



close to you

Building Management Technology

■ Heating ■ Ventilation ■ Air Conditioning ■ District Heating

close to you

A mission statement offering you tangible benefits

close to you





close to you
Focused solutions for small and mid-size buildings

Centraline provides tailor-made solutions for office buildings, schools, retail premises and other small to mid-size buildings. Our focus lies in optimum operational efficiency, thanks to cutting-edge application know-how and the most modern control algorithms, in addition to simple operation and future-proof technology.



Small to mid-size buildings



User-friendly technology



High-tech applications

close to you
Close to the customer

You deal with a local Centraline PARTNER company, specially trained and selected professionals backed up by a comprehensive support network. Your ideal PARTNER for consulting, planning, installation, start-up and customer service – all in one!



Trained partners



All in one



Close to the customer

close to you
Close to ever-changing business needs

Centraline is redefining the way successful businesses work. With an open mindset and strong focus on online technologies, we provide customers, specifiers, installers and PARTNERS with information, tools and services that help them be successful in their business environment. Strong two-way information exchange with PARTNERS is a vital element of our business relations: from product specification and new product development to in-depth technical and business support.



Centraline CITY
www.centraline.com



Co-operative product development



Open communication

close to you

The System

Focused solutions for small and mid-size buildings



Owners, operators, specifiers and installers of small and mid-size buildings naturally wish for the same technical benefits and ease of use as often found in larger buildings. However, they do not want the disadvantages that come with such complex technology, extensive and individually programmed applications and time-consuming installation. This is where CentraLine offers major advantages.

■ **We offer new, high-quality solutions for small and mid-size buildings.**

■ **Our focus is user-friendliness backed by high technology.**

**Example 1
Efficiency –
Backed up by know-how**

CentraLine bundles all its application know-how into COACH - an easy-to-use configuration software. The result: highly efficient complete application expertise, patented control algorithms and cutting-edge software mechanisms run automatically in the background. Fine adjustments are made in the familiar MS Windows environment. This concentrated programming and application expertise is thus automatically available for any application. The system implements all components at maximum efficiency.

**Example 2
Simple operation –
Backed up by high-tech
equipment**

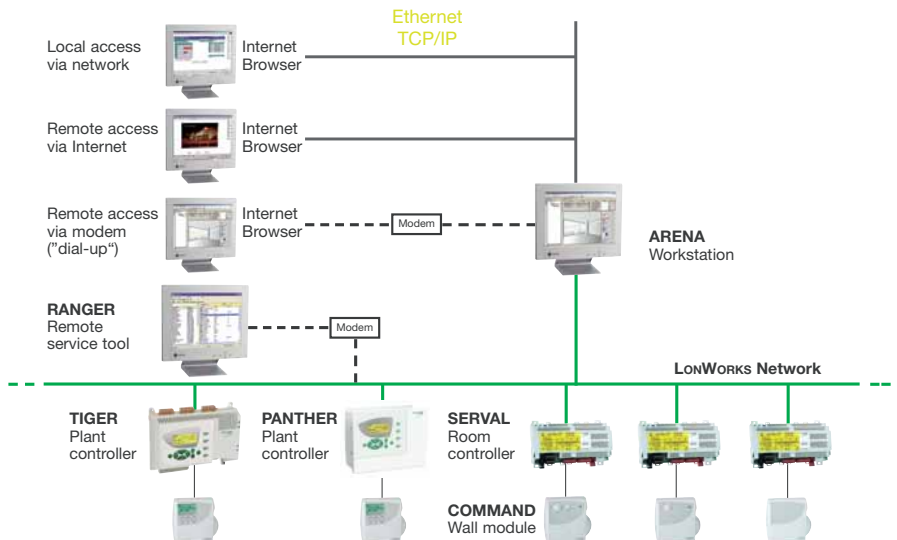
User-friendliness is crucial to operation: in the intuitive control of the stylish COMMAND wall module in individual rooms and the controller itself, which clearly displays all values in a network. The ARENA workstation allows you to operate the entire system via a browser. It's easy to control your heating, ventilation and air-conditioning units in each individual room - as easy as surfing the web.

**Example 3
Future-proof technology –
Backed up by a global standard**

In contrast to many other solutions with proprietary bus systems, CentraLine applies LONWORKS, a worldwide standard in building automation already used in millions of other buildings. This means your building remains flexible and open to later extensions and developments right from the start, resulting in real cost-savings for you in the initial installation and subsequent modifications; ensuring your investment remains future-proof.

System Overview

	COACH	Configuration software
	ARENA	Workstation
	RANGER	Remote service tool
	TIGER	Plant controller
	PANTHER	Plant controller
	SERVAL	Room controller
	COMMAND	Wall module
	Field Devices	Complete Honeywell range of sensors, valves and actuators

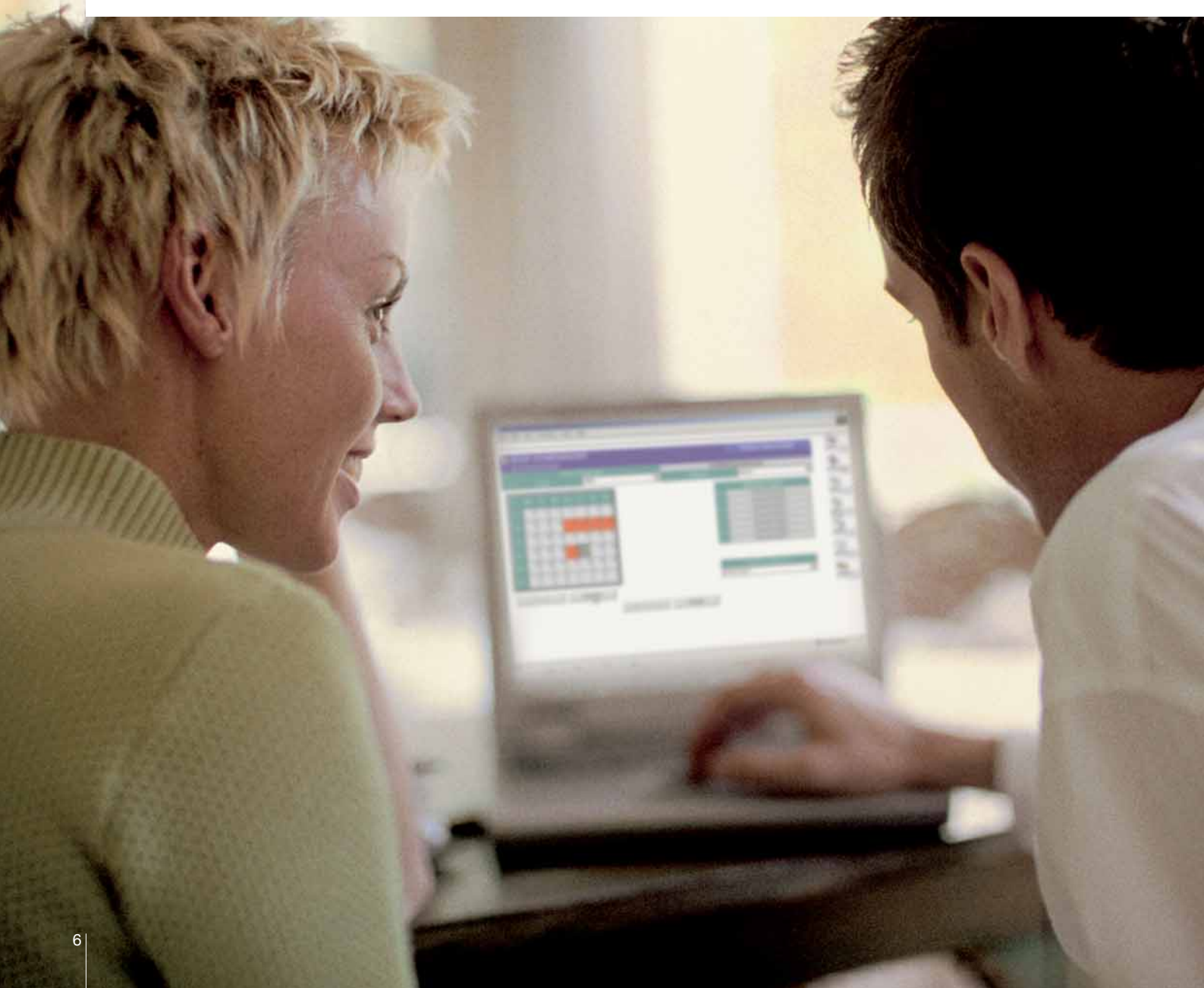


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ARENA Workstation

As easy as surfing the web

ARENA is a web-based solution for energy management of facilities such as offices, schools, public buildings, apartment buildings and many others.





Plant image

Intuitive web technology

If you can browse the Internet, you are ready to handle ARENA. That's because it uses Internet Explorer as its operator interface. Once locally installed, ARENA can be operated worldwide without extra investment. The workstation can be set up with its own IP address. You can access and manage your building easily via a browser – locally or from anywhere in the world.



Time programme

Flexible scheduling

Authorised persons can intuitively alter time programmes for individual rooms, areas or the entire building with just a few clicks of the mouse, making it quick and easy to react to changing business hours or holiday periods.



Individual room control

Operational excellence

ARENA is simple to handle and surprisingly low in cost, yet offers all the advanced features you expect from a leading building management system: enhanced alarming with history files, reports and statistics as well as remote alarming via email – to mention just a few. There are even more benefits, such as access via the LonWORKS networks to Centraline system controller data (data points, time programs, alarms, application parameters) with enhanced graphical trending for monitoring and override.

RANGER Remote Service Tool

Cost-effective service

A PC-based service tool providing remote access to the Centraline system by a Centraline PARTNER or other technician. It transmits system alarms as email or SMS to mobile phones and PCs and allows technicians to check, adjust or monitor the system from their own PC.

RANGER does not need a PC in the building itself - only a modem and phone line.





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COACH Software

**PANTHER/TIGER
Plant Controllers**

High-technology works for you in the background

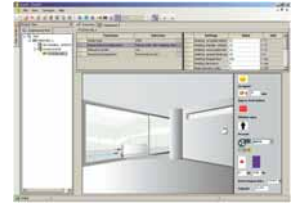
COACH

Proven application

This Windows® based configuration tool has been designed for ease-of-use. Applications are selected through a simple point-and-click process. The results are proven solutions to cover heating, air conditioning and district heating. All applications use the latest control algorithms for consistent energy savings.

Documentation included

The software tool also supplies a comprehensive set of application-specific documentation – such as wiring diagrams, parameter list and functional description – which is created dynamically as the application is defined. The documentation simplifies the use of the system and makes it easy to make modifications when requirements change.



PANTHER/TIGER

PANTHER, **PANTHERmini** and **TIGER** controllers are designed to dramatically reduce planning, commissioning and installation effort for individual applications. Carefully selected default settings minimise start-up time.

Easy operation

The plant controllers have been designed with user-friendliness in mind. Complete point names and descriptions are stored in each controller. The operating unit provides buswide access to all datapoints, status and alarm information, all in plain language. Further features support easy operation:

- clear backlit display for use even under poor lighting conditions
- well-structured and self-explanatory operation
- external operating interfaces can be used.

Installation flexibility

The controllers, with or without integral operator's terminal, can be installed in the control panel door or on a DIN rail inside the control panel.



	PANTHERmini	PANTHER	TIGER
Inputs/ Outputs	13	22	38 (76 with Expansion Board)

Example Applications – Plant Control

Heating control

The heating module enables you to control up to four heat generators, three heating circuits, a domestic water heater with storage tank and optional heat exchanger. A maximum of five system components can be selected at any one time.

Heat generator control is based on flow temperature demand from the various heat consumers or the heating strategy module.

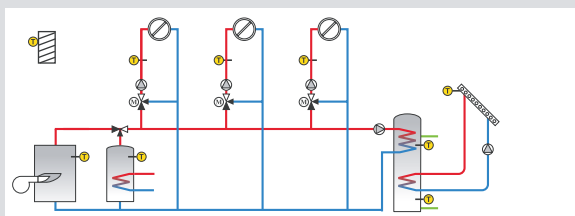
Heating circuit control works as outdoor temperature compensated (OTC) flow temperature control with time programmes and optional room interconnection, plus optimised start-and-stop functionality.

“Heating Ramp” functionality enables controlled slow heating up and cooling down of sensitive areas, such as churches, museums, etc.

Domestic hot water (DHWS) control is carried out according to the set point of the upper tank sensor (or can also be a combination of set points from the upper and lower tank sensors) and its own time programme.

Solar control enables the combination of solar panels with heating and DHW systems. The solar energy can either be used to feed the DHW directly or stored in a buffer to be used with heat consumers.

Buffer or energy tanks are used for storing energy provided without control e.g. from solar equipment, solid fuel boilers, heat pumps or combined heat and power plants (CHPs). This energy buffer covers the energy demand from heating circuits, hot water or all connected systems.



Example

Boiler, two heating circuits, domestic hot water, solar and buffer control

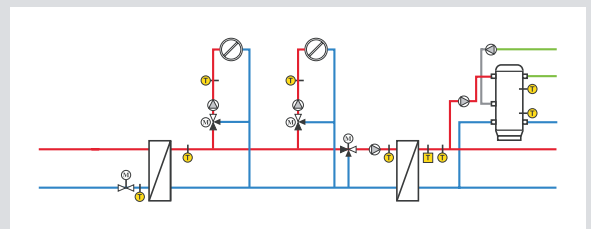
The boiler runs according to OTC demand from the heating circuits and the demand from the DHWS. Frost protection for the rooms and the heating system is guaranteed, as well as optimum system start. The integration of solar panels and buffer storage functions is an essential element for maximum energy efficiency.



District heating control with energy metering (M-Bus)

The district heating application module facilitates a wide range of system component combinations that can be configured using COACH:

- Heat exchanger with secondary flow temperature control and optional primary return temperature control, staged or sequential control of two valves.
- Heating circuit with direct or indirect connection to primary flow system with OTC flow temperature control, mixing valve, individual pump, room temperature sensor and return temperature sensor. Manual override.
- DHWS via storage tank with upper tank temperature, loading pump, lower tank temperature, circulation pump.
- Additional heat exchanger for DHWS, connected directly to the primary flow or secondary side of heat exchanger.



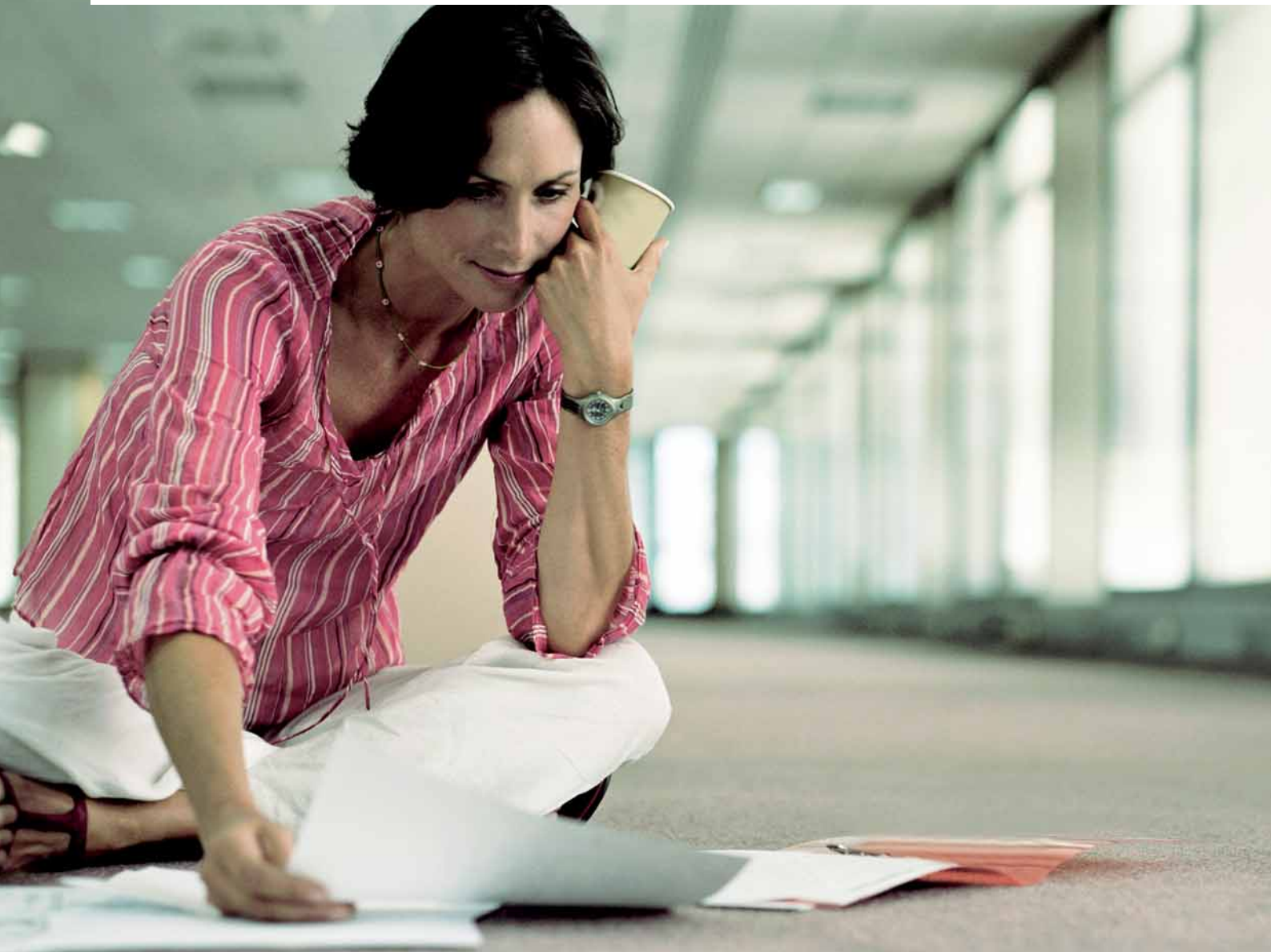
Example

Primary heat exchanger, two heating circuits and domestic hot water (DHWS)

Primary heat exchanger control where needed by the OTC heating circuits and DHWS. Stratified hot water storage tank with external heat exchanger, as well as mixing circuit control to ensure maximum reduction of calcification in the heat exchanger.

close to you

Example Applications
– Plant Control



Ventilation and air-conditioning control

The application module offers a wide range of standard functions to control ventilation systems, heating circuits and heat generators:

- Heater or electric air heater
- Cooler or direct heat exchanger
- On/off or mixed air dampers
- Heat recovery
- Spray washer or steam humidifier
- Re-heater
- One-/two-level and speed-controlled fans
- Up to four zone control circuits - heating or cooling mode
- Single/two-stage or modulating heat generator control
- OTC heating circuit
- Air quality control with CO₂ or mixed gas sensor
- Heat generator control.

Safety functions

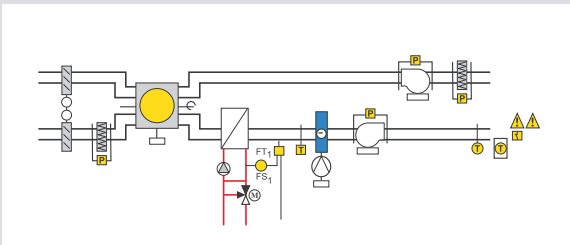
Frost function during system start-up when outside temperature is low. Overheat protection for electric air heater via thermostat.

- Damper alarm
- Fan alarm
- Filter alarm (maintenance message)

Night mode starts the unit to maintain the temperature within the permitted range.

Energy-saving functions

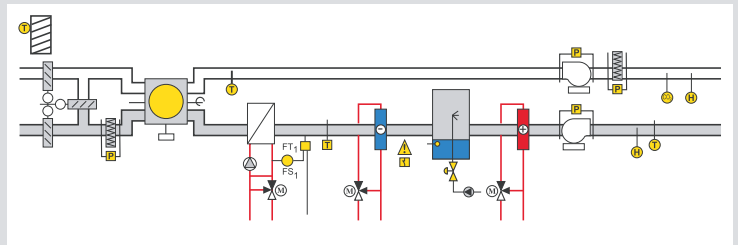
- Optimum Start/Stop to operate the unit depending upon the actual outside and room temperature.
- Automatic changeover from heating to cooling season.
- Economizer function depending on temperature or enthalpy comparisons.
- Night purge mode for use of cold outside air to cool down building at night
- Intermittent mode enables the ventilation unit to be switched on and off at variable intervals.
- Energy monitoring for transparent system analysis.



Example

Room/discharge air temperature control: Heat recovery, heating, cooling with dehumidification, two fans.

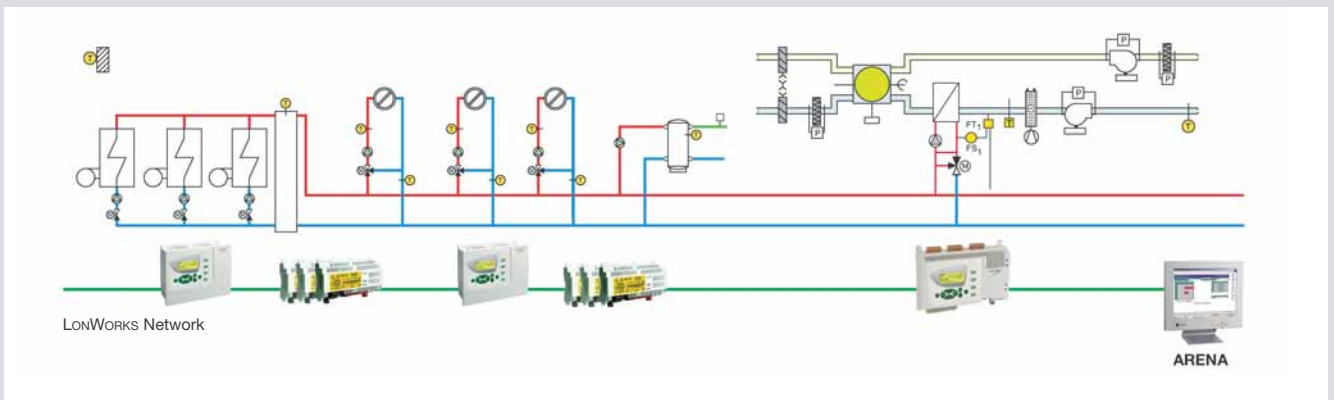
The discharge air temperature is controlled directly or in cascade with the room air temperature. The outside air temperature can be used for summer/winter compensation. The controller signal is used in sequence to control heat recovery, heating and cooling. Dampers are open/close type (when open, they supply 100% fresh air).



Example

Room/discharge air temperature control: Heat recovery, heating, cooling with dehumidification, humidification, two fans

The discharge air temperature is controlled directly or in cascade with the room air temperature. The outside air temperature can be used for summer/winter compensation. The controller signal is used in sequence to control the mixed air dampers, heat recovery, heating and cooling. Humidification control with spray washer (on/off) and dehumidification control with cooler are based on return and maximum supply air humidity. Air quality is controlled with CO₂ sensor influence on fresh air dampers and fan speed.



Example of networked system:

Heat generator, heating circuit including ventilation and integrated individual room control



close to you

SERVAL Room Controller COMMAND Wall Modules

Highly efficient and ensuring your comfort

The **SERVAL** individual room controller and **COMMAND** wall modules provide a highly efficient combined solution for comfortable individual room control. The **ARENA** workstation allows you to define specific settings for individual rooms or apply general settings, such as time programmes, for all rooms.



CLCM1T11N CLCMNA172 CLCM1H112 CLCM2T11N

	Temperature sensor	●	—	●	●
	Setpoint wheel	—	—	—	●
	LED	—	—	—	—
	Occupancy button	—	—	—	—
	Operating knob	—	—	—	—
	Fan speed	—	—	—	—
	Air quality	—	●	—	—
	Humidity	—	—	●	—
	Carbon dioxide	—	—	—	—

SERVAL is the universal solution for room heating and cooling control. Pre-set parameters for radiators, underfloor heating, fan coil units and chilled ceilings enable a quick start-up. Further application-related settings can be made using the COACH configuration software.

Further features:

- Digital inputs, such as
 - Window contact
 - Fire alarm input
 - Occupancy sensor
 - Condensation input
 - Volume flow input
- Direct connection of thermo or floating actuators
- Direct connection of up to 3 fan stages
- Direct connection of electric heaters
- Numerous actuators and valves supported
- Device protection via locking mechanisms and time delays
- Slim housing for narrow assembly spaces in fan coil units and suspended ceilings
- Power supply from mains (230 V) or 24 V



COMMAND offers a wide range of wall modules, from the simplest of sensors to a digital module that provides extensive functions, displays and operational options. Depending on the model, it offers precise temperature measurement (using SERVAL and PANTHER), as well as measuring humidity, CO₂ and air quality (using PANTHER).

Further features:

- User-friendly digital display module
- Temperature, humidity, CO₂, air quality sensing
- Relative ($\pm 5K$) setpoints
- Central setpoint override, limit and adjustment
- Fan switching override
- Manual occupancy button
- Low power consumption

	CLCM1C155	CLCM4C155	CLCM3T111	CLCM4T111	CLCM5T111	CLCM6T111	CLCM6H212	CLCM6T21N
Temperature measurement	—	●	●	●	●	●	●	●
Humidity measurement	—	●	●	●	●	●	●	●
CO ₂ measurement	—	●	●	●	●	●	—	—
Air quality measurement	—	●	—	●	●	●	●	●
Relative setpoint	—	—	●	—	—	—	—	—
Central setpoint override	—	—	—	—	● 1)	● 2)	●	●
Fan switching override	—	—	—	—	—	—	—	—
Manual occupancy button	—	—	—	—	—	—	●	—
Low power consumption	●	●	—	—	—	—	—	—

1) = Auto/0/1

2) = Auto/0/1/2/3

Example Applications – Room Control

The **PANTHER**, **TIGER** and **SERVAL** controllers combine to form a highly efficient complete energy demand chain. Heating and cooling energy is generated and transported only when it is required in the individual rooms, avoiding energy wastage. For specific room control, **SERVAL** offers focused applications for heating, cooling and electric reheating. Additional digital inputs enable the integration of further functions, such as window contact, presence sensor, condensation switch and flow monitoring.

Sample applications

(COACH screen display, also displayed in ARENA)



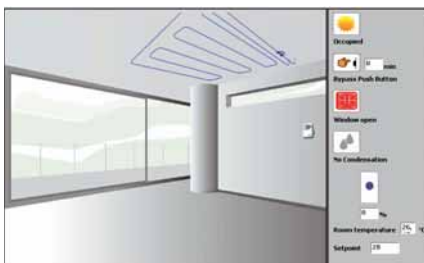
Radiator heating



Underfloor heating



Heating/cooling with underfloor heating, two-pipe system



Chilled ceiling



Heating/cooling with chilled ceiling, two-pipe system



Heating with radiator, cooling with chilled ceiling



Heating/cooling with fan coil unit



Heating/cooling with fan coil unit, two-pipe system



Heating/cooling with fan coil unit, electric reheat



close to you

CentraLine

A concept with many advantages

- Great value solutions, thanks to CentraLine PARTNERS with their flexible, efficient and rapid working methods and configurable CentraLine solutions.
- Efficient solutions, thanks to the COACH configuration software - bundled programming and application know-how is automatically used in every application, resulting in the highly efficient implementation of all system components.
- Optimum project processing, as planning, installation, start-up and customer service are all carried out from one source on site.
- Cost-efficient service and fast response time, thanks to RANGER, the remote service tool.
- Investment security, thanks to the use of independent, global industry standards, such as LONWORKS.
- Supporting the European "Energy Performance for Buildings Directive 2002/91/EC": from 2006, legislation requires that "an energy label must be made accessible upon the erection of building, the sale or the letting of a property". Thanks to their highly efficient control algorithms and simple operation, CentraLine solutions can significantly increase the energy efficiency of buildings and therefore their market value.



Retail Premises

Fitness Centres

Churches

close to you

A solution for every building

Optimising your building performance

CentraLine solutions are so convincing because they pursue a clearly-defined goal: To provide you with high-quality results for small to mid-size buildings.

Health Centres

Offices

Apartment Buildings

Schools



close to you

Centraline CITY



A unique online guide to controls for a variety of buildings. Invaluable to property managers, investors, architects, planners and installers. Visit the City, benefit from the solutions at

www.centraline.com



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