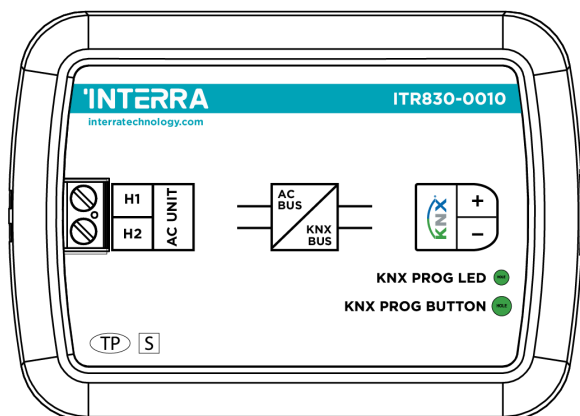


## Vaillant VRF AC - KNX Gateway



<b>Product Code</b>	ITR830-0010
<b>Power Supply</b>	KNX Power Supply
<b>Current Consumption</b>	5 mA
<b>Push Buttons</b>	1 x KNX Programming Button
<b>LED Indicators</b>	1 x KNX Programming LED
<b>Type of Protection</b>	IP 20
<b>Cable Distance</b>	Max 350 m
<b>Mode of Commissioning</b>	S-Mode
<b>Maximum Air Humidity</b>	< 90 RH
<b>Temperature Range</b>	Operation (-10°C...70°C) Storage (-25°C...100°C)
<b>Colour</b>	Light Grey
<b>Dimensions</b>	88 x 62 x 27 mm (W x H x D)
<b>Certification</b>	KNX Certified
<b>Configuration</b>	Configuration with ETS

### DESCRIPTION

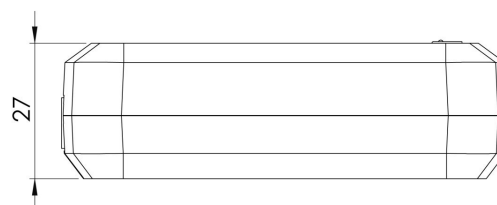
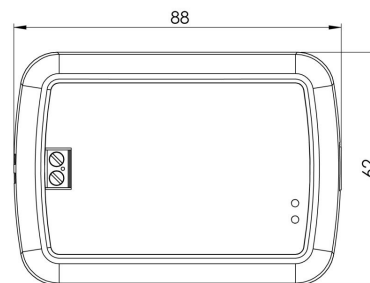
ITR830-0010 is an air conditioner gateway used for monitoring and controlling all the functioning parameters of Vaillant air conditioners via the KNX bus line. Vaillant VRF AC - KNX Gateway is compatible with models in VRF types categorized at compatibility list published by Interra.

Vaillant VRF AC - KNX Gateway has an easy installation feature and can be installed inside the own AC indoor unit or a proper location away from the air conditioner, it connects one side directly to the electronic circuit of the AC indoor unit and in the other side directly to the KNX bus.

**Note :** Existing commands may vary according to indoor unit model. Please refer to relevant technical documents.

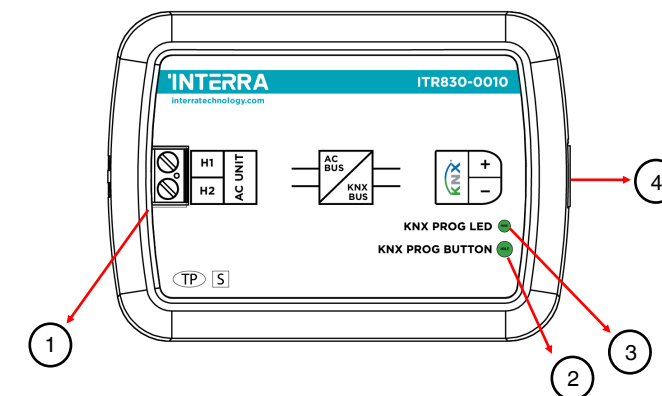
### DIMENSIONS & CONNECTION DIAGRAM

- All values given in the device dimensions are millimetres.



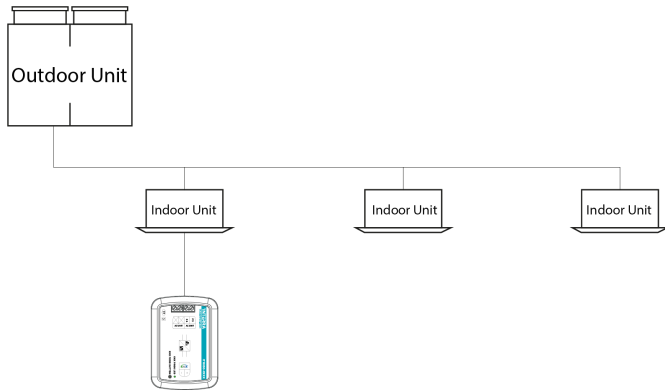
### FUNCTIONS

- ITR830-0010 device provides complete bi-directional integration of VRF type air conditioners with KNX bus.
- Includes 4 logical advanced parameters, each logical parameter have up to 4 inputs and can be configured as AND, OR & XOR.
- Includes 8 advanced converter parameters, each converter has four operations math calculations according to the input type.
- Logic and converter parameters can be used for energy savings, configurable scenes, temperature limits etc.
- The Vaillant air conditioner unit provides error notifications for errors that may occur in exceptional cases.



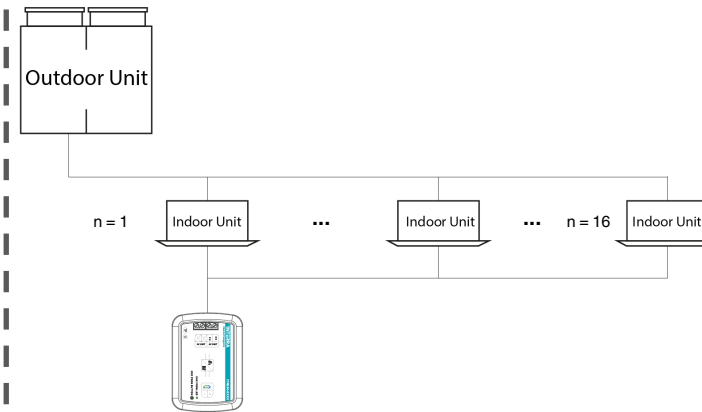
- AC Indoor Unit Connection
- KNX Programming Button
- KNX Programming LED
- KNX Connector

**Gateway - Single Indoor Unit :**



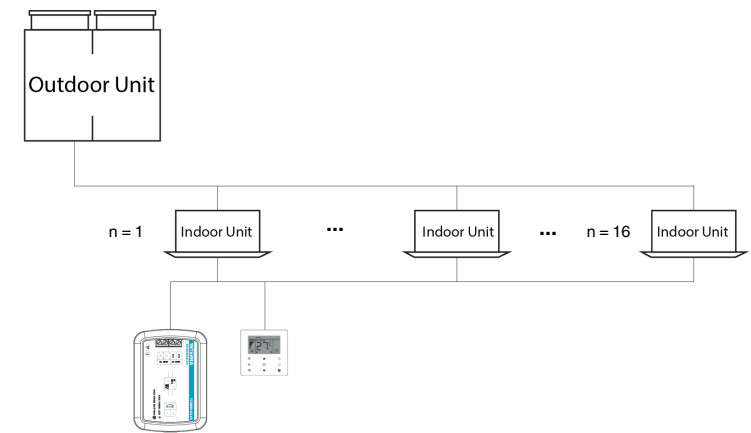
**Figure 1**

**Gateway - Multi Indoor Unit :**



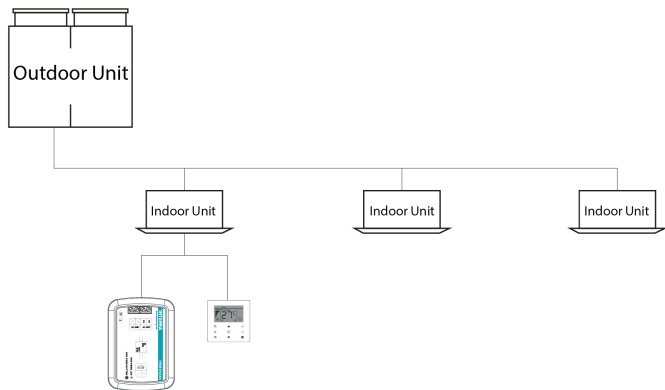
**Figure 3**

**Gateway - Multi Indoor Unit + Remote Controller :**



**Figure 4**

**Gateway-Single Indoor Unit + Remote Controller :**



**Figure 2**

Figure 3 shows the connection diagram between the Vaillant VRF AC - KNX Gateway and multiple air conditioner indoor units. Some indoor unit models do not support multi indoor unit control.

For detailed information, you can contact the air conditioner authorized service.

Figure 4 shows the connection diagram between the Vaillant VRF AC - KNX Gateway, air conditioner remote controller and multiple air conditioner indoor units. If more than 2 indoor units are to be connected to an air conditioner remote controller, care must be taken to ensure that the connection is as shown in figure 4. Some Indoor unit models do not support multi indoor unit control.

For detailed information, you can contact the air conditioner authorized service.

## ERROR CODES

Error Code KNX	Error In Remote Controller	Error Description
0	0	No Error
1	E0	Outdoor Unit Error
2	E1	High Pressure Protection
3	E2	Discharge Low Temperature Protection
4	E3	Low Pressure Protection
5	E4	Excess Discharge Temperature Protection of Compressor
6	F0	Bad Performance of the Outdoor Mainboard
7	F1	High Pressure Sensor Error
8	F3	Low Pressure Sensor Error
9	F5	Compressor 1 Discharge Temperature Sensor Error
10	F6	Compressor 2 Discharge Temperature Sensor Error
11	F7	Compressor 3 Discharge Temperature Sensor Error
12	F8	Compressor 4 Discharge Temperature Sensor Error
13	F9	Compressor 5 Discharge Temperature Sensor Error
14	FA	Compressor 6 Discharge Temperature Sensor Error
15	Fb	Compressor 2 Top Temperature Sensor Error
16	FC	Compressor 2 Current Sensor Error
17	Fd	Mode Exchanger Outlet Pipe Temperature Sensor Error
18	FE	Compressor 4 Current Sensor Error
19	FF	Compressor 5 Current Sensor Error
20	FH	Compressor 1 Current Sensor Error

Error Code KNX	Error In Remote Controller	Error Description
21	FJ	Compressor 6 Current Sensor Error
22	FL	Compressor 3 Current Sensor Error
23	Fn	Mode Exchanger Inlet Pipe Temperature Sensor Error
24	FP	Malfunction of DC Motor
25	FU	Compressor 2 Top Temperature Sensor Error
26	J1	Compressor 1 Over-current Protection
27	J2	Compressor 2 Over-current Protection
28	J3	Compressor 3 Over-current Protection
29	J4	Compressor 4 Over-current Protection
30	J5	Compressor 5 Over-current Protection
31	J6	Compressor 6 Over-current Protection
32	J7	4-way Valve Blow-by Protection
33	J8	System Pressure Over-Ratio Protection
34	J9	System Pressure Under-Ratio Protection
35	JA	Protection of Abnormal Pressure
36	JC	Protection of Water Flow Switch
37	JE	Oil Return Pipe Is Blocked
38	JF	Oil Return Pipe Is Leaking
39	JL	Protection of Low High-Pressure
40	b1	Outdoor Ambient Temperature Sensor Error
41	b2	Defrosting Temperature Sensor 1 Error

## ERROR CODES

Error Code KNX	Error In Remote Controller	Error Description
42	b3	Defrosting Temperature Sensor 2 Error
43	b4	Subcooler Liquid-out Temperature Sensor Error
44	b5	Subcooler Gas-out Temperature Sensor Error
45	b6	Gas-Liquid Separator Inlet Temperature Sensor Error
46	b7	Gas-Liquid Separator Outlet Temperature Sensor Error
47	b8	Outdoor Humidity Sensor Error
48	b9	Heat Exchanger Gas-out Temperature Sensor Error
49	bA	Oil-return Temperature Sensor Error
50	bC	Compressor 1 Top Temperature Sensor Detachment Protection
51	bE	Malfunction of Entry Tube Temperature Sensor of Condenser
52	bF	Malfunction of Exit Tube Temperature Sensor of Condenser
53	bH	System Clock Malfunction
54	bJ	High and Low Pressure Sensors Are Connected Inversely
55	bL	Compressor 2 Top Temperature Sensor Detachment Protection
56	P0	Compressor Drive Board Error
57	P1	Compressor Drive Board Malfunction
58	P2	Protection of Compressor Drive Board Power Supply
59	P3	Protection of Compressor Drive Board Module Reset
60	H0	Error of Fan Drive Board
61	H1	Malfunction of Fan Drive Board
62	H2	Protection of Fan Drive Board Power Supply

Error Code KNX	Error In Remote Controller	Error Description
63	L0	Indoor Unit Error
64	L1	Indoor Fan Protection
65	L2	E-heater Protection
66	L3	Water Full Protection
67	L4	Wired Controller Power Supply Error
68	L5	Anti-Frosting Protection
69	L7	No Master Indoor Unit Error
70	L8	Power Insufficiency Protection
71	L9	Quantity Of Group Control Indoor Units Setting Error
72	LA	Indoor Units Incompatibility Error
73	Lb	Inconsistency of Group-controlled Indoor Units in Reheat Dehumidification System
74	LC	Outdoor-Indoor Incompatibility Error
75	LF	Shunt Valve Setting Error
76	LH	Low Air Quality Warning
77	LJ	Wrong Setting of Function DIP Switch
78	LP	Zero-Crossing Malfunction of PG motor
79	LU	Inconsistent Branch of Group-controlled Indoor Units in Heat Recovery System
80	d1	Indoor Unit PC-Board Error
81	d3	Ambient Temperature Sensor Error
82	d4	Inlet Pipe Temperature Sensor Error
83	d5	Malfunction of Middle Tube Temperature Sensor

## ERROR CODES

Error Code KNX	Error In Remote Controller	Error Description
84	d6	Outlet Pipe Temperature Sensor Error
85	d7	Humidity Sensor Error
86	d8	Water Temperature Abnormality
87	d9	Jumper Cap Error
88	dA	Indoor Unit Hardware Address Error
89	db	Special Code: Field Debugging Code
90	dC	Capacity DIP Switch Setting Error.
91	dE	Indoor Unit CO2 Sensor Error
92	dH	Wired Controller PC-Board Error
93	dL	Outlet Air Temperature Sensor Error
94	dn	Swing Assembly Error
95	y7	Fresh Air Inflow Temperature Sensor Error
96	y8	Indoor Air Box Sensor Error
97	y9	Outdoor Air Box Sensor Error
98	U2	Outdoor Unit Capacity Code/Jumper Cap Setting Error
99	U3	Phase Sequence Protection of Power Supply
100	U4	Protection of Lack of Refrigerant
101	U5	Wrong Address of Compressor Drive Board
102	U6	Valve Abnormal Alarm
103	U8	Indoor Unit Tube Malfunction
104	U9	Outdoor Unit Tube Malfunction
105	UC	Master Indoor Unit Is Successfully Set.
106	UE	Refrigerant Charging Is Ineffective.

Error Code KNX	Error In Remote Controller	Error Description
107	UF	Indoor Unit Identification Error of Mode Exchanger
108	UL	Emergency Operation DIP Switch Setting of The Compressor Is Wrong.
109	C0	Communication Between Indoor Unit and Outdoor Unit and The Communication Between Indoor Unit and Wired Controller Have Malfunction.
110	C2	Communication Error Between Master Control and Inverter Compressor Drive
111	C3	Communication Error Between Master Control and Inverter Fan Motor Drive
112	C4	Error of Lack of Indoor Unit
113	C5	Alarm of Indoor Unit Project Number Collision
114	C6	Alarm of Wrong Number of Outdoor Unit
115	C7	Mode Exchanger Communication Error
116	Cb	Outflow of Units IP Address
117	Cd	Communication Failure Between Mode Exchanger and Outdoor Unit
118	CE	Communication Failure Between Mode Exchanger and Indoor Unit
119	CF	Error of Multiple Master Indoor Unit
120	CH	Rated Capacity Is Too High.
121	CJ	System Addresses Is Incompatible.
122	CL	Rated Capacity Is Too Low.
123	Cn	Indoor and Outdoor Network Error of Mode Exchanger
124	CP	Error of Multiple Master Wired Controller
125	CU	Communication Error Between Indoor Unit and Remote Receiver
126	Cy	Communication Error of No Master in Mode Exchanger