

Corrigo E applications

Air handling control

Corrigo E for control of air handling units is a PI-controller that handles several different control functions, and input and output functions. The user can choose freely which functions to use.

Control functions temp.

1. Supply air control
2. Outdoor temperature compensated supply air control
3. Cascaded room temperature control
4. Outdoor temperature dependent switching between room control and supply air control
5. Outdoor temperature dependent switching between exhaust air control and supply air control
6. Exhaust air control

Functions

- Temperature control (PI):
 - Water heating,
 - Electric heating
 - Heat exchanger
- Mixing dampers
- Water cooling
- Heating / DX cooling in steps
- Digital timer channels for door locks, lighting etc.
- Support control heating and cooling
- Free cooling
- Cooling recovery
- Alarm low efficiency Heat exchanger
- Humidity control
- Fan control - one- or two-speed motors
- Fan speed control - constant air pressure
- Fan speed control - constant air flow
- Demand controlled ventilation
- Pump control
- Damper control, CO₂
- Extended running mode

Heating and domestic hot water control

The Corrigo E heating application (PID-control) is intended for control of up to three individual heating circuits and one or two hot water circuits. Many other functions can also be controlled.

Functions heating circuits

- Adaptation of curves
- Pump control
- Frost protection
- Wind compensation
- Building inertia
- Night set-back of radiator
- Power limitation of the power to the heating systems

Functions domestic hot water

- Domestic hot water control for one or two hot water systems
- Night set-back
- Pump control
- Daily overheating to prevent growth of Legionella bacteria

Other functions

- Control of pump for storage tank
 - Pressure control (maintain a constant pressure) of a variable speed pump
 - Cold-water monitoring
 - Energy monitoring
 - Alarms for usage errors, energy leakage etc.
 - Measurement registration of electricity meter
 - Timer channels (door locks, lighting etc.)
- Other functions can also be controlled, depending on the model

Boiler control

The Corrigo E controls 1-4 boilers each with single or double on/off burners, 1-3 heating circuits and one domestic hot water circuit. The user can choose freely which functions to use. The different boilers start depending on a sequential control of boilers, disturbance takeover, running hours takeovers or boiler exercising.

Functions Boiler control

- 1-4 boilers where one boiler can have a modulating burner (0...10 V)
- Modulating PI-control or switched setpoint
- Setpoints: Fixed temperature, outdoor temperature or a heating circuit temperature dependent
- Automatic malfunction take-over of boilers
- Pump control and pump exercising
- Boiler return temperature control

Heating circuits

- 1 – 3 heating circuits with individual outdoor temperature dependent control curves
- Single or twin pumps for each circuit
- Frost protection
- Wind compensation
- Optimizer
- Building inertia
- Night set-back of room temperature
- Automatic curve adaptation

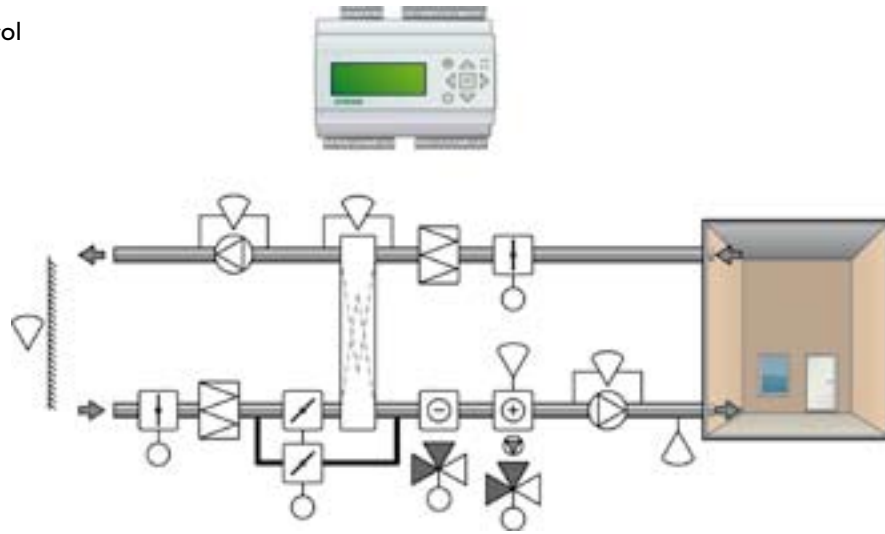
Domestic hot water

- One domestic hot water circuit with PID controller
- Night set-back
- Pump control
- Daily overheating to prevent growth of Legionella bacteria

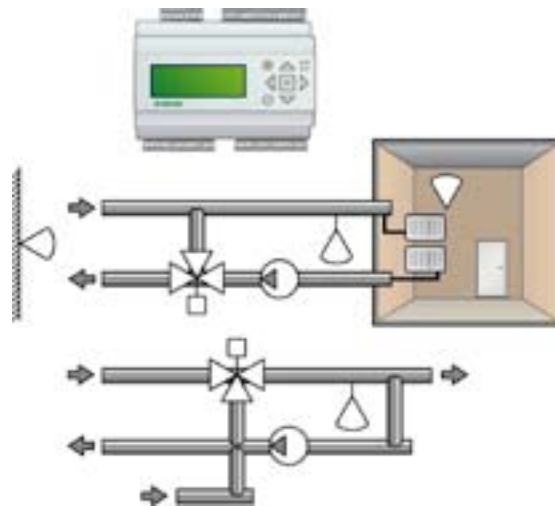
Other functions

- Pump control for storage tank loading
- Pressure control of variable speed pump
- Cold water monitoring
- Energy monitoring
- Electricity meter pulse input
- Alarms for usage errors, energy leakage etc
- Timer channels (door-locks, lighting etc)

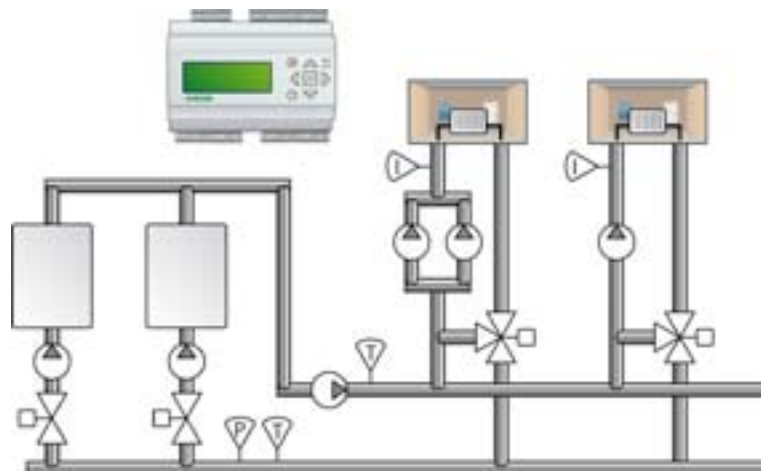
Air handling control



Heating and domestic hot water control



Boiler control



The examples above are a selection of all Corrigo E applications available

Corrigo E - Pre-programmed controllers



Technical data	
Supply voltage	24 V AC +/-15%, 50...60 Hz or 20...36 V DC
Power consumption	8 VA, 4 W (DC) Model web: 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)
Memory back-up	Built-in long-life battery with long time back-up of all settings
Display	Backlit, LCD, 4 rows of 20 characters
Dimensions	148x123x58mm (WxHxD), 8.5 modules
Mounting	DIN-rail
Communication	RS485, EXOline (free protocol) and Modbus as standard LON and TCP/IP as options
Inputs	
Analogue inputs	For PT1000-sensor or 0...10 V DC
Digital inputs	For potential free contacts
Outputs	
Analogue outputs	0...10 V DC, 1 mA, short-circuit proof
Digital outputs	Mosfet 2 A each, Max. 8 A total, 24 V AC or DC

Model Overview	E8D-S	E8-S	E15D-S	E15-S	E28D-S	E28-S
AI	2	2	4	4	4	4
DI	3	3	4	4	8	8
UI	-	-	-	-	4	4
AO	1	1	3	3	5	5
DO	2	2	4	4	7	7
Display	Yes	-	Yes	-	Yes	-
External display	-	Option	-	Option	-	Option

Corrigo E – Pre-programmed controllers



Digital controller with display

Description	Number of I/O	Type	Notes
Controller with display	5 inputs and 3 outputs	E8D-S	
Controller with display	8 inputs and 7 outputs	E15D-S	
Controller with display	16 inputs and 12 outputs	E28D-S	



Digital controller without display

Description	Number of I/O	Type	Notes
Controller without display	Model with 5 inputs and 3 outputs	E8-S	
Controller without display	Model with 8 inputs and 7 outputs	E15-S	
Controller without display	Model with 16 inputs and 12 outputs	E28-S	



Models with built-in server, LON or TCP/IP communication and display

Description	Number I/O	Type	Notes
TCP/IP-model	5 inputs and 3 outputs	E8D-S-WEB	
TCP/IP-model	8 inputs and 7 outputs	E15D-S-WEB	
TCP/IP-model	16 inputs and 12 outputs	E28D-S-WEB	
LON-model	5 inputs and 3 outputs	E8D-S-LON	
LON-model	8 inputs and 7 outputs	E15D-S-LON	
LON-model	16 inputs and 12 outputs	E28D-S-LON	



See also our display repeaters and external displays for Corrigo E. You will find them later on in this chapter.



Models with built-in server, LON or TCP/IP communication and without display

Description	Number I/O	Type	Notes
TCP/IP-model	5 inputs and 3 outputs	E8-S-WEB	
TCP/IP-model	8 inputs and 7 outputs	E15-S-WEB	
TCP/IP-model	16 inputs and 12 outputs	E28-S-WEB	
LON-model	5 inputs and 3 outputs	E8-S-LON	
LON-model	8 inputs and 7 outputs	E15-S-LON	
LON-model	16 inputs and 12 outputs	E28-S-LON	



See also our display repeaters and external displays for Corrigo E. You will find them later on in this chapter.



Display units

Description	Length of cable	Protection class	Type	Notes
Display units	3 m	IP41	E-DSP-3	
Display units	10 m	IP41	E-DSP-10	
Display units	3 m	IP41	ED9100-3	
Display units	10 m	IP41	ED9100-10	
Display units	3 m	IP65	ED9100IP65-3	



See also our display repeaters for Corrigo E. You will find them later on in this chapter



Accessories

Accessories	Type	Notes
PC software for fast and easy configuration	E-TOOL *	
Cable for connection to RS232	E-CABLE-RS232	
Cable for connection to USB	E-CABLE-USB	
Cable for connection to TCP/IP direct to PC	E-CABLE-TCP/IP	
Set of plug-in terminals for E8 models	PLT-E8	
Set of plug-in terminals for E15 models	PLT-E15	
Set of plug-in terminals for E28 models	PLT-E28	

* Corrigo E tool© can be downloaded free of charge from www.regin.se/download/software



Cabinets

Turn-key ready cabinets developed for the Corrigo series. Can be used for both heating and ventilation applications, depending on the choice of controller. All inputs and outputs are pre-connected to the terminals. The CAB-... units are delivered complete with trafo, switches, 3 manoeuvre relays and a schematic outline of the cabinet.

Description	Dimensions (height x width)	Protection class	Type	Notes
Cabinet intended for any CorrigoE8D-...model	458 x 295 mm	IP65	CAB-E8D	
Cabinet intended for any CorrigoE15D-...model	475 x 400 mm	IP65	CAB-E15D	
Cabinet intended for any CorrigoE28D-...model	475 x 400 mm	IP65	CAB-E28D	



Corrigo evaluation kits

Complete demo kits for Corrigo E, with everything you need in one case.

Description	Type	Notes
Demo kit with RS232 connection	E-CASE	
Demo kit with USB connection	E-CASE-USB	