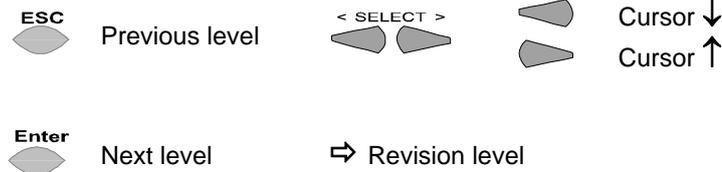


### Legend for Operating Instruction and AZL5...

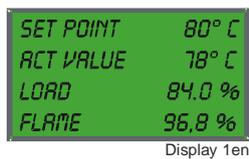


For language option, select:

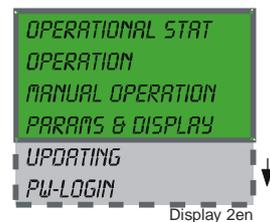
Param&Display ⇒ Access Heating engineer (HF) ⇒ AZL ⇒ Language

## Display

Normal operation

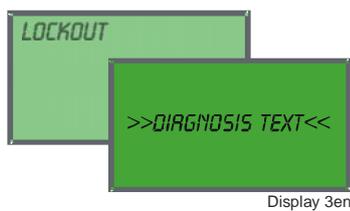


Press ESC, to get into the main menu



Display depending on burner sequence.

Display of fault or error



For fixing the display, press .

# Menu

Operational Stat



Fault History



Last 21 faults **1**

Operational Stat



Lockout History



Last 9 lockouts **2**

Param&Display



Ratio Control



Gas Settings

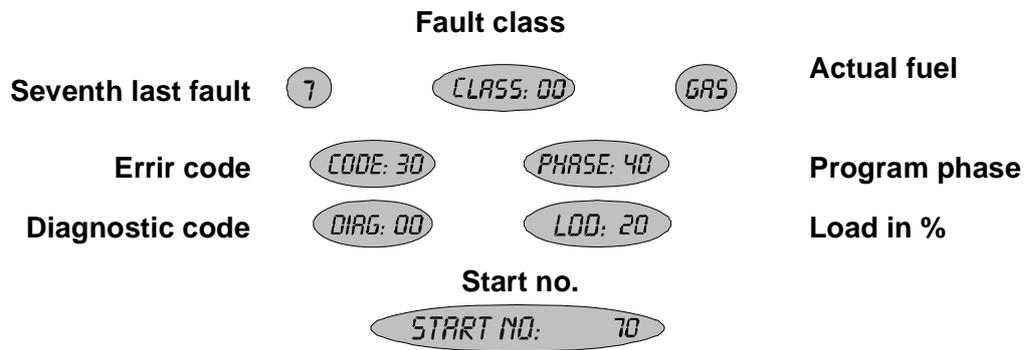


Curve Params **3**

## 1 Example: Error history

```
7 CLASS: 00 GAS
CODE: 30 PHASE: 40
DIAG: 00 LOD: 20
START NO: 70
```

Display 5en



For fixing the display, press

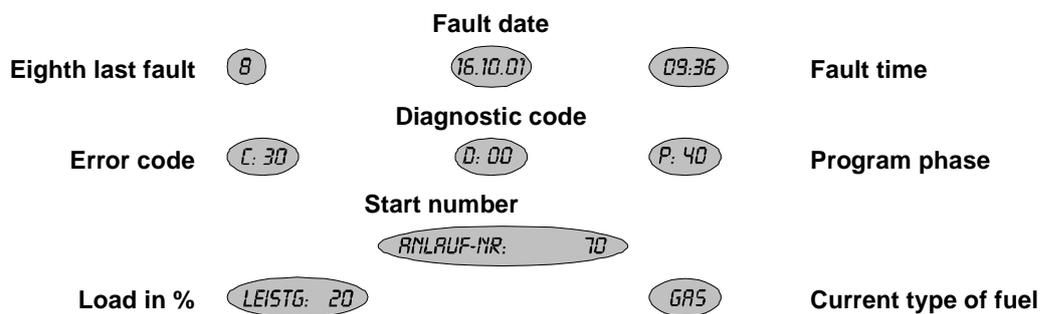


Selection error history

## 2 Example: Lockout history

```
8 16.10.01 09:36
C:30 0:00 P:40
START NO: 70
LOAD: 20 GAS
```

Display 6en



For fixing the display, press



Selection of error history

**3** Example: Curve parameter

**Changing a curvepoint:**

```
POINT | LOAD : 20.0
      | FUEL : 17.6
MAN   | AIR  : 21.9
      | AUX  : 15.0
```



Display 7en

```
POINT | LOAD : 20.0
      | 2 | FUEL : 17.6
MAN   | AIR  : 21.9
      | AUX  : 15.0
```



Display 8en

**Setting a curvepoint:**

```
POINT | LOAD : 20.0
      | FUEL : 17.6
MAN   | AIR  : 21.9
      | AUX  : 15.0
```



Display 9en

```
POINT | LOAD : 20.0
      | FUEL : 17.6
MAN   | AIR  : 21.9
      | 75.2 | AUX : 15.0
```



Display 10en

Menu level 1	Menu level 2	Menu level 3	Menu level 4	Menu level 5	Menu level 6
<b>OperationalStat</b>					
	NormalOperation				
	Status/Reset				
	FaultHistory				
	LockoutHistory				
	Alarm act/deact				

Menu level 1	Menu level 2	Menu level 3	Menu level 4	Menu level 5	Menu level 6
<b>Operation</b>					
	<b>BoilerSetpoint</b>				
		SetpointW1			
		SetpointW2			
	<b>User Maxload</b>				
		User MaxLoadMod			
		User MaxLoadStg			
	<b>Fuel</b>				
		CurrentFuel			
		FuelSelect			
	<b>Date/TimeOfDay</b>				
		<b>DisplayClock</b>			
			Date		
			TimeOfDay		
			Weekday		
		<b>SetClock</b>			
			Date		
			TimeOfDay		
			Weekday		
	<b>HoursRun</b>				
		GasFiring			
		OilStage1/Mod			
		OilStage2			
		OilStage3			
		TotalHoursReset			
		TotalHours			
		SystemOnPower			
	<b>StartCounter</b>				
		GasStartCount			
		OilStartCount			
		TotalStartCountR			
		TotalStartCount			
	<b>Fuel Meter</b>				
		Curr Flow Rate			
		Volume Gas			
		Volume Oil			
		Volume Gas R			
		Volume Oil R			
		Reset Date Gas			
		Reset Date Oil			
	LockoutCounter				
	<b>O2 Module</b>				
		FlueGasTemp			
	BurnerID				
	<b>OptgModeSelect</b>				
		InterfacePC			
		GatewayBASon			
		GatewayBASoff			
		Gateway status			
		Type of Gateway			
<b>ManualOperation</b>					
	SetLoad				
	Autom/Manual/Off				

Menu level 1	Menu level 2	Menu level 3	Menu level 4	Menu level 5	Menu level 6
<b>Params &amp; Display</b>					
	<b>BurnerControl</b>				
		<b>Times</b>			
			<b>TimesStartup1</b>		
				MinTmeStartRel	
				FanRunupTme	
				PrepurgeTmeGas	
				PrepurgeTmeOil	
				PrepurgeSafeGas	
				PrepurgeSafeOil	
				PrepurgePt1Gas	
				PrepurgePt3Gas	
				PrepurgePt1Oil	
				PrepurgePt3Oil	
				PreIgnitionTGas	
				PreIgnitionTOil	
				MinOnTmeOilPump	
			<b>TimesStartup2</b>		
				Interval1Gas	
				Interval1Oil	
				Interval2Gas	
				Interval2Oil	
				PressReacTme	
			<b>TimesShutdown</b>		
				MaxTmeLowFire	
				AfterburnTme	
				PostpurgeT1Gas	
				PostpurgeT1Oil	
				PostpurgeT3Gas	
				PostpurgeT3Oil	
				DelayLackGas	
			<b>TimesGeneral</b>		
				AlarmDelay	
				DelayStartPrev	
				PostpurgeLockout	
				MaxTmeStartRel	
		<b>Configuration</b>			
			<b>ConfigGeneral</b>		
				AlarmStartPrev	
				Standby Error	
				NormDirectStart	
				OilPumpCoupling	
				IgnOilPumpStart	
				ForcedIntermit	
				Skip PrepurgeGas	
				ContinuousPurge	
			<b>ConfigIn/Output</b>		
				RotSpeed PS on	
				RotSpeed PS off	
				Config X5-03	
				Start/PS-Valve	
			<b>ConfigFlameDet</b>		
				ReacExtranLight	
				<b>FlameSignal</b>	
					FlameSig QRI_B

Menu level 1	Menu level 2	Menu level 3	Menu level 4	Menu level 5	Menu level 6
					FlameSig ION
			<b>RepetitCounter</b>		
				LossOfFlame	
				HeavyOil	
				StartRelease	
				SafetyLoop	
		<b>ProductID</b>			
			ASN		
			ProductionDate		
			SerialNumber		
			ParamSet Code		
			ParamSet Vers		
		SW Version			
	<b>RatioControl</b>				
		<b>GasSettings</b>			
			<b>SpecialPositions</b>		
				<b>HomePos</b>	
					HomePosGas
					HomePosAir
					HomePosAux1
					HomePosAux3
					HomePosVSD
				<b>PrepurgePos</b>	
					PrepurgePosAir
					PrepurgePosAux1
					PrepurgePosAux3
					PrepurgePosVSD
				<b>IgnitionPos</b>	
					IgnitionPosGas
					IgnitionPosAir
					IgnitionPosAux1
					IgnitionPosAux3
					IgnitionPosVSD
				<b>PostpurgePos</b>	
					PostpurgePosGas
					PostpurgePosAir
					PostpurgePosAux1
					PostpurgePosAux3
					PostpurgePosVSD
				ProgramStop	
				<b>ResetIgnitPos</b>	
					IgnitionPosGas
					IgnitionPosAir
					IgnitionPosAux1
					IgnitionPosAux3
					IgnitionPosVSD
			CurveParams		
			<b>LoadLimits</b>		
				MinLoadGas	
				MaxLoadGas	
			<b>Load mask out</b>		
				LoadMaskLowLimit	
				LoadMaskHighLim	
			StartPoint Op		
		<b>OilSettings</b>			

Menu level 1	Menu level 2	Menu level 3	Menu level 4	Menu level 5	Menu level 6
			<b>SpecialPositions</b>		
				<b>HomePos</b>	
					HomePosOil
					HomePosAir
					HomePosAux1
					HomePosAux3
					HomePosVSD
				<b>PrepurgePos</b>	
					PrepurgePosAir
					PrepurgePosAux1
					PrepurgePosAux3
					PrepurgePosVSD
				<b>IgnitionPos</b>	
					IgnitionPosOil
					IgnitionPosAir
					IgnitionPosAux1
					IgnitionPosAux3
					IgnitionPosVSD
				<b>PostpurgePos</b>	
					PostpurgePosOil
					PostpurgePosAir
					PostpurgePosAux1
					PostpurgePosAux3
					PostpurgePosVSD
				ProgramStop	
				<b>ResetIgnitPos</b>	
					IgnitionPosOil
					IgnitionPosAir
					IgnitionPosAux1
					IgnitionPosAux3
					IgnitionPosVSD
			<b>CurveParams</b>		
				Curve Settings	
			<b>LoadLimits</b>		
				MinLoadOil	
				MaxLoadOil	
			<b>Load mask out</b>		
				LoadMaskLowLimit	
				LoadMaskHighLim	
			StartPoint Op		
		Autom/Manual/Off			
		<b>Times</b>			
			OperatRampMod		
			OperatRampStage		
			TimeNoFlame		
		ShutdownBehav			
		ProgramStop			
	<b>LoadController</b>				
		<b>ControllerParam</b>			
			<b>ContrIParamList</b>		
				StandardParam	
				P-Part (Xp)	
				I-Part (Tn)	
				D-Part (Tv)	
			MinActuatorStep		
			SW_FilterTmeCon		

Menu level 1	Menu level 2	Menu level 3	Menu level 4	Menu level 5	Menu level 6
			SetpointW1		
			SetpointW2		
			SD_ModOn		
			SD_ModOff		
			SD_Stage1On		
			SD_Stage1Off		
			SD_Stage2Off		
			SD_Stage3Off		
			ThreshStage2On		
			ThreshStage3On		
		<b>TempLimiter</b>			
			TL_ThreshOff		
			TL_SD_On		
		<b>ColdStart</b>			
			ColdStartOn		
			ThresholdOn		
			StageLoad		
			StageSetp_Mod		
			StageSetp_Stage		
			MaxTmeMod		
			MaxTmeStage		
			ThresholdOff		
			AdditionalSens		
			Temp. ColdStart		
			Setp AddSensor		
			Release Stages		
		<b>Configuration</b>			
			LC_OptgMode		
			Sensor Select		
			MeasureRangePtNi		
			var. RangePtNi		
			Ext Inp X61 U/I		
			MRange TempSens		
			MRange PressSens		
			Ext Inp X62 U/I		
			Ext MinSetpoint		
			Ext MaxSetpoint		
			<b>Analog Output</b>		
				OutValuSelection	
				CurrMode 0/4mA	
				Scale20mA perc	
				Scale20mA temp	
				Scale20mA press	
				Scale20mA angle	
				Scale 0/4mA	
		<b>Adaption</b>			
			StartAdaption		
			AdaptionLoad		
		SW Version			
<b>AZL</b>					
		<b>Times</b>			
			Sum/WinterTime		
			Time EU/US		
		Language			

Menu level 1	Menu level 2	Menu level 3	Menu level 4	Menu level 5	Menu level 6
		DateFormat			
		PhysicalUnits			
		<b>eBUS</b>			
			Address		
			SendCycleBU		
		<b>Modbus</b>			
			Address		
			Baudrate		
			Parity		
			Timeout		
			Lokal / Remote		
			Remote Mode		
			W3		
		Display Contrast			
		<b>ProductID</b>			
			ASN		
			ProductionDate		
			SerialNumber		
			ParamSet Code		
			ParamSet Vers		
		SW Version			
	<b>Actuators</b>				
		<b>Addressing</b>			
			1 AirActuator		
			2 GasActuat(Oil)		
			3 OilActuator		
			4 AuxActuator		
			6 AuxActuator3		
		<b>DirectionRot</b>			
			DeleteCurves		
		<b>ProductID</b>			
			<b>1 AirActuator</b>		
				ASN	
				ProductionDate	
				SerialNumber	
				ParamSet Code	
				ParamSet Vers	
			<b>2 GasActuat(Oil)</b>		
				ASN	
				ProductionDate	
				SerialNumber	
				ParamSet Code	
				ParamSet Vers	
			<b>3 OilActuator</b>		
				ASN	
				ProductionDate	
				SerialNumber	
				ParamSet Code	
				ParamSet Vers	
			<b>4 AuxActuator</b>		
				ASN	
				ProductionDate	
				SerialNumber	
				ParamSet Code	
				ParamSet Vers	

Menu level 1	Menu level 2	Menu level 3	Menu level 4	Menu level 5	Menu level 6
			<b>6 AuxActuator</b>		
				ASN	
				ProductionDate	
				SerialNumber	
				ParamSet Code	
				ParamSet Vers	
		<b>SW Version</b>			
			1 AirActuator		
			2 GasActuat(Oil)		
			3 OilActuator		
			4 AuxActuator		
			6 AuxActuator3		
	<b>VSD Module</b>				
		<b>Configuration</b>			
			ReleasecontctVSD		
			<b>Speed</b>		
				Num Puls per R	
				Standardization	
				StandardizedSp	
				Absolute Speed	
				Setpoint Output	
			<b>Fuel Meter</b>		
				PulseValueGas	
				PulseValueOil	
		<b>Process Data</b>			
			Max Stat Dev		
			Max Dyn Dev		
			Num Dev >0.3%		
			Num Dev >0.5%		
			Absolute Speed		
		<b>ProductID</b>			
			ASN		
			ProductionDate		
			SerialNumber		
			ParamSet Code		
			ParamSet Vers		
		SW Version			
	<b>O2 Module</b>				
		<b>Configuration</b>			
			FlueGasTempSens		
			MaxTempFIGasGas		
			MaxTempFIGasOil		
		<b>Process Data</b>			
			FlueGasTemp		
		<b>ProductID</b>			
			ASN		
			ProductionDate		
			SerialNumber		
			ParamSet Code		
			ParamSet Vers		
		SW Version			
	<b>Flue Gas Recirc.</b>				
		FGR-Mode			
		FGR-sensor			
		actTmpFGR-sensor			

Menu level 1	Menu level 2	Menu level 3	Menu level 4	Menu level 5	Menu level 6
		ThresholdFGR Gas			
		DelaytimeFGR Gas			
		ThresholdFGR Oil			
		DelaytimeFGR Oil			
	<b>SystemConfig</b>				
		LC_OptgMode			
		Ext Inp X62 U/I			
		<b>TempLimiter</b>			
			TL_Thresh_Off		
			TL_SD_On		
			Sensor Select		
			MeasureRangePtNi		
		LC Analog Output			
		allowed Pot.diff			
	<b>HoursRun</b>				
		GasFiring			
		OilStage1/Mod			
		OilStage2			
		OilStage3			
		TotalHoursReset			
		TotalHours			
		SystemOnPower			
		<b>Reset</b>			
			GasFiring		
			OilStage1/Mod		
			OilStage2		
			OilStage3		
			TotalHoursReset		
	<b>StartCounter</b>				
		GasStartCount			
		OilStartCount			
		TotalStartCountR			
		TotalStartCount			
		<b>Reset</b>			
			GasStartCount		
			OilStartCount		
			TotalStartCountR		
	<b>Fuel Meter</b>				
		Curr Flow Rate			
		Volume Gas			
		Volume Oil			
		Volume Gas R			
		Volume Oil R			
		Reset DateGas			
		Reset DateOil			

Menu level 1	Menu level 2	Menu level 3	Menu level 4	Menu level 5	Menu level 6
<b>Updating</b>					
	<b>ParamBackup</b>				
		<b>BackupInfo</b>			
			Date		
			TimeOfDay		
			BU included?		
			AZL included?		
			LC included?		
			ACT1 included?		
			ACT2 included?		
			ACT3 included?		
			ACT4 included?		
			ACT6 included?		
			VSD included?		
		LMV5x → AZL			
		AZL → LMV5x			
	Load_SW_from_PC				
PW Login					
PW Logout					
<b>SafetyCheckFunct</b>					
	LossFlameTest				
	SLT Test				
	SLT-Testload Mod				
	SLT-Testload Stg				

**Use of TÜV test function must be carried out by qualified staff!**

## Required information for service purpose

Plant: \_\_\_\_\_

Burner data: \_\_\_\_\_

## Burner management system LMV51...

	ASN	Production date	Software version
Burner control			
Load controller			
AZL5...			
Air actuator			
Gas actuator			
Oil actuator			
Auxiliary actuator			

## General data burner management system LMV51...

Date	Time	Name	Operating hours				Device on power	Starts			Number of errors
			Gas	Oil stage 1	Oil stage 2	Total		Oil	Gas	Total	

## Lockout history

No.	Date	Time	Code	Diagnostic code	Error phase	Startup	Load	Fuel	Description of fault
1									
2									
3									
4									
5									
6									
7									
8									
9									

## Error history

No.	Class	Fuel	Code	Phase	Diagnostic code	Load	Startup	Description of fault
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								



### Note!

Alternative to the tables, a backup for offline operating mode can be stored and send via the ACS450 software.