



Cloud gateway

OCI460...

The OCI460 is a Climatix IC gateway and interface converter with galvanic separation for Siemens burner controls or burner management systems (listed as 'Basic units' in the body of the data sheet) equipped with a Modbus or BC interface – refer to chapter *Additional documentation – Product type*.

It provides 2 basic functions:

- Data gateway to the Climatix IC cloud for Siemens basic units
- Modbus RTU/IP interface via RS-485 and Ethernet

The OCI460 is intended exclusively for stationary use under the burner hood or in a control panel in connection with the Siemens basic unit types. Refer to the relevant documentation of the respective basic unit type to ensure proper operation.

The OCI460 and this data sheet are intended for OEMs using the OCI460 in or on their products.

Supplementary documentation

Product type or basic unit	Designation	Documentation type	Documentation number
OCI460	Cloud gateway	Environmental declaration	A6V13296726 *)
		Data sheet	N7600
LFS1	Flame safeguard	Data sheet	N7782
		User documentation	A7782
LME39	Burner control	Data sheet	N7106
		Basic documentation	P7106
LME71 LME73	Burner control	Data sheet	N7105
		Basic documentation	P7105
PME71.111Ax	Program module	User documentation	A7105.1
PME71.112Ax	Program module	User documentation	A7105.2
PME71.401Ax	Program module	User documentation	A7105.3
PME71.402Ax	Program module	User documentation	A7105.4
PME71.901Ax	Program module	User documentation	A7105.5
LME71.901Ax	Program module	User documentation	A7105.6
PME72.521Ax *)	Program module	User documentation	A7105.11
PME72.541Ax *)	Program module	User documentation	A7105.12
PME73.231Ax	Program module	User documentation	A7105.29
PME73.810Ax	Program module	User documentation	A7105.21
PME73.811Ax	Program module	User documentation	A7105.22
PME73.812Ax	Program module	User documentation	A7105.23
PME73.820Ax	Program module	User documentation	A7105.24
PME73.830Ax	Program module	User documentation	A7105.25
PME73.831Ax	Program module	User documentation	A7105.26
PME73.840Ax	Program module	User documentation (variant 1)	A7105.27
PME73.840Ax	Program module	User documentation (variant 2)	A7105.28
LME75 LME76	Burner control	Data sheet	N7156
		Basic documentation	P7156
PME75.231Ax	Program module	User documentation	A7156.7
PME75.811Ax	Program module	User documentation	A7156.1
PME75.812Ax	Program module	User documentation	A7156.3
PME75.831Ax	Program module	User documentation	A7156.4
PME76.231Ax	Program module	User documentation	A7156.8
PME76.811Ax	Program module	User documentation	A7156.2
PME76.812Ax	Program module	User documentation	A7156.6
PME76.831Ax	Program module	User documentation	A7156.5
LME81.210B2V	Burner control	Basic documentation	Customized
LMO39	Burner control	Data sheet	N7154
LMO8x	Burner control	Data sheet	Customized
LMV26.300Ax	Burner management system	Data sheet	N7547
		Basic documentation	P7547
LMV27.100Ax	Burner management system	Data sheet	N7541
		Basic documentation	P7541
LMV36.300Ax	Burner management system	Data sheet	N7547
		Basic documentation	P7547
LMV36.520Ax	Burner management system	Data sheet	N7544
		Basic documentation	P7544
LMV37.4	Burner management system	Data sheet	N7546
		Basic documentation	P7546
LMV5	Burner management system	Data sheet	N7550
		Basic documentation	P7550
LMV62 LMV63	Burner management system	Data sheet	N7560
		Basic documentation	P7560

*) On request only



Caution!

Additional notes to be observed!

All safety notes, warnings, and technical notes in the documentation for the respective basic unit also apply to the OCI460. The following warning notes must be observed to avoid personal injury or damage to property or the environment.

Caution!

The following information must be observed to prevent the risk of fire or explosion, damage to the heating plant, or damage resulting from improper usage:

The OCI460 described in this data sheet may only be used as intended and only in connection with the appropriate burner and heating plant. Failure to observe these notes poses a risk of compromising the safety functions.

The basic unit with OCI460 and the associated heating control system may only be installed and commissioned by authorized specialist personnel. Failure to follow these notes poses a risk of failure of the safety functions and a risk of electric shock.



The OCI460 is intended for use in dry rooms only. Do not install the OCI460 outdoors; protect it from heat, frost, and liquids, such as water, oil, and fuel oil. Failure to observe this information poses a risk of electric shock.

The operating steps and setting notes listed in this data sheet must be followed exactly. Certain settings may only be made by authorized personnel and are clearly marked as such. Failure to observe these notes poses a risk of compromising the safety functions.

If dirty or dusty, clean the OCI460 with a dry cloth only.

Do not perform any maintenance or repair work on the OCI460 yourself. This work may only be carried out by authorized personnel. Failure to observe this information poses a risk of electric shock.

If you have any other questions relating to the OCI460, please contact your heating engineer or get in touch with Siemens at any of the addresses provided in this data sheet.

Warning notes



- All activities (mounting, installation, service work, etc.) must be performed by qualified personnel.
- Before making any wiring changes in the connection area, completely isolate the plant from the power supply (all-pole disconnection). Ensure that it cannot be inadvertently switched on again and that it is indeed dead. If the plant is not switched off, there is a risk of electric shock.
- Take suitable measures to provide protection against accidental contact at the electrical connections.
- Each time work has been carried out (mounting, installation, service work, etc.), check to ensure that the wiring and parameterization are in an orderly state.
- OCI460s must not be put back into operation following impact or shock.
- The OCI460 is approved for stationary use only.
- All safety, warning, and technical notes found in the documentation for the respective basic unit also apply to this data sheet.
- The OCI460 must not be used for alarm transmission; only the designated outputs of the basic unit may be used for alarms.
- The network to which the OCI460 is connected must meet the standard security criteria for business or industrial networks.

Installation notes

- Ensure that the relevant national safety regulations are complied with.
- Mounting on a DIN standard rail (EN 50022, 72 mm) corresponds to 4 module units.
- The burner or boiler manufacturer must ensure degree of protection IP20 in accordance with DIN EN 60529 through adequate installation of the OCI460 (e.g., installation in the burner housing or in the control panel).
- Ensure that the strain relief of the connected cables is in compliance with the relevant standards (e.g., as per DIN EN 60730 and DIN EN 60335).
- Ensure that spliced wires cannot come into contact with neighboring connections. Use suitable ferrules.
- The connectors of the connecting cables for the OCI460 may only be removed or replaced when the plant is shut down (all-pole disconnection), since the COM interface of the basic unit does not provide safe separation from mains voltage.
- The connecting cable between the basic unit and the OCI460 must be suitable for use under the burner hood or in the control panel.

Commissioning

The OCI460 is equipped with an automatic detection function to identify a connected basic unit on one of the 3 physical interfaces (T3 – RS-485 or RS-232, T4 – TTL). During the automatic detection process, the OCI460 restarts several times until a supported base unit is identified. The default settings of the OCI460 for Modbus basic units (LMV2x, LMV3x, LMV5x, and LMV6x) are 19,200 CPS, 8 bits, no parity, 1 stop bit, Modbus address 1, and – for Ethernet communication – DHCP (Dynamic Host Configuration Protocol – automatic IP assignment). All Modbus RTU and TCP/IP settings can be changed in the online HMI of the OCI460. No communication settings are required for the BC interface basic units (LME7x, LME8x, LMx39, LMO8x, LFS1). After a successful automatic identification of a basic unit, the automatic detection is deactivated and the details of the interface used as well as the type of basic unit identified are stored in the OCI460. If the OCI460 is to be used with another basic unit, the 'Restart auto-detection' function must be activated in the online HMI of the OCI460. Once the new basic unit has been identified, the 'Restart auto-detection' function deactivates itself. Alternatively, communication to the basic unit can always be set manually.

OCI460 statuses and signals



DOWNLINK LED:	Description
Flashing GREEN	No data connection to the basic unit via T3 interface or T4 interface
Lights up GREEN	Existing data connection to the basic unit
Lights up ORANGE	(uplink and downlink LED) – automatic detection OFF
UPLINK LED:	
OFF	No physical connection to the Ethernet network
Flashing GREEN	Existing connection to the Ethernet network, without connection to the Climatix IC server
Lights up GREEN	Existing connection to the Climatix IC server
LED STATUS:	
Lights up RED	Startup sequence or undervoltage
Alternating RED/GREEN	Firmware update
Lights up ORANGE	Firmware update successfully completed
Lights up GREEN	In operation

T5 button: AUTOMATIC DETECTION OFF (for 30 minutes)
 To temporarily deactivate the automatic detection for identifying a connected basic unit, press and hold the T5 button for 5 seconds after switching on the OCI460 (status LED lights up green). The OCI460 is restarted with deactivated automatic detection and the uplink and downlink LEDs both light up orange to facilitate use of the manual configuration (e.g., specific Ethernet IP settings or Modbus configuration) fault-free. After a maximum of 30 minutes, the OCI460 restarts automatically and the automatic detection is active again. Once the automatic detection has recognized a connected basic unit and has been able to establish a connection, the settings are saved in the OCI460. Automatic detection is executed again when the firmware is updated (online or local) or automatic detection is enabled in the online HMI.

Manual communication settings via online HMI

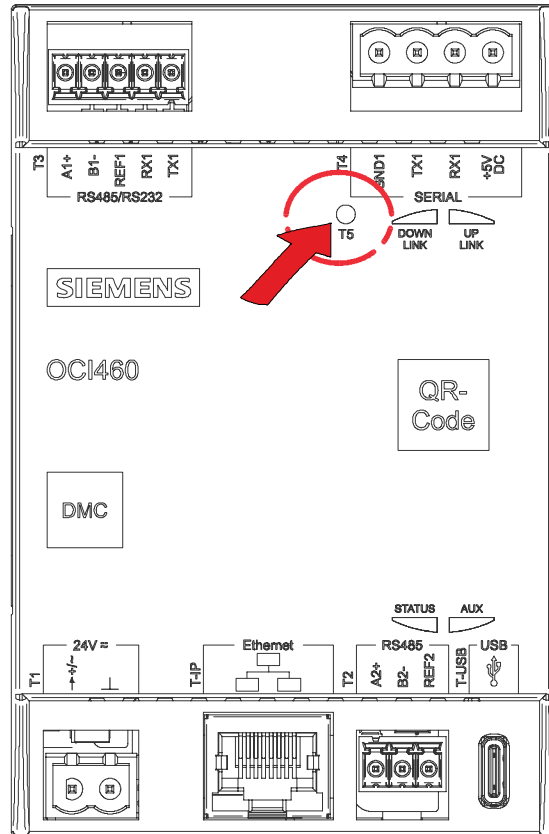
For specific Ethernet, Modbus, access data, or Climatix IC settings, manual changes can be made via the online HMI integrated in the OCI460. This requires a PC with a physical Ethernet interface (RJ45), any browser, and a standard patch cable. The PC network settings should be set to DHCP (default) with NetBIOS support enabled in the advanced TCP/IP settings (default). The patch cable is used as a direct connection between the PC and the OCI460.

If a fixed IP address is to be set, the setting should be made after the successful automatic detection of the basic unit (OCI460 has detected and saved a connected basic unit – downlink LED permanently green), since the network setting is set to DHCP during automatic detection for technical reasons.

Start the OCI460 and:

- if a supported basic unit is connected, wait until the downlink LED is permanently green.
- if no supported basic unit is connected, press and hold the T5 button with a suitable tool for 5 seconds to disable the automatic detection (uplink LED and downlink LED change to orange after a restart).

After approx. 30 seconds, the 'limited network connection' network icon is displayed on the PC.

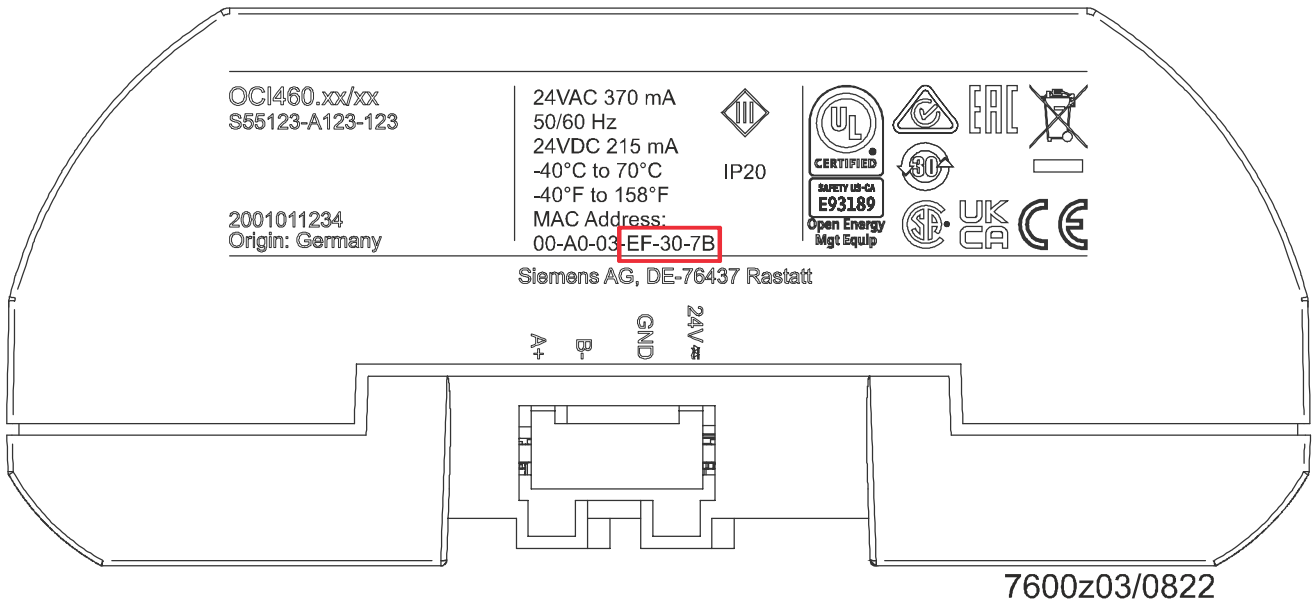


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Commissioning (continued)

Signaling the unit status

Start your web browser and enter the following address in the address bar:
`http://OCI460_XXYYZZ`. XXYYZZ stands here for the last 6 characters of the unit's MAC address without the hyphens, as printed on the type label (see right side of unit).



In the example given here, enter the OCI460 address as `http://OCI460_EF307B`, then press the Enter key. The OCI460 login page appears.

The screenshot shows a web browser window with the following content:

- Header: Login
- URL: `http://192.168.187.89`
- Warning: The connection to this website is not secure
- User name field: ADMIN
- Password field:
- Buttons: Log in (blue), Cancel

Labels on the right side of the screenshot indicate the values: User name: ADMIN and Password: SBTAdmin!

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Commissioning (continued)

You will then be prompted to enter a pin to complete the registration.

Please enter your PIN:

Log in

Pin: 0000

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The main menu of the OCI460 online HMI that is now displayed provides detailed information about the OCI460 and enables application-specific configuration.

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Operation●🔔●Info●Metric ▾English ▾🔄Log out

Start screen

Unit information	OCI460
Software version	v.1.21t
Type (ASN)	LME71.901A2
Burner control: Communication status	OK
Restart: Auto-detection	Passive
IC server	International
IP configuration	
Climatix IC	
Modbus	
Time	
Restart	
Start screen	

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Commissioning (continued)

Key

Unit information	Information about the unit.
Software version	Currently installed firmware version
Basic unit type/ ASN	Currently connected basic unit
Basic unit communication status	Status of communication to the basic unit
Restart auto- detection	Status of the automatic detection and the option to reactivate it to automatically identify a connected basic unit.
IC server	Selected location of the Climatix IC server.
IP configuration	<p>Basic network settings (IP4) can be configured here, such as IP address, default network gateway, DNS server, and unit name (OCI460 network designation). The default setting for the IP address is DHCP. The 'DHCP' IP address must be deactivated before a fixed IP address can be set. The access data for the online HMI can be changed via the 'Advanced' menu.</p> <p>Recommendation: The preset access data should be replaced with your own data for security reasons.</p>
Climatix IC	<p>This menu provides various information along with the opportunity to change some settings. Standard information is displayed here, including the OCI460 serial number, the Climatix IC activation key (necessary to register the OCI460 with Climatix IC) and the current uplink status.</p> <p>The 'Upgrade request' function is available to manually enable an upgrade of the internal operating system. We recommend that you leave the settings unchanged unless these have been advised and described by an expert or you are aware of the effects of the changes.</p>
Modbus	The Modbus settings can be adjusted here according to local requirements. The OCI460 provides a Modbus on the RS-485 interface (T2) for connection to an automation system, building management system, or display. It offers access to all data provided by the connected basic unit. The Modbus address and RS-485 serial settings can be changed here. Preset addresses are 1, 19200, 8, N, 1, and termination. The Modbus client settings can also be changed here if necessary, or if the default settings of the connected basic unit have been changed. Preset addresses are 1, 19200, 8, N, 1, termination, and polarization.
Time	For Climatix IC or for the connected basic unit, it may be helpful to set the OCI460 to the time zone in which it is installed. If an LMV5 is connected, the OCI460 will automatically synchronize the LMV5 system time with the current local time every 24 hours through a time server (Internet access to Climatix IC required) if the time zone setting has been configured.
Restart	The OCI460 should be restarted any time changes are made to the configuration. To apply the changes safely, select the corresponding 'Execute' option and press the 'Apply' button.

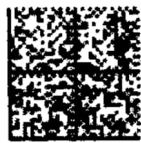
Codes on the OCI460:

There are 2 digital codes on the OCI460: a QR code (quick response code) and a DM code (data matrix code). The codes allow quick access to the data on the type label when it is difficult to read once installed.

The DM code is also printed on the packaging label.



This QR code contains the activation key of the OCI460 to be pre-registered with Climatix IC.



This DM code contains the following information:

1P	SSN: Siemens order number
31P	Type (ASN): Unit designation
S	Serial number
23S	MAC address of the network interface
3C	Activation key for Climatix IC

Commissioning (continued)

Software update:

The OCI460 software can be updated either locally with a suitable USB memory or online via the Climatix IC, provided that the OCI460 has been activated in the Climatix IC and is displayed online.

The software packages may provide different language support, details of which are described in the 'Release notes' included with each software package.

A software package contains 6 files, which are to be copied to an empty USB memory with FAT32 formatting and a USB-C interface (or via a suitable, commercially available adapter).

The six files are:

- HMI4Web.ucf
- HMIcomp.ucf
- MBRTComp.ucf
- OBHVcomp.ucf
- OCI46x_POL44x_BSP_xx_xx.UCF
- OCI460_1_xx release notes.txt

Local update:

Remove the OCI460 power supply and all interface connections, plug the USB memory into the T-USB port, and press and hold the T5 button with a suitable tool while plugging in the power supply. When the STATUS LED flashes red and green alternately, release the T5 button. The software update is complete when the STATUS LED is solid orange for more than 10 seconds. Disconnect the power supply and remove the USB memory. The OCI460 is updated. The configuration is reset to the factory settings.

Online update:

Select the desired plant on the Climatix IC interface and check in the 'Upgrade' menu item whether a software update is available. The files required for the update are stored in Climatix IC and transferred to the OCI460. If necessary, check the software release notes in the 'Files' menu before updating. The upgrade is triggered in the 'Upgrade' menu via the 'Start upgrade' button. The configuration of the OCI460 is reset to the factory settings.



Note

No data connection to other systems is available during the software update. This may affect the system connected to the OCI460 (supervision via an automation system, building management system, or similar).

Modbus interface (RTU/IP)

The Modbus interface for LMVx basic units is available in the respective documentation (refer to chapter *Supplementary documentation*). The OCI460 also provides a new data point 887 at address 887, the use of which is recommended for supervising the communication between the OCI460 and the connected basic unit (same for the downlink LED). This additional data point should basically be used for all Modbus applications. If there is no communication to the basic unit, the address 887 shows the value '0' and all Modbus registers for the connected basic unit are also output with the value '0' by the OCI460.



Note

The addresses 127, 128, and 129 are not supported for LMV2/LMV3 (refer to Modbus documentation A7541).

Modbus addresses for LME_x / LMO_x / LFS1 (BC interface)

Function	Address	Words	Data designation	R/W	Data format	Coding	Range	Cloud	LFS1.x	LMx39.x	LME7x	LMO8x
03/04	887	1	Basic unit communication	R	U16	bool	0 = OFF 1 = ON	X	X	X	X	X
03/04	0	1	Phase	R	U16	UINT	0...255	X	X	X	X	X
03/04	10	1	Current load	R	U16	UINT	Details on page 14	X			X	
03/04	35	1	Inputs (refer to Table 1 for details)	R	U16	UINT		X			X	
03/04	37	1	Outputs (refer to Table 3 for details)	R	U16	UINT		X		X	X	X
03/04	74	2	Total startup counter Only for LMV _x basic units = resettable	R	U32	UDINT	0...999999	X	X	X	X	X
03/04	76	2	Total startup counter (read only)	R	U32	UDINT	0...999999	X		X	X	X
03/04	98	8	Basic unit – type (ASN)	R	U8[16]	string	≤13 char.	X		X	X	X
03/04	107	1	Basic unit – parameter set version	R	U16	hex		X	X	X	X	X
03/04	108	3	Basic unit – identification date	R	U16[3]	date	DD.MM.YY	X	X	X	X	X
03/04	111	1	Basic unit – identification number	R	U16	UINT		X	X	X	X	X
03/04	113	1	Basic unit – software version	R	U16	hex		X	X	X	X	X
03/04	115	8	Burner detection	R	U8[16]	string	≤8 char.	X	X	X	X	X
03/04	800	1	Standardized fan speed	R	U16	USINT	0...100%	X		X	X	X
03/04	801	1	Standardized PWM signal	R	U16	USINT	0...100%	X			X	
03/04	802	1	PowerCtrlNormSP	R	U16	USINT	0...100%	X			X	
03/04	803	1	PosActuator	R	U16	USINT	0...100%				X	
03/04	804	1	PosActuatorSP	R	U16	USINT	0...100%				X	
03/04	805	1	Flame signal 1 (analog)	R	U16	REAL	0...300				X	
03/04	806	1	Flame signal 2 (analog)	R	U16	REAL	0...300	X	X	X	X	X
03/04	807	1	Unit – flame signal	R	U16	bool	0 = μA 1 = %	X	X	X	X	X
03/04	808	1	Mains voltage	R	U16	UINT	0...500	X	X	X	X	X

Modbus addresses for LME_x / LMO_x / LFS1 (BC interface) (continued)

Function	Address	Words	Data designation	R/W	Data format	Coding	Range	Cloud	LFS1.x	LMx39.x	LME7x	LMO8x
03/04	809	1	Inputs 2 (refer to Table 2 for details)	R	U16	UINT		X	X	X	X	X
03/04	810	1	Outputs 2 (refer to Table 4 for details)	R	U16	UINT		X	X	X	X	X
03/04	811	1	Speed – PWM fan	R	S16	REAL	0...9999	X	X	X	X	X
03/04	819	5	Current error*	R	U16, U32 (U16, U16) *	UINT	Details on page 14	X			X	
03/04	824	5	Error history 1 *	R	U16, U32 (U16, U16) *	UINT		X	X	X	X	X
03/04	829	5	Error history 2 *	R	U16, U32 (U16, U16) *	UINT		X	X	X	X	X
03/04	834	5	Error history 3 *	R	U16, U32 (U16, U16) *	UINT		X		X	X	X
03/04	839	5	Error history 4 *	R	U16, U32 (U16, U16) *	UINT		X		X	X	X
03/04	844	5	Error history 5 *	R	U16, U32 (U16, U16) *	UINT		X		X	X	X
03/04	849	5	Error history 6 *	R	U16, U32 (U16, U16) *	UINT		X		X	X	X
03/04	854	5	Error history 7 *	R	U16, U32 (U16, U16) *	UINT		X			X	
03/04	859	5	Error history 8 *	R	U16, U32 (U16, U16) *	UINT		X			X	
03/04	864	5	Error history 9 *	R	U16, U32 (U16, U16) *	UINT		X			X	
03/04	869	5	Error history 10 *	R	U16, U32 (U16, U16) *	UINT		X			X	
03/04	874	2	RelayCtr_SANenn (LFS1 redundant)	R	U32	UDINT	0...999999	X			X	
03/04	876	2	RelayCtr_SAKlein (LFS1 flame contact)	R	U32	UDINT	0...999999	X	X		X	
03/04	878	2	RelayCtr_PVV2a	R	U32	UDINT	0...999999	X	X		X	
03/04	880	2	RelayCtr_SKSV	R	U32	UDINT	0...999999	X	X		X	

Modbus addresses for LME_x / LMO_x / LFS1 (BC interface) (continued)

Table 1 Digital inputs (address 35)

Bit	Input	LFS1.x	LMO39.x	LME39.x	PME71.111Ax	PME71.112Ax	PME71.401Ax	PME71.402Ax	PME71.901Ax	PME72.5x1A2	PME73.231Ax	PME73.810Ax	PME73.811Ax	PME73.812Ax	PME73.820Ax	PME73.830Ax	PME73.831Ax	PME73.840Ax	LME81.210B2V	PME75.231Ax	PME75.811Ax	PME75.812Ax	PME75.831Ax	LME76=LME75	LMO88.540D2	LMO88.640D2
B0	Control thermostat or pressurestat (R)		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X
B2	Fuel selection 0/1 oil/gas																						X			
B4	Load controller OPEN (LR-OPEN)										X									X	X	X	X			
B5	Oil pressure switch-max (Pmax)										X									X						
B6	Oil pressure switch-min (Pmin)										X									X						
B7	Pressure switch valve proving (P LT)																				X		X			X
B8	Safety loop (SK)										X									X						
B9	Load controller CLOSED (LR-CLOSED)										X									X	X	X	X			
B10	Gas pressure switch-min (Pmin)				X	X	X	X	X	X		X	X	X	X	X	X	X			X	X	X			
B11	CPI/POC										X									X	X	X				X
B13	Air pressure switch (LP)			X	X		X	X	X	X	X	X	X	X	X	X	X	X		X	X	X	X		X	X

Modbus addresses for LME_x / LMO_x / LFS1 (BC interface) (continued)

Table 2 Digital inputs 2 (address 809)

Bit	Input	LFS1.x	LMO39.x	LME39.x	PME71.111Ax	PME71.112Ax	PME71.401Ax	PME71.402Ax	PME71.901Ax	PME72.5x1A2	PME73.231Ax	PME73.810Ax	PME73.811Ax	PME73.812Ax	PME73.820Ax	PME73.830Ax	PME73.831Ax	PME73.840Ax	LME81.210B2V	PME75.231Ax	PME75.811Ax	PME75.812Ax	PME75.831Ax	LME76=LME75	LMO88.540D2	LMO88.640D2
B0	Flame 1 (7) bool	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			X
B1	Flame 2 (8) bool	X	X		X	X					X		X	X					X	X	X	X	X		X	
B2	Oil preheater (OW)										X								X	X					X	
B5	Reset (EK1)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X
B6	Remote lockout reset (EK2)		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X
B7	Load controller second stage (LR)																									X
B10	Actuator position (SA-ZL)																									X
B14	Gas pressure switch 2 (P2) / Gas pressure switch-max (Pmax)																					X	X			

Modbus addresses for LME_x / LMO_x / LFS1 (BC interface) (continued)

Table 3 Digital outputs (address 37)

Bit	Output	LFS1.x	LMO39.x	LME39.x	PME71.111Ax	PME71.112Ax	PME71.401Ax	PME71.402Ax	PME71.901Ax	PME72.5x1A2	PME73.231Ax	PME73.810Ax	PME73.811Ax	PME73.812Ax	PME73.820Ax	PME73.830Ax	PME73.831Ax	PME73.840Ax	LME81.210B2V	PME75.231Ax	PME75.811Ax	PME75.812Ax	PME75.831Ax	LME76=LME75	LMO88.540D2	LMO88.640D2
B0	Alarm (AL)	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X
B4	Ignition (Z)		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X
B6	Fan (M)		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X
B11	Fuel valve 3 (V3)																								X	
B12	Safety valve (SV) (SBV)				X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
B13	Fuel valve 1 (V1)		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X
B14	Fuel valve 2 (V2)		X	X			X		X	X	X	X	X		X	X	X	X	X	X	X	X		X	X	
B15	Additional fuel valve (V2a) / pilot valve (PV) [SA-ZL]			X	X	X		X		X	X	X	X	X	X	X	X	X		X	X	X				

Table 4 Digital outputs 2 (address 810)

Bit	Output	LFS1.x	LMO39.x	LME39.x	PME71.111Ax	PME71.112Ax	PME71.401Ax	PME71.402Ax	PME71.901Ax	PME72.5x1A2	PME73.231Ax	PME73.810Ax	PME73.811Ax	PME73.812Ax	PME73.820Ax	PME73.830Ax	PME73.831Ax	PME73.840Ax	LME81.210B2V	PME75.231Ax	PME75.811Ax	PME75.812Ax	PME75.831Ax	LME76=LME75	LMO88.540D2	LMO88.640D2
B1	Oil preheater (OH)		X																					X		
B3	Actuator OPEN (SA-OPEN) [SA-NL]										X									X	X	X	X			X
B4	Actuator CLOSED (SA-CLOSED) [SA-KL]										X									X	X	X	X			

Modbus addresses for LME_x / LMO_x / LFS1 (BC interface) (continued)

Description of current load (address 10)

'Modulating operation' load	0...100% (0.1% increments)
'Modulating operation' output	1001 = Stage 1 (increment 1) 1002 = Stage 2 1003 = Stage 3

Description of data structure for current error and error history (addresses 820–870)

These data structures are applied in the error memory (820) or in the error history as follows:

- U16 Error code
- U32 Startup counter
- U16 Phase
- U16 Load

Only the LME7_x burner controls support all data; all other BC interface units only support the error code and the startup counter. Here, the values for the phase and the load at the time of the error are propagated with '00'.



Applied directives:

- Low Voltage Directive 2014/35/EU
- Electromagnetic Compatibility EMC (immunity) *) 2014/30/EU

*) Compliance with EMC emission requirements must be checked after the cloud gateway is installed in the equipment

Compliance with the regulations of the applied directives is verified by the adherence to the following standards/regulations:

- Automatic electrical controls for household and similar use Part 1: General requirements DIN EN 60730-1

The relevant valid edition of the standards can be found in the declaration of conformity.



Note on DIN EN 60335-2-102

Household and similar electrical appliances – Safety Part 2-102:

Particular requirements for gas, oil, and solid-fuel burning appliances having electrical connections. The electrical connections of the OCI460 comply with the requirements of EN 60335-2-102.



EAC conformity (Eurasian compliance)



UKCA conformity mark (UK compliance)



ACMA conformity (Australian compliance)



China RoHS

Hazardous substances table:

<http://www.siemens.com/download?A6V10883536>



Lifetime

The cloud gateway has a designed lifetime* of 250,000 burner startup cycles which, under normal operating conditions in heating mode, corresponds to approx. 10 years of service (starting from the date of manufacture on the type label). This is based on the endurance tests specified in the EN 298 standard. A summary of the conditions has been published by the European Control Manufacturers Association (Afecor) (www.afecor.org).

The designed lifetime is based on use of the cloud gateway according to the manufacturer's data sheet. After reaching the designed lifetime in terms of the number of burner startup cycles, or after the corresponding usage time, the cloud gateway must be replaced by authorized personnel.

* The designed lifetime is not the warranty time specified in the terms of delivery.

Disposal notes

The OCI460 contains electrical and electronic components and must not be disposed of together with domestic waste. Local and currently valid legislation must be observed.

Open-source software (OSS) declaration

Due to the license terms of the software we use, Siemens AG wishes to note that the OEM is obligated to provide the following license text for the end user in the documentation:

Open-source software (OSS) declaration

Embedded in – or bundled with – the OCI460 are open-source software (OSS) components and other third-party components identified below.

You may obtain, distribute, and/or modify a copy of the open-source code for the OSS component under the terms of its respective licenses, which are the GNU General Public License, the GNU Lesser General Public License, the Modified BSD License, and the MIT License. In the event of conflicts between Siemens license conditions and the open-source software license conditions, the open-source software conditions shall prevail with respect to the open-source software portions of the software.

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On written request within three years from the date of product purchase and against payment of our expenses, Siemens will supply the source code for any OSS component identified below in line with the terms of the applicable license.

Please contact us in this regard at:

Siemens AG
Otto-Hahn-Ring 6
81739 Munich
Germany
Keyword: Open source request

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<http://www.siemens.com/download?A6V12733787>

Type summary

Type	Article number	Description
OCI460.10	S55666-J401-A100	Cloud gateway (EU) for basic units (for connection to Climatix IC in Europe)
OCI460.11	S55666-J402-A100	Cloud gateway (CN) for basic units (for connection to Climatix IC in China)

Accessories (must be ordered separately)



T1 connector

- Set of 100
- MSTB 2.5 / 2-ST
- Supplier: Phoenix

Type (ASN)

POL005.15/STD

Article no.

S55843-Z151-F100



T2 connector

- Set of 200
- RAST3.5
- 3-pole
- Supplier: TE, PTR Hartmann, or similar

AGG9.831

BPZ:AGG9.831



T3 connector

- Set of 200
- RAST3.5
- 5-pole
- Supplier: TE, PTR Hartmann, or similar

AGG9.853

BPZ:AGG9.853



T4 connector

- MSTB 2.5 / 4-ST
- Minimum order of 50 units
- Supplier: Phoenix

AGG9.104

S55854-Z540-A100




Complete connector set for OCI460.1x
One T1 to T4 connector and one X92 connector each for connection to the LMV2/LMV3.

AGG7.900

S55854-Z701-A100

Technical data

General unit data	T1 operating voltage	24 V AC $\pm 20\%$ 24 V DC $\pm 10\%$
	Internal consumption	<9 W 24 V AC 370 mA 24 V DC 215 mA
	Protection class	III
	Degree of protection	IP20
		 Note The burner or boiler manufacturer must ensure degree of protection IP20 through adequate installation of the OCI460.
	Pollution degree	2
	Fuse	Internal fuse (not replaceable)
Weight	Approx. 130 g	
Cable length	TS RS-485 (Modbus)	<1000 m (at 9.6 kbps – twisted pair, shielded if >3 m)
	T3 RS-232 (LMV5)	<3 m (100 pF/m)
	T3 RS-485 (LMV6)	<100 m (at 56.6 kbps – twisted pair, shielded if >3 m)
	T4 TTL insulated (LMx39, LME7x, LMx8x, LMV2/LMV3, LFS1)	<1 m (100 pF/m) For use under the burner hood or in a control panel
	Ethernet	<100 m for 100 BASE-TX, CAT5
	USB (service interface)	<1 m

Cable insulation must be adapted to suit the respective environmental conditions.

Plug connector

For further details, refer to chapter *Accessories*.

T1/T4 connector

- | | |
|--------------------------------------|---|
| • Stranded conductor, fine-wired | Connection cross sections
Min. 0.2 mm ²
Max. 2.5 mm ² |
| • Stripping length | Approx. 7 mm |
| • Tightening torque / screw terminal | 0.5...0.6 Nm |

T2/T3 connector

- | | |
|--------------------------------------|--|
| • Stranded conductor, fine-wired | Connection cross sections
Min. 0.14 mm ²
Max. 1.5 mm ² |
| • Stripping length | Approx. 7 mm |
| • Tightening torque / screw terminal | 0.25 Nm |

Technical data (continued)

Environmental conditions



Please note!
Condensation, formation of ice, and ingress of water are not permitted.
Failure to observe this information poses a risk of compromising the safety functions and a risk of electric shock.

Climatic conditions

Storage

Temperature range -40...+70°C
 Humidity <95% r.h.

Transport

Temperature range -40...+70°C
 Humidity <95% r.h.

Operation

Temperature range -40...+70°C
 Humidity <95% r.h.
 Installation altitude Max. 3000 m above sea level

Mechanical conditions

Transport

Vibration tests According to IEC 60068-2-6:2007 with an acceleration of 10 m/s²
 Shock tests According to IEC 60068-2-27:2008 with peak accelerations of 300 m/s²

Operation

Vibration tests According to IEC 60068-2-6:2007 with an acceleration of 5 m/s²

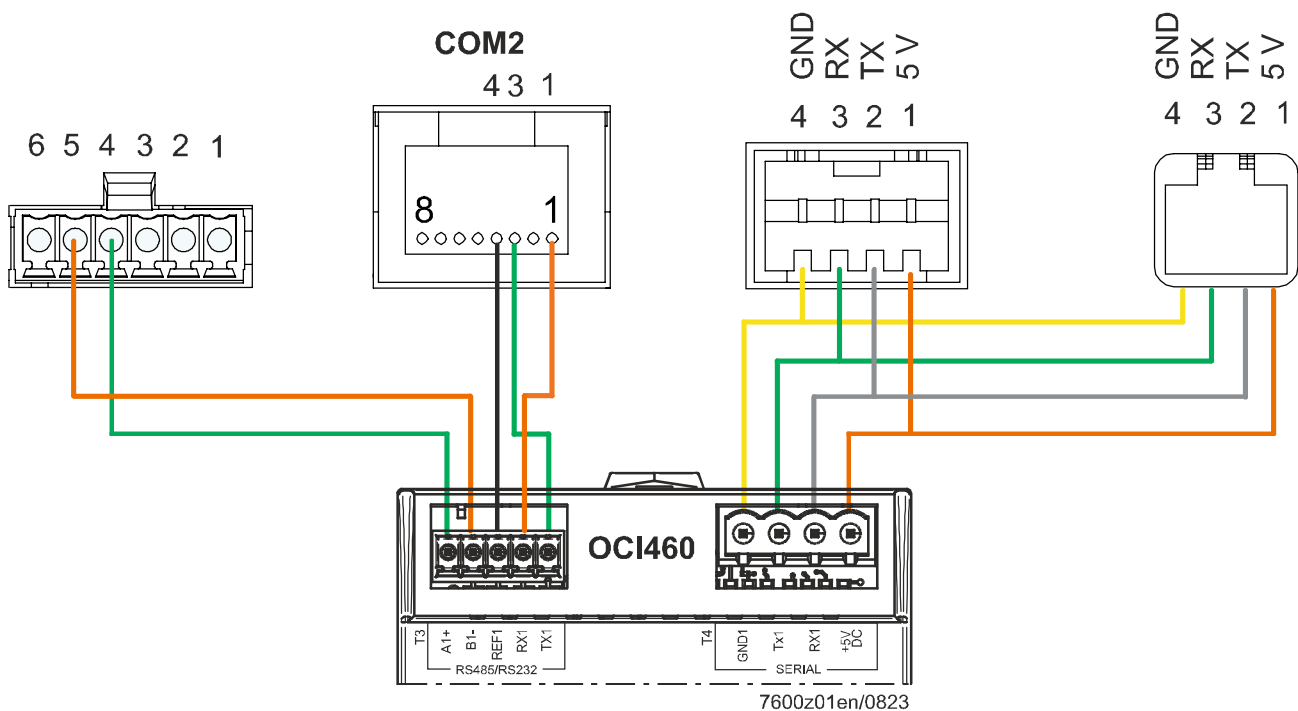
Wiring diagram

RS-485 Modbus
 LMV6 (X22)

RS-232 Modbus (RJ45)
 AZL52 COM2 (X72)

TTL Modbus
 LMV2/LMV3 (X92)

BC interface port (RJ11)
 LMEx/LMOx/LFS1



Dimensions

Dimensions in mm

