

Accessories

# Control systems

Modbus interface - RTD

- » Integration of Daikin portfolio in BMS system via modbus
- » Indoor unit control via 0~10 volt, dry contact or resistance contact
- » Retail applications
- » Hotel applications
- » IT applications
- » Heating interlock
- » Alarm signal



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RTD

# Integration of RA, Sky Air, VRV, Daikin Altherma Flex and AHU in BMS or home automation systems



## RTD-RA

- › Modbus interface for monitoring and control of residential indoor units

## RTD-10

Advanced integration into BMS of Sky Air, VRV, VAM and VKM through either:

- Modbus
- Voltage (0-10V)
- Resistance
- › Duty/standby function for server rooms

## RTD-NET

- › Modbus interface for monitoring and control of Sky Air, VRV, VAM and VKM

## RTD-HO

- › Intelligent hotel room controller
- › Modbus interface for monitoring and control of Sky Air, VRV, VAM and VKM

## RTD-20

- › Retail applications
- › Advanced control of Sky Air, VRV, VAM/VKM and air curtains
- › Clone or independent zone control
- › Partition mode for meeting rooms
- › Increased comfort with integration of CO<sup>2</sup> sensor for fresh air volume control
- › Save on running costs via
  - pre/post and trade mode
  - set point limitation
  - overall shut down
  - PIR sensor for adaptive deadband

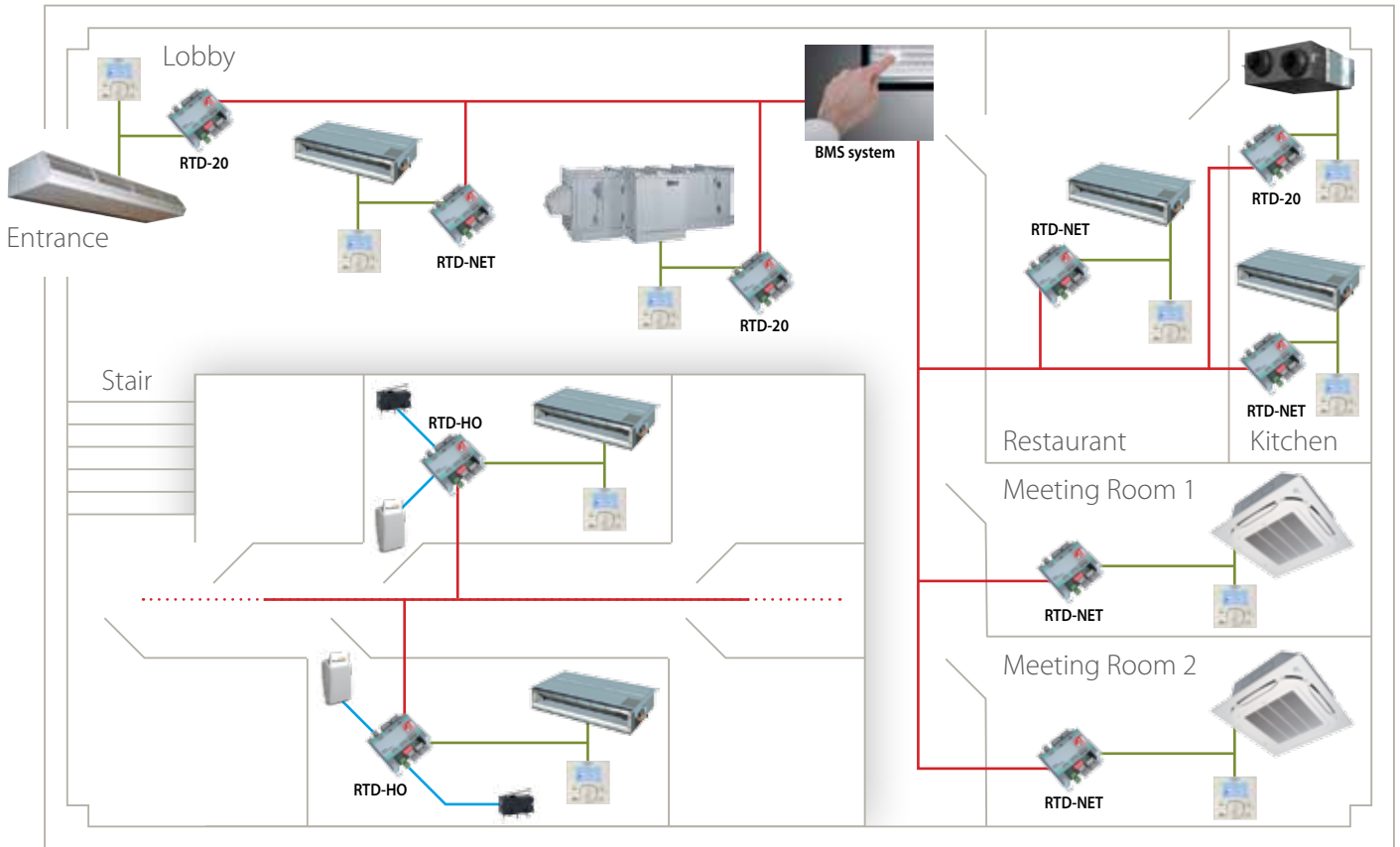
## RTD-W

- › Modbus interface for monitoring and control of Daikin Altherma Flex Type, VRV HT hydrobox and inverter chillers

# Concept

- › Full integration of entire product portfolio, allowing easy and central control of your entire commercial space
- › Full flexibility (access to all main functions) (ON/OFF, mode, setpoint, fan speed, error... )
- › Dedicated pre-programmed functions optimized for hotels, shops, server rooms, ...

HOTEL GROUND FLOOR



## RTD-RA

Application: Integration of Split units in BMS system

- › Modbus RTU RS485 for Splits
- › Harmonized Modbus registers with RTD line-up
- › Control prohibition from the R/C
- › IT application together with RTD-10
- › Group control (clone from master RTD)
- › Energy saving with PIR & Di connection

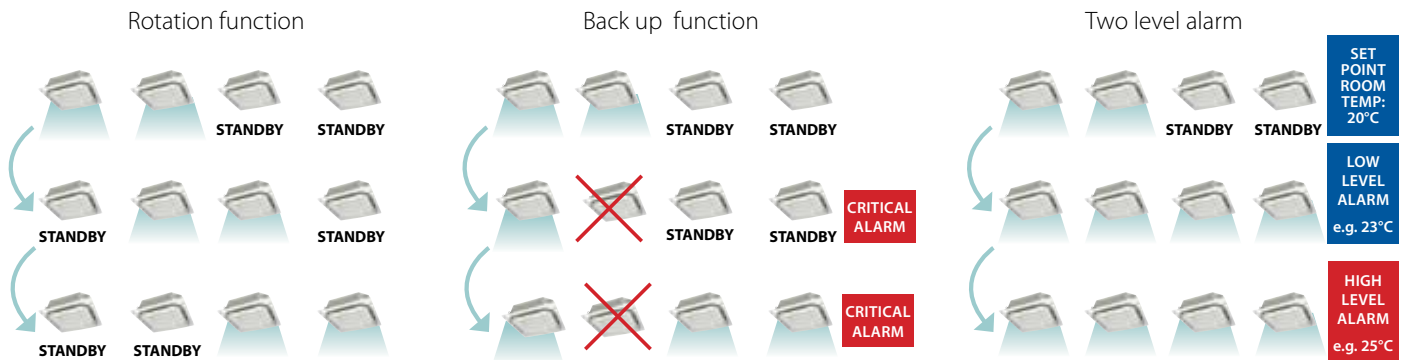


# RTD-10

## Application: Duty/standby function for server rooms

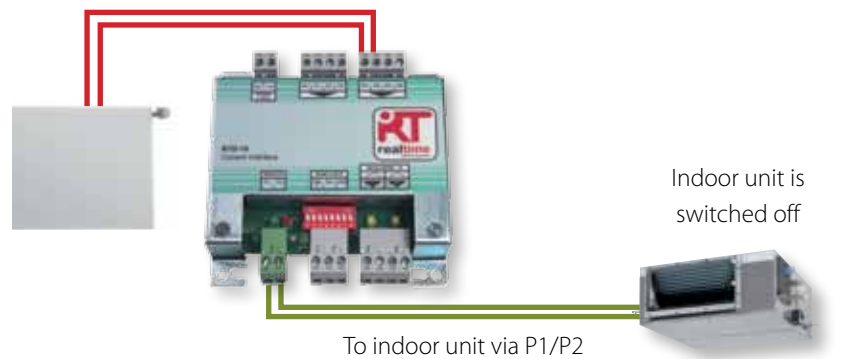
Suitable for IT and Telecom applications.

- > Rotation function:
  - Up to 8 duty/standby groups
  - 1 or 2 standby units
  - Daily, Weekly or Multi-week duty rotation
  - Optional thermistor space temperature alarm
- > Back up function
- > Two level alarm on high temperature or unit fault



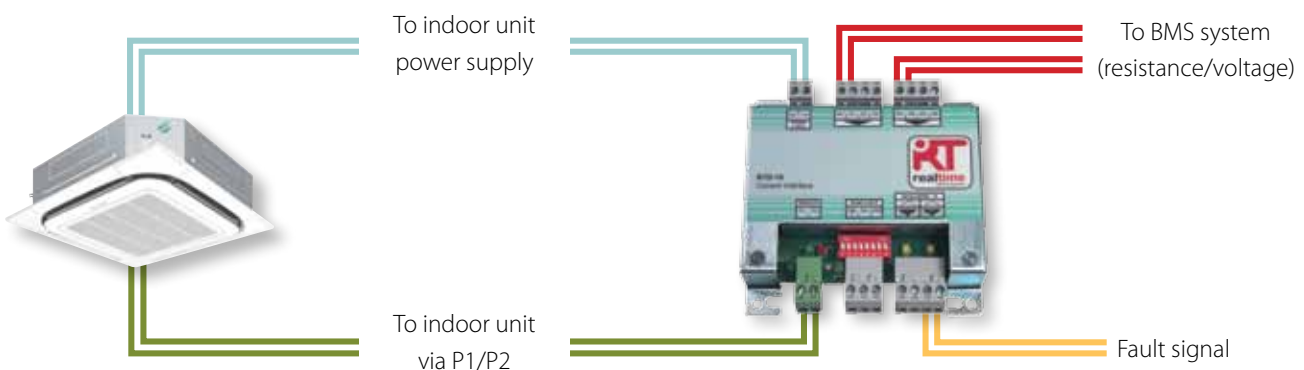
## Application: Heating interlock of air conditioning with central heating

- > Avoids having simultaneous cooling and heating occurring when a separate heating system is installed
- > The setting of the interlock function offers several possibilities on the indoor unit: to block certain functions, to switch it off or to change the mode to fan only



## Application: Integration in BMS system

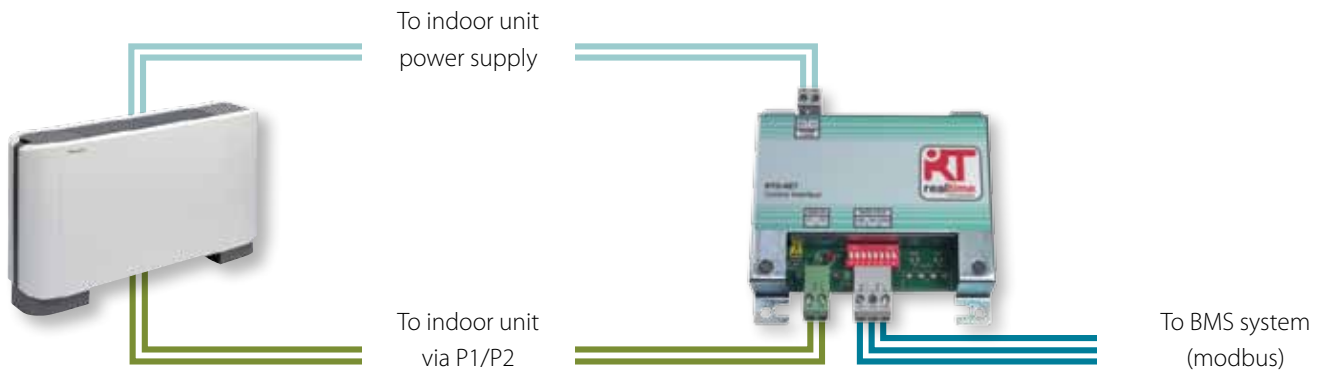
- > Integration in BMS system via resistance and/or voltage control



# RTD-NET

Application: Integration in BMS system via Modbus control

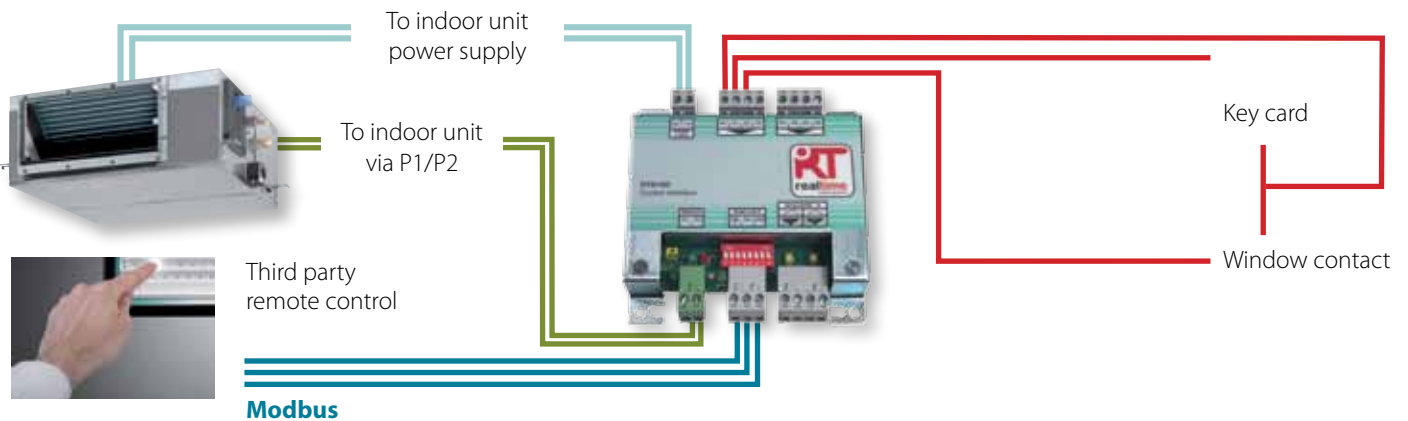
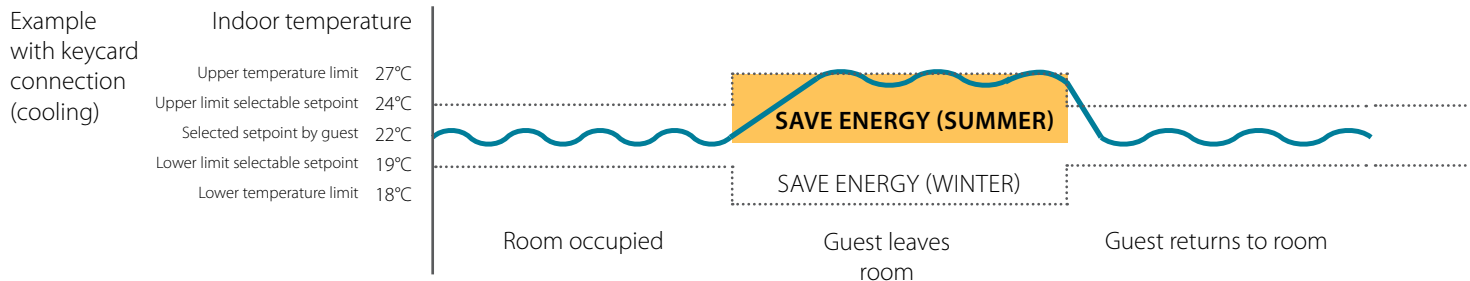
- › Integration in BMS system via Modbus



# RTD-HO

Application: Hotel room

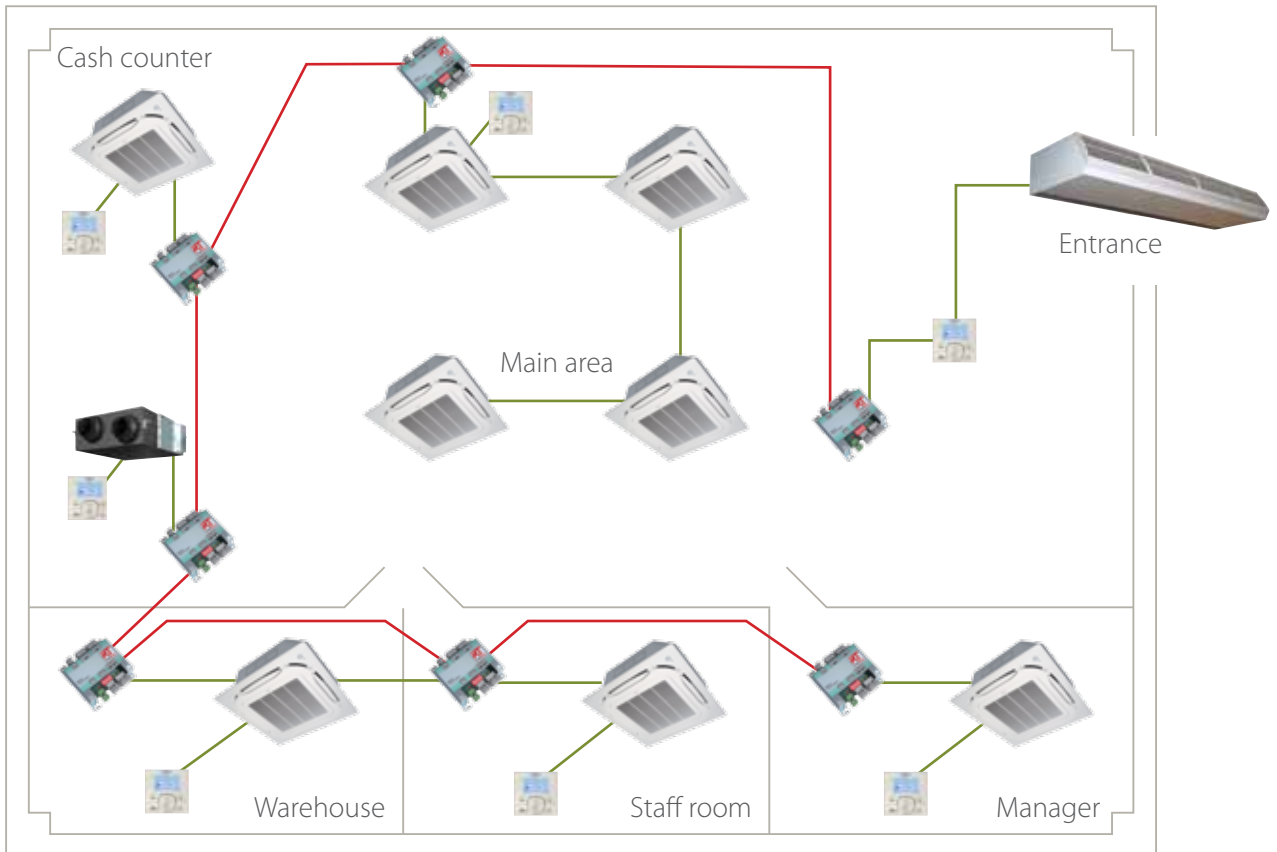
- › Interlock with key card
- › Interlock with window contact
- › Control via third party remote control
- › Limit selectable setpoint (e.g. between 19 and 24°C)
- › Prohibit several remote control settings like indoor unit on/off, indoor unit mode ...



# RTD-20

## Application: Retail shop

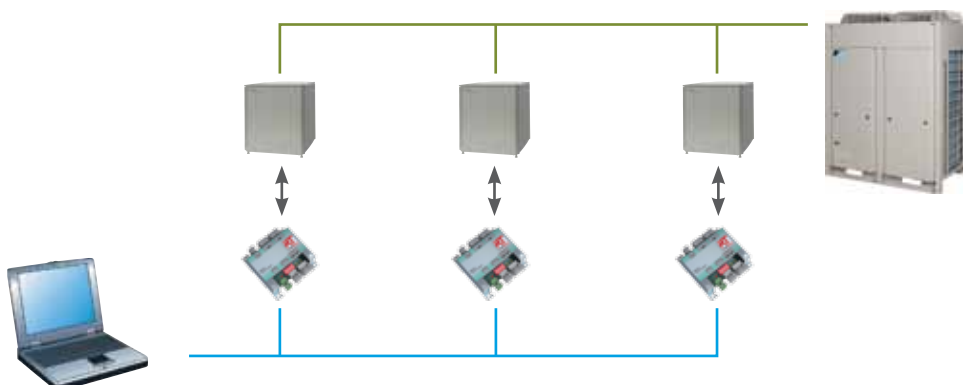
- > Operation management of retail shops zone
- > Energy saving functions
- > Flexible partition modes
- > Enhance the BMS integration of:
  - Air curtains
  - VAM
  - ERQ with 0-10V controls



# RTD-W

## Application: Integration of the domestic hot water (HT hydrobox) through Modbus

- > Modbus RTU RS485 for the HT hydrobox operation
- > I/O for the monitoring & the control of the HT hydrobox operation
- > Offer the platform for the integration with commercial heating sequence controller



# Overview functions

							
<b>Main functions</b>			RTD-RA	RTD-NET	RTD-10	RTD-20	RTD-HO
Dimensions	H x W x D	mm	80 x 80 x 37,5			100 x 100 x 22	
Key card + window contact							✓
Set back function							✓
Prohibit or restrict remote control functions (setpoint limitation, ...)			✓	✓	✓	✓**	✓
Modbus (RS485)			✓	✓	✓	✓	✓
0 - 10 V control					✓	✓	
Resistance control					✓	✓	
IT application			✓		✓	✓	
Heating interlock					✓	✓	
Output signal (on/defrost, error)					✓	✓****	✓
Retail application						✓	
Partitioned room control						✓	
Air curtain				✓***	✓***	✓	

<b>Control functions</b>	RTD-RA	RTD-NET	RTD-10	RTD-20	RTD-HO
On/Off	M	M	M,V,R	M	M*
Set point	M	M	M,V,R	M	M*
Mode	M	M	M,V,R	M	M*
fan	M	M	M,V,R	M	M*
Louver	M	M	M,V,R	M	M*
HRV Damper control		M	M,V,R	M	
Prohibit/Restrict functions	M	M	M,V,R	M	M*
Forced thermo off	M				

<b>Monitoring functions</b>	RTD-RA	RTD-NET	RTD-10	RTD-20	RTD-HO
On/Off	M	M	M	M	M
Set point	M	M	M	M	M
Mode	M	M	M	M	M
fan	M	M	M	M	M
Louver	M	M	M	M	M
RC temperature		M	M	M	M
RC mode		M	M	M	M
nbr units		M	M	M	M
Fault	M	M	M	M	M
Fault code	M	M	M	M	M
Return air temperature (Average /Min/Max)	M	M	M	M	M
Filter alarm		M	M	M	M
Thermo on	M	M	M	M	M
Defrost		M	M	M	M
Coil In/Out temperature	M	M	M	M	M



<b>Main functions</b>			RTD-W
Dimensions	H x W x D	mm	100x100x22
On/off prohibition			✓
Modbus RS485			✓
Dry contact control			✓
Output signal (operation error)			✓
Space heating / cooling operation			✓
Domestic hot water control			✓

<b>Control functions</b>	RTD-W
On/Off Space heating/cooling	M,C
Set point leaving water temperature (heating / cooling)	M,V
Room temperature setpoint	M
Operation mode	M
Domestic Hot Water reheat	M,C
Domestic Hot Water storage	M
Quiet mode	M,C
Weather dependent setpoint enable	M
Weather dependent curve shift	M
Control source prohibition	M

<b>Monitoring functions</b>	RTD-W
On/Off Space heating/cooling	M,C
Set point leaving water temperature (heating/cooling)	M
Room temperature setpoint	M
Operation mode	M
Domestic Hot Water reheat	M
Domestic Hot Water storage	M
Number of units stored in the group	M
Average leaving water temperature	M
Remocon room temperature	M
Fault	M,C
Fault code	M
Circulation pump operation	M
Compressor status	M
Desinfection operation	M
Setback operation	M
Defrost/ start up	M
Pump running hours accumulated	M
Actual leaving water temperature	M
Actual return water temperature	M
Actual DHW tank temperature (*****)	M
Actual outdoor temperature	M

M : Modbus / R : Resistance / V : Voltage / C: Contact  
 \* : only when room is occupied / \*\* : setpoint limitation  
 \*\*\* : no fan speed control on the CYV air curtain / \*\*\*\* : run & fault / \*\*\*\*\* : if available





# Specifications

		RTD-RA	RTD-NET	RTD-10	RTD-20	RTD-HO	RTD-W
Dimensions	HeightxWidthxDepth	80x80x37,5		100x100x22			
Weight		120					
Operation range		0~50					
Power supply		15V-24V DC					
Voltage /resistance input		2	N/A	6	6	3	6
Voltage input		N/A	N/A	0~10VDC < 1mA	0~10VDC < 1mA	N/A	0~10VDC < 1mA
Resistance input		5V, 1mA	N/A	5V, 1mA	5V, 1mA	5V, 1mA	5V, 1mA
Dry contact input ports		N/A	N/A	2	N/A	N/A	N/A
Modbus connection		RS485					
P1/P2 connection		yes					
Relay		N/A	N/A	1A, 24VAC max	1A, 25VAC max	1A, 24VAC max	1A, 25VAC max
		N/A	N/A	1A, 30VDC max	1A, 30VDC max	1A, 30VDC max	1A, 30VDC max



Daikin's unique position as a manufacturer of air conditioning equipment, compressors and refrigerants has led to its close involvement in environmental issues. For several years Daikin has had the intention to become a leader in the provision of products that have limited impact on the environment. This challenge demands the eco design and development of a wide range of products and an energy management system, resulting in energy conservation and a reduction of waste.



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