



- Pre-programmed with all applications and languages
- Ventilation, heating or boiler control
- Model for expansion units

Corrigo E is a range of digital controllers for ventilation, heating or boiler control. The controllers can be used stand-alone or as parts of a network.

Corrigo E can be easily installed and customised to suit your needs. The controller is designed for standard DIN-rail or cabinet mounting.

Corrigo E is available with or without display. Models without a display can be mounted in a cabinet and controlled from the outside via the E-DSP display unit which functions as an external remote control. The ED-RU.../RU-D... series of room units, along with the ED-TCV touch display, can also be used for control and monitoring of an air handling system.

Corrigo E - The easy way to perfect control

Corrigo E makes every step from installation to operation and maintenance easier than ever. Simply connect the controller, enter any settings required and start up.

The software has a logical structure to simplify finding the model needed for your individual application. This helps provide the right functionality at the right price.

Communication

Corrigo E is easy to integrate with existing products. All models have a port for PC communication. Other standards are optional. Read more in the section *Corrigo E with communication* on page 3.

Model with web server and TCP/IP

Corrigo E for ventilation and heating applications is also available in a web version with integrated web server and TCP/IP communication. More information on available options can be found in the section *Corrigo E with communication* on page 3.

The Building Access application for Android

As of version 3.0-1-06, web models have an integrated Android application that enables control via for instance a mobile phone. The application can be used for control of ventilation and heating.

Corrigo E

Version 3.2 (ventilation), 3.1 (heating), 1.1 (boiler control).

Controllers for heating, boiler and ventilation applications in buildings.

- Model with integrated web server
- Different communication possibilities
- Android application for mobile control

Expansion unit models (ventilation and heating)

As of version 3.0, Corrigo E is available featuring two communication ports. Port 1 is used as before; i.e. for communicating with a SCADA system and E tool[®]. Port 2 is used for expansion units, room units and frequency converters. Read more in the section *Corrigo E with communication* on page 3.

Applications

- **Ventilation control**
For control of air handling units with temperature control (up to 5 sequences), 1- or 2-speed operation or, alternatively, pressure or air flow control of supply air fan and extract air fan, humidity control and other functions in ventilation.
- **Heating control**
For control of up to three heating circuits and one or two hot water circuits. Pump and pump pressure control, DHW heating, water and energy meter inputs.
- **Boiler control**
For control of up to four boilers in sequence. Each boiler can have single or double burners. Also for control of up to three outdoor temperature-controlled heating systems and one domestic hot water system, as well as the same functions as in heating application above.

E tool[®]

E tool[®] is a PC-based software that enables comprehensive configuration and supervision of an installation via a graphical interface. The program helps conserve time by providing an excellent overview of all settings. Read more in the section *Using Corrigo E* on page 2.

Using Corrigo E

All Corrigo E controllers come supplied with all applications pre-loaded (ventilation, heating and boiler control, expansion units 1 and 2). The relevant application and language are selected at first start-up. The unit must then be configured. Inputs and outputs must be assigned and all relevant parameters set to adapt the application to the current mode of operation.

Configuration

Corrigo E can be configured in different ways:

Via the display

Using “step-by-step menus” and the controller buttons directly. Operational status, alarms and measurements are shown in the backlit display.

E tool®

Using E tool®, all settings can be made using a computer and then downloaded to the Corrigo. An unlimited amount of configurations can be stored in the computer for later use.

When E tool® is used for configuration, a file is saved documenting all settings. This can easily be distributed when needed, for instance via e-mail.



Built-in or external display

The display of Corrigo E is backlit and has 4 rows of 20 characters each. The display light is normally dimmed but is activated when a button is depressed. It is turned off after a certain period of inactivity.

E-DSP model external display units can also be ordered, with a cable length of either 3 or 10 m. To increase the distance to the controller even further, E-DSP can also be used together with the E0-R and E0-R230K model repeaters, enabling a distance of up to 1000 m (RS485).



Room units and touch display

The ED-RU... range of room units makes it possible to supervise and control the air handling system. They are connected via RS485 and can communicate with the Corrigo at a distance of up to 300 m. The room units can be used together with expansion units and are available in models with or without display. A touch display (ED-TCV) is also available for Corrigo ventilation.





Front panel

Corrigo E has a clear and accessible front panel for simple operation of the controller. All information is shown directly in the backlit display.

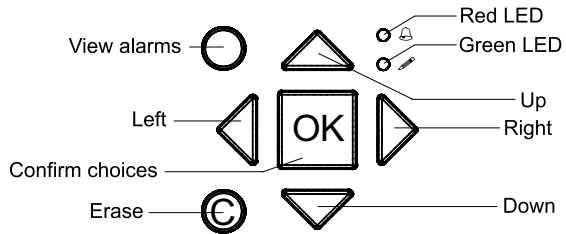
LEDs

There are two LEDs on the front:

- The alarm LED is marked with the symbol 
- The “write enable” LED is marked with the symbol 

Buttons

All functions can be directly configured using the buttons on the controller.



Logging on

Corrigo E has four different log on levels.

- Admin – gives full read/write access to all settings and parameters in all menus.
- Service – gives access to all menus except the submenus "Configuration"/"In- and Outputs" and "Configuration"/"System".
- Operator – gives read-only access to all settings and parameters and write access to all settings and parameters in all menus except “Configuration”.
- Basic level – gives read-only access to all settings and parameters.

Scheduler functions

Corrigo has a year-based clock function. Week-based schedules, complete with holiday periods, can be entered for a full year at a time. The clock has automatic summer/winter time change-over.

The controllers have individual schedules for each weekday plus a separate holiday schedule.

Holiday periods

Up to 24 individual holiday periods can be configured. A holiday period can be anything from one up to 365 days in length. Holiday schedules always take precedence over normal, week-based schedules.

Running periods

Each day has two settable running periods. Two daily schedules, normal and reduced speed with two running periods each, are available for two-speed and pressure controlled fans.

Manual control (Manual / Auto position)

Corrigo E can be manually controlled, as can all configured outputs and a number of control functions.

This is a very useful feature during commissioning or when troubleshooting. The output signal of the supply air controller can be manually set to any value between 0 and 100 %. The temperature output signals will change accordingly if they are in Auto mode.

Each temperature output signal can also be controlled manually. All configured digital outputs can be set to On, Off or Auto.

Alarm handling

If an alarm condition occurs, the alarm LED on the front panel (on units with a display) will light up. Alternatively, the alarm LED on a connected display unit will begin flashing. The LED will continue to flash as long as there are unacknowledged alarms. Alarms are registered in the alarm list, showing the type of alarm, the alarm date and time and the alarm priority (A, B or C alarm).

Alarm classification

Class A and B/C alarms will activate alarm output(s) if these have been configured.

Class C alarms will reset automatically when the reason for the alarm has been cleared.

Alarm log

The latest 40 alarm events for the ventilation and heating applications are listed under "Alarm events" in the display.

Menu information

E tool[®] enables freely entering any text into the first line of the Corrigo E start-up screen. This makes it possible to, for instance, "name" each controller by assigning it a name or a designation. The start-up screen also has 5 different menu alternatives for other information. Corrigo E also has an information screen in which the display can be filled with any information. For example, contact information can be displayed here.

Corrigo E with communication

The basic version of Corrigo E is equipped with an RS485 port for connection via EXOline or Modbus. The controllers can optionally also be delivered with ports for TCP/IP or LON communication. This enables integrating the controller into existing networks and monitoring the system via the Internet, a mobile device or from a local computer.

Connection via LAN/Internet enables changing setpoints, saving settings and supervising system functions.

Connection of expansion units

In order to expand the number of I/Os on a controller, up to two Corrigo E units can be connected to models with two ports. The maximum number of inputs/outputs is $3 \times 28 = 84$. Port 2 can also be used to communicate with two Vacon NXL, Lenze, Omron V1000, LS, EBM or Emerson Commander brand frequency converters. Both a frequency converter and an expansion controller can be connected to the same port. Control and transmission of alarms from the frequency converters take place via Modbus communication.

Corrigo E models with two ports are available in models with port 1 as RS485 (E...2-S) or TCP/IP (E...2-S-WEB). They have 15 or 28 I/O:s. See model overview on p. 12.

Any Corrigo E controller can be used as an expansion unit. However, units without a display are normally utilised since no information will be shown in the display of the expansion unit.

Modbus communication

The basic version of Corrigo E can be set to communicate via Modbus RTU through the RS485 port.

Upon Modbus activation, Corrigo E automatically senses if communication takes place via Modbus or EXOline (with E tool[®]).

Models with LON communication

Models with LON use LonWorks, adjusted according to the LonMark-guidelines. See separate LON network variable list.

LON communication takes place via the Corrigo E LON port. Configuration takes place in the display of the controller or by using E tool[®] on a PC connected to the Corrigo E RS485 port. Corrigo E should be installed in the LON network with the help of LonMaker or corresponding software.

LON communication is not yet available for the boiler application.

LON communication can also be used in combination with expansion units. Expansion unit 1 should then be a Corrigo E-LON.

The LON files to be used for the controller are shown in the display.

Corrigo Web (with TCP/IP port)

Corrigo E...-WEB models of Corrigo E communicate via TCP/IP port and use the TCP/IP instead of the RS485 port, the latter instead communicating via EXOline through TCP/IP.

To connect Corrigo E to a PC and use E tool[®] for configuration, the E-CABLE-TCP/IP network cable should be used. This is a crossover network cable.

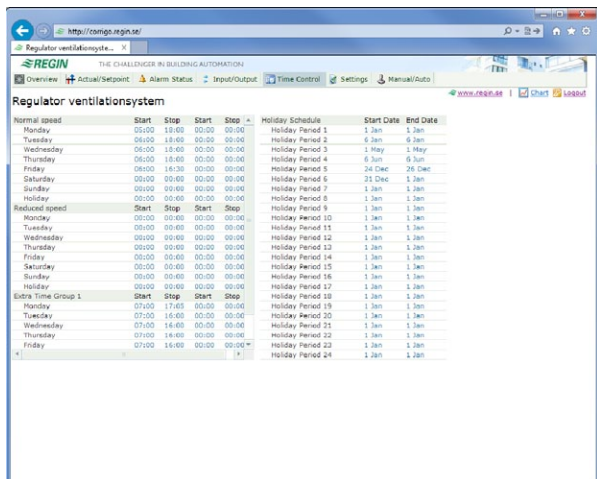
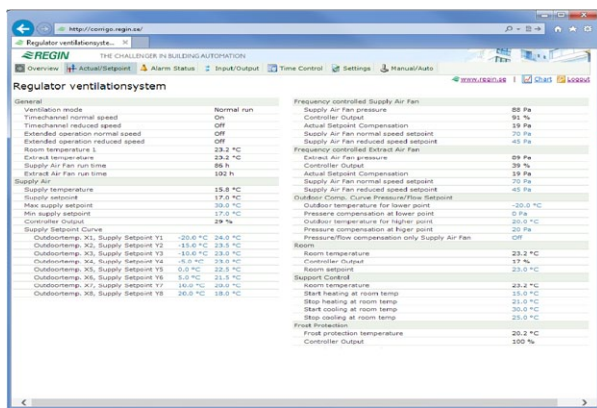
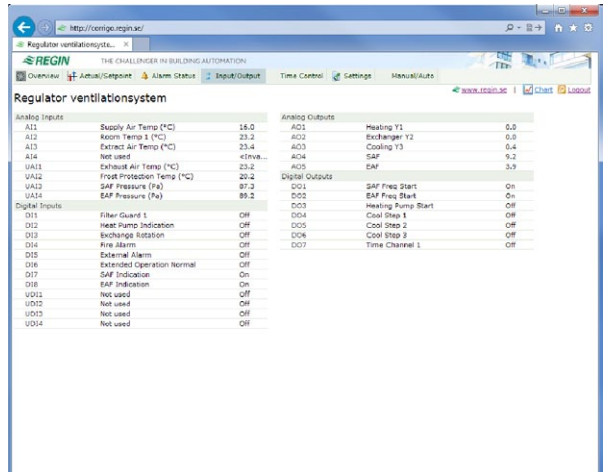
Corrigo Web

The E...-WEB models has an integrated web server which is easy to commission and configure using E tool®.

Depending on the configuration of the application in Corrigo E (which functions are used, inputs and outputs etc.), the web server will automatically upload the required information and values to the web pages. As of version 3.0, real-time diagrams are also available on the web site.

Corrigo E with integrated web server can be used both in internal intranet and external Internet solutions. Broadband Internet access is required to connect the controller to the Internet. This web server function is present in the ventilation and heating applications.

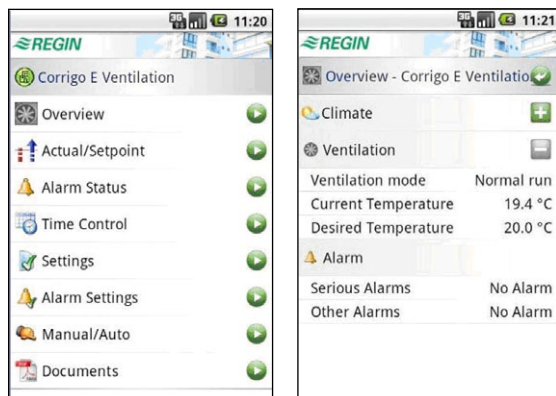
The pictures below contain examples of what the Corrigo Web web site looks like.



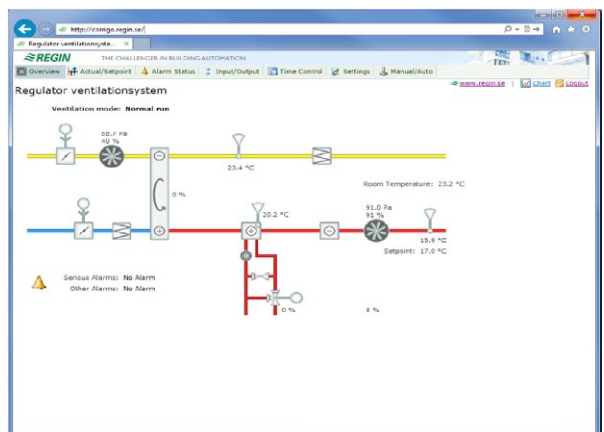
Building Access

Regin Building Access is a general application for the Android operating system which makes it possible to access a Regin controller with TCP/IP communication via for instance a mobile or Wi-Fi network. Once connected, parameters, alarms, documentation, etc. from the controller can all be viewed in the form of lists.

The application is intended for use with a mobile phone but can also run on a tablet. Building Access can be downloaded free of charge from Google Play.

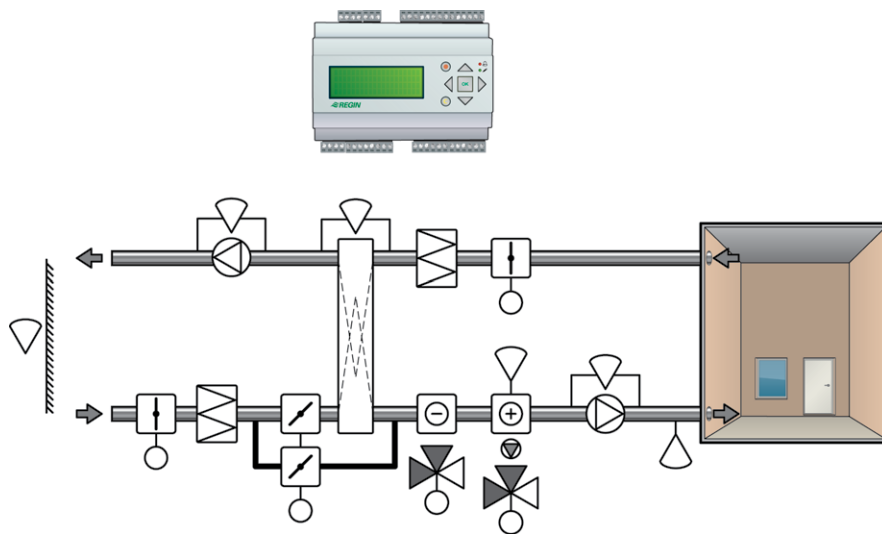


User interface similar to the web site



As of version 3.2 the web server features dynamic flow images following the configuration of the Corrigo.

Control and functionality: Ventilation control



Example of ventilation control

Temperature control

Control of temperature is based on a supply air PI-controller with a pre-programmed set of control modes. The controller uses data from sensors etc. to control a number of different control functions, as well as various analogue and digital input and output functions. The user can freely decide which functions to use. The only restriction is the number of physical in- and outputs of the different models.

Corrigo E has the following control modes:

1. Supply air control
2. Outdoor temperature compensated supply air control
3. Cascade connected room temperature control
4. Cascade connected extract air control
5. Outdoor temperature dependent switching between room control and supply air control
6. Outdoor temperature dependent switching between extract air control and supply air control
7. Outdoor compensated room temperature control
8. Outdoor compensated extract air control

Applications Heating - Cooling - Exchanger - Dampers

The following output functions can be controlled by Corrigo E.

Analogue temperature control

- **Water heating**
- **Electric heating**
- **Heat exchanger**
 - Plate exchanger
 - Rotating exchanger
 - Liquid connected heat exchanger
 - Mixing dampers
- **Water cooling**

- **Extra sequences**

Extra sequences Y4 and Y5 can be fitted freely into the temperature sequence. A frost protection function is also available on Y4.

- **Split**

It is also possible to split the heating, exchanger or cooling signal in order to obtain two outputs in sequence.

Digital temperature control

- **Heating / DX cooling**

As an alternative to analogue control, heating and cooling can be activated in steps. The internal signal is then used to activate digital outputs for control of heating/cooling. Up to four heating outputs and three cooling outputs can be configured.

The outputs can be set to either sequential or binary control. At binary control, the analogue heating and cooling outputs can be set to 0...100 % between every step for equalization purposes.

Outdoor temperature dependent, individual blocking of DX cooling steps is possible.

The fan speed can be overridden to normal speed when using DX cooling.

The heat exchanger will continue to run if using after cooling in units with an electric heating coil.

There is also a pulse-modulated (PWM) output for heating.

Digital timer channels

Up to 5 separate digital timer channels can be configured. Each timer channel has a separate scheduler with two activation periods per day. These outputs can be used to control lighting, door locks etc.

*Cont. Control and functionality: Ventilation control***Support control**

When running room temperature control or extract air control (with a room sensor connected), "Support control Heating" or "Support control Cooling" can be activated.

- Support control heating
- Support control cooling
- Recirculation damper
- Stopped exhaust fan can be selected

Free cooling

This function can be used in summer to cool the building during the night, using cool outdoor air.

Free heating

This function is useful in e.g. southern European countries, where the reverse function of free cooling is desired. The function can be used to heat a building in the morning if the outdoor temperature increases faster than the indoor temperature and heating is required.

Cooling recovery

Returns cool extract air if the room temperature is lower than the outdoor temperature.

Enthalpy control

Signal override for mixing dampers if outdoor enthalpy is higher than the indoor enthalpy for increasing re-circulated air.

Heat exchanger efficiency monitoring

Issues an alarm when the efficiency falls below set value.

External setpoint

For connection of an external setpoint device.

Humidity control

Humidity control can be configured as:

- Humidification
- Dehumidification
- Humidification / Dehumidification

Two humidity sensors can be connected, a room sensor for control and a duct sensor for maximum limitation. The limit sensor can be omitted.

The humidity control is handled by a PI-controller. The humidity sensors must have output signals of 0...10 V, corresponding to 0...100 % RH.

Fan control

Fans can be 1-speed, 2-speed or frequency controlled. A number of options are available for frequency controlled fans:

1. Constant pressure: The pressure signal from a pressure transmitter is kept constant by frequency control of the fan.
2. Constant flow: The flow m³/h is calculated using a signal from the pressure transmitter. The flow is kept constant by frequency control of the fan. The supply and extract air fans have individual conversion parameters for calculating their respective flow.
3. Manual output to fixed values: Pressure signals are not used. Instead, the output signal for the frequency converter is set to a fixed value.

4. External control signal: Direct control of both SAF and EAF with external 0...10 V control signals for integration with VAV systems.
5. Frequency control SAF with EAF slave: Frequency and pressure controlled supply air fan with frequency controlled extract air fan. The EAF output follows the SAF output.
6. Frequency control SAF with flow controlled EAF: Frequency and pressure controlled supply air fan. The extract air fan flow is controlled by the flow in the supply air fan.
7. Frequency control EAF with SAF slave: Frequency and pressure controlled extract air fan with frequency controlled supply air fan. The SAF output follows the EAF output.
8. Frequency control EAF flow controlled SAF: Frequency and pressure controlled extract air fan. The supply air fan flow is controlled by the flow in the extract air fan.

Air flow compensation for frequency controlled fans

Compensation can be set for both the supply and extract air fan or for the supply air fan only. Air flow can be compensated based on supply air, extract air or room temperature.

Blocking of automatic restart at power-up

Restart at power-up can be blocked. However, the default setting is for the unit to start automatically.

Demand controlled ventilation

In applications with varying occupancy, the fan speeds or mixing dampers can be controlled by the air quality, as measured by a CO₂/VOC-sensor. Y2, VVX, Y4 or a fan is used for CO₂-operation.

Pump control

Digital inputs and outputs can be configured for pump control.

- Heating circuit, water heating
- Liquid-connected exchanger circuits
- Cooling circuit

Damper control

Control possibilities:

- Close-off damper
- Recirculation air damper
- Extract air damper
- Fire damper
- Fire damper exercise

The close-off damper can be controlled individually or together with Return air / Extract air damper.

Extended running

Digital inputs can be used to force the unit into starting. These input signals have higher priority than the internal timer channels.

Cont. Control and functionality: Ventilation control

Recirculation function

Function for distributing the air in the room using the supply air fan, with or without temperature control.

The extract air fan can optionally also be made to run during recirculation.

Alarms

Alarm log in the display showing the 40 latest alarm events.

Change-over

Change-over function for switching between heating and cooling control in 2-pipe systems. A new analogue output signal is set to either heating or cooling. The change-over takes place automatically or via a digital input signal.

User settings

Factory and user settings can be handled directly in the display. It is possible to save a configuration as user setting in the controller. A configuration can also be reset to factory settings or to a previously made user setting. Using E tool[®], a configuration can be saved as factory setting in the controller.

External control circuit

Separate, external control circuit with a sensor input and an analogue and digital output signal, for control of for example a post-treatment unit.

Extra temperature and flow sensors

There are five extra sensors for temperature measurement. If configured, the sensor values will be shown in the display and in E tool[®]. The text description of the extra sensors can be adjusted using E tool[®]. No alarms other than sensor error alarms are shown for the sensors.

Two extra air flow sensors, one for supply air and one for extract air, can be configured. They must be supplemented with K- and X-constants for the fans.

Pretreatment (type "Puit Canadien")

Damper and pump control for preheating or precooling of the outdoor air via an underground intake channel.

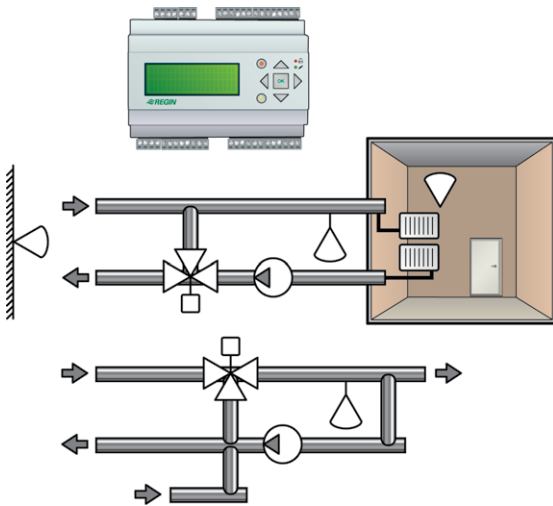
Energy calculation

The Corrigo has an internal energy calculator. Entering various subset outputs for fans, coolers, heating coils etc. into it will yield an instantaneous power calculation based upon current output to the various components.

Temperature and flow unit selection

It is possible to set the unit of temperature to either °C (Celsius) or °F (Fahrenheit). Flow can be set to either m³/h (cubic meter per hour) or to CFM (Cubic Feet per Minute).

Control and functionality: Heating control



Example of heating control

Corrigo E uses PI controllers for control of heating and PID for domestic hot water control. The controller uses data from sensors etc. to control a number of different control functions, as well as various analogue and digital input and output functions. The user can freely decide which functions to use. The only restriction is the number of physical in- and outputs of the different models.

The menu system

As of version 3.0 of Corrigo E heating, the menu system has been upgraded so that it only displays parameters for which the controller has been configured. This simplifies menu system navigation.

Heating circuits

Corrigo E with heating control can be configured for 1 to 3 heating circuits.

Controller functions

The heating circuits are controlled by PI-controllers with settable P-band and I-time.

Control curves

The controllers have individual outdoor temperature / supply temperature control curves.

Adaption of curves

Room sensors can be used to correct the control curves. The average room temperature over 24 h can be calculated.

Pump control

Each system can have a single or double pumps. Double pumps are run one at a time with automatic, weekly change-over and automatic backup pump start on malfunction of the active pump. Outdoor temperature dependent pump stop can be configured.

Frost protection

If a controller is set to Off or Manual control and the outdoor temperature is below a settable value, a minimum, settable supply temperature will be maintained and the pump will run.

Wind compensation

To compensate for wind chill, a wind sensor can be connected to generate a wind-dependant setpoint displacement.

Building inertia

The building inertia, i.e. the heat storage capacity of the structure, is settable to one of three levels. The set inertia dictates the influence of the outdoor temperature on the control curves.

Power limitation

Power limitation of HS1 can be set.

Night setback

Set in room temperature degrees. There are individual schedules for each heating circuit with two comfort-adapted temperature periods per day.

Power limitation

The digital input signal External power limitation can be used to temporarily restrict power to the heating systems.

Domestic hot water

Can be configured for one or two domestic hot water systems, HW1 and HW2. These have constant supply temperature-control.

Controller functions

The domestic hot water circuits are controlled by PI-controllers with settable P-band, I-time and D-time.

Night setback

Corrigo E has individual schedules for each hot water circuit with two normal temperature periods per day.

Pump control (HW1 only)

Corrigo E has a digital output signal which can be used to control the hot water-circulation pump in HW1.

Periodic overheating (HW1 only)

Once per day, this function increases the temperature setpoint to 62°C to prevent growth of Legionella bacteria.

*Cont. Control and functionality: Heating control***Storage tank**

A storage tank function, HP1, can be enabled. The storage tank load pump is started depending on the storage tank supply water and return water temperatures.

Pressure control

Using an analogue output signal, Corrigo E can control a variable speed pump to maintain a constant pressure.

Boiler control

A simple boiler control can be enabled. It uses two start temperatures and one stop temperature.

Start signal for water chillers

A digital output can be configured for starting a water chiller.

Cooling circuit

Corrigo E heating version 3.0 and later has a controller function for a cooling circuit, CS1. It can also be used for dew point control, see below.

Dew point control

The heating application has dew point control for a brine circuit. The function is based on a room temperature sensor and a room humidity sensor. Combined temperature and humidity transmitters are available from Regin.

Cold water monitoring

Monitors the cold water consumption.

The following values are calculated:

- 24 hour usage in litres, today
- 24 hour usage in litres, yesterday
- 24 hour usage in litres, day before yesterday
- Lowest usage per hour in litres, today
- Lowest usage per hour in litres, yesterday
- Total usage in m³. The value can be reset.
- Water flow (litres/min)

Usage error alarm types

- Pulse error / High usage / Leakage

Energy monitoring

One digital pulse function can be configured for monitoring heating energy usage. The pulse constant is settable.

The following usage values are calculated:

- 24 hour usage in kWh, today
- 24 hour usage in kWh, yesterday
- 24 hour usage in kWh, day before yesterday
- Total usage in kWh/MWh. The value can be reset.

Power values

Heating power is calculated by measuring the time between energy pulses. The following power values are calculated:

- Instantaneous value
- Average of above instantaneous value
- Maximum value for the above instantaneous value

Leakage monitoring

Once a week the control valves will be closed as energy usage is measured for a preset time. If the energy leakage then exceeds that of a preset value, an alarm is triggered.

Electricity meter

One digital pulse function can be configured for monitoring heating energy usage. The pulse constant is settable.

Usage values

Total usage in MWh. The value can be reset.

Extra timer channel outputs

Up to 5 digital timer channel outputs can be configured, each with a separate week-based schedule with two activation periods per day.

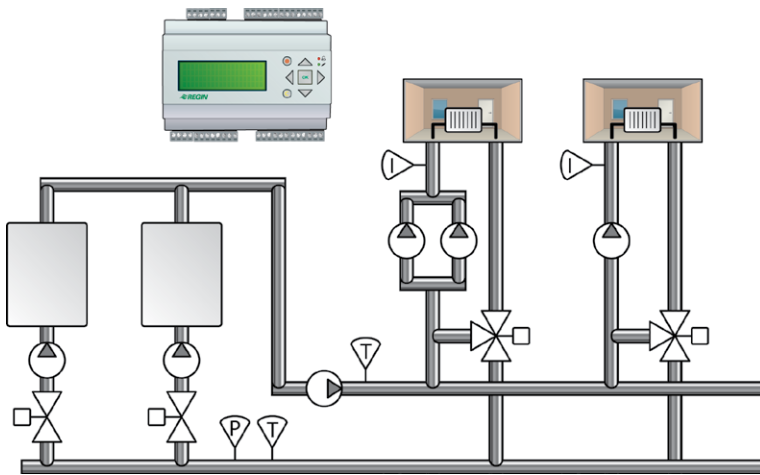
M-Bus

A sensor that communicates via M-Bus can be connected to Port 2 on the controller. The connection requires the X1176 converter, which can be ordered from Regin.

Extra temperature sensors

There are five extra temperature sensors. If configured, the sensor values will be shown in the display and in E tool[®]. The text description of the extra sensors can be adjusted using E tool[®]. No alarms other than sensor error alarms are shown for the sensors.

Control and functionality: Boiler control



Example of boiler control

In this application, Corrigo E can be used for boiler control as well as control of heating and domestic hot water. The controller uses data from sensors etc. to control a number of different control functions, as well as various analogue and digital input and output functions. The user can freely decide which functions to use. The only restriction is the number of physical in and outputs of the different models.

Boiler control

One boiler control circuit (one main sensor) with 1...4 boiler vessels, each with single or double burners (on/off).

Boiler 1 can use analogue control (0...10 V).

Two control modes: Modulating PI-control or thermostat control (fixed starting and stopping points for each vessel).

The boiler circuit setpoint can be a fixed temperature, an outdoor temperature dependent setpoint (curve) or a heating circuit temperature dependent setpoint.

The boiler control has automatic malfunction take-over. When using multiple boilers, their starting order can be also be changed in order to adjust running times.

Common boiler pump or individual pumps for each boiler vessel, with start/stop and settable automatic pump exercise.

The boiler return temperature can be limited to eliminate the risk of condensation resulting from low temperature.

Heating circuits

Can be configured for 1 to 3 heating circuits, which are controlled by PI-controllers with settable P-band and I-time.

Control curves/Outdoor compensation

The controllers have individual outdoor temperature / supply temperature control curves.

Adaption of curves

Room sensors can be used to correct the control curves. The average room temperature over 24 h can be calculated.

Pump control

Each system can have a single or double pumps. Double pumps are run one at a time with automatic, weekly change-over and automatic backup pump start on malfunction of the active pump. Outdoor temperature dependent pump stop can be configured.

Frost protection

If a controller is set to Off or Manual control and the outdoor temperature is below a settable value, a minimum, settable supply temperature will be maintained and the pump will run.

Wind compensation

To compensate for wind chill, a wind sensor can be connected to generate a wind-dependant setpoint displacement.

Building inertia

The building inertia, i.e. the heat storage capacity of the structure, is settable to one of three levels. The set inertia dictates the influence of the outdoor temperature on the control curves.

Night setback

Set in room temperature degrees. There are individual schedules for each heating circuit with two comfort-adapted temperature periods per day.

Start time optimization

Function for automatically calculating when the night setback should stop in order to reach a pre-set temperature at the time set for start of comfort time in the internal scheduler. Autodidact function. A room sensor is required when this function is used.

*Cont. Control and functionality: Boiler control***Power limitation**

The digital input signal External power limitation can be used to temporarily restrict power to the heating systems.

Domestic hot water

Can be configured for one domestic hot water circuit, HW1, which has constant supply-temperature control and is controlled by PID-controllers with settable P-band, I-time and D-time.

Night setback

Individual schedules for the hot water system with two normal temperature periods per day.

Pump control

Corrigo E has a digital output signal which can be used to control the hot water-circulation pump in HW1.

Periodic overheating

Once per day, this function increases the temperature setpoint to 62°C to prevent growth of Legionella bacteria.

Storage tank

A storage tank function, HP1, can be enabled. The storage tank load pump is started depending on the storage tank supply water and return water temperatures.

Pressure control

Using an analogue output signal, Corrigo E can control a variable speed pump to maintain a constant pressure.

Cold water monitoring

Monitors the cold water consumption.

The following values are calculated:

- 24 hour usage in litres, today
- 24 hour usage in litres, yesterday
- 24 hour usage in litres, day before yesterday
- Lowest usage per hour in litres, today
- Lowest usage per hour in litres, yesterday
- Total usage in m³. The value can be reset.
- Water flow (litres/min)

Usage error alarm types

- Pulse error / High usage / Leakage

Energy monitoring

One digital pulse function can be configured for monitoring heating energy usage. The pulse constant is settable.

The following usage values are calculated:

- 24 hour usage in kWh, today
- 24 hour usage in kWh, yesterday
- 24 hour usage in kWh, day before yesterday
- Total usage in kWh/MWh. The value can be reset.

Power values

Heating power is calculated by measuring the time between energy pulses. The following power values are calculated:

- Instantaneous value
- Average of above instantaneous value
- Maximum value for the above instantaneous value

Leakage monitoring

Once a week the control valves will be closed as energy usage is measured for a preset time. If the energy leakage then exceeds that of a preset value, an alarm is triggered.

Electricity meter

One digital pulse function can be configured for monitoring heating energy usage. The pulse constant is settable.

Usage values

Total usage in MWh. The value can be reset.

Extra timer channel outputs









Up to 5 digital timer channel outputs can be configured, each with a separate week-based schedule with two activation periods per day.

Models





<i>Number of inputs and outputs (I/Os)*</i>	<i>Models with 8 I/Os</i>	<i>Models with 15 I/Os</i>	<i>Models with 28 I/Os</i>
	<i>2 AI, 3 DI, 1 AO, 2 DO</i>	<i>4 AI, 4 DI, 3 AO, 4 DO</i>	<i>4 AI, 4 UI, 8 DI, 5 AO, 7 DO</i>
Basic model	E8-S	E15-S	E28-S
Basic model with display	E8D-S	E15D-S	E28D-S
Model with LON port		E15-S-LON	E28-S-LON
Model with LON port and display	E8D-S-LON	E15D-S-LON	E28D-S-LON
Model with TCP/IP port	E8-S-WEB	E15-S-WEB	E28-S-WEB
Model with TCP/IP port and display	E8D-S-WEB	E15D-S-WEB	E28D-S-WEB
Model with two RS485 ports		E152-S	E282-S
Model with two RS485 ports and display		E152D-S	E152D-S
Controller with RS485 port and built-in webserver.		E152-S-WEB	E282-S-WEB
Controller with one RS485 port, one TCP/IP port and display		E152D-S-WEB	E282D-S-WEB

* AI=analogue inputs, DI=digital inputs, AO=analogue outputs, DO=digital outputs, UI=universal inputs (can be configured to function as either analogue input or digital input)

Accessories

External display unit Including 3 m cable Including 10 m cable		E-DSP-3 E-DSP-10
Display repeater for E-DSP Supply voltage 24 V AC Supply voltage 230 V AC		E0-R E0-R230K
External display unit Including 3 m cable Including 10 m cable		ED9100-3 ED9100-10
External touch display External graphic touch display for Corrigo ventilation controllers with 2 ports		ED-TCV
Front mounting kit Room for one Corrigo		FMCE
Cabinets Cabinet for any E15...D model Corrigo Cabinet for any E15...D model Corrigo Cabinet for any E28...D model Corrigo		CAB-STD1 CAB-STD2 CAB-STD3
Plug-in terminals Plug-in terminals for E8 models Plug-in terminals for E15 models Plug-in terminals for E28 models		PLT-E8 PLT-E15 PLT-E28
GSM modem GSM Fargo EXOcompact/Corrigo E kit		GSM100L-CORRIGO

Cont. Accessories

<p>Room units</p> <p>External room unit with setpoint knob</p> <p>External room unit with setpoint knob</p> <p>External room unit with setpoint knob and fan switch</p> <p>External room unit with setpoint knob, occupancy button and fan switch</p> <p>External room unit with display and occupancy button</p> <p>External room unit with display, occupancy button and fan switch</p> <p>External room unit with display, occupancy button and multi-function button</p> <p>External room unit with hidden setpoint</p>		<p>ED-RU</p> <p>ED-RU-O</p> <p>ED-RU-F</p> <p>ED-RU-FO</p> <p>ED-RU-DO</p> <p>ED-RU-DFO</p> <p>ED-RU-DOS</p> <p>ED-RU-H</p>
<p>Relay module</p> <p>Relay unit</p> <p>Relay unit with manual switches</p>		<p>RM6-24/D</p> <p>RM6H-24/D</p>
<p>Displays for panel mounting</p> <p>10.2" display for panel mounting</p> <p>15.6" display for panel mounting</p>		<p>DP102</p> <p>DP156</p>
<p>Sensor</p> <p>Regin PT1000 sensor</p>		<p>TG-.../PT1000</p>

Technical data

Supply voltage	24 V AC $\pm 15\%$, 50...60 Hz or 21...36 V DC
Power consumption	8 VA, 4 W (DC), WEB model: 12 VA, 6 W (DC)
Ambient temperature	0...50°C
Storage temperature	-40...+50°C
Ambient humidity	Max. 90% RH
Protection class	IP20 (E-DSP IP44)
Connection	Disconnectable terminal strips, 4 mm ²
Memory backup	Built-in long life battery gives long backup time of all settings incl. real time.
Display	Backlit LCD, 4 rows of 20 characters
CE	EMC emissions & immunity standard: This product conforms to the requirements of the EMC Directive 2004/108/EC through product standards EN 61000-6-1 and EN 61000-6-3. RoHS: This product conforms to the Directive 2011/65/EU of the European Parliament and of the Council.

Inputs

Analogue inputs	For PT1000-sensors (accuracy $\pm 0.4^\circ\text{C}$) or 0...10 V DC (accuracy $\pm 0.15\%$ of full output signal). 12 bit resolution in the A/O conversion.
Digital inputs	For potential free contacts

Outputs

Analogue outputs	0...10 V DC, 1 mA, short-circuit proof
Digital outputs	Mosfet outputs, 24 V AC or DC, 2 A continuous. Totally max. 8 A.

Indications

Operation indication	Supply voltage is indicated with green LED
Alarm indication	Plain text and blinking red LED
Sum alarm	The output can be configured

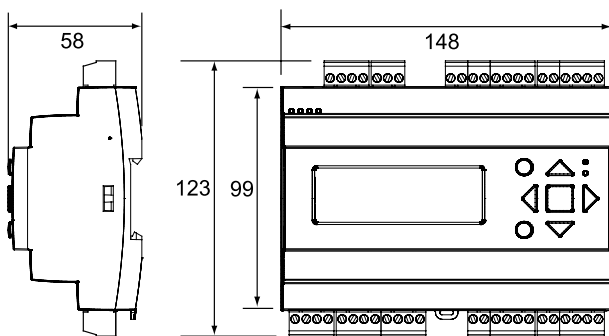
E tool®

System requirements	Computer with operating system MS Windows 7, 8, 2000, XP or Vista
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Options

LON	FT3150, provides a second communications port
WEB / Android application	
TCP/IP port	Replaces RS485 for EXOline (Port 1) communication
2 ports	Two RS485 ports
Two ports WEB	One RS485 port and one TCP/IP port

Dimensions



Product documentation

Document	Type
Manual Corrigo E ventilation application	Manuals for the different applications
Manual Corrigo E heating application	
Manual Corrigo E boiler application	
Manual E tool® and Corrigo Web	Manual for the E tool® and Corrigo Web software
Product sheet and instruction E-DSP, ED-RU, ED-TCV	Information about accessories for Corrigo E
Product sheet and instruction E0-R/E0-R230K	
ED9100_prsh	
FMCE_inst	
RM6-24/D_inst / RM6H-24/D_inst	
The product documentation can be downloaded from www.regin.se .	

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