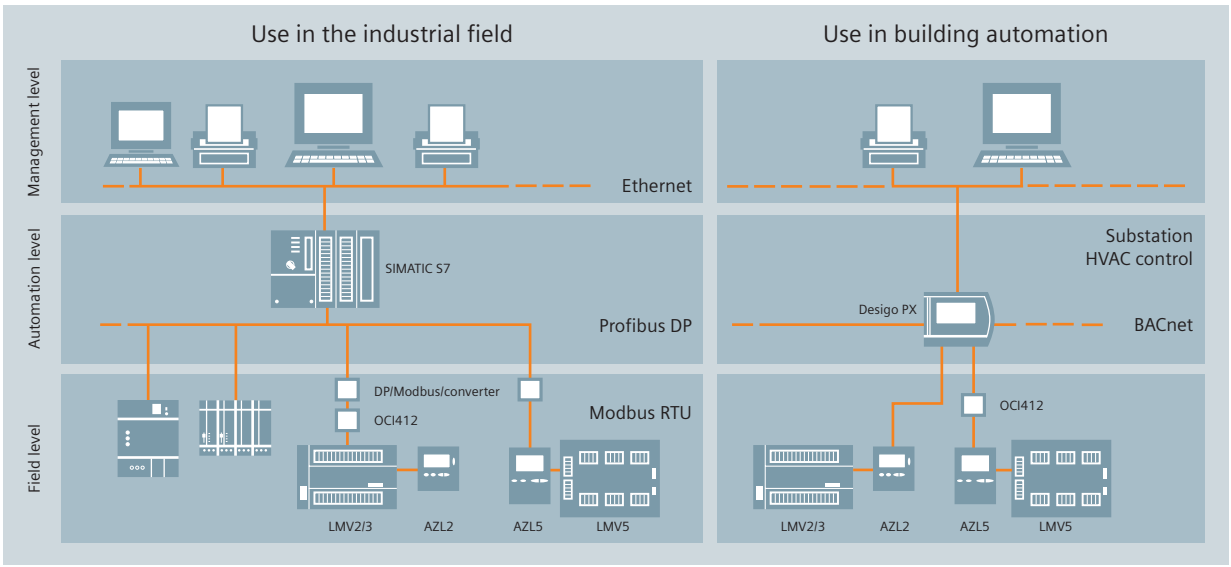


Variable program sequences for existing fuel trains

Optimized for the requirements placed on large burners, the LMV5 is equipped with terminals for dual-fuel operation, enabling the system to cover a host of applications. Standard applications include burners for hot water boilers, steam boilers or thermo oil. The LMV5 is also ideally suited for industrial process plants. It can handle light oil, heavy oil and gas, and has plug-in spaces for parallel connection of 2 fuel valves. Also possible are variants with or without gas pilot ignition, including permanent pilot in connection with light oil or heavy oil. Pilot and main flame can be monitored separately.

Variants for any type of application

The LMV51 basic version is available with or without built-in load controller. The LMV52 also has connection facilities for VSD control, combustion optimization via O_2 trim control, and up to 6 actuators. Low emission levels and high efficiency are ensured, especially by the accurately working actuators in combination with combustion optimization and VSD control.



Communication in almost any language

Communication between systems

Communication is becoming more and more important. For this reason – using an open, standardized communication interface – the LMV burner management system can be integrated into the most diverse types of higher level process management systems. The Modbus RTU protocol facilitates efficient and affordably priced integration.

With SIMATIC S7 or Desigo PX, Siemens offers a complete automation concept of modular design. Important actual values and setpoints can be constantly monitored, and information, such as fuel meter or hours run readings and parameter settings, can be displayed and assessed directly on the burner management system. This makes it possible, for instance, that predefined combustion efficiency levels of the burner will be adhered to.

Quick diagnostics

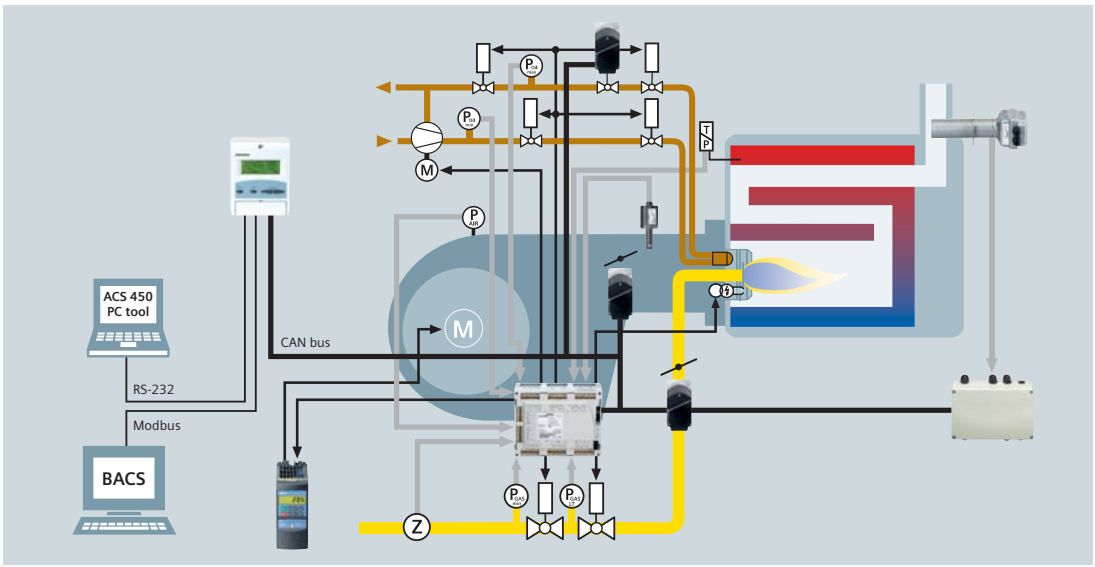
To facilitate quick and targeted diagnostics in the event of a fault, burner service staff can be supplied with all diagnostics data plus the history of the last faults.

Internal communication with safety-related components, such as actuators, the O_2 module and the display and operating unit, is effected via the safety-related CAN system bus. The integrated Modbus interface affords touchpanel operation and remote maintenance of plant. In the event of plant malfunction, this facility can also be used to send an autonomous alarm report to burner service staff.

Highlights

- Open, standardized communication interfaces
- Setting via automation systems
- Diagnostics and status information
- Remote maintenance





LMV5 – ensuring excellent performance

LMV5 load control

An important aspect is integration of the LMV5 burner management system into an existing PLC system. After replacement of the former plant, the LMV5 system can directly provide control of the existing PLC system.

Thanks to the configuration choices (3-position, 4...20 mA, DC 0...10 V, or digital via Modbus), load control of the LMV5 adapts easily to existing plant. The internal load controller or various external load controllers can be connected – or a load controller via process automation.

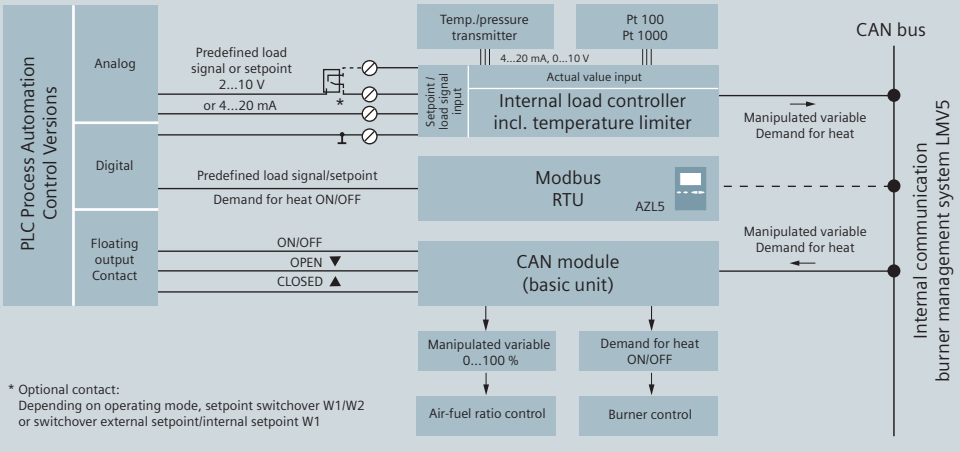
In the event of a process control failure or communication breakdown, the system automatically reverts to internal load control.

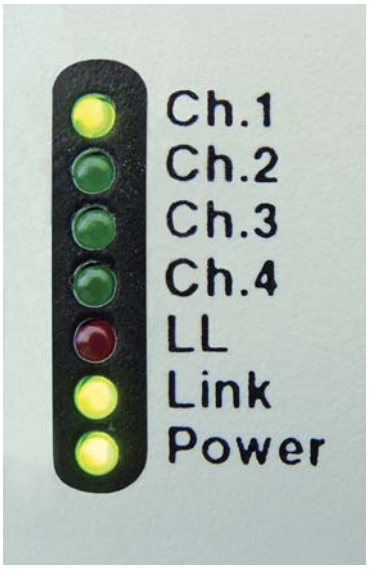
Choice of operating modes

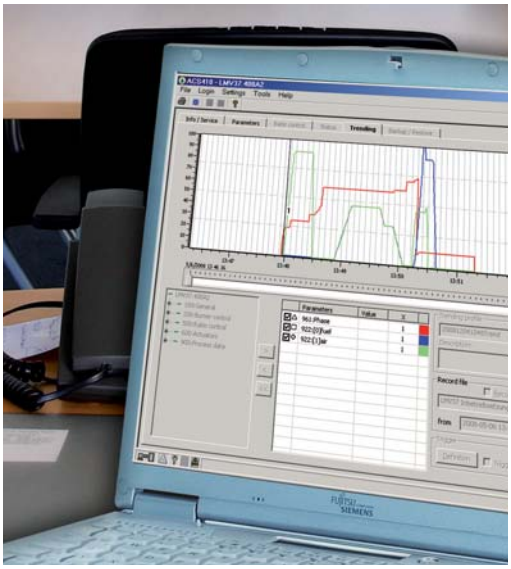
A total of 3 load control operating modes are available: An external load controller can control the LMV5 via the 3-position contact inputs. In that case, the internal control algorithm is deactivated. The connected sensors can be used for control via the internal load controller. Also, the load can be preset via an analogue signal. If process automation is used, the load can be digitally set via Modbus.

Highlights

- Optional connection to existing PLC building automation and control system
- Plant-dependent configuration choices
- Load control for any needs







Tools for efficient working

Small but efficient assistants

The AZL2 display and operating units are used in connection with the LMV2/LMV3 burner controls, either directly by the burner or in control panels close to the burner.

They afford display, operation and the setting of specific safety and non safety related burner functions. The most important plant data and fault codes can be interrogated and displayed

In connection with the LMV2/LMV3, the ACS410 tool facilitates parameter settings and the display and storage of plant data.

Big brother with excellent performance

The LMV5 burner management system is operated and programmed via the AZL5 display and operating unit or the PC tool.

Using the Modbus of the AZL5, the LMV5 system can be integrated into a complex data network (e.g. for process control). This means that functions, such as visualization of plant states, plant control and reporting, can be implemented.

The ACS450 tool required for that purpose is connected directly to the AZL5 and serves for the display and storage of LMV5 data plus parameter settings.

Highlights

- Display of operating states, program phases and fault codes
- Setting of parameters and air-fuel ratio curves
- Modbus interface
- Backup/restore facility
- Reading settings, parameters, operating states and types of fault
- Data logger with trigger function

