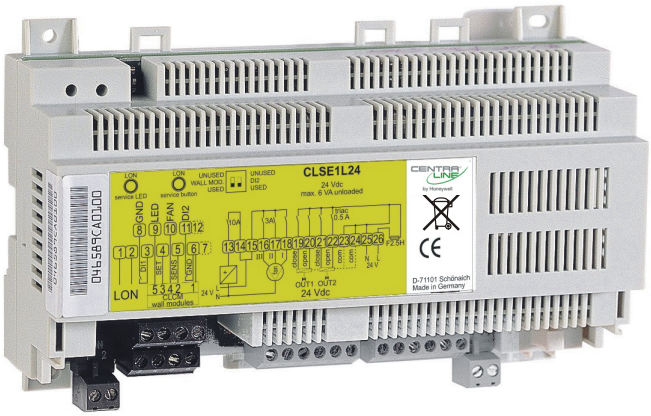
SERVAL

Product Data

CENTRA LINE by Honeywell



GENERAL

The SERVAL Controller is an individual room controller which can be used to cover a wide range of control applications. It can operate as a stand-alone unit or as a part of a CentraLine control system.

Interfaces are provided for a wide range of actuator types. Heating systems can be water or electric, and cooling systems can be chilled water supply or compressors. Extensive timing and interlock features make them especially suitable for systems using electrical heat and compressors.

Table 1. Overview of equipment (by model)

model	description	CLSE 1L230	CLSE 1L24
power supply	230	X	--
	24	--	X
digital outputs	1st relay	X	X
	2nd relay	X	X
	3rd relay	X	X
	4th relay	X	X
	triac (open OUT1)	X	X
	triac (close OUT1)	X	X
	triac (open OUT2)	X	X
	triac (close OUT2)	X	X
	LED	X	X
digital inputs	configurable digital input	X	X
	digital input (window contact)	X	X
analog inputs	(fan speed + occ. override)	X	X
	room sensor	X	X
	set-point. adjustment	X	X

FEATURES

- **Direct connection of thermal or floating actuators**
- **Direct connection for up to three fan stages**
- **Direct connection to electrical heat**
- **Factory-configured default parameters**
- **Wide range of supported valves and actuators**
- **Interlocks and time delays to protect equipment**
- **Uses Echelon LonTalk® protocol**
- **Wall modules for manual override**
- **Slim design fits into narrow fan coil units and false ceilings**
- **Power supplied by power mains or 24 V**
- **eu.bac certified**

DESCRIPTION

The SERVAL Controller provides room temperature control for two- and four-pipe control circuits with optional electrical heating coils and can control single-, two-, or three-speed fans. It is provided with default configuration settings from the factory and is fully operable upon installation. Using the COACH 1.2 configuration tool, the controller can be configured with job-specific settings. A variety of COMMAND wall modules interface with the controller and provide any or all of the following: setpoint adjustment, fan speed adjustment, and an occupancy bypass button.

SEQUENCES

Heat and cool sequences can be selected to be active or not active, giving a total of ten different room applications:

- Radiator with heating valve
- Floor heating with heating valve
- Floor heating/ cooling with changeover valve
- Chilled ceiling with cooling valve
- Chilled ceiling with heating/ cooling changeover valve
- Radiator with heating valve, chilled ceiling with cooling valve
- Fancoil unit with heating + cooling valve
- Fancoil unit with heating + cooling + electric reheat
- Fancoil unit with heating/ cooling changeover valve
- Fancoil unit with heating/ cooling changeover valve + electric reheat relay

Modes of Operation

The controller has the following modes of operation.

Copyright © 2008 Honeywell GmbH • All Rights Reserved

"Occupied" Mode

This is the normal operating condition for a room or zone when it is occupied. The controller can be switched into this mode by the system time program, by the room occupancy sensor, or using a bypass button on the COMMAND wall module. In the "occupied" mode, the fan is controlled by the setting of the fan speed switch ON the COMMAND wall module or, when the switch is set to "auto," by the control algorithm. The fan is switched OFF within the zero energy band.

"Standby" Mode

The "standby" mode saves energy by reducing heating or cooling demand during periods where the room is temporarily unoccupied. The fan is switched OFF within the zero energy band.

"Unoccupied" Mode

This mode is used for longer unoccupied periods, such as at night or during weekends and holidays.

Window Open

If the SERVAL Controller is configured for window open detection, the controller automatically disables heat and cool control until the window is closed again. Frost protection remains active.

Frost Protection

If the temperature drops below 8°C, the SERVAL Controller enables the heating circuit as frost protection.

Smoke Control

The fan can be turned ON or OFF with a window open contact for smoke control.

Fan Failure

When configured with electric reheat, an air flow detector is expected on digital input1. The SERVAL Controller protects equipment by disabling the system when the fan fails.

Changeover

The SERVAL Controller can operate two-pipe room control systems. The changeover input for this function is physically connected to the PANTHER with AH03 application for precontrol.

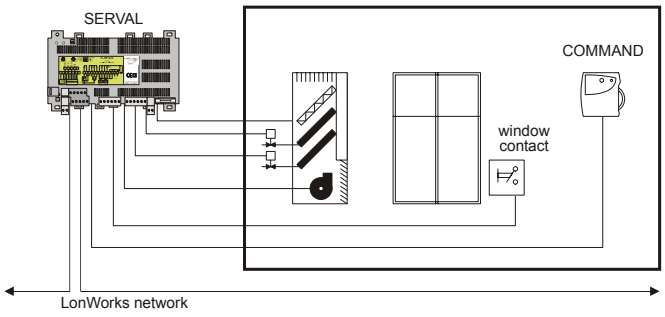


Fig. 1. Typical application, here with fancoil

SPECIFICATIONS

Both models of the SERVAL Controller are equipped as shown in Table 2.

Input/Output, Power Consumption

Table 2. Input/output specifications

	function/characteristics
1st DI	configurable to read input from hardwired window contact, occupancy sensor, etc.; suitable for dry contacts, only; max. voltage at open contact = 5 Vdc
1st AI	permanently configured to read input from hard-wired COMMAND wall module's temperature setpoint adjustment knob
2nd AI	permanently configured to read input from hard-wired COMMAND wall module's room tem-perature sensor
1st DO	permanently configured to write output to LED of hardwired COMMAND wall module
3rd AI	permanently configured to read input from hard-wired COMMAND wall module's 3-speed fan control knob and "occupancy override" button
2nd DI	permanently configured to read input from window contact; enabled / disabled using **right** DIP switch; suitable for dry contacts, only; max. voltage at open contact = 5 Vdc
4th relay	permanently configured to write output to hard-wired electrical reheat coil; switching voltage = 24...230 Vac; switching current = 0.05...10 A
1st, 2nd and 3rd relays	permanently configured to write output to hard-wired 3-speed fan; switching voltage = 24...230 Vac; switching current = 0.05...3 A (max. 3 A for all three relays together)
triac outputs	permanently configured to write output to OUT1/2; switching voltage = 230 Vac (CLSE1L230) or 24 Vac (CLSE1L24), max. switching current = 0.5 A; max. peak (10 sec) current = 1 A • Maximum allowable continuous current for all of the triac outputs together: 1 A. • cos φ > 0.8

Power Supply

CLSE1L230: 230 Vac +10%, -15%, 50/60 Hz

- Power consumption: < 6 VA (device unloaded)

CLSE1L24: 24 Vac ±20%, 50/60 Hz

- Power consumption: < 3 VA (device unloaded)

Hardware Design

Processor: Neuron 3150® running at 5 MHz, with 2 kB of RAM and 0.5 kB of EEPROM on chip.

Ext. memory: EPROM, 64 kB by 8.

Specified Sensing Temperature Range

0° to 40°C

Environmental Ratings

Operating temperature: 0...50°C
Shipping/storage temperature: -40...+70°C
Relative humidity: 5% to 95% non-condensing

Dimensions

110 x 180 x 60 mm

Weight

CLSE1L230: 420 g
CLSE1L24: 260 g

Communications

The SERVAL Controller uses the LonTalk protocol. It supports the LONMARK Functional Profile # 8020 “Fan Coil Unit Controller”, version 2.0.

Approvals and Standards

- CE
- EN50081-1
- EN50082-1
- eu.bac

Accessories

- COMMAND Wall Modules
- Dew-Point Sensor H7018A1003
- LONWORKS termination module 209541B
- LONWORKS termination module XAL-Term
- M7410C Small Electric Linear Valve Actuator
- M6410L Small Electric Linear Valve Actuator
- M5410C Small Electric two-position actuators
- M100 thermal actuators, 24 V and 230 V
- XAL-COV-L Terminal Covers (8 pcs. bulk)

System Components

- configuration software: COACH 1.2
- front-end software: ARENA 1.2
- graphic editor: ARENA EDITOR
- plant controller: PANTHER

For detailed information, see related literature.

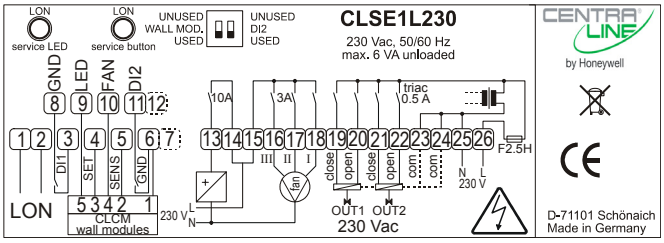


Fig. 2. CLSE1L230 sticker with input/output details

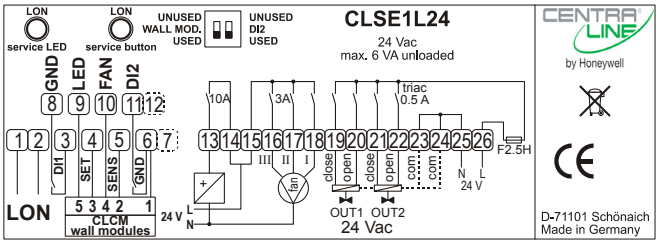


Fig. 3. CLSE1L24 sticker with input/output details

Manufactured for and on behalf of the Environmental and Combustion Controls Division of Honeywell Technologies Sàrl, Ecublens, Route du Bois 37, Switzerland by its Authorized Representative:

CentraLine
Honeywell GmbH
Böblinger Straße 17
D-71101 Schönaich
Tel +49 7031 637 845
Fax +49 7031 637 846
info@centraline.com
www.centraline.com

CentraLine
Honeywell Control Systems Ltd.
Arlington Business Park
UK-Bracknell, Berkshire RG12 1EB
Tel +44 13 44 656 565
Fax +44 13 44 656 563
info-uk@centraline.com
www.centraline.com

Printed in Germany.
Subject to change
without notice.
EN0Z-0911GE51 R0408

CENTRA LINE by Honeywell