Central Communication Unit OCI600

For communication between a PC operator station and a heating/ventilation plant

Use

- In heating/ventilations plants with one or several LPB (Local Process Bus)-compatible Siemens controllers that can be monitored and parameterized from a PC operator's station using the ACS7… operating software package. Communication takes place either locally in the plant or via in-house or public telephone networks
- For delivering alarms to the ACS7… alarm software

Typical applications:

- School buildings
- Multi-family houses
- Municipal buildings
- Administrative buildings

Owners/operators

These types of plants are operated by:

- Municipalities
- Installation companies
- School authorities
- Real estate companies

Function

The OCI600 central communication unit serves as an interface for communication between a plant and a PC operator station using the ACS7… It facilitates access to the data points of Siemens controllers which are transmitted via the telephone network to the operator station using the ACS7…

The OCI600 has 4 digital inputs and 2 potential-free relay outputs. The inputs can be used as alarm or status inputs, the outputs as switching elements for the control of other plant components or as common alarm relays.

Connections

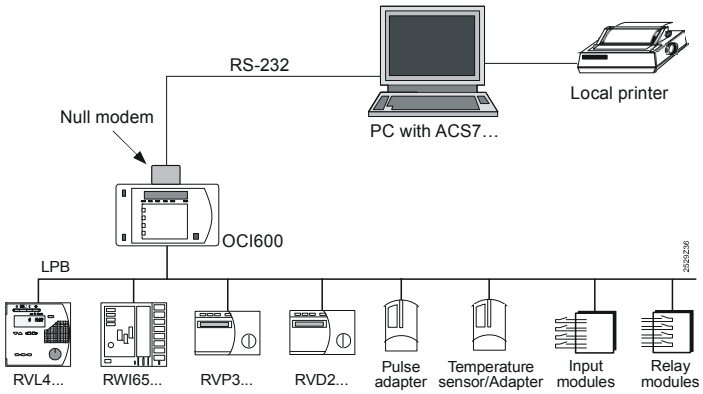
Up to 16 LPB capable controllers can be connected to the OCI600.

The following optional modules can also be connected to the LPB:

- 4 digital input modules each with 4 inputs (no longer available)
- 4 relay modules each with 4 outputs (no longer available)
- 6 metering modules each with 2 inputs (AEW2.1)
- 2 temperature sensor adapters each with 2 inputs (QAB30.600)

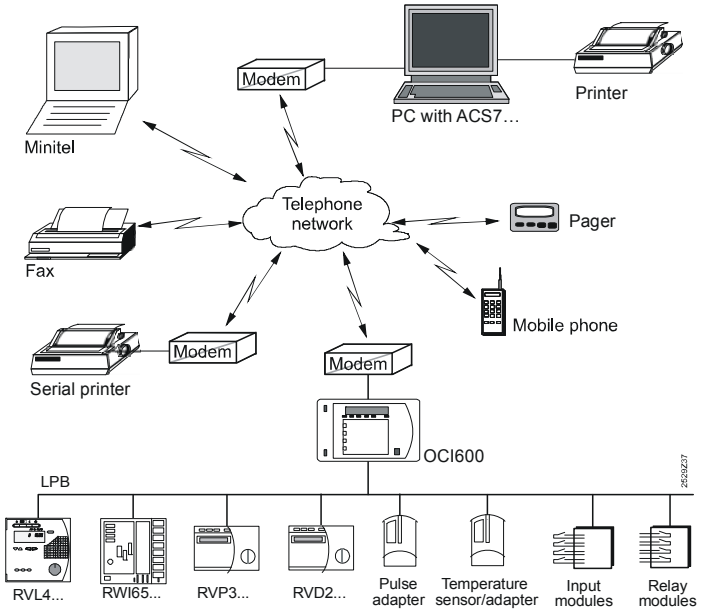
Direct communication

The local connection between the PC, on which the ACS7… operating software is installed, and the OCI600 is established via a cable conforming to the RS-232. Also, the OCI600 must be used with a null modem.



Communication via the telephone network

For the connection from the OCI600 to a PC operator station with the ACS7… via the telephone network, two Hayes-compatible modems are required, one at the RS-232 port on the OCI600, and one at the PC operator station.



Type summary

When ordering, please provide the type references:

Device	*Type*
Central communication unit	**OCI600**
Memory card 128 KB	**ALC30.128**
Memory card 512 KB	**ALC30.512**
Operating set (in English)	**ARG600.EN**

An operating set is comprised of a number of operating cards and a manual.

For upgrading the M-bus central unit, the latest software version can be ordered (2 EPROM) as a separate item: Order amount is 16 pairs or a multiple thereof:

Item	*Part number*
Program storage OCI600	**74 340 0022 0**

Technical design

Parameterization

- Some of the parameters of the OCI600 central communication unit are set directly with the buttons on the OCI600 and/or via a local PC operator station with the ACS7… connected to the OCI600
- The parameters of the OCI600 can, however, be set via LPB bus with the OCI700.1 service tool. With this procedure, the PC on which the ACS7… is installed is to be connected via the OCI700 interface to the tool socket of an LPB-compatible ALBATROS™ or SIGMAGYR®-controller

Interfaces

The OCI600 has 2 interfaces:

- A 25-pin RS-232 port
- A terminal strip for connecting the LPB to the controllers and the optional modules

Controllers

From the PC operator station with the ACS7…, the following values of the connected controllers can be altered or displayed via the OCI600, for example:

- Temperatures
- Setting values
- Limits
- Operating modes
- Seven-day and holiday programs

Digital inputs

The OCI600 is capable of handling a maximum of 20 inputs. 4 input signals can be fed directly to the OCI600 and 16 via the 4 optional input modules connected to the bus. Input signals must be generated by potential-free contacts. Events are produced by status changes at the input, that is, by opening or closing the contacts. The active status of the input can be parameterized as normally open or normally closed.
Typical input signals are fault status signals delivered by pumps, thermal switches, oil level switches, etc.
On the OCI600, the last 20 events of each input are stored.
Each input can be parameterized for a number of functions:

1. Signalization
2. Alarming
3. Operating hours meter
4. Technical service

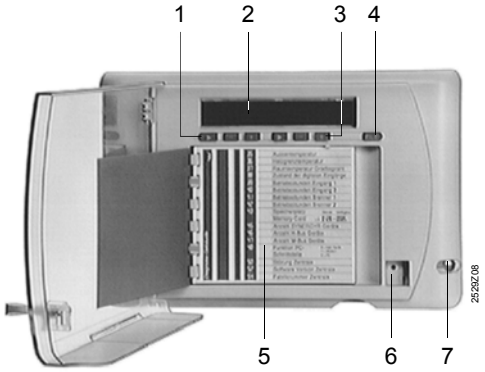
Signalization

This kind of parameterization means that the statuses can only be displayed.

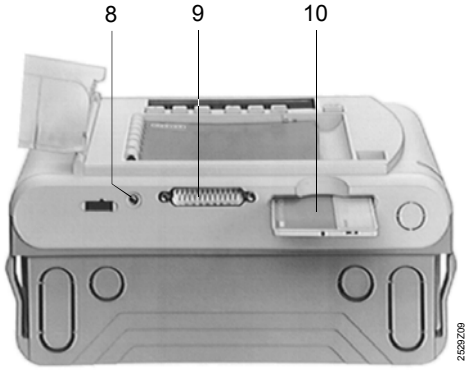
Alarming	If digital inputs are parameterized as alarm inputs and activated, the OCI600 will automatically open a connection via modem to one or several phone numbers. A total of 4 telephone numbers can be parameterized in the OCI600. The alarms can be transmitted to the following output devices: • PC with ACS7… alarm software • Fax • Pager • Mobile phone • Serial printer • Minitel 2 or 12 with thermal printer (only in France) • Minitel 12 Répondeur/Enrégistreur (only in France) The alarms can be parameterized such that they are sent to the right location, depending on the working hours of service staff. Each phone number has a week schedule that can define 3 periods per day when alarms are forwarded. Also, a holiday program can be parameterized for each phone number, which suppresses the transmission of alarms during those periods of time. Furthermore, a periodic system report can be generated the purpose of which is to signal the plant's status at certain intervals. This can be alarms, the number of operating hours, meter readings, etc.
Operating hours meter	When parameterizing an input as an hours run meter, the times during which the status of the input was active will be cumulated.
Service	When parameterizing an input as a service input, all present alarms will be suppressed to prevent undesired alarm outputs during service activities.
Relay outputs	The OCI600 is capable of controlling up to 18 relay outputs. 2 relays are directly available on the OCI600 and 16 can be added by a maximum of 4 optional modules connected to the LPB. These outputs make it possible to control plant sections from the operator's station with the ACS7…, or can be used for delivering alarms (e.g. signaling faults in the heating control system). The relay outputs are parameterized from the ACS7… operator station.
Meter input module	The OCI600 can handle up to 12 meter inputs which can be connected to the local process bus via the optional AEW2.1 metering modules. The actual and cumulated monthly readings can be read out from the ACS7… operator station.
Temperature sensor module	The OCI600 can handle up to 4 temperature sensors connected to the LPB via 2 QAB30.600 adapters. A lower and an upper temperature threshold can be parameterized for each input. If the actual temperature crosses one of the limits, a fault status signal can be delivered in agreement with the parameter settings made.

Mechanical design

The OCI600 central communication unit consists of operating section and base.



1 Buttons on the left
2 Display
3 Buttons on the right
4 FILE button (no function)
5 Operation cards
6 Lock
7 Sealable fixing screw



8 Jack for modem power supply
9 RS-232 port (25 pin)
10 Memory card

Operating section

The operating section consists of hinged unit cover, buttons, digital display and operating cards.
The elements that can be operated are protected by a transparent hinged cover which can be opened with a key. The operating section itself is secured to the base with a sealable screw.
The RS-232 port and the slot for the memory card are located on the underside of the unit cover.

Digital display and buttons

Parameter values that can be selected are on the display.
Standard display during operation is the time of day.

Operation cards

The operating cards are inserted in a holder in the front of the unit. They contain short-form instructions with notes on the buttons and displays, as well as explanations of the values displayed.
The ARG600.EN operating set is ordered as a separate item. It consists of operating cards and operating manual.

Base

The base is made of plastic and contains the power supply connections and the terminals for connecting the LPB and the input and output signals. It can be mounted in two different ways:
Wall mounting: The housing has appropriate holes for securing it with screws.
Flush panel mounting: To secure the unit, the housing has four clamps at its corners.
For dimensions and size of panel cutout, refer to "Dimensions".
For cable entry, there are 12 knockout holes at the bottom, top and rear of the base. In addition to the electronic components, the printed circuit board carries the terminal strips for connecting the cables. To facilitate wiring, the terminals are of the plug-in type.

Notes

Project engineering

The local regulations for electrical installations must be complied with.
For wiring, refer to data sheet N2032 "Local Process Bus LPB / Basic Engineering Data".
The OCI600 provides central bus power supply. The bus power supply must be switched off for all other devices on the LPB.

- The central communication unit is designed for safety extra-low voltage. This means it must be powered by an isolation transformer for AC 24 V
- G1 or G2 of the power supply section on the OCI600 may not be earthed
  Reason: Due to the galvanic connection of LPB and system neutral, the bus would be earthed. From an EMC point of view, this must be absolutely prevented
- OCI600 central communication units may not be connected to the same transformer as the RWI65… controller. RWI65…controllers must be supplied by separate transformers

Installation

When choosing the mounting location, the ambient conditions and mounting instructions must be observed.

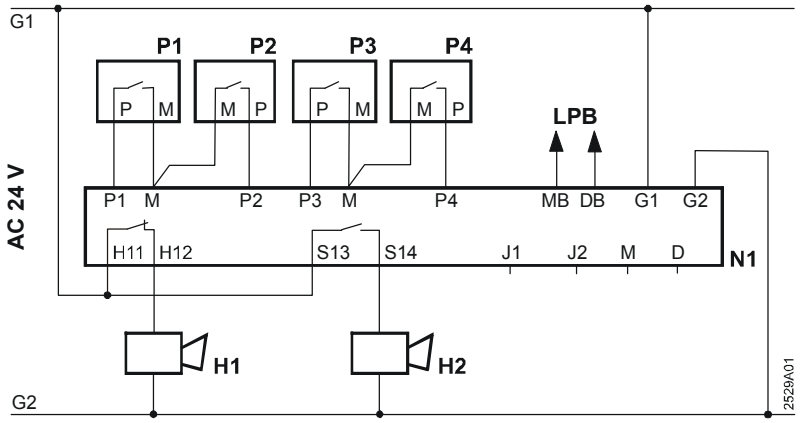
Commissioning

The OCI600 is parameterized by Siemens service staff.

Technical data

General data	Operating voltage	SELV / PELV AC 24 V ±20%
	Rated voltage	AC 24 V
	Frequency	50/60 Hz
	Power consumption	8 VA
	Permissible ambient temperature	
	Transport and storage	–25…+65 °C
	Operation	0…50 °C
	Weight (incl. battery)	1.1 kg
Inputs and outputs	Max. permissible voltage at relay output	AC 24 V
	Status signal inputs (P1…P4)	potential-free
Bus	LPB data	refer to P2370
Modem supply	Continuous load	max. 120 mA
	Voltage under load	min. 8.5 V
Safety data	Degree of protection (with cover closed)	IP40 to EN 60529
	Safety class	III to EN 60730
Standards	Electromagnetic compatibility	
	Immunity (for use in domestic environment)	EN 61000-6-1
	Emissions (for use in domestic environment)	EN 61000-6-3
	CE conformity to	
	EMC directive	2004/108/EC

Connection diagram



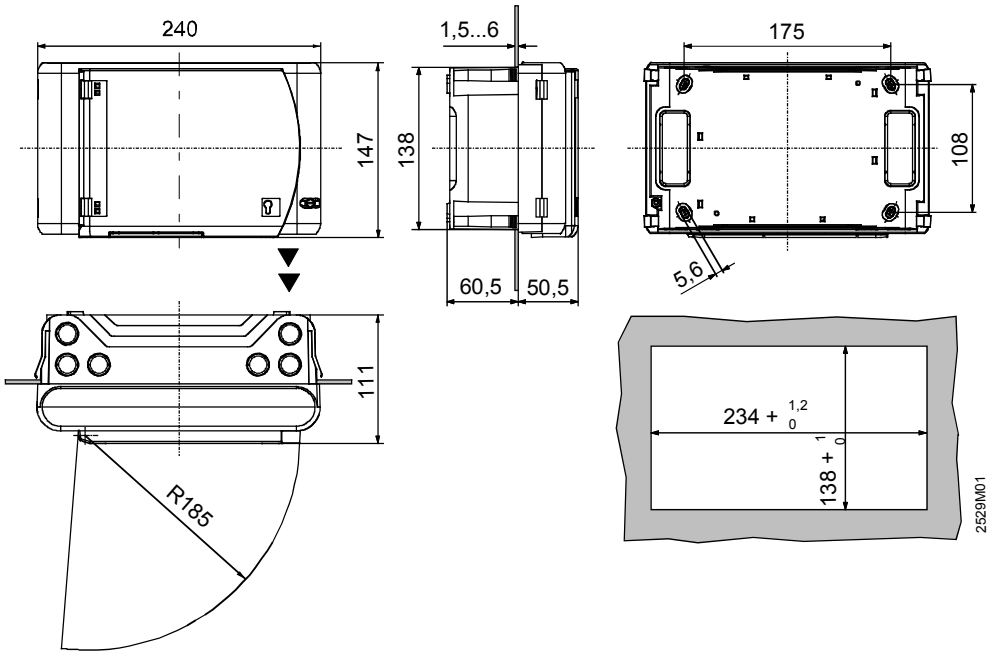
Devices

H1	Alarm device
H2	Alarm device
LPB	Local Process Bus
N1	OCI600 central communication unit
P1	Device with a potential-free output
P2	Device with a potential-free output
P3	Device with a potential-free output
P4	Device with a potential-free output

Connection terminals OCI600

DB, MB	LPB (data, mass)
G1, G2	Operating voltage AC 24 V
H11, H12	Connections relay 1
S13, S14	Connections relay 2
P1	Status input
P2	Status input
P3	Status input
P4	Status input
M	Mass
J1, J2, D	Not used

Dimensions



▼ Minimum clearance 90 mm for memory card

Dimensions in mm

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Subject to change