Daikin VRV®, Sky Air and HRV Solutions

MODBUS INTERFACING – RTD-NET CONTROL INTERFACE

RTD-NET Control Interface

The RTD-Net is a Modbus interface for monitoring and control of Daikin VRV® and Sky Air ranges of air-conditioners; and VAM and VKM ventilation units. The interface is compatible with all units that have a P1,P2 remote controller network connection and allows control of up to 16 units in a single group.

FUNCTIONS

- **GROUP CONTROL** – Group control of unit settings such as Setpoint, Fanspeed, Run Mode, Louvre and On/Off State.

- **KEYPAD CONTROL** – Control of lock/unlock state of individual buttons on wired remote controller and the ability to limit ranges of user adjustment.

- **UNIT MONITORING** – Group and individual readback of unit data including Fault Codes, Unit Temperatures.

- **VAM CONTROL** – Control of VAM and VKM unit fanspeed and damper position.

- **CUSTOM CONTROL** – RTD interfaces can be supplied in custom configurations to suit specific applications.
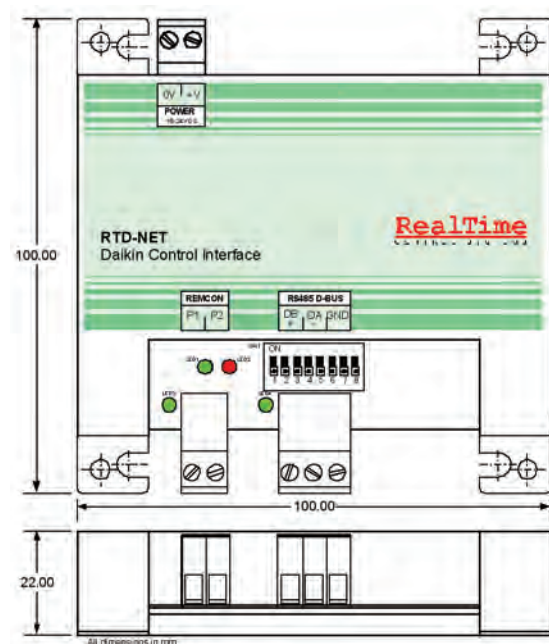
DAIKIN NETWORK

Network	P1/P2 Remote Controller Network
Length	500m
AC Units	Up to 16 Indoor units controlled as a group
RTD Power	16-24VDC, 120mA from A/C unit or external source
Compatibility	VRV®, Sky Air and HRV units with P1, P2 terminals
Controls	One Wired Remote Controller supported
	Not compatible with other P1,P2 controls e.g. KRP4A

MODBUS NETWORK

Network	3 wire RS485
Mode	Modbus RTU Slave
Length	500m
Addresses	0 to 63
RS485 Load	½ Unit Load, up to 62 devices on a single network
Baud	9600
Parity	None
Stop bits	1
Register Base	0

Note: RTD interfaces can be configured with different baud rate and parity settings if required.

COMMON MODBUS REGISTERS*

HOLDING REGISTERS

HOLDING REGISTER	NAME	RANGE
H0001	Setpoint	16..32
H0002	Fanspeed	1..3 (1:Low, 2:High1, 3: High2*)
H0003	Mode	0..4 (0:Auto, 1:Heat, 2:Fan, 3:Cool, 4:Dry)
H0004	Louvre	1..7 (1:Swing, 2: 0 Degrees, 3: 20 Degrees, 4:45 Degreees, 5:70 Degrees, 6:90 Degrees)
H0005	OnOff	0..1 (0:Off, 1:On)

* Where available high 2 fan speed will be possible.

INPUT REGISTERS

INPUT REGISTER	NAME	RANGE	NOTES
I0020	Unit Count	0..16	Number of units found on network
I0021	Is Fault	0..1	0:No Fault, 1: At least one unit in fault
I0022	Fault Code	0..65535	255: No Fault, else fault code from first unit in fault
I0023	Return Air Average	Degrees C x 100	Average of all unit return air temperatures
I0024	Filter Alarm	0..1	0: No Alarm, 1: At least one unit with filter alarm
I0025	Return Air Min	Degrees C x 100	Minimum of all unit return air temperatures
I0026	Return Air Max	Degrees C x 100	Maximum of all unit return air temperatures
I0030	Thermo On	0..3	Summary of unit operation 0:Idle/Fan, 1:Heating, 2:Cooling, 3:Heat and Cool
I0035	Defrost	0..1	0: No defrost, 1: At least one unit in defrost Indicates unit in Pressure Equalisation, Hot Start/Pre-heat or outdoor unit Defrost condition

UNIT 1	UNIT 2	...	UNIT16	NAME	RANGE	NOTES
0120	0220	...	1620	Unit Exists	0..1	0: No Unit Found, 1: Unit Found
0121	0221	...	1621	Is Fault	0..1	0: No Unit Fault, 1: Unit in Fault
0122	0222	...	1622	Fault Code	0..65535	255: No Fault, else fault code
0123	0223	...	1623	Return Air Temperature	Degrees C x 100	Unit Return Air Sensor Value
0124	0224	...	1624	Filter Alarm	0..1	0: No Alarm, 1: Filter Alarm
0130	0230	...	1630	Thermo On*	0..2	0:Idle/Fan, 1:Heating, 2:Cooling
0131	0231	...	1631	Coil In* Temperature	Degrees C x 100	Coil Inlet Temperature
0132	0232	...	1632	Coil Out* Temperature	Degrees C x 100	Coil Outlet Temperature

* Only available where RTD-NET is operating in P1/P2 main mode.

Qualified for
Energy Technology List
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Authorised User No. 00061

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DAIKIN UK
RECYCLING
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CE

EUROVENT
CERTIFIED PERFORMANCE

Daikin units comply with the European regulations that guarantee the safety of the product.

Daikin Europe N.V. participates in the Eurovent Certification Programme for Air Conditioners (AC), Liquid Chilling Packages (LCP) and Fan Coil Units (FC); the certified data of certified models are listed in the Eurovent Directory. Multi units are Eurovent certified for combinations up to 2 indoor units.

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