

Roth Touchline® SL control system

Wireless control system for heating and cooling

Advanced wireless control system for underfloor heating, cooling and radiators with optional internet connectivity and the use of Roth Touchline® SL app.

The Roth Touchline® SL control system is used for individual control and regulation of the room temperature in buildings with underfloor heating/cooling systems where an advanced system is needed. The control system also offers the possibility to control radiators using the wireless radiator actuators.

The system consists of two controllers: A Roth Touchline® SL Controller, Master and a Roth Touchline® SL Controller, extension, each with 8 channels and wireless connection to room thermostats or sensors in the individual rooms. It is possible to set up a system consisting of one Roth Touchline® SL Controller, master and up to three Roth Touchline® SL Controller, extensions wirelessly connected to each other. To each Master and Extension Controller you can connect one wired 4 ch Extension module which gives a total of 48 zones/channels in one system.

The Master and Extension controllers can also be connected using a 4 conductor wire cable (BUS) to secure the very best communication between the controllers if needed in large installations. The system offers a wide range of accessories such as a Roth Touchline® SL WiFi module, a Roth Touchline® SL Valve module for control of a mixing unit, a Roth Touchline® SL Wireless Window contact and a Roth Touchline® SL Wireless Radiator actuator.

The Roth Touchline® SL Controllers have a display panel which is used when pairing the thermostats. At the same time, it provides a good overview of installed thermostats/sensors with associated temperatures, and the signal strength can be easily read for each thermostat/sensor, and correct positioning is easily done. The 4 ch Extension module is setup and controlled via the Master or Extension Controller.

The thermostats are available in 2 variants, both with display and touch buttons.

Also available:

- > 2 variants of Roth Touchline® SL temperature sensors. Both are controlled via the controller display or the app.
- > 2 Roth Touchline® SL Smart accessories which make the system even more applicable:
- > Roth Touchline® SL Wireless Radiator valve actuator offers the possibility of controlling radiators. Up to 6 actuators can be connected to each zone.
- > Roth Touchline® SL Wireless window contact ensures that the heat source will be set in ECO mode when the window is opened to reduce waste of energy. Up to 6 contacts can be connected to each zone.

Roth Touchline® SL room thermostats

Roth Touchline® SL Standard room thermostat

The thermostat comes in white and black with an LCD display protected by a transparent polycarbonate plate. The power supply is 2 x AAA 1.5V batteries. The temperature is easily set with the two



touch buttons (< / >) and the menu button (□) gives you access to more advanced settings.

This thermostat can also be connected with a wired sensor for controlling the floor temperature. The thermostat is also equipped with a humidity sensor to monitor the humidity in the room which is important when you run your installation in cooling mode.

Roth Touchline® SL Plus room thermostat

The thermostat comes in white with a large temporary backlit LCD display with, protected by a transparent polycarbonate plate. The power supply is 2 x AAA 1.5V batteries. The temperature is easily set with the two touch buttons (< / >) and the menu button (□) gives you access to more advanced settings. The “back” button is used for returning from menus.

This thermostat can also be connected with a wired sensor for controlling the floor temperature. The thermostat is also equipped with a humidity sensor to monitor the humidity in the room which is important when you run your installation in cooling mode.

Room sensors

Roth Touchline® SL Room Sensor

The sensor comes in white without any buttons or display. The front is protected by a transparent polycarbonate plate. The power supply is 2 x AAA 1.5V batteries.

The sensor measures the actual temperature in the room, and temperature and settings can only be read/changed on the display of the controller or via the app.

Roth Touchline® SL control system

Roth Touchline® SL Room Sensor Mini

The sensor comes in white without any buttons or display. The front is glossy white. The power supply is 1 x 2032 button cell.

The sensor measures the actual temperature in the room, and temperature and settings can only be read/changed on the display of the controller or via the app. This sensor comes with a humidity sensor.

Accessories

Roth Touchline® SL Radiator actuator

The wireless radiator actuator comes in glossy white with an outside pairing button and LED indicator. The power supply is 2 x AAA 1.5V batteries.

The actuator ensures accurate and quiet operation of radiator heating control.

Connection to valve-nut with M30x1,5 screw thread. Adaptors for several other type of valves available (Danfoss RAN and RTDN adaptors in set).

Roth Touchline® SL Wireless window contact

The wireless window contact comes in glossy white in a contemporary, compact, and discreet design. It has an inside pairing button and LED indicator. The power supply is 1 x 3,6V type ER14250 lithium battery.

The contact signals an open window/door to ensure a minimum of heat loss when connected to a zone.

Roth Touchline® SL outdoor sensor

The wireless outdoor sensor is used together with the Roth Touchline® SL Master controller to enable the function "weather control" which optimizes the heat consumption based on a average temperature threshold temperature. This function is especially useful in the changeover periods spring/summer and summer/fall.

The sensor is powered with 2 x AAA 1,5V batteries and has a protection class IP61.

Roth Touchline® SL Controller, Master

The Roth Touchline® SL Controller, Master is available with 8 channels. The controller can be mounted directly on the wall, or by using the included 35 mm DIN rail. The controller has a potential-free relay for e.g. boiler control, an output for pump with 230V voltage, as well as in/outputs for more accessories such as heat sources, inputs for controlling heating/cooling, Roth Touchline® SL WiFi module, Roth Touchline® SL Valve module and different Roth Touchline® SL wired sensors.

The following information can be read on the controller's display per channel:

- > Weekday and time
- > Current and desired temperature (room and floor)
- > Outdoor temperature (if sensor installed)
- > System mode (on/off, Normal, Holiday, Comfort, ECO, schedule)
- > Signal strength per thermostat/sensor
- > Battery level per thermostat/sensor
- > Connected Smart accessories per zone
- > Pump output status (on/off)
- > Status relay (on/off)
- > Connected accessories
- > Alarm in case of lost connection

The control panel provides access to basic settings for the system, and with a code also for the advanced settings. When an Extension is connected it can also be setup and controlled using the display on the Master Controller

First start-up

When first starting up an underfloor heating system, all actuators should be fully opened to ensure proper operation. It is also important to get all air flushed out of the system.

Pump motion

To extend the life of the pump and ensure that the pump does not get stuck, the system automatically performs pump exercise every 10 days for 5 minutes.

Valve motion

Long life and securing of valves, and the function of the actuators are ensured by the automatic valve and actuator exercises which are performed every 10 days for 5 minutes.

Sections of functionality

- > Up to 30 m indoor range
- > Up to 48 channels in combination with Roth Touchline® SL Controller, Extension and 4 ch Extension module
- > Optional Roth Touchline® SL valve module to control supply temperature
- > Optional Roth Touchline® SL WiFi module for internet connection
- > Frost protection in case of lost connection to thermostats
- > Locking or limiting the thermostat for public use
- > On/Off regulation
- > OPTIMUM Start, adaptive regulation
- > Can be used for underfloor heating/and cooling
- > Can be used for radiator installations
- > Control of pump, boiler or other heat sources
- > Intuitive operation of display thermostats
- > Bypass for heatpumps
- > Input for heating/cooling changeover
- > ECO input for stop heating if external cooling
- > Connecting more zones/channels to one thermostat

Roth Touchline® SL control system

Roth Touchline® SL Controller, Master 8 ch 230V

Supply voltage
Energy consumption
Number of outputs and voltage
Max. sustained load

HVAC no.7466397058
230V AC
6 W
19 (NC/NO), 230V AC
19 thermal actuators
(0.3A)

(3 outputs with 3
actuators and 5 out-
puts with 2 actuators)
8 thermostat/sensors
6 radiator actuators
(per zone)
6 window contacts
(per zone)
(EN60730)

Wireless channels

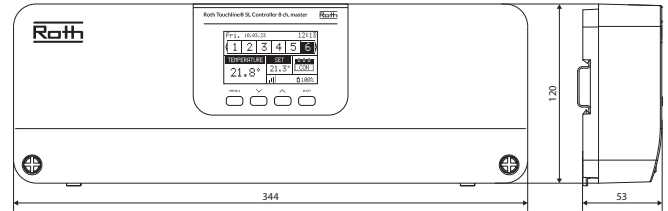
Protection class I
Transmission frequency
Range (up to)

868 MHz
30 m (in ordinary
building)

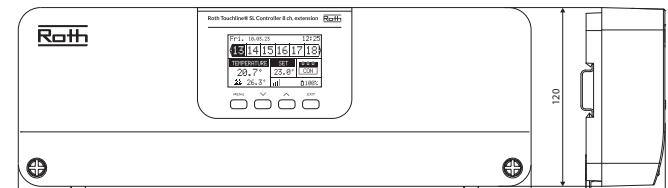
Wired BUS connection
Max. load pump relay
Max. load potential-free relay
Power supply cable
Ambient temperature
Ambient humidity
Storage/transport temperature
Degree of protection
Fuse glass fuse
Approvals

RS485 (max. 100 m)
230V and 0.5 A
1A
85 cm
5 - 50°C
< 80% RH
-20 - +50°C
IP20 (EN60529)
WT 6.3A (5 x 20 mm)
CE 2014/53/EU

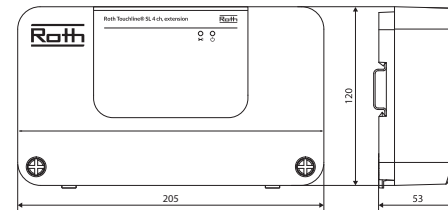
Roth Touchline® SL Controller, Master - 8 ch



Roth Touchline® SL Controller, extension - 8 ch



Roth Touchline® SL 4 ch Extension module



Roth Touchline® SL 4 ch Extension module

Supply voltage
Energy consumption
Number of outputs and voltage
Max. sustained load

Wireless channels

Protection class I
Power supply cable
Ambient temperature
Ambient humidity
Storage / transport temperature
Degree of protection
Fuse glass fuse
Approvals

HVAC no. 7466397064
230V AC
3 W
9 (NC/NO), 230V AC
9 thermal actuators
(0.3A)

(3 outputs with 2
actuators and 1 out-
put with 3 actuators)
4 thermostat/sensors
6 radiator actuators
(per zone)
6 window contacts
(per zone)
(EN60730)

85 cm
5 - 50°C
< 80% RH
-20 - +50°C
IP20 (EN60529)
WT 3.15A (5 x 20 mm)
CE 2014/53/EU

Roth Touchline® SL Controller, extension 8 ch 230V

Supply voltage
Energy consumption
Number of outputs and voltage
Max. sustained load

HVAC no.7466397068
230V AC
6 W
19 (NC/NO), 230V AC
19 thermal actuators
(0.3A)

(3 outputs with 3
actuators and 5 out-
puts with 2 actuators)
8 thermostat/sensors
6 radiator actuators
(per zone)
6 window contacts
(per zone)
(EN60730)

Wireless channels

Protection class I
Transmission frequency
Range (up to)

868 MHz
30 m (in ordinary
building)

Wired BUS connection
Max. load pump relay
Max. load potential-free relay
Power supply cable
Ambient temperature
Ambient humidity
Storage/transport temperature
Degree of protection
Fuse glass fuse
Approvals

RS485 (max. 100 m)
230V and 0.5 A
1A
85 cm
5 - 50°C
< 80% RH
-20 - +50°C
IP20 (EN60529)
WT 6.3A (5 x 20 mm)
CE 2014/53/EU

Roth Touchline® SL control system

Roth Touchline® SL Standard room thermostat (white)

Roth Touchline® SL Standard room thermostat (black)

Roth Touchline® SL Plus room thermostat

Supply voltage

Battery life

Power consumption standby

Room temperature, setting range

Comfort floor temperature, setting range

Floor temperature, max. setting range

External floor sensor

Accuracy (resolution)

Time constant (time delay)

Activation time (wake-up time)

Max. forced update time for data from control box

Standby display without operation

Standby by program. at user level

Transmission frequency

Range up to

Ambient temperature

Ambient humidity

Degree of protection

Approvals

HVAC no. 7466397180

HVAC no. 7466397181

HVAC no. 7466397190

2 pcs. AAA 1.5V

> 2 years (floor sensor

> 4 years)

~ 50uA

+5 - + 30°C

+15 - + 30°C

+26 - + 35°C

NTC 10k B = 3435K

(2,5 m)

± 0.5 K.

Approx. 4 min.

< 2 sec.

10 sec.

Max. 5 sec.

3.5 sec.

868 MHz

30 m (ordinary

building)

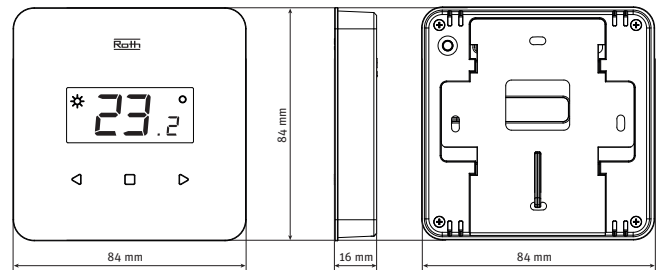
0 - 55°C

Max. 80% RF

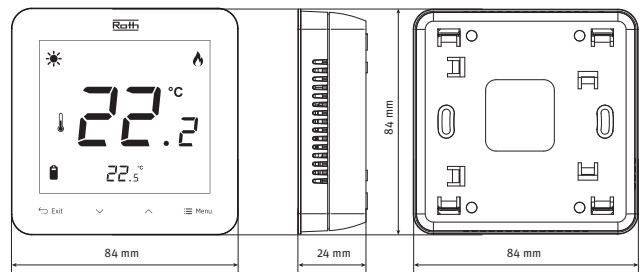
IP20 (EN60529)

CE 2014/53/EU

Roth Touchline® SL Standard room thermostat



Roth Touchline® SL Plus room thermostat



Roth Touchline® SL Room Sensor

Supply voltage

Battery life

Power consumption standby

Room temperature, setting range

Accuracy (resolution)

Time constant (time delay)

Transmission frequency

Range up to

Ambient temperature

Ambient humidity

Degree of protection

Approvals CE

HVAC no. 7466397580

2 pcs. AAA 1.5V

> 4 years

~ 50uA

+5 - + 30°C

± 0.5 K.

Approx. 4 min.

868 MHz

30 m (ordinary

building)

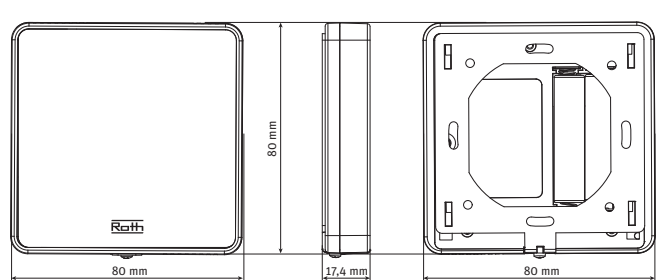
0 - 55°C

Max. 80% RF

IP20 (EN60529)

2014/53/EU

Roth Touchline® SL Room Sensor



Roth Touchline® SL Room Sensor Mini

Supply voltage

Battery life

Power consumption standby

Room temperature, setting range

Accuracy (resolution)

Time constant (time delay)

Transmission frequency

Range up to

Ambient temperature

Ambient humidity

Degree of protection

Approvals CE

HVAC no. 7466397560

1 pcs. CR2032

> 1 year

~ 50uA

+5 - + 30°C

± 0.5 K.

Approx. 4 min

868 MHz

30 m (ordinary

building)

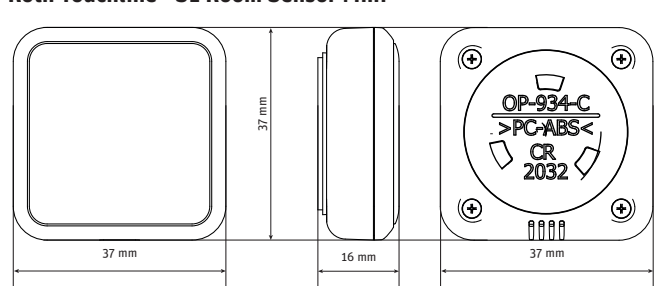
0 - 55°C

Max. 80% RF

IP 64 (EN60529)

2014/53/EU

Roth Touchline® SL Room Sensor Mini



Roth Touchline® SL Radiator Actuator
Roth Touchline® SL Window Sensor
Roth Touchline® SL Outdoor Sensor

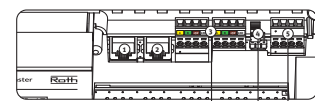
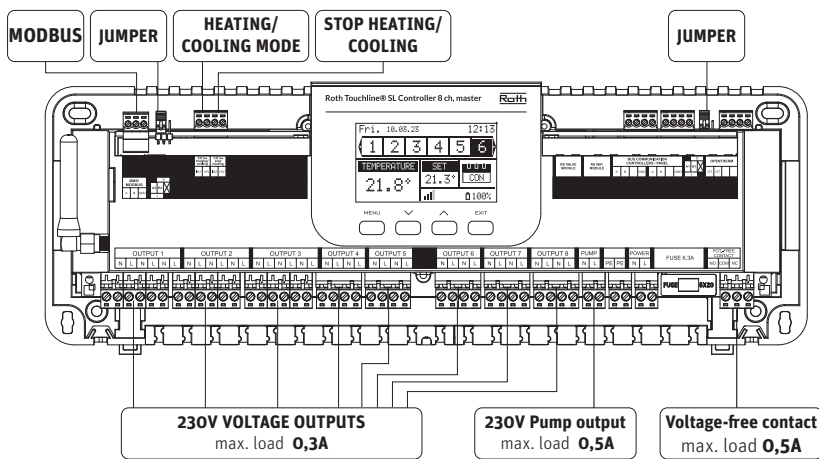
HVAC no. 7466397450
 HVAC no. 7466397600
 HVAC no. 7466397640

Accessories

Roth Touchline® SL WiFi module
 Roth Actuator 230V 1 Watt NC
 Roth Touchline® SL Antenna
 Roth Touchline® SL Repeater
 Roth Cable Sensor for thermostats
 Roth Touchline® SL Controller 8+4

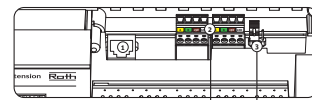
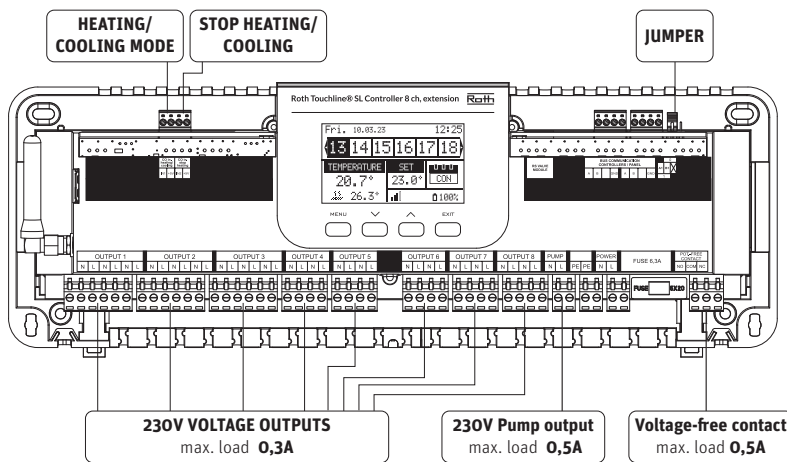
HVAC no. 7466397002
 HVAC no. 7466275433
 HVAC no. 7466397305
 HVAC no. 7466397400
 HVAC no. 7466397525
 HVAC no. 7466397062

Connections on Roth Touchline® SL Controller, 8 ch master



- ① Main RS communication possibility of connecting valve module
- ② Main RS communication possibility of connecting internet module
- ③ Bus communication Panel/Controller
- ④ Jumper
- ⑤ OpenTherm module communication

Connections on Roth Touchline® SL Controller, 8 ch extension



- ① Main RS communication possibility of connecting valve module
- ② Bus communication Panel/Controller
- ③ Jumper

Connections on Roth Touchline® SL 4 ch extension

