

RDT921 application manual

SAUTER **flex**^{HVAC}-vision

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The applications described below are implemented in the RDT921 controllers.
They can be easily parameterized also without using a computer.

1 List of RDT921 applications

Application	Description
901S	Climate regulation with seasonal changeover (from 1 to 3 zones)
902S	Climate regulation with seasonal changeover and management of twin-pumps (from 1 to 2 zones)
903S	Production of domestic hot water with anti-Legionella cycle
904S	Cascade of two boilers
911S	Fixed-value control of supply air temperature, with or without humidification
912S	Cascade control of room / supply air temperature, with or without humidification
921S	Cascade control of room / supply air temperature, with or without humidification and seasonal changeover
937S	Cascade control of room / supply air temperature with humidification for indoor swimming pools

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Application 901S

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1.1 Application 901S

1.1.1 Operation description

Climate regulation with seasonal changeover (from 1 to 2 zones)

System components:

- Up to three climate circuits

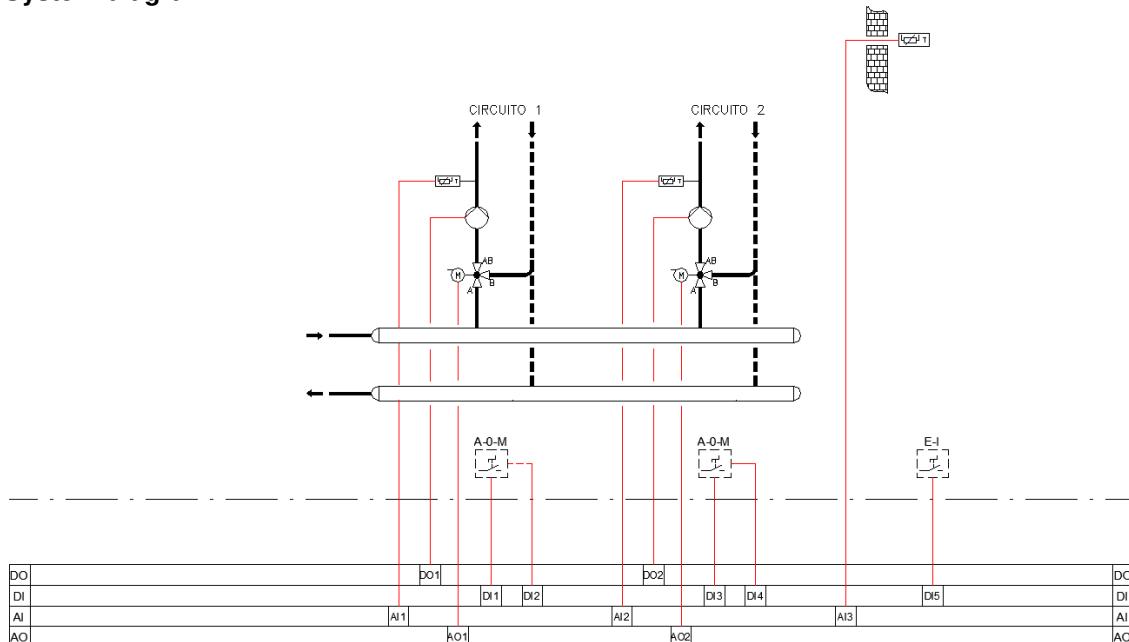
Control functions:

- Up to two compensation controls

PLC functions:

- 1-2 zones
- Seasonal changeover
- A time channel per zone

System diagram:



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Application 903S

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1.2 Application 902S

1.2.1 Operation description

Climate regulation with seasonal changeover and management of twin pumps

System components:

- Up to two climate circuits

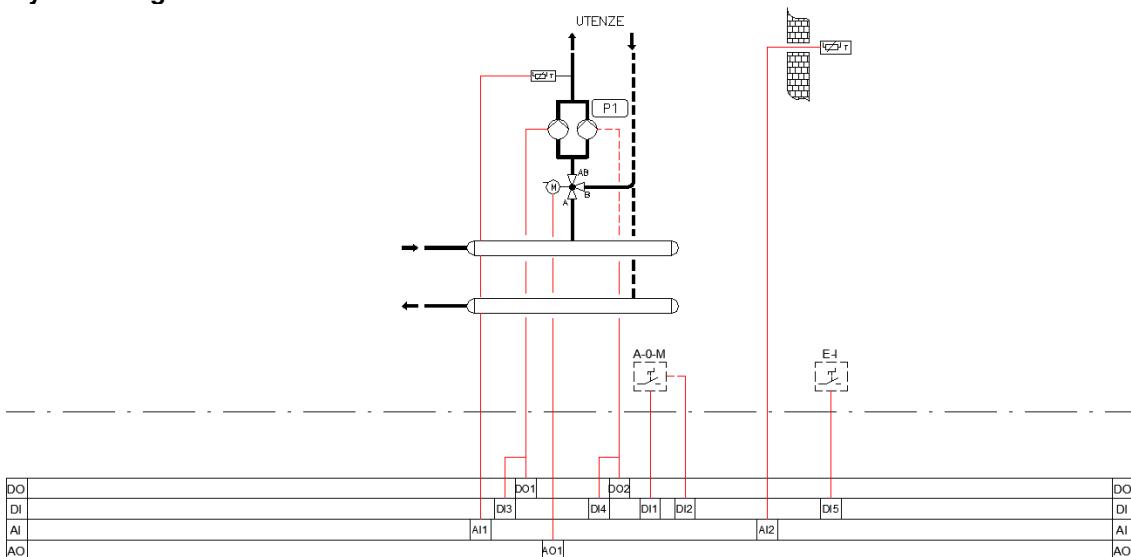
Control functions:

- A compensated control

PLC functions:

- 1 zone
- Seasonal changeover
- Time channel
- Pump changeover based on operation hours
- Pump changeover due to anomaly

System diagram:



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Application 903S

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1.3 Application 903S

1.3.1 Operation description

Domestic hot water production with anti-Legionella cycle – Boiler I

System components:

- Boiler
- Domestic hot water

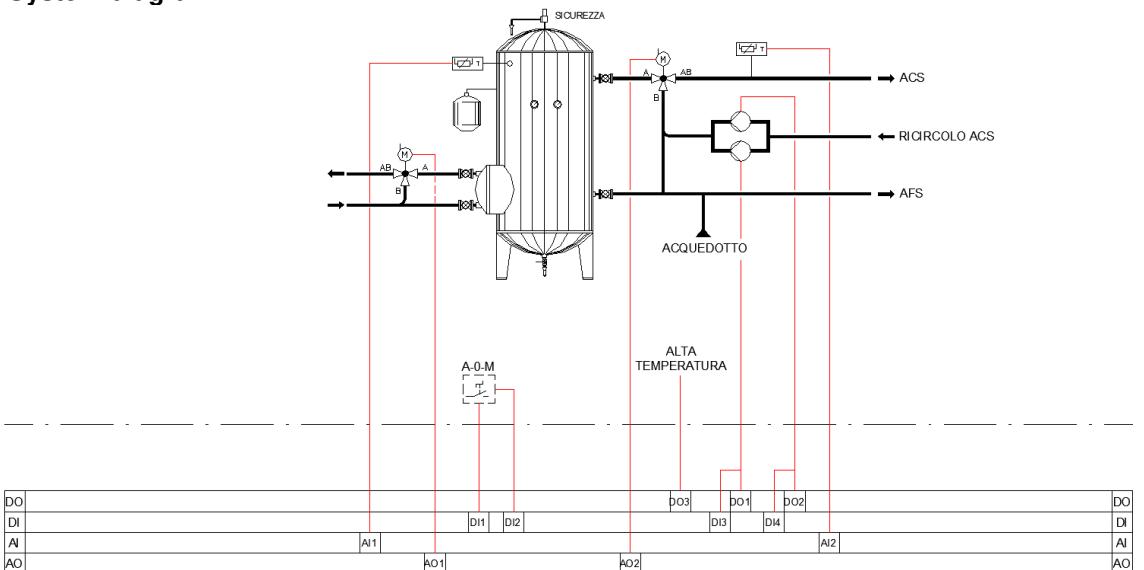
Control functions:

- Two heating circuits
- Anti-Legionella cycle

PLC functions:

- Time channel for operation
- Time channel for anti-legionella cycle
- Pump changeover based on operation hours
- Pump changeover due to anomaly

System diagram:



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Application 904S

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1.4 Application 904S

1.4.1 Operation description

Cascade of two boilers

System components:

- Cascade of two boilers

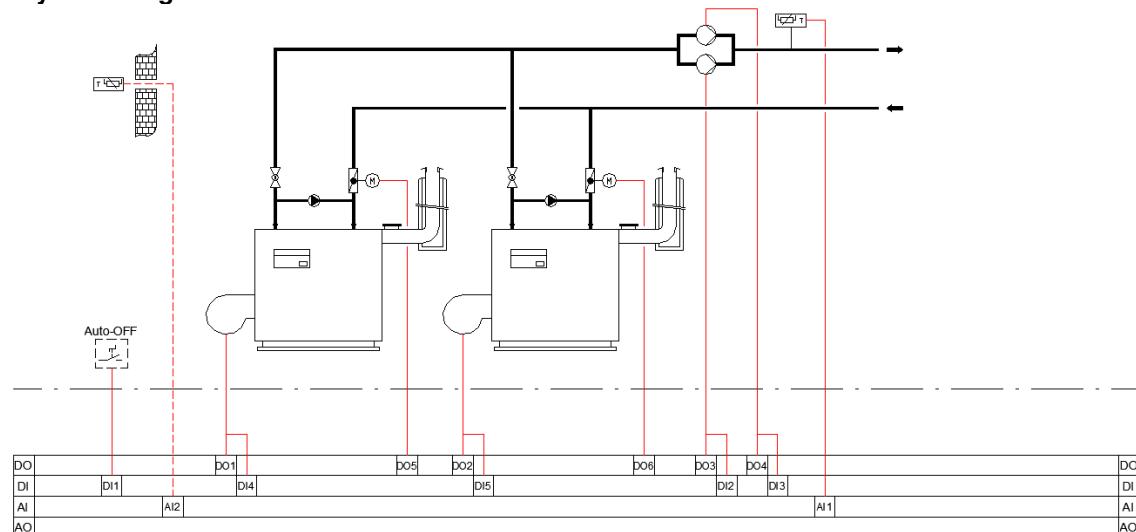
Control functions:

- Supply temperature control with compensation (optional)

PLC funtions:

- Time channel for operation
- Boiler changeover based on operation hours and anomaly
- Pump changeover based on operation hours and anomaly

System diagram:



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Application 921S

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1.5 Application 911S

1.5.1 Operation description

Fixed-point control of supply air temperature, with or without humidification

System components :

- Outdoor and exhaust air dampers
- Supply air and return air fans
- Heating coil with control valve
- Supply or room temperature sensor
- Outdoor temperature sensor (optional)

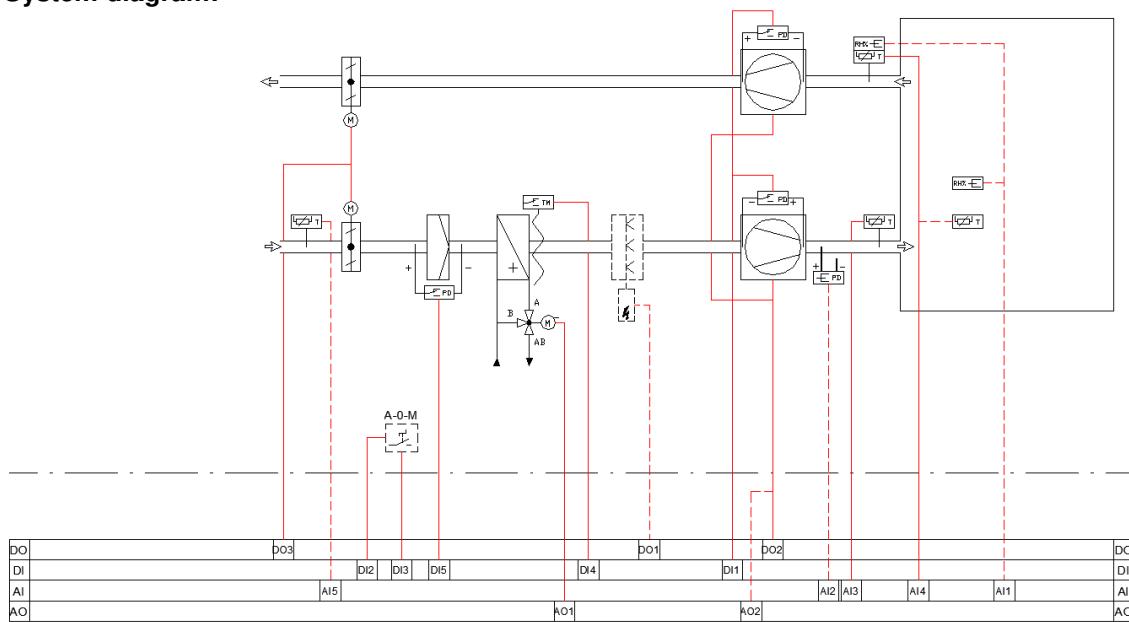
Control functions:

- Control of supply or room temperature, with compensation (optional)
- Control of return or room humidity (optional)
- Pressure control in air ducts

PLC functions:

- Time channel for operation
- Fan start delay
- Frost-protection
- Reduced operation
- DP alarm for filter/s
- Fan/s anomaly

System diagram:



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1.6 Application 912S

1.6.1 Operation description

Cascade control of room / supply air temperature, with or without humidification

System components:

- Outdoor and exhaust air dampers
 - Supply air and return air fans
 - Heating and cooling coils with control valve
 - Supply temperature sensor and room or return temperature sensor
 - Outdoor temperature sensor (optional)

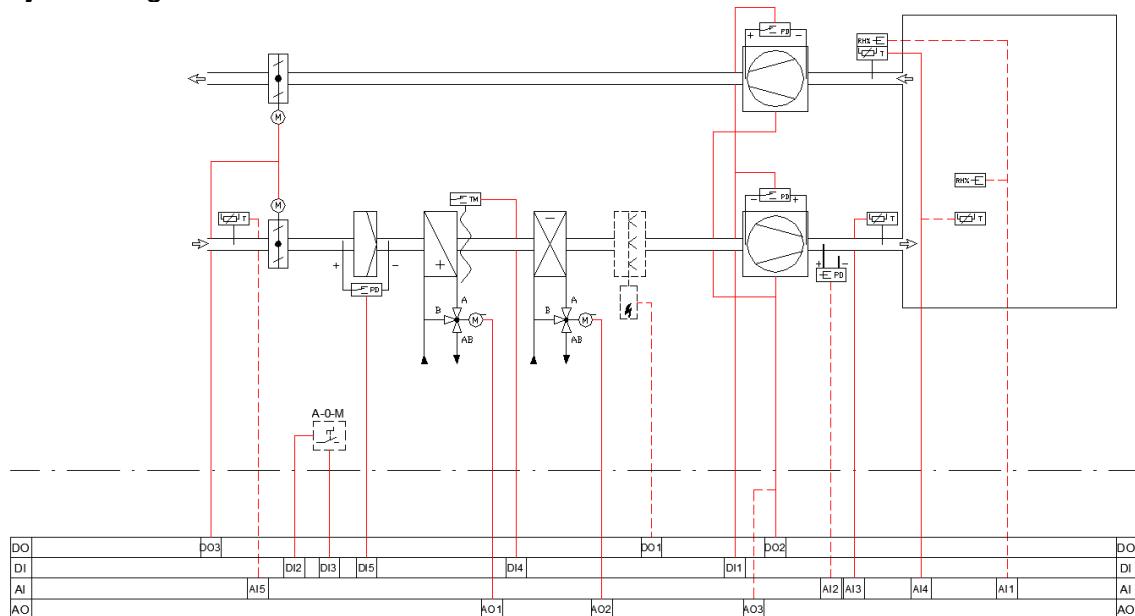
Control functions:

- Cascade control of room / supply temperature with compensation (optional), or fixed-value control of supply temperature with compensation (optional)
 - Control of return or room humidity (optional)
 - Pressure control in air ducts

PLC functions:

- Time channel for operation
 - Fan start delay
 - Frost-protection
 - Reduced operation
 - DP alarm for filter/s
 - Fan/s anomaly

System diagram:



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Application 921S

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1.7 Application 921S

1.7.1 Operation description

Cascade control of room / supply air temperature, with or without humidification and seasonal changeover

System components:

- Outdoor and exhaust air dampers
- Supply air and return air fans
- Heating or cooling coil with control valve
- Supply temperature sensor and room or return temperature sensor
- Outdoor air temperature sensor (optional)

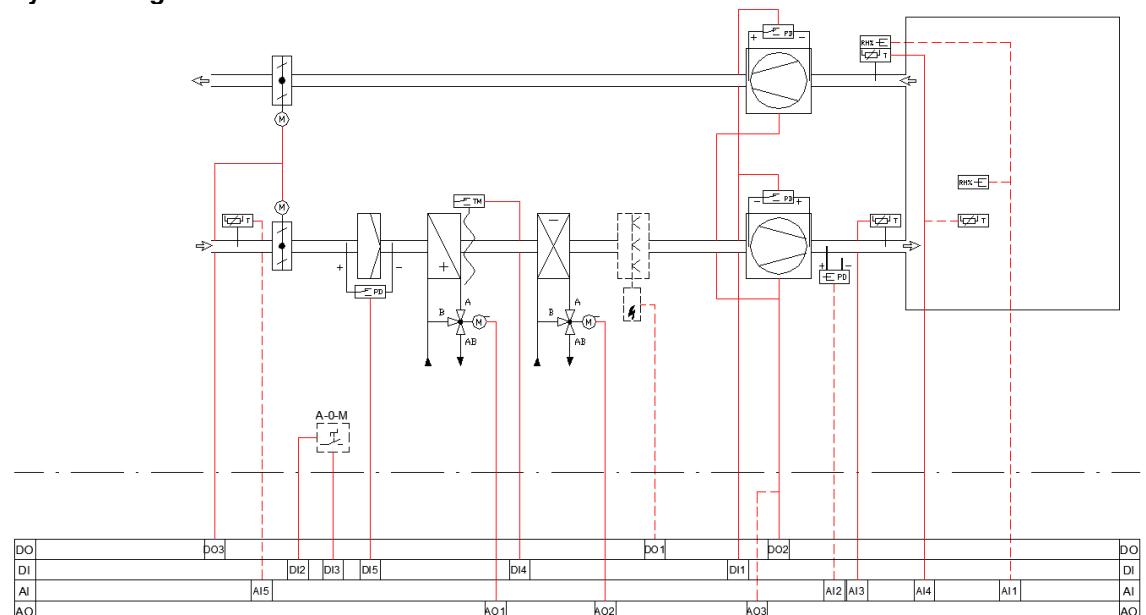
Control functions:

- Cascade control of room / supply air temperature with compensation (optional), or fixed-value control of supply air temperature with compensation (optional)
- Room or return air humidity control (optional)
- Pressure control in air ducts

PLC Functions:

- Time channel for operation
- Fan start delay
- Frost-protection
- Reduced operation
- DP alarm for filter/s
- Fan/s anomaly
- Seasonal changeover

System diagram:



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Application 937S

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1.8 Application 937S

1.8.1 Operation description

Cascade control of room / supply air temperature with humidification for indoor swimming pools

System components:

- Set of three dampers with outside air minimum
- Supply air and return air fans
- Heating coil with control valve
- Window temperature sensor
- Supply temperature sensor and return temperature sensor
- Relative Humidity sensor

Control functions:

- Fixed-value control of room temperature or with maximum and minimum limitations of supply air
- Pressure control in air duct

PLC functions:

- Time channel for operation
- Frost-protection
- Dampers activation for cooling
- DP alarm for filter/s
- Fan/s anomaly

System diagram:

