IntesisBox[®] DK-AC-ENO-1 v.1.0.12 DK-AC-ENO-1C v.1.0.12

EnOcean Interface for Daikin air conditioners. Compatible with Domestic lines

User's Manual

v1 r6 eng

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INDICE

1.	Presentation	. 4
	Main Features:	
1.2.	Typical Application	
2.	Connection and placement	. 7
2.1.	Connection	. 7
2.2.	Placement	. 8
2.2	2.1 Screening zones	. 8
2.2	2.2 Penetration Angle	
2.2	2.3 Distance between Receiver and sources of interference	. 9
2.2	2.4 Use of repeaters	. 9
3.	Configuration	10
	Learning procedure	
3.2.	Teach-in procedure	13
3.3.	Device deleting procedure	14
4.	Special Behaviors	
	Window contact	
4.2.	External temperature Sensors. Virtual temperature	15
4.3.	Key Card	16
4.4.	Occupancy sensors	16
4.5.	MultiTeach-in procedure	17
5.	Communications monitoring	
5.1.	AC communication monitoring mode (RED LED)	18
5.2.	EnOcean communication monitoring mode (GREEN LED)	
6.	Technical data and dimensions	
7.	A.C profile data (Generic HVAC interface)	20
8.	AC Unit Types compatibility	25
9.	Error Codes	26
10.	EnOcean Interoperability	29
11.	Regulations and standards	30



1. Presentation



DK-AC-ENO-1 and DK-AC-ENO-1C devices allow a complete and natural integration of Daikin air conditioners with EnOcean control systems both in their 868 MHz (DK-AC-ENO-1) and 315 MHz (DK-AC-ENO-1C) versions.

Compatible with the domestic AC units commercialized by Daikin (check section 8)

1.1. Main Features:

- Reduced dimensions.
- Quick installation.
- External power not required.
- Direct connection to the Daikin AC indoor unit.
- Fully EnOcean interoperable.
- Multiple profiles
- Control of the AC unit based in the ambient temperature read by the own AC unit, or in the ambient temperature read by any EnOcean thermostat.
- Total Control and Monitoring of the AC unit from EnOcean, including monitoring of AC unit's state of internal variables, and error indication and error code.
- AC unit can be controlled simultaneously by the IR remote control of the AC unit and by EnOcean devices.
- Implements the newly approved HVAC EEP's
- Advanced room control functionalities.
- Configurable to work as a repeater.



1.2. Typical Application

In Figure 1.1 it is shown a typical application of DK-AC-ENO-1 / 1C in a hotel room. The different devices that control the AC unit, like switches, Key cards, window contacts, are connected to it through the DK-AC-ENO-1 / 1C.



Figure 1.1 Typical application of DK-AC-ENO-1 / 1C in a hotel



A schematic view of what it could be the application shown in Figure 1.1 can be seen in Figure 1.2. The connection diagram of the A.C with the DK-AC-ENO-1 / 1C and some of the supported EnOcean devices are shown



Figure 1.2 Example of DK-AC-ENO-1 / 1C control or actuation devices



2. Connection and placement

2.1. Connection

Disconnect mains power from the AC unit. Open the front cover of the indoor unit in order to have access to the internal control board. In the control board locate the socket connector marked as:

S21 in Domestic line models

Using the cable that comes with the interface, insert one of its connectors, the biggest one, into the socket of the DK-AC-ENO-1 / 1C, and the other connector, the one installed in the largest uncovered part, to the socket **S21** of the AC unit's electronic circuit. Close the AC indoor unit's front cover again.



Figure 2.1 Device connection diagram

Important: Extending or shortening the length of connection cable included with the interface may cause it to malfunction.

To connect the device to the AC, the recommended methods are the ones in Figure 2.2

- Method1: The lid hole is place above CON1 (Figure 2.2 or Figure 3.1)
- Method2: The lid hole is placed on the opposite side. Use the supplied staple to fix the cable to the screw used for wall fixing.



Figure 2.2 Connection methods

Important: The cable should not be placed on top or the antenna zone (area marked in Figure 2.2) as the performance of the device might be affected. For this same reason never use a metallic screw in the subjection hole on top of this antenna zone.



2.2. Placement

The DK-AC-ENO-1 / 1C interface antenna has a better sensibility when the device is placed vertically, and therefore this is the preferred position when placed (antenna zone should be located in the bottom side, floor side, once the device is fixed to the wall).

The coverage distance (see Table 2.1) of the signal emitted by the DK-AC-ENO-1 / 1C, or by any other EnOcean device, is determined by the room geometry and where they are placed. As an example, long narrow corridors with wide walls are an adverse situation. People or other obstacles can reduce the coverage distance too. Is therefore advice to always think in the worst possible scenario to decide the placement of the device to ensure a good stability in the radio system.

Coverage distance	Conditions
< 30 m	Under ideal conditions: Broad room, no obstacles, good antenna design and good antenna positions.
< 20 m	The room is filled with furniture and people And penetration through up to 5 dry walls or up to 2 brick walls or up to 2 aero concrete walls
< 10 m	Identical to the previous case but the receiver is placed to a room corner or range along a narrow floor.
< 1 m	Metal-reinforced ceilings at upright penetration angle (in strong dependence of reinforcement density and antenna positions).

Table 2.1 Device coverage distance

2.2.1 Screening zones

It is important not to place the device in a place where the airwaves must go through a metallic object as they create a screening zone where the receivers are not going to be able to receive the EnOcean telegrams. This situation is shown in Figure 2.3a.



Figure 2.3 a) Screening zone b) Solution with a repeater

The situation of one of the receivers doesn't allow it to receive the transceiver telegrams. To solve this situation the use or a repeater outside the screening zone (Figure 2.3b) is recommended. The telegrams will be retransmitted from there to the receiver



2.2.2 Penetration Angle

This is the angle in which the airwaves reach a certain object they need to go through. The transmission to the other side of the object would be better as this angle gets closer to 90 °, being this the best transmission situation

In Figure 2.4a it is shown a receiver in a situation where the penetration angle is too close to 0° . The solution to that problem can be seen in Figure 2.4b using a repeater in a different position



Figure 2.4 a) Penetration angle b) Solution with a repeater

2.2.3 Distance between Receiver and sources of interference

The distance between EnOcean receivers, as it is the DK-AC-ENO-1 /1C, and other transmitters (e.g. GSM / DECT / wireless LAN) or high frequency sources of interference (computers, audio and video equipment) should be higher than 50 centimeters.

However, EnOcean transmitters can be installed next to any other high-frequency transmitters without any problem.

2.2.4 Use of repeaters

In case of a poor radio reception, it may be helpful to use a repeater. EnOcean repeaters do not require any configuration, only a line-power supply is needed. A poor radio signal is received, refreshed and transmitted again, so nearly a double radio range can be achieved. Special EnOcean repeaters which can be switched to 2-level function allow two repeaters to be cascaded.



3. Configuration

The DK-AC-ENO-1 / 1C (Figure 3.1) has two switches, a button and a profile selector to execute the Learning and Teach-in procedures from the EnOcean technology (explained in Table 3.1 and the following sections)



Figure 3.1 Device diagram

The switches in SW1 configure the behavior of the interface. The different working modes are explained in Table 3.1.

Mode		Switch 2 (SW1-2)	EnOcean LED (LEDO)	LEDM: AC LED	Button PB1 function
Normal operation / Teach-in	Off	Off	Off	Does not apply	Send a Teach-in telegram or activate monitor mode (pressing it during 5 seconds)
EnOcean Remote Management disablement	Off	On	Does not apply	Does not apply	Leave it in this position to disable the remote management
Learning	On	Off	On	Does not apply	No function
Profile device Erase	On	On	Flashing: 100 ms On/ 100 ms Off	Does not apply	Press during 5 sec Delete the devices in the selected profile
Factory reset	On	On	100 ms Õn/	Flashing: 100 ms On/ 100 ms Off	Press during 10 sec: reset to factory settings (The first 5 seconds it behaves as Profile device erase)

 Table 3.1 Interface working modes.

Selector ROT1 it is used to select the desired profile. The transmission profile is used when the device is in Teach-in mode and the reception one when in Learning or erase mode.



3.1. Learning procedure

The interface DK-AC-ENO-1 / 1C has, by default, 13 reception (Rx) profiles. In the factory configuration each Rx profile is assigned to a control signal of the Daikin AC indoor unit. The Learning procedure allows to link EnOcean devices to control the AC. Up to 5 devices can be linked to each profile (see exceptions in Table 3.2). The profiles are as follow:

Profile Index Rx (ROT1)	Signal	Allowed devices in profile
0	On/Off	5
1	Mode	5
2	Fan Speed	5
3	Vane position	N/A
4	Set point Temperature ¹	5
5	Ambient Temperature (virtual) ²	1
6	Window contact	5
7	KEY CARD ³	1
8	Occupancy sensor	5
9	Horizontal Swing	5
A	Vertical Swing	5
В	Ambient temperature (Profiles 5 & F	1
	have priority over it).	
C & D	N/A	N/A
E	A.C profile	5
F	A.C profile ³	5

Table 3.2 Default reception profile	s
-------------------------------------	---

To **execute** the **Learning** procedure the next steps need to be followed. References to device components refer to Figure 3.1:

- 1. Set switch 1 (SW1-1) to ON position and switch 2 (SW1-2) to OFF. The EnOcean LED will be ON.
- 2. Set the profile selector (ROT1) in the desired position to link the EnOcean transmitters to the reception profile.
- 3. Push the Teach-in button of the devices that want to be linked, or if they don't have the Teach-in button (as the EnOcean switches) action them
- 4. When a valid EnOcean telegram is received the EnOcean LED turns off for 100 milliseconds and then it turns on again. The maximum linked devices in one profile is 5 (check Table 3.2 for special cases). Once this number is reached, no more devices are going to be linked to that profile. The EnOcean LED turns off when that happens.



¹ When the Virtual temperature is turned on the set point temperature to be written to the AC unit is the virtual temperature instead of the Set point temperature.

When a device is linked to either of these profiles the virtual temperature function is turned on automatically and the other is disabled so only one temperature reference can be linked. When no device linked it turns off. Only one device can be linked to this profile

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5. Once the Learning procedure is finished set both SW1-1 and SW1-2 to off for a normal operation of the device. Once that is done the EnOcean LED turns off.

Profile Index Rx (ROT1)	Supported EEP
0	[05-02-xx] [05-03-xx] [06-00-01] [07-10-01] [07-10-02] [07-10-05]
1	[05-02-xx] [05-03-xx]
2	[05-02-xx] [05-03-xx] [07-10-01] [07-10-02] [07-10-04] [07-10-07] [07-10-08] [07-10-09]
4	[05-02-xx] [05-03-xx] [07-10-01] [07-10-02] [07-10-03] [07-10-04] [07-10-05] [07-10-06] [07-10-0A] [07-10-10] [07-10-11] [07-10-12]
5	[07-02-05][07-02-06][07-10-01][07-10-02][07-10-03][07-10-04] [07-10-05][07-10-06][07-10-07][07-10-08][07-10-09][07-10-0A] [07-10-0B][07-10-0C][07-10-0D][07-10-10][07-10-11][07-10-12] [07-10-13][07-10-14]
6	[05-02-xx] [05-03-xx] [06-00-01] [07-30-02]
7	[05-04-01]
8	[07-07-01] [07-08-01] [07-08-02]
9	[05-02-xx] [05-03-xx]
А	[05-02-xx] [05-03-xx]
В	[07-02-05][07-02-06][07-10-01][07-10-02][07-10-03][07-10-04] [07-10-05][07-10-06][07-10-07][07-10-08][07-10-09][07-10-0A] [07-10-0B][07-10-0C][07-10-0D][07-10-10][07-10-11][07-10-12] [07-10-13][07-10-14]
E	[07-20-10][07-10-03][07-20-11] ¹
F	$[07-20-10][07-10-03][07-20-11]^1$

Table 3.3 DK-AC-ENO-1 / 1C supported reception EEP

Important!

In Profiles E and F up to 5 devices can be linked. It needs to be taken into account that if the devices are working in Multiteach-in mode (more information in section 4.5) only one is going to be fully linked as it would take 3 of the 5 spaces available.



 $^{^1}$ HVAC Components (FUNC = 20) Generic HVAC interface (TYPE = 10 and 11) explained in section 7 and in EnOcean Equipment Profiles (EEP) and V2.1

3.2. Teach-in procedure

The DK-AC-ENO-1 / 1C, as a transmitter device, has the Teach-in procedure implemented. With this procedure the AC can be linked to other EnOcean devices accepting the data send by the DK-AC-ENO.

There are several transmission profiles by default, with several AC signals assigned to them. The send data would contain the state of the AC signals specified in Table 3.4

Profile	Transmission signals	EEP
Index Tx		(EnOcean
(ROT1)		Profile)
0	On/Off	[05-02-01]
1	Alarm State	[05-02-01]
2	Set point Temperature	[07-02-05]
3	Ambient Temperature	[07-02-05]
4	Ambient Temperature, Set point Temperature, Fan Speed, On/Off	[07-10-01]
5	AC interface: Mode, fan speed, vane position, sensors and On/Off	[07-20-10]
6	Set point Temperature, Ambient Temperature	[07-10-03]
7	AC interface: AC Error code, Error state and disablements	[07-20-11]
8 to D	N/A	
E	All	[07-20-10] ¹
		[07-10-03]
		[07-20-11]
F	All	$[07-20-10]^1$
		[07-10-03]
		[07-20-11]

Table 3.4 Signals linked to ROT1	(Figure 3.1)
----------------------------------	--------------

To **execute** the **Teach-in** procedure:

- 1. Set the switches SW1-1 and SW1-2 to OFF
- 2. Set the profile selector (ROT1) to the desired transmission profile for the Teach-in procedure
- 3. Press PB1 to send a teach-in telegram. There must be a receiving in Learning mode for the linking to happen.

Remember that in this procedure the DK-AC-ENO-1 / 1C interface doesn't keep information from any of the devices.

Important!

In Profiles E and F three EEP's are sent pressing PB1 only once. These EEP's are sent with three different Base ID and therefore they behave in fact as 3 different devices. More information in section 4.5



Multiteach-in process: The three EEp's are sent one after the other pressing the teach-in button only once.

3.3. Device deleting procedure

To delete one or all the devices linked in one reception profile (Table 3.2) the device needs to be in ERASING mode. To do so follow the following lines (the references to device components are specified in Figure 3.1):

- 1. Set the profile selector (ROT1) to the desired reception profile where the device/s to be deleted are saved.
- 2. Set the switches SW1-1 and SW1-2 to ON. The EnOcean LED (LEDO) will turn into flashing (100 ms on and 100ms off)
- 3. Push the Teach-in button of the devices that want to be linked, or if they don't have the Teach-in button (as the EnOcean switches) action them. Once the telegram is received the EnOcean LED will be on for 1 second to show the device has been deleted from this profile.
- 4. Once finished, set the switches SW1-1 and SW1-2 to OFF for a normal operation of the device

A device can break down or be lost, and therefore the above mentioned delete procedure would not be possible to be executed. For that reason all the devices in one profile can be deleted. To do so follow the instructions (the references to device components are specified in Figure 3.1):

- 1. Set the profile selector (ROT1) to the desired reception profile.
- 2. Set the switches SW1-1 and SW1-2 to ON. The EnOcean LED (LEDO) will turn into flashing (100 ms on and 100ms off)
- 3. Press the button PB1 for 5 seconds. Once that is done the EnOcean LED (LEDO) will be on for 1 second to show that all devices in this profile have been deleted.
- 4. Once finished, set the switches SW1-1 and SW1-2 to OFF for a normal operation of the device



4. Special Behaviors

In this section it is explained the special behavior of the DK-AC-ENO-1 / 1C when certain kinds of devices are used: Window contacts, thermostat with external temperature sensor, occupancy sensors and key card. The use of these sensors needs further explanation as the DK-AC-ENO-1 / 1C realizes special operations or assume previous states. All the explanations in these sections are related to the factory settings of the device.

4.1. Window contact

The DK-AC-ENO-1 / 1C has the functionality to automatically control the turning on and off of the AC indoor unit depending on the state of one or several (up to 5) EnOcean window contacts.

EnOcean window contacts periodically send its state and they do so too after a change in the window state happens.

When a window contact is associated to the DK-AC-ENO-1 / 1C interface it is assumed that the window is closed until the correct state of the window contact is received.

The AC indoor unit will be turned OFF and disabled if **any** of the window contacts linked to the window contact profile is sending a "window opened" message for a certain period of time (default value: 30 seconds). If the AC indoor unit is set to ON (either by an EnOcean device of by the remote control) the DK-AC-ENO-1 / 1C will set it back to OFF.

When all the window contacts are sending a "window closed" message, the AC indoor unit will go back to its previous state.

The functionality specified on the above lines would only be active when devices are linked in the window contact profile (Table 3.2).

The information about the states of the linked window contacts would be lost if there is a power down in the system, but it will restore itself in a brief period of time as the window contacts send their state periodically.

4.2. External temperature Sensors. Virtual temperature

This behavior is only activated when there is an external temperature device linked to either profile 5 or profile F. Once a device is linked to one of these profiles the other is going to be disabled as the AC unit can only work with one external temperature as a reference.

Three temperatures are involved:

- Set point temperature: It is the set point temperature sent to the AC unit (*S*)
- Virtual Set point temperature: It is the Set point temperature requested by (S_v) the thermostat
- Virtual Ambient temperature: It is the ambient temperature measured by the (T_v) thermostat

The Set point Temperature sent to the AC indoor unit is calculated with the following formula:

$S = S_v - (T_v - S_v) / 2$





4.3. Key Card

Due to the way the Key Cards reader work there is a specific reception profile for it. In this profile (Table 3.2) it is only possible to link one device. If the linked device it is not a key card the correct behavior of the DK-AC-ENO-1/1C cannot be granted.

When inserting the Key card in the reader the A.C unit is enabled (becomes available to be turned on) but it stays OFF. A manual actuation of another device would be needed to turn it ON.

When the Key card is removed the A.C indoor unit is disabled and turned OFF staying in this state until we insert the Key Card again. If the AC indoor unit is set to ON (either by an EnOcean device of by the remote control) the DK-AC-ENO-1 / 1C will set it back to OFF.

The functionality specified on the above lines would only be active when devices are linked in the Key Card profile (Table 3.2).

The information about the state of the linked key card would be lost if there is a power down in the system. Therefore it would be needed to set the previous state by actuating the key card.

4.4. Occupancy sensors

The DK-AC-ENO-1 / 1C has the functionality to automatically control the behavior of the AC indoor unit depending on the state of one or several (up to 5) EnOcean Occupancy sensors.

When all the occupancy sensors linked to the device are not detecting any occupancy the DK-AC-ENO-1 will go to non-presence mode following these steps:

- 1. Wait a certain time period (default value: 10 minutes) where no action is performed.
- 2. When this time expires the temperature will change depending on the mode. If in Cool the set point would increase 2°C and if in Heat would decrease 2°C. If any other mode the set point temperature would not be changed.
- 3. This would last for a certain period of time (default value: 60 minutes) when the machine would be turned OFF.

If a presence is detected the system will work as follows:

- 1. If in step 1 or 2: go to the previous state.
- 2. If in Step 3: does nothing.

The information about the state of the linked Occupancy sensors would be lost if there is a power down in the system. It will recover as soon as a presence signal is received.



4.5. *MultiTeach-in procedure*

AC units have a lot of parameters to control and supervise and with only one 4BS telegram all this information cannot be fitted in. For these reason the DK-AC-ENO-1 / 1C implements, besides standard teach-in, a MultiTeach-in procedure where more than one EEP is sent to be teach at the same time. In the next lines this procedure is going to be further explained.

This procedure is performed only when the profile selector (ROT1) is set to profiles E or F (the ones that implement the HVAC generic EEPs). The way it is implemented is simple. A different Base ID is assigned to each EEP and it is actually performing 3 consecutive teach-in procedures. This allows devices that support the 3 EEP's to automatically link them.

It needs to be taken into account that used in this profile the DK-AC-ENO-1 / 1C is working as if it was three different EnOcean devices at a time.

If this procedure is performed in the opposite way (the DK-AC-ENO-1 / 1C is in Learning mode in profile E or F) 3 devices positions would be taken, implying that only 1 device using MultiTeach-in would be able to be fully link in each profile. If tried again with another device only 2 of the different EEPs are going to be stored.



5. Communications monitoring

The interface DK-AC-ENO-1 / 1C has two LEDs that show information about the operation of the device.

The green LED is associated to the EnOcean section, and the red LED to the Daikin Air Conditioner one (AC LED)

5.1. AC communication monitoring mode (RED LED)

In Table 5.1 it is shown how the AC LED (red) behaves and its meaning

Device state	LEDM (RED) state	ON / OFF Period	Meaning
Turning on	Pulse	On during 5 seconds	Reset or initialization process after start up
During normal operation	Flashing	200ms On 800ms Off	Communication error with A.C. unit
During normal operation	Flashing	1s On 1s Off	Error detected in A.C. unit
During normal operation	Off	-	Normal operation in the A.C communication

Table 5.1 Device estate and AC LED

5.2. EnOcean communication monitoring mode (GREEN LED)

Due to the transmitting method (radio) of EnOcean telegrams, the possibility that the DK-AC-ENO-1 /1C is outside the coverage range of one device is possible. For that reason, the interface, as a receiver, has the ability to show when it receives EnOcean telegrams from a linked device when in monitoring mode.

To **activate** the monitoring mode:

- 1. Set switches SW1-1 and SW1-2 to OFF
- Press PB1 for 6 seconds. The EnOcean LED will briefly flash (100ms). From then on, the EnOcean LED will flash every time a valid EnOcean Telegram is received from a linked device to the DK-AC-ENO-1 /1C

To **disable** the monitoring mode:

 In order to disable the monitor mode it is necessary to set the switches (SW1-1 and SW1-2) to learning or erase mode. Once S4 is set to normal mode again the monitor mode will be disabled



6. Technical data and dimensions

The main features of the devices DK-AC-ENO-1 / 1C are shown in Table 6.1. For further detail check the DK-AC-ENO-1 / 1C datasheet

Dimensions	71 x 71 x 27 mm
Weight	60 g
Operating Temperature	-25 85°C
Stock Temperature	-40 85°C
Operating Humidity	<93% HR, non-condensing
Stock Humidity	<93% HR, non-condensing
Power requirements	12V, 35mA typical
EnOcean Frequencies	DK-AC-ENO-1: 868 MHz
	DK-AC-ENO-1C: 315 MHz

Table 6.1 Technical data



Figure 6.1 Device Dimensions in mm



7. A.C profile data (Generic HVAC interface)

In this section the *Generic HVAC interface* EEPs (07-20-10 and 07-20-11)) applied to the DK-AC-ENO-1 / 1C are explained. These two EEPs along with the *Room Operating Panel* EEP 07-10-03 can transmit and receive all the AC information.

HVAC Components

ORG = 07 (4 BS) FUNC = 20 HVAC Components

EEP: 07-20-10

TYPE = 10 Generic HVAC interface – Functions: Mode, vane position, fan speed, sensors and on/off

EEP for Generic HVAC interface – Functions: Mode, vane position, fan speed, sensors and on/off: With this EEP plus the already existing EEP 07-10-03 and 07-20-11 all the information of AC indoor unit can be sent and received allowing a much easier and complete control of these units.

<u>Teach-In</u>

The teach-in telegram has the same structure as a normal 4BS telegram. see. Standardization EnOcean Equipment Profiles (EEP) V2.0 The actuator expected after successful teach-in a 4BS teach-in acknowledge and use the following structure.

DB_3	DB_2	DB_1	DB_0)						
765432	1076543	2 1 0 7 6 5 4 3 2 1 0	7	6	5	4	3	2	1	0
Profile	Туре	Manufacturer ID	LRN Type	1	LRN result		LRN	d.c	d.c	d.c

DB_3:	Function, same as tead	ch-in telegram heating valve = 20
DB_2:	type, same as teach-in	telegram actuator = 01
DB_1:	Intesis Software ID:19	
DB_0.BIT_7:	LRN TYPE = 0b1 (type	1 with profile, manufacturer Id)
DB_0.BIT_6:	EEP result; EEP suppor	rted = 0b1, EEP not supported = 0b0
DB_0.BIT_5:	LRN result; ID stored =	0b1, ID deleted (not stored) = 0b0
DB_0.BIT_4:	TA= teach in answer =	0b1
DB_0.BIT_3:	LRN Learn button	0b0 Teach-in telegram
		0b1 Data telegram
DB_0.BIT_2:	not used	
DB_0.BIT_1:	not used	
	not used	

DB 0.BIT 0: not used



EEP: 07-20-10 (CONTINUATION)

DATA BYTES

<u>Receive mode:</u> Commands received by the HVAC interface

DB_3	Mode ¹	0 1 3 9 14 33 254 255	Auto Heat Cool Fan only Dehumidification (dry) reserved N/A ²
DB_2 [7 4]	Vane position	09 710 11 12 13 14 15	Not supported Reserved Vertical swing Horizontal swing Horizontal and vertical swing Stop swing N/A
DB_2 [3 0] DB_1	Fan Speed Not used	0 1 2 3 4 5 614 15	Auto Low Mid1 Mid2 Mid3 High Sets the value to High N/A
DB_0.BIT_3	Learn Button	0b0 0b1	Teach-in telegram Data telegram
DB_0_DB2+ DB_0_DB1:	Room occupancy	00: 01: 10: 11:	Occupied StandBy (waiting to perform action) Unoccupied (action performed) Off (no occupancy and no action)
DB_0.BIT_0)	On/Off	0b0 0b1	Off turns the unit to Off On





¹ Other modes don't apply to this AC interface. If any other received it would behave as if it had received and N/A $^{\rm 2}$ N/A stands for No Action. It keeps the actual value of the parameter

EEP: 07-20-10 (CONTINUATION)

Transmit mode:	Commands sent by the H	VAC Internace	
DB_3	Mode ¹	1 3 9 14 31 32 33 254 255	Heat Cool Fan only Dehumidification (dry) Auto Heat ² Auto Cool ² reserved N/A ³
DB_2 [7 4]	Vane position	09 710 11 12 13 14 15	Not supported Reserved Vertical swing Horizontal swing Horizontal and vertical swing Stop swing N/A
DB_2 [3 0]	Fan Speed	0 1 2 3 4 5 614 15	Auto Low Mid1 Mid2 Mid3 High Not used N/A
DB_1	Not used		
DB_0.BIT_3	Learn Button	0b0 0b1	Teach-in telegram Data telegram
DB_0_DB2+ DB_0_DB1:	Room occupancy	00: 01: 10: 11:	Occupied StandBy (waiting to perform action) Unoccupied (action performed) Off (no occupancy and no action)
DB_0.BIT_0)	On/Off	0b0 0b1	Off On

Transmit mode: Commands sent by the HVAC interface

² Auto transmission modes



 $[\]stackrel{1}{}$ Other modes don't apply to this AC interface. It will only send this ones

 $^{^{3}}$ N/A: it is send when the actual value of the parameter is not known

ORG = 07 (4 BS) FUNC = 20 HVAC Components

EEP: 07-20-11

TYPE = 11Generic HVAC interface – Error control: AC Error code, Error states and disablements

EEP for Generic HVAC interface – Functions: Mode, vane position, fan speed, sensors and on/off: With this EEP plus the already existing EEP 07-10-03 and 07-20-10 all the information of AC indoor unit can be sent and received allowing a much easier and complete control of these units.

Teach-In

The teach-in telegram has the same structure as a normal 4BS telegram. see. Standardization EnOcean Equipment Profiles (EEP) V2.0 The actuator expected after successful teach-in a 4BS teach-in acknowledge and use the following structure.

DB_3	DB_2	DB_1	DB_	D						
76543	2 1 0 7 6 5 4 3	2 1 0 7 6 5 4 3 2 1 0	7	6	5	4	3	2	1	0
Profile	Туре		LRN Type	The second second	LRN result	10000	LRN	d.c	d.c	d.c

DB_3:	Function, same as teach-	in telegram heating valve = 20
DB_2:	type, same as teach-in te	legram actuator = 01
DB_1:	Intesis Software ID:19	
DB_0.BIT_7:	LRN TYPE = 0b1 (type 1 w	ith profile, manufacturer Id)
DB_0.BIT_6:	EEP result; EEP supported	d = 0b1, EEP not supported = 0b0
DB_0.BIT_5:	LRN result; ID stored = 0k	01, ID deleted (not stored) = 0b0
DB_0.BIT_4:	TA= teach in answer = 0b	1
DB_0.BIT_3:	LRN Learn button	0b0 Teach-in telegram
		0b1 Data telegram
DB_0.BIT_2:	not used	
DB_0.BIT_1:	not used	
DB_0.BIT_0:	not used	



EEP: 07-20-11 (CONTINUATION)

DATA BYTES

<u>Receive mode:</u>	Commands received by the HVAC	interface	2
DB_3 DB_2 DB_1 [7 1]	not used not used not used		
DB_1.BIT_0	External disablement	0b0 0b1	Not disabled Disabled
DB_0.BIT_3	Learn Button	0b0 0b1	Teach-in telegram Data telegram
DB_0.BIT_2	Disable remote controller	0b0 0b1	Enable Remote controller Disable Remote controller
DB_0.BIT_1	Window contact	0b0 0b1	Windows opened Windows closed
DB_0.BIT_0	not used	0.01	
<u>Transmit mode</u> : DB_3 DB_2 DB_1 [7 4]	Commands sent by the HVAC inte Error code HI Error code LO Reserved	rface 0x00	Generated by A.C (Table 10.1) Generated by A.C (Table 10.1)
DB_1.BIT_3	Other disablement	0b0	Not Used
DB_1.BIT_2	Window contact disablement	0b0 0b1	Not disabled Disabled
DB_1.BIT_1	Key card disablement	0b0 0b1	Not disabled Disabled
DB_1.BIT_0	External disablement	0b0 0b1	Not disabled Disabled
DB_0.BIT_3	Learn Button	0b0 0b1	Teach-in telegram Data telegram
DB_0.BIT_2	Disable remote controller	0b0 0b1	Enable Remote controller Disable Remote controller
DB_0.BIT_1	Window contact	0b0 0b1	Windows opened Windows closed
DB_0.BIT_0	Alarm State	0b0 0b1	OK Error



8. AC Unit Types compatibility

A list of Daikin indoor unit model references compatible with DK-AC-ENO-1 / 1C and their available features can be found in:

http://www.intesis.com/pdf/IntesisBox DK-AC-xxx-1 AC Compatibility.pdf



9. Error Codes

Error Code	Error in Remote Controller	Error category	Error Description
0	N/A	DK-AC-ENO-1 / 1C	No active error
17	A0		External protection devices activated
18	A1		Indoor unit PCB assembly failure
19	A2		Interlock error for fan
20 21	A3 A4		Drain level system error
21	A4 A5		Temperature of heat exchanger (1) error Temperature of heat exchanger (2) error
23	A6		Fan motor locked, overload, over current
24	A7		Swing flap motor error
25	A8		Overcurrent of AC input
26	A9		Electronic expansion valve drive error
27	AA		Heater overheat
28	AH		Dust collector error / No-maintenance filter error
30	AJ		Capacity setting error (indoor)
31 32	AE AF	Indoor Unit	Shortage of water supply Malfunctions of a humidifier system (water leaking)
33	C0		Malfunctions of a number system (water reaking)
36	C3	1	Sensor system of drain water error
37	C4	1	Heat exchanger (1) (Liquid pipe) thermistor system error
38	C5]	Heat exchanger (1) (Gas pipe) thermistor system error
39	C6	1	Sensor system error of fan motor locked, overload
40	C7		Sensor system of swing flag motor error
41	C8		Sensor system of over-current of AC input
42 43	C9 CA		Suction air thermistor error Discharge air thermistor system error
43	CH		Contamination sensor error
45	CC		Humidity sensor error
46	CJ		Remote control thermistor error
47	CE		Radiation sensor error
48	CF		High pressure switch sensor
49	E0		Protection devices activated
50 52	E1 E3		Outdoor uni9t PCB assembly failure
53	E3 E4		High pressure switch (HPS) activated Low pressure switch (LPS) activated
54	E5		Overload of inverter compressor motor
55	E6		Over current of STD compressor motor
56	E7		Overload of fan motor / Over current of fan motor
57	E8		Over current of AC input
58	E9		Electronic expansion valve drive error
59 60	EA EH		Four-way valve error
61	EC		Pump motor over current Water temperature abnormal
62	EJ		(Site installed) Protection device activated
63	EE		Malfunctions in a drain water
64	EF		Ice thermal storage unit error
65	H0		Malfunctions in a sensor system
66	H1		Air temperature thermistor error
67	H2	4	Sensor system of power supply error
68 69	H3 H4	1	High Pressure switch is faulty Low pressure switch is faulty
70	H5	Outdoor Unit	Compressor motor overload sensor is abnormal
71	H6		Compressor motor over current sensor is abnormal
72	H7]	Overload or over current sensor of fan motor is abnormal
73	H8		Sensor system of over-current of AC input
74	H9		Outdoor air thermistor system error
75	HA	4	Discharge air thermistor system error
76 77	HH HC	4	Pump motor sensor system of over current is abnormal Water temperature sensor system error
79	HE	1	Sensor system of drain water is abnormal
80	HF	1	Ice thermal storage unit error (alarm)
81	F0	1	No.1 and No.2 common protection device operates.
82	F1]	No.1 protection device operates.
83	F2	1	No.2 protection device operates
84	F3	4	Discharge pipe temperature is abnormal
87	F6 FA	{	Temperature of heat exchanger(1) abnormal
91 92	FA FH	1	Discharge pressure abnormal Oil temperature is abnormally high
93	FC	1	Suction pressure abnormal
95	FE]	Oil pressure abnormal
96	FF	1	Oil level abnormal
97	JO	J	Sensor system error of refrigerant temperature



IntesisBox[®] DK-AC-ENO-1 / 1C v.1

99 12 100 13 101 14 102 15 103 14 104 15 105 16 106 17 107 14 108 18 109 17 101 18 102 19 103 19 104 19 105 18 106 18 107 14 108 20 111 15 112 17 113 16 114 16 115 16 116 15 117 14 118 15 119 16 122 16 123 16 124 17 125 16 126 17 127 16 <	08	11	1	
100 -3 101 -4 102 -4 102 -5 103 -4 104 -7 105 -8 106 -8 107 -10 108 -7 109 -10 101 -10 103 -10 104 -7 105 -8 106 -10 107 -10 108 -10 109 -10 111 -10 112 -16 113 -16 114 -16 115 -16 116 -10 117 -16 118 -15 119 -10 119 -10 111 -16 111 -16 112 -16 113 -16 114 -16 115 -16 116 -16 117 -16 118 -16 119 -16 120 -16 121 -16 122 -17 <td>98 99</td> <td>J1 .J2</td> <td></td> <td>Pressure sensor error Current sensor error</td>	98 99	J1 .J2		Pressure sensor error Current sensor error
101 44 102 45 103 46 104 45 105 48 106 48 107 44 108 48 109 48 101 48 102 48 103 49 104 49 105 48 106 49 107 44 108 49 111 46 112 47 113 100 114 101 115 100 116 100 117 100 118 100 119 100 119 100 119 100 1111 100 112 100 113 100 114 100 115 100 116 100 <td></td> <td></td> <td></td> <td></td>				
192 J.B 103 J.B 103 J.B 104 J.T 105 J.B 106 J.D 107 J.A 108 J.H 109 J.C 101 J.F 102 J.C 103 J.D 113 J.F 114 J.F 115 J.G 116 L.3 117 L.4 118 L.5 119 J.F 110 J.F 111 J.F 112 J.F 113 J.F 114 J.F 115 J.A 116 L.3 117 L.4 118 J.5 119 J.6 120 J.7 121 L.8 122 L.8 123 P.4 124			1	
130 J6 131 J7 132 J8 133 J8 134 J8 135 J8 136 J8 137 J8 138 J8 139 J8 130 J8 131 J8 132 J8 133 J8 134 L4 135 L4 136 L4 137 L4 138 L4 139 L4 130 L4 131 L5 132 L4 133 P4 133 P4 133 P4 134 L4 135 P6 146 L4 147 L2 148 U3 153 L8 154 L9 155 U8	-	-		
144 J7 155 J8 165 J8 166 J8 167 J8 168 J8 169 J8 169 J8 169 J8 160 J8 161 J8 162 J8 171 J8 172 J8 173 L4 174 J8 175 L6 176 L4 177 L4 178 L5 179 L6 170 L4 171 L4 172 L9 173 L4 174 L4 175 L6 172 L4 173 L7 174 L6 175 L6 174 L6 174 P1 174 D2				
105 J8 106 J9 107 JA 108 J4 109 J4 101 JE 111 JE 112 JF 113 JF 114 JE 115 JF 116 L3 117 JF 118 L6 119 L6 120 L7 121 L8 122 L8 123 L9 124 L8 125 L6 126 L8 127 L8 128 P0 129 P0 120 L7 121 L8 122 L9 123 P1 124 P1 125 L0 126 U1 127 P1 128 P2				
166 JA 167 JA 168 JA 169 JA 169 JA 160 JA 171 LB 172 JA 173 LG 174 JA 175 LG 176 LA 177 LA 178 LG 179 LA 170 LA 171 LA 172 LB 173 LG 174 LB 175 LA 176 LA 177 LA 178 LB 179 LA 170 LB 171 LB 172 LB 173 LB 174 LB 175 LB 174 LD 175 LB 176 LB	-	-		
107 JA 108 JH 109 JC 109 JC 109 JC 111 JF 113 JF 114 JF 115 JF 116 L3 117 L4 118 L5 119 L6 119 L6 121 L6 122 L9 123 LA 124 L9 125 LC 126 Compresson motor grounded or short circuit, inverter PCB fault 127 LA 128 LA 129 PP 134 PS 135 PF 134 PS 135 D0 136 PF 137 U2 148 U3 150 U3 151 U6 152 U7				
108 J-C 109 J-C 111 JE 112 JF 113 LD 114 JE 115 LD 116 LD 117 LD 118 LD 119 LD 110 LD 111 LD 112 JF 113 LD 114 LD 115 LD 116 LD 117 LD 118 LD 119 LD 120 LD 121 LD 122 LD 123 PA 124 PJ 125 PA 126 PJ 127 LD 128 PA 129 PJ 120 P 121 DA 122 LT				
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113 10 116 1.3 117 1.4 118 1.5 118 1.5 119 1.6 120 1.7 121 1.9 122 1.9 123 1.0 124 1.9 125 1.0 126 1.0 127 1.0 128 P.0 129 P.0 130 P.1 132 P.3 133 P.6 134 P.1 135 P.6 146 U.1 147 U.2 148 U.3 149 U.4 140 U.4 141 U.4 142 P.1 143 U.4 144 U.4 155 U.7 156 U.4 157 U.6 158				
116 L3 117 L4 118 L5 119 L6 120 L7 121 L8 122 L9 123 L6 124 L8 125 L0 126 L9 127 L9 128 L0 129 P0 130 P1 131 P3 132 P3 133 P4 144 P5 145 D0 146 U1 147 U2 148 U3 150 U5 151 U6 152 U7 153 U8 154 U3 155 U4 156 U5 151 U8 152 U4 153 U8 154 U3		-		
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118 L5 119 L5 120 L7 121 L8 122 L9 123 L9 124 L8 125 L9 126 L9 127 L8 128 L9 129 P0 130 P1 132 P3 133 P4 134 P5 135 P6 136 P7 137 P6 146 U0 147 U2 148 U3 150 U5 151 U6 152 U7 153 U8 154 U9 155 UA 156 UA 157 U6 158 U9 159 U2 156 UA 157 UC				
119 L8 120 L7 121 L8 122 L9 123 LA 124 L8 125 L9 126 L0 127 L8 128 L0 129 P0 131 P4 132 P3 133 P4 134 P5 135 P6 136 P7 137 Courter stensor error 142 P1 144 P1 145 U0 146 U1 147 U2 148 U3 150 U5 151 U6 152 U7 153 U8 154 U9 155 U4 156 U4 157 U6 158 U4 154 U9 155 U6 156 U1				
120 L7 121 L8 122 L9 123 LA 124 L9 125 LA 126 LC 127 LA 128 P0 129 P0 130 P1 131 P5 132 P6 133 P5 134 P6 135 P6 136 P7 137 P2 148 U0 144 P1 145 U0 146 U1 147 U2 148 U3 150 U5 151 U6 152 U7 153 U8 154 U9 155 U6 156 U4 157 U6 158 U3 159 U4 150 U5 151 U6 <td< td=""><td></td><td>-</td><td></td><td></td></td<>		-		
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128 LC 129 P0 130 P1 131 P4 132 P3 133 P4 134 P5 135 P6 136 P7 137 P4 138 P4 139 P4 134 P5 135 P6 136 P7 137 Communication error tensor system error 142 PJ 144 U1 145 U0 146 U1 147 U2 148 U3 150 U5 151 U6 152 U7 153 U8 154 U9 155 UA 156 U4 157 UC 158 U9 159 U4 156 U4 157 UC 158 U4 159 <td< td=""><td></td><td></td><td>1</td><td></td></td<>			1	
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134 P5 135 P6 136 P7 136 P7 142 PJ 144 U0 145 U0 146 U1 147 U2 148 U3 149 U4 150 U5 151 U6 152 U7 154 U9 155 U8 156 U4 157 U6 158 U3 159 U8 154 U9 155 U4 156 U4 157 U8 158 U4 155 UA 156 U4 157 U6 158 U4 159 U4 156 U4 157 UC 158 U3 159 UE 160 UF 171 62 <td< td=""><td></td><td></td><td></td><td></td></td<>				
135 P6 136 P7 137 P3 138 P7 142 PJ 145 U0 146 U1 147 U2 148 U3 149 U4 149 U4 150 U5 151 U6 152 U7 153 U8 154 U9 155 U6 156 U6 157 U6 158 U8 154 U9 155 UA 156 U4 157 U6 158 U3 159 U2 156 U4 157 U6 158 U3 159 UE 150 U6 151 U6 152 U7 153 U3				
136 P7 132 PJ 143 U0 144 U0 145 U0 146 U1 147 U2 148 U3 149 U4 150 U5 151 U6 152 U7 153 U8 154 U9 155 U7 156 U4 157 U6 158 U9 154 U9 155 UA 156 UA 157 U6 158 U3 154 U9 155 UA 156 UA 157 UC 158 UA 156 UA 157 UC 158 U3 159 UE 160 UF 151 64 152 U2 153 U3 <td< td=""><td></td><td></td><td>1</td><td></td></td<>			1	
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146 U0 146 U1 147 U2 148 U3 149 U4 149 U4 150 U5 151 U6 152 U7 153 U8 154 U9 155 UA 156 U4 157 U6 158 U8 154 U9 155 UA 156 UA 157 U6 158 U8 159 U6 154 U9 155 UA 156 UA 157 UC 158 UA 159 UE 156 UH 157 UC 158 U3 159 UE 160 UF 221 61 222 63 233 64 241 65 <td< td=""><td></td><td></td><td></td><td></td></td<>				
146 U1 147 U2 148 U3 149 U4 150 U5 151 U6 152 U7 153 U8 154 U9 155 U7 156 U7 157 U6 156 U4 157 U6 158 U4 159 U8 154 U9 155 UA 156 UH 157 UC 158 U9 159 UE 156 UH 157 UC 158 U3 159 UE 151 U9 155 UA 156 UH 157 UC 158 U3 159 UE 151 U2 153 U3 154 U9 155 UA <td< td=""><td></td><td>-</td><td></td><td></td></td<>		-		
147 U2 148 U3 149 U4 149 U4 150 U5 151 U6 152 U7 153 U8 154 U9 155 U4 155 U4 155 U4 155 U4 155 U4 156 U4 157 UC 158 U4 155 UA 156 U4 157 UC 158 U2 156 U4 157 UC 158 U1 159 UE 158 U2 159 UE 160 UF 221 61 230 60 241 62 242 63 241 65 242 64 241 65 242 64 <td< td=""><td></td><td></td><td></td><td>Low pressure drop due to insufficient refrigerant or electronic expansion valve error, etc.</td></td<>				Low pressure drop due to insufficient refrigerant or electronic expansion valve error, etc.
148 U3 149 U4 150 U5 151 U6 152 U7 153 U8 154 U6 155 U7 153 U8 154 U9 155 U7 155 U4 155 U4 155 U4 155 U4 155 U4 156 U4 157 UC 158 U1 155 UA 156 UH 157 UC 158 U1 159 U2 160 UF 175 UC 160 UF 161 UF 162 U3 153 U3 154 U3 155 U4 160 UF 210 61 211 62 212 62 <td< td=""><td></td><td>-</td><td></td><td></td></td<>		-		
149U4150U5151U6152U7153U8154U9155U7155U8156U9157U9158U9159U1159U2150U4151U6152U7153U8154U9155UA156U4157UC158U4159UE159UE159UE159UE151U6151U7152U2153U3154U9155UA155U4156U1157UC158U1159UE159UE150U2150U2151Communication error or between orber BS unit and nodorodor unit dustice control in the same system / Communication error or ladoerds/soutdoor unit (model, quantity, etc.), setting error of spare parts PCB when replaced150U2151U2152U3153U4154U9155U4155U4156U4157UC158U3159U2150U2150U2151U2152U3153U4 <td>147</td> <td>U2</td> <td></td> <td>Power voltage failure / Instantaneous power failure</td>	147	U2		Power voltage failure / Instantaneous power failure
149 U4 150 U5 151 U6 152 U7 153 U8 154 U9 155 UA 156 U4 157 U2 158 U3 155 UA 156 U4 157 UC Communication error between numain and sub remote control error lot of uter indoor unit in the same system / Communication error between other lacor unit and indoor/outdoor unit in the same system / Communication error between other BS unit and indoor/outdoor unit (model). Communication error between other BS unit and indoor/outdoor unit of same system / Communication error between other BS unit and indoor/outdoor unit (model). Communication error between other BS unit and indoor/outdoor unit outside control adaptor Communication error between other BS unit and indoor/outdoor unit outside control adaptor 210 60 211 62 213 64 214 65 215 61 216 61 217 68 218 64 219 64 221 62 <td>148</td> <td>U3</td> <td></td> <td>Failure to carry out check operation, transmission error</td>	148	U3		Failure to carry out check operation, transmission error
Outdoor unit and BS unit150U5151U6152U7153U8154U9155U7155U8156U4157U0158U1159U1159U2150U4156U4157UC158U1158U1159UE150U5151U6152U7153U8154U9155UA156U4157UC158U1159UE150U5150U5151U6152U7153U6154U9155U6156U4157U7158U1157U6159U5160UF161Communication error of indoor/D5/outdoor unit (model, quantity, etc.), setting error of spare parts PCB when replaced160UF161Containation sensor error162Condensity abnormal163U2164Condensity abnormal21162213642146522166222612236622461225512265122853<	140	114	1	Communication error between indoor unit and outdoor unit, communication error between
150US151U6152U7153U8154U9155UA155UA156UA157UA158UA159UE159UE159UE159UE159UE159UE159UE159UE159UE159UE159UE159UE150UA159UE151Communication error of thexe nother BS unit and indoor/outdoor unit and outdoor unit and outdoor unit of sare parts PCB when replaced160UF1770C20960210612116221263213642146521768217682206H2226J2226J2226J2226J2236E2246F2255122651228532246F2246F22554241402434224443245442464124743248532583126831268312654426	149	04		outdoor unit and BS unit
151US152U7153U8154U9155UA155UA155UA155UA156UH157UC158UU159UE159UE160UF158Communication error between other and outdoor unit outside control in the same system (model)159Communication error between other and outdoor unit outside control adoption of indoor/Solidoor unit and outdoor unit outside control adoption of indoor/Solidoor unit and outdoor unit outside control adoption160UF157UC160UF161Communication error of indoor/Solidoor unit (model), outside control adoption160UF161Communication error of indoor/Solidoor unit and centralized control device162Failure to carrey out check operation Indoor -outdoor, outdoor-outdoor communication error, etc.209602116121263213642146521768222612226122366224672255322467225532246722554241402434224443245442454424544245442454424544 </td <td>150</td> <td>115</td> <td>1</td> <td>Communication error between remote control and indoor unit / Remote control board failure or</td>	150	115	1	Communication error between remote control and indoor unit / Remote control board failure or
152U7153U8154U9155UA155UA156UA157UC158UH159UE159UE160UF161Communication error between outdoor unit and indoor/outdoor unit and outdoor unit in the same system / Communication error of indoor/Sociation and outdoor unit in the same system / Communication error of indoor/Sociation unit and indoor/outdoor unit	150	05		setting error for remote control
15207153UB153UB154U9155UA155UA156UA157UC158UJ159UE160UF161Communication error between other indoor unit and outdoor unit output of the same system / Communication error between other indoor unit and outdoor unit in the same system / Communication error between other BS unit and indoor/outdoor unit166UH157UC158UJ160UF160UF2116221263213642146521465215642216C2226J2236E2246F225632246F225532265122752228532295424140243422444324544245442454424544258312453224534245442563224544245442454424544245442453124531245322453124534	151	U6		Communication error between indoor units
Ice thermal storage unit153U8154U9155UA155UA156UH157UC158UJ159UE160UF161Combination error between other indoor unit (model, quantity, etc.), setting error of spare parts PCB when replaced160UF161Communication error between indoor unit (model, quantity, etc.), setting error of spare parts PCB when replaced160UF161Centralized address duplicated162Attached equipment transmission error209602116221162212632136421465214662216C2226H2236E2246F225532246F22554241402434224443245442583124544258322454425832	450	117		Communication error between outdoor units / Communication error between outdoor unit and
153UBSystemCommunication error between main and sub remote controllers (sub remote controller orror) / Combination error of other indoor unit / remote control in the same system (model)154U9Communication error between other indoor unit and outdoor unit in the same system (model)155UACombination error between other indoor unit and outdoor unit in the same system / Communication error between other BS outdoor unit (model, quantity, etc.), setting error of spare parts PCB when replaced156UHImproper connection of transmission wiring between outdoor and outdoor unit outside control adaptor157UCCentralized address duplicated158UEFailure to carrey out check operation Indoor-outdoor, outdoor-outdoor communication error, etc.20960Attached equipment transmission error21162Contamination sensor error21364Outdoor air thermistor system error2196AOutdoor air thermistor system error2216CEpaloe the humidity element Replace the humidity element2236EFamotor of supply air over current or overload2246FFan motor of supply air over current or overload22554Inverter system error24440245442454424544245442453124664247532485324954241402455324443245 <td>152</td> <td>07</td> <td></td> <td></td>	152	07		
1530.9Combination error of other indoor unit /remote control in the same system (model)154U9155UA155UA156UH157UC158UJ159UE159UE160UF2096021162212632136421465214652156422166222612236E2246F22563227522285324342244432454424544258312453224534	450	110	Svetom	
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155UA155UA156UH157UC158UJ157UC158UJ159UE160UF209602106122163211622126321465217682196A2206H22162221622226J2236E2246F2255122651227522285322954241402434224443245442583125932260322716F272532746F27554276542775227653277522853295424140245442583124544258312455424554245542455424554245542455424554245542455424554245542455424554 </td <td>454</td> <td>110</td> <td></td> <td></td>	454	110		
155DA156UH157UC158UJ159UE160UF209602106122163211622126321465217682206H221622226J2226J2236E2246F2256J2265122752228532295424140243422444324544258312454425831245322453425932245342453424534245342453424534245342453424534245342453424534245342453424631245342453424631245342453424534246312474324831245342463124744248312444324534	154	09		Communication error between other BS unit and indoor/outdoor unit
155DA156UH157UC158UJ159UE160UF209602106122163211622126321465217682206H221622226J2226J2236E2246F2256J2265122752228532295424140243422444324544258312454425831245322453425932245342453424534245342453424534245342453424534245342453424534245342453424631245342453424631245342453424534246312474324831245342463124744248312444324534	455	114]	
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150UR157UC158UJ159UE160UF160UF2096021162212632136421465217682196A2206H2216C2216C2226J2236E2246F225512265122752228532295424443244432444324544245442583125932	150	1.0.1	1	
157UC158UJ159UE160UF160UF2096021162212632136421465217682196021162212632136421465217682196A2206H2216C2226H2236E2246F2246F2255122853229542414024241243422444324443245442583125932	156	UH		
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160UFFailure to carrey out check operation Indoor-outdoor, outdoor communication error, etc.20960All system error21061PC board error21162Contamination sensor error21364Contamination sensor error21465Outdoor air thermistor system error21768Outdoor air thermistor system error2196ADumper system error2206HDoor switch error2216CReplace the high efficiency filter2226JSimplified remote controllor catalyst2246FSimplified remote controllor error22551Fan motor of supply air over current or overload22853Inverter system error22954Inverter system error (tetum air side)24140Chilled water valve error24342Heat exchanger of chilled water error24443Heat exchanger of chilled water error24531Outdoor air humidity sensor error25932Outdoor air humidity sensor error]	
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242412434224443245442583125932Outdoor air humidity sensor error				
2434224443245442583125932				
24443Heat exchanger of chilled water error24544Heat exchanger of hot water error25831The humidity sensor of return air sensor25932Outdoor air humidity sensor error				
245442583125932Outdoor air humidity sensor of return air sensor	243			
258 31 259 32 The humidity sensor of return air sensor Outdoor air humidity sensor error				
259 32 Outdoor air humidity sensor error				Heat exchanger of hot water error
	245			
260 33 Supply air temperature sensor error	245 258	31		The humidity sensor of return air sensor
	245 258 259	31 32		The humidity sensor of return air sensor Outdoor air humidity sensor error



IntesisBox[®] DK-AC-ENO-1 / 1C v.1

261	34		Return air temperature sensor error
262	35		Outdoor air temperature sensor error
263	36		Remote controller temperature sensor error
267	3A		Water leakage sensor 1 error
268	3H		Water leakage sensor 2 error
269	3C		Dew condensation error
339	M2		Centralized remote controller PCB error
345	M8		Communication error between centralized remote control devices
347	MA		Centralized remote control devices inappropriate combination
349	MC		Centralized remote controller address setting error
65535	N/A	DK-AC-ENO-1 / 1C	Error in the communication of DK-AC-KNX-1 device with the AC unit

Table 9.1 Error codes

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In case you detect an error code not listed, contact your nearest Daikin technical support service.



10. EnOcean Interoperability

In this section there is a list of the allowed transmission and reception EEP

EEP Tx	EEP ¹ description			
[05-02-01]	Light and Blind Control – Application Style 1			
[07-02-05]	Temperature Sensor. Range 0°C to +40°C			
[07-10-01]	Temperature Sensor; Set Point, Fan Speed and Occupancy Control			
[07-10-03]	Temperature Sensor; Set Point Control			
[07-20-10]	HVAC Components. Generic HVAC interface. Functions: Mode, vane			
	position, fan speed, sensors and on/off			
[07-20-11]	HVAC Components. Generic HVAC interface. Functions: Error			
_	control: AC Error code, Error states and disablements			

Table 10.1 Allowed transmission (Tx) EEP

EEP Rx	EEP description			
[05-02-xx]	Rocker Switch, 2 Rocker			
[05-03-xx]	Rocker Switch, 4 Rocker			
[05-04-01]	Key Card Activated Switch			
[06-00-01]	Single Input Contact			
[07-02-05]	Temperature Sensor. Range 0°C to +40°C			
[07-02-06]	Temperature Sensor. Range +10°C to +50°C			
[07-07-01]	Occupancy Sensor			
[07-08-01]	Light, Temperature & Occupancy Sensor			
[07-08-02]	Light, Temperature & Occupancy Sensor			
[07-10-01]	Temperature Sensor; Set Point, Fan Speed and Occupancy Control			
[07-10-02]	Temperature Sensor; Set Point, Fan Speed and Day/Night Control			
[07-10-03]	Temperature Sensor; Set Point Control			
[07-10-04]	Temperature Sensor; Set Point and Fan Speed Control			
[07-10-05]	Temperature Sensor; Set Point and Occupancy Control			
[07-10-06]	Temperature Sensor; Set Point and Day/Night Control			
[07-10-07]	Temperature Sensor; Fan Speed Control			
[07-10-08]	Temperature Sensor; Fan Speed and Occupancy Control			
[07-10-09]	Temperature Sensor; Fan Speed and Day/Night Control			
[07-10-0A]	Temperature Sensor, Set Point Adjust and Single Input Contact			
[07-10-0B]	Temperature Sensor and Single Input Contact			
[07-10-0C]	Temperature Sensor and Occupancy Control			
[07-10-0D]	Temperature Sensor and Day/Night Control			
[07-10-10]	Temperature and Humidity Sensor; Set Point and Occupancy Control			
[07-10-11]	Temperature and Humidity Sensor; Set Point and Day/Night Control			
[07-10-12]	Temperature and Humidity Sensor; Set Point Control			
[07-10-13]	Temperature and Humidity Sensor; Occupancy Control			
[07-10-14]	Temperature and Humidity Sensor; Day/Night Control			
[07-20-10]	HVAC Components. Generic HVAC interface. Functions: Mode, vane			
	position, fan speed, sensors and on/off			
[07-20-11]	HVAC Components. Generic HVAC interface. Functions: Error			
	control: AC Error code, Error states and disablements			
[07-30-02]	Digital Input. Single Input Contact			

Table 10.2 Allowed reception (Rx) EEP



¹ EnOcean Equipment Profiles (EEP) V2.0 and v2.1

11. Regulations and standards

CE conformity:

R&TTE EU-directive on Radio and Telecommunications Terminal Equipment

The general registration for the radio operation is valid for all EU countries as well as for Switzerland.

Standards:

UNE-EN 50491-3:2010 UNE-EN 60950-1:2007 UNE-EN 61000-6-2:2006 UNE-EN 61000-6-3:2007

FCC ID: SZV-STM300C IC: 5731A-STM300C

The enclosed device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (i.) this device may not cause harmful interference and (ii.) this device must accept any interference received, including interference that may cause undesired operation.

Warning: Changes or modifications made to this equipment not expressly approved by Intesis Software may void the FCC authorization to operate this equipment.

