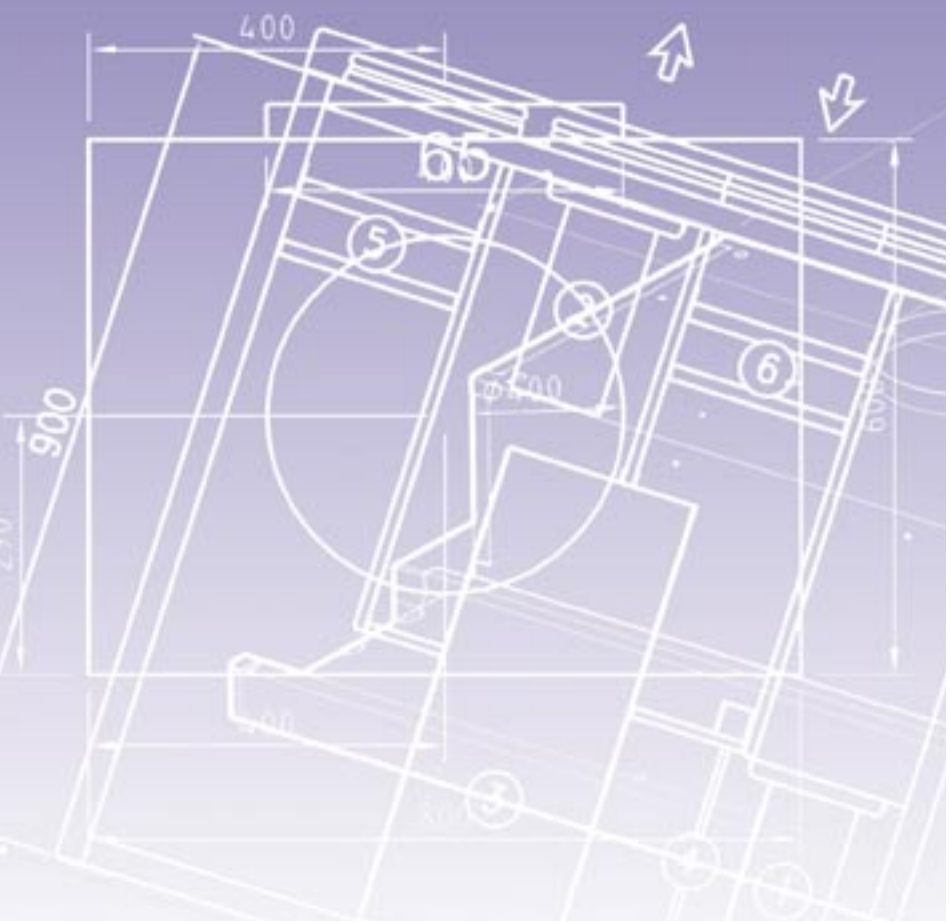
Flexit

Automatic Control, Air Handling Units

700-5000 m^3/h



FOR A HEALTHY INDOOR ENVIRONMENT

FLEXIT®
CLEAN AND FRESH AIR

NB! *Our products are subject to continuous development and we therefore reserve the right to make changes. There may also be differences between the product supplied and the catalogue description, depending on the choice of automatic control.*
We disclaim liability for any printing errors that may occur.

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Flexit CS 1000

The modern control concept for air handling units.

- Great flexibility
- Meets the highest functionality requirements
- Thoroughly tested standard applications
- Open communication and integration
- Future-oriented technology

Flexit CS 1000 enables optional integration in building automation systems (BMS). Open communication standards like BACnet/IP, TCP/IP, OPC and LON are supported in particular. Error messages can be sent via a GSM modem to a mobile phone and changes can be implemented with your personal digital assistant (PDA), or the functions can be changed via the Internet. This makes complex control operations more efficient and user-friendly.
The CS 1000 control concept is based on state-of-the-art Siemens technology, which is reflected in the quality and efficiency of the programmable control panels and the future-oriented communication and integration platform.

Flexit has made use of Siemens technology and designed the functions of the control concept, that is optimised for Flexit air handling units. The flexibility of the concept also means that the basic model can be expanded into a multifunctional control system with the relevant additional modules.

Brief Description
Regulators for standardised ventilation applications.

- Control, indication and monitoring functions
- Temperature sequences, pressure/air flow rate sequences
- Sensors for winter and/or summer compensation
- Time channels (weekly programme with 4 switch times per day)

Functions

Control Functions
Four types of temperature control
1. Constant supply air temperature
2. Room/extract air control
3. Differential temperature control (FRT)
4. Outdoor air compensation for supply air regulation.

- Lowest and highest limits for supply air temperature
- Double setpoints: Setpoints for comfort/economy (temperature)
- Night-time operation with heating and cooling
- Night-time cooling function
- Setpoint change via external signal
- Anti-icing regulator for heat recovery equipment (HR equipment)
- Requirement-controlled ventilation
- Frost protection function for the air or water side
- Optional P, PI, PD or PID control functions
- Electric heater or hot water heater
- Cooling, modulation and/or one-stage switching
- Heat recovery with rotary wheel-type and cross heat exchangers
- Pressure or flow rate control
- Start/stop of circulation pump according to load and outdoor temperature
- Continuation
- Pressure and flow rate control via modulation fan control
- Cooling
- Operate the regulator externally or via a pushbutton
- Common alarm with one contact output (priority A and B)

Monitoring Functions

- Control unit (HMI) with an 8-line display and 20 characters on each line
- Input for fire or smoke alarm
- Air flow rate
- Frost in air heating battery water circuit
- Electric air heating battery, overload
- Fans, continuation
- Filter alarm

The Regulator

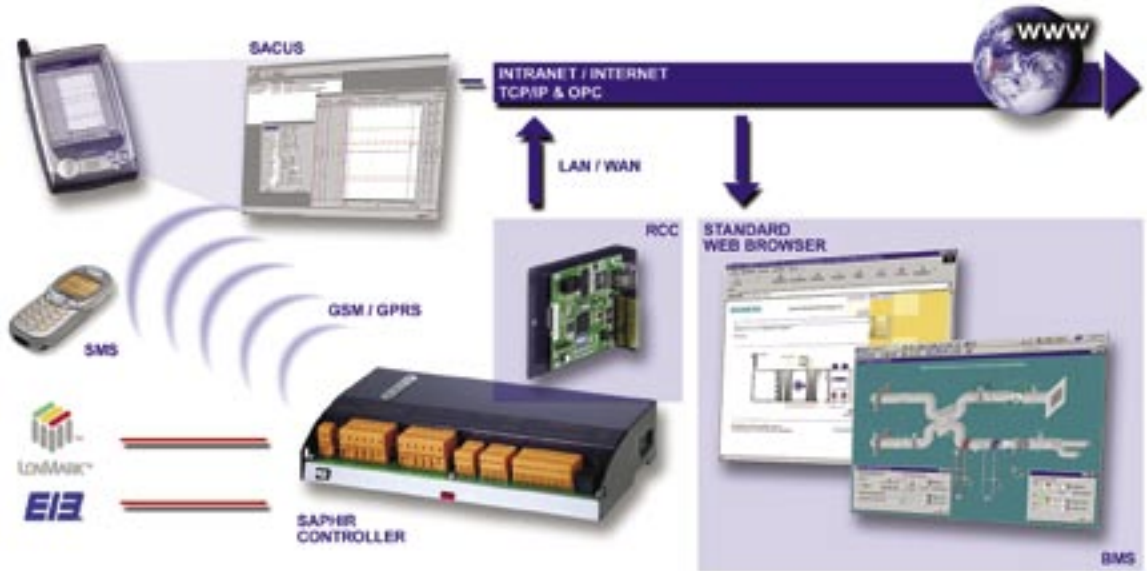
The heart of the Flexit CS 1000 is a Siemens 16-bit microcontroller that allows cycles of less than 100 milliseconds and enables logging of trends, archived data and relevant settings for setpoints and parameters.
As standard, the CS 1000 has two plug-in contacts for optional communication cards and a serial port to connect a handheld terminal.
Both the printed circuit board and housing have tightness class IP20.

The Control Panel

The control panel is the user's tool. Five menu buttons and four function buttons are used to provide an overview on the display of factory settings, statuses, changes and system parameters. An integrated red LED produces any error messages.
A clear menu with a logical structure and easy access to predefined functions via the user's password allows customisation to user requirements.
The control panel is connected to the control unit with an RJ45 plug. Since the entire function structure is stored in the control unit, the control panel can be disconnected even if units are in operation. The panel has an 8-line display.

Communication and Integration

With the control unit's CC 1063 WEB/OPC card (WEB server based on Windows CE), Flexit's units can be accessible from anywhere in the world.
On the WEB card, it is possible, for example, to archive logs of diagrams and the complete documentation. The WEB browser (for example, Microsoft Explorer or Netscape) installed on the PC is used as a control tool.
The WEB card may alternatively be used for BMS integration via TCP/IP or OPC.



Accessories for CS 1000

CC 1060 GSM card
Art. no. 09370
Used to have an alarm sent via SMS.

CC 1062 LON card
Art. no. 09372
Used if you want communication via LON.

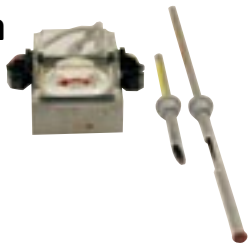
CC 1063 WEB/OPC card
Art. no. 09373
Used if you want communication via WEB or OPC.

CC 1061 GSM package (without GSM card)
Additional equipment for GSM card
Art. no. 09371
Siemens GSM package:
- modem
- aerial cable
- aerial with magnetic foot
- transformer
- cable 0.8 m

SP 430 Pressure regulator
Art. no. 09357
For external pressure regulation.

SP 435 Motion guard
Art. no. 09358

SP 445 Smoke detector for duct installation
Art. no. 09362



CC 1040 Room sensor
Art. no. 09368

CC 1041 Outdoor sensor
Art. no. 09369

CC 1050 Pressure sensor
Art. no. 09367
0-3000 Pa

Pulse switch for forcing and extended operation
Art. no. 09364

Contact us for further information.

Automatic Control for Flexit Air Handling Units, 700–5000 m³/h

Flexit SP 400

The units have an own-developed, specially adapted automatic control system which has been designed to tolerate the special Nordic climatic conditions. The units are fitted with an electronic control which produces very high functionality, low costs and simple adjustment and operation. The automatic control is easily accessible on the unit and thus ensures user-friendly, rapid connection and adjustment. The L20 and L30 units are also available with the automatic control fitted in an external control cabinet. With the frequency-controlled (S9, L12 and L18 are transformer-controlled) energy-efficient B-wheel fans, the units can easily be adjusted. As there are pressure outlets on the top of the unit, it is possible to read off air flow rates, and it is easy to adjust the fan speed from potentiometers on the printed circuit board. The fans can be preset to two speeds (high and low).

Functions

Control Functions

Two types of temperature control
1. Constant supply air temperature
2. Room/extract air control

- Lowest and highest limits for supply air temperature
- High and low speed (possibly stop)
- Forcing of ventilation 1, 2 or 3 hours
- Infinitely variable fan speed adjustment (does not apply to transformer-controlled units)
- Control according to requirements
- Smoke/Fire function (stops the unit)
- 0-10 V control signal for heating control
- Infinitely variable adjustment of heating temperature
- Latching of heating (disconnection of heating)
- Summer night cooling
- Night-time temperature reduction
- Refrigeration control (additional equipment)
- Frost protection for water battery
- Frost protection for water plate exchanger (thermoguard)
- 3 min. continuation of fans (units with an electric battery)
- Pump motor control
- Automatic bypass
- Air damper control
- Additional timer

Monitoring Functions

- Pressure guard alarm
- Fire thermostat alarm
- Motor protection alarm
- Frost alarm for water battery
- Indication of operation

The Regulator

The settings for the various functions are made on the control card. The control panels, SP 400 and SP 410, are connected here. For units with frequency-controlled fans, the air flow rates are set here via the potentiometers.

Control Panel

SP 400 Control Panel

Art. no. 09352

The panel consists of a monitoring part/fan control part (SP40) and a weekly timer part (SP405). The timer part controls the fans' day and night speeds and any night-time reduction of the supply air temperature.
The switch part can be used to select extended operation for 60, 120 or 180 minutes. There is a signal lamp for the speed stage selected and a signal lamp for joint errors. The signal lamp lights up green during normal operation.
A pressure switch for lamp test.

SP 410 Indicator Panel for Detailed Information

Art. no. 09353

This should be placed near the unit to provide information in the event of an error.
Contains signal lamps for triggered motor protection, overheating (electricity-based), risk of frost (water-based), clogged filters and activated heating.

Accessories for SP 400

SP 405 Weekly timer

Art. no. 09297

For automatic control of air flow rates and/or temperature for periods of time.

SP 415 Forcing switch

Art. no. 09299

For time-delimited forcing of the fan speed. Adjustable forcing time 0.5 - 2 hours.

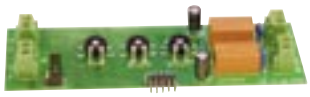
SP 420 Control switch for heating

Art. no. 09294

For adjustment of the supply air temperature required, operated from, for example, a living room.

RM 400 Refrigeration control

Art. no. 09356



• Control of refrigerating machine. The cooling can either be controlled infinitely variably with a 0-10 V signal or using a DX machine with 2 stages linearly or 3 stages binarily.

SP 430 Pressure regulator

Art. no. 09357

Pressure regulation in connection with frequency-controlled fans

SP 435 Motion guard

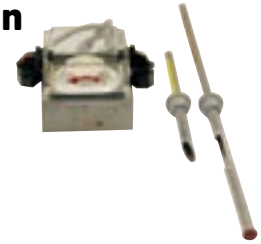
Art. no. 09358

SP 440 Detector for CO2

Art. no. 09359

SP 445 Smoke detector for duct installation

Art. no. 09362



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Notes

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