



Wiring adaptor for electrical appendices

DS-NET ADAPTOR DTA113B51

■ How to send Short Messages (SMS) for Personal Home Use

Keep this operation documentation in a handy place for future reference.
This documentation should be left with the equipment owner.

1 BEFORE USE

To monitor and operate the air conditioners from a GSM cellular phone, you will need a designated GSM modem, a GSM cellular phone with a short message (SMS) function, and SIM cards for each.

In order to activate the SMS function on the DS-NET adaptor ahead of time, it is necessary to register the telephone number of the GSM cellular phone and make sure it works properly. See your dealer for details. (Also consult the installation manual.)

3 OPERATION

1. Recording the GSM modem telephone number

First, write down the telephone number of the SIM card inserted into the GSM modem.

The SMS function will transmit to this number.

GSM modem number: _____

NOTE1) If the SIM card is capable of handling international calls, start with the country code.

Ex: the country code for Australia is 61, so the number would start with that, e.g. 61123456789.

2. Recording the authorized number

The DS-NET adaptor can only accept SMS sent from the cellular phone whose telephone number was registered during the test run (called the “authorized number”). Record the telephone number which was recorded during the test run.

Authorized number 1: _____
Authorized number 2: _____
Authorized number 3: _____
Authorized number 4: _____

3. Monitoring the air conditioner

It is possible to use SMS to monitor air conditioners from the cellular phone recorded during the test run. Send the following SMS to the GSM modem.

NOTE1) Enter the SMS starting with the first character of the first line. The letters entered can be either upper or lower case.

NOTE2) It is possible to enter several commands on a single line, but they should be separated by a space symbol (one character). It is not possible to enter several commands on several lines separating them with carriage returns.

- Getting air conditioner status data Report

If the SMS is sent properly, a response should be received with the information listed in “**9. Command List**”.

NOTE3) The Report command can only be checked from the cellular phone registered during the test run.

2 MAIN FUNCTION

With this adaptor, it is possible to use a GSM cellular phone to monitor and operate air conditioners connected to the DS-NET adaptor by using the SMS communications function with the GSM modem and GSM cellular phone. It is necessary to register the telephone number of the GSM cellular phone to the DS-NET adaptor during the test run. One DS-NET adaptor can be used to monitor and operate up to 4 air conditioners. The functions which can be monitored and operated from the GSM cellular phone are as follows.

Item	Monitor	Operation
ON/OFF	<input type="radio"/>	<input type="radio"/>
Operation MODE (FAN/HEATING/COOLING)	<input type="radio"/>	<input type="radio"/>
SET TEMPERATURE (COOLING/HEATING)	<input type="radio"/>	<input type="radio"/>
MALFUNCTION CODE	<input type="radio"/>	—

☐ : Yes

— : No

4. Operating the air conditioner

As with monitoring, the air conditioner can be operated using the SMS.

Send the following SMS to the GSM modem.

- Operation ☐ On
- Stop ☐ Off

See “**9. Command List**” for other commands, include how to start and stop air conditioners individually.

If the SMS is sent properly, a response should be received with the information listed in “**9. Command List**”.

NOTE1) The On and Off commands can only be checked from the cellular phone registered during the test run.

NOTE2) The response is a result after the air conditioner has executed the command. If an error occurs after executing the on instruction, a command execution error response will be received. Use the report command to check the content of the error.

NOTE3) A success response will be received even if a warning or precaution is generated after executing the on instruction.

Besides that, the set temperature and operation mode can be changed. See “**9. Command List**” for details on these commands.

5. Command Success Response Answer/Silent Setting

If the DS-NET adaptor successfully executes the commands which were sent, it returns success responses according for those commands. The command response setting is set to on as the factory default. If you do not wish to receive success responses for commands which are sent, send the following SMS to the GSM modem.

- Command Response Silent Setting ☐ Silent

If the SMS is sent properly, a response should be received with the information listed in “**9. Command List**”.

In order to turn the success responses for the commands back on, send the following SMS to the GSM modem.

- Command Response Answer Setting ☐ Answer

If the SMS is sent properly, a response should be received with the information listed in “**9. Command List**”.

There are commands for which success responses are not returned even when the Answer setting is activated. See “**9. Command List**”.

6. Error alert

The DS-NET adaptor sends error alert data in order to the telephone number registered as the error alert notification number, when an air conditioner administered by a DS-NET adaptor experiences an error, a warning, or a precaution. (It is possible to limit the alerts during the function setup during the test run.) The error alert notification number may be different from the authorized number.

You can find out which error alert notification number was registered by using the #Service? command.

See “**9. Command List**” for details on the content of the error alerts and the #Service? command.

NOTE1) Error alerts are active even if the Silent setting is active.

7. Other

(1) SMS Reception Conditions

- Immediately after the DS-NET adaptor is turned on for the first time, it only accepts SMS which contain the #Allow command.
- If no authorized numbers have been set in the DS-NET adaptor, the adaptor will only accept an SMS if the number of the telephone sending the SMS matches the telephone number in the #Allow command in the SMS.
- If there is at least one authorized number set in the DS-NET adaptor ahead of time, it will only accept SMS if the number of the telephone sending the SMS matches authorized numbers 1 through 4 registered in the adaptor.

(2) Command (Message Body) Restrictions

Multiple commands can be included in a command (message), but the following restrictions apply.

- Commands must be separated by a space. When sending multiple commands in a single message, separate the commands with a space.
- The DS-NET adaptor can receive messages of up to 128 characters in length for one SMS.
- A maximum of 10 commands can be included in one SMS message.

(3) Command Format Error Response

- If incorrect commands or undecipherable characters strings are found in the SMS received by the DS-NET adaptor, a command format error response is sent.

(4) Command Execution Success Response

- If the format of the SMS commands received by the DS-NET adaptor is correct, the air conditioner will execute the commands and send a response about the results. If the command was successfully executed, then command success response is received.
- There are commands to turn off the success responses when the Silent setting is activated.

(5) Command Execution Error Response

- If the air conditioner executes the command and does not response as instructed, a command execution error response is sent.

(6) Settings which can be remembered

- The DS-NET adaptor can remember the following settings. They remain in memory even if the power is turned off.
 - Authorized number (applicable SMS commands: #Allow, #Allow?)
 - Error Alert Notification Number (applicable SMS commands: #Service, #Service?)
 - Command Success Response Answer/Silent Setting (applicable SMS commands: Answer/Silent)

8. When this happens

(1) Command responses are not received

- Responses may not be received in Silent mode. Use the Answer command to turn responses back on. When in Silent mode, check the commands for which no response is received in “**9. Command List**”.
- The DS-NET adaptor can only accept SMS sent from cellular phones which have an authorized number, registered during the test run. Check that the cellular phone you are using is registered as the “**2. Recording the authorized number**”.
- If it is, then the DS-NET adaptor may be malfunctioning. Contact your dealer.

(2) No error alert notifications are received.

The error alert notification number may be different from the authorized number.

If the cellular phone with an authorized number you are using is not registered as an error alert notification number, you will not receive error alerts.

(3) When the number of the cellular phone changes.

The telephone number can be changed using the following procedure, but if any mistakes are made, it is possible that no commands will be able to be received, so we recommend having your dealer change the authorized number. This service is subject to separate charges.

- The #Allow? command checks what order your number is in the numbers that are registered.
- If it is registered as #Allow1, erase the number using the #Allow1<> command.

NOTE1) After erasing the number, monitoring and control of air conditioners will be unavailable until a new telephone number is registered.

- Register the new telephone number using the #Allow1<[insert new authorized number here]> command from the cellular phone which is to be the new authorized number.

NOTE2) The ‘<’ and ‘>’ must also be included.

NOTE3) There is no need to enter a carriage return after the ‘>’. It does not matter if one is entered or not.

NOTE4) If the cellular phone can handle international calls, the country code is necessary at the beginning of the authorized number.

Ex: the country code for Australia is 61, then enter “#Allow1<61[insert authorized number here]>”.

NOTE5) If there is no command response, enter a plus sign (+) before the country code.

Ex: #Allow1<61[insert authorized number here]>

- Success responses should be received if the number has been registered correctly.

NOTE6) If no authorized number has been registered in the DS-NET adaptor, the #Allow1 command with the number must be sent from the cellular phone which has the telephone number which is to be the authorized number.

(4) In the event an incorrect number is registered

If an incorrect telephone number is registered as the authorized number using the #Allow<[authorized number]> command, it is possible that no commands will be able to be received. If this happens, contact your dealer and request that they “initialize the EEPROM.” This service is subject to separate charges.

9. Command List

- SMS Command List (from Cell Phone to DS-NET via GSM Modem)
- SMS Response List (from DS-NET adaptor to Cell Phone via GSM Modem)

Description		Command string	Manual		Response of DS-NET Adaptor				
					Success Response in Silent Mode (Answer/Silent)	Response Order for Multiple Commands	Success Response		Error Response
User Commands (mainly for monitoring and controlling air conditioners)	Command Success Response Answer/Silent Setting	Answer	Returns a command success response.		Answer	(4)	DAIKIN DS-NET Answer		If a command success response is not possible, it responds if the following response causes are present. (A response is sent even if Silent mode is activated.) 1. Command format error response DAIKIN DS-NET The following commands weren't able to be accepted. [Command string which could not be executed] 2. Command execution error response (air conditioner control command only) DAIKIN DS-NET The following commands weren't able to be accepted. [Command string which could not be executed]
		Silent	Does not return a command success response.		Answer	(5)	DAIKIN DS-NET Silent		
	Request Air Conditioner Status Data	Report	Requests the current status of the air conditioner.		Answer	(1)	DAIKIN DS-NET #[1-4] [ON/OFF] [TEMPERATURE] degC [Cool/Heat/Fan] or #[1-4] [Error/Warning/Caution] [MALFUNCTION CODE]	This is repeated for all the air conditioners. This returns the error type and malfunction code when an error occurs. This responds with on when the on command is executed, even if a warning or an alarm is generated.	
	ON OFF	#[1-4]▲On #[1-4]▲Off	The start/stop instruction	#[1 - #4] indicate the number of the air conditioner. If no individual air conditioner is indicated, the command will be output to all air conditioners (ports). If the air conditioner number (port) is designated, that number is applied to the commands which are designated. (The commands maintain their effectiveness over all units.)	Silent	(13)	DAIKIN DS-NET #[1-4] [ON/OFF]	This is repeated for all the air conditioners. If multiple commands are sent together, it responds simultaneously with these. DAIKIN DS-NET #[1-4] [ON/OFF] [TEMPERATURE] degC [Cool/Heat/Fan]	
	Change Set Temperature	#[1-4]▲16-32	The instruction to change the set temperature - in units of 1°C. *This command sets the instruction temperature as the set temperature both for heating and cooling. (Cooling set temperature = heating set temperature)		Silent		DAIKIN DS-NET #[1-4] [TEMPERATURE] degC		
	Change Operation Mode	#[1-4]▲Cool #[1-4]▲Heat #[1-4]▲Fan	The instruction to change the operation mode.		Silent		DAIKIN DS-NET #[1-4] [Cool/Heat/Fan]		
		NOTE) “▲” is not a symbol. It indicates only one space, to be input.							
Service Commands	Request Error Alert Notification Number	#Service?	This requests the number registered to receive the error alert notifications.		Answer	(2)	DAIKIN DS-NET #Service1<Tel No.> #Service2<Tel No.> #Service3<Tel No.> or No Entry	It returns the registered error alert notification number. It returns “No Entry” if none has been registered.	
	Register Error Alert Notification Number	#Service1<tel No.>	This registers the telephone number to which errors are notified if an error occurs in the air conditioner (See *2 and *3 below). The <tel No.> can be up to 15 numbers (0 through 9).		Silent	(6)	DAIKIN DS-NET #Service1<Tel No.>		
		#Service2<tel No.>			Silent	(7)	DAIKIN DS-NET #Service2<Tel No.>		
		#Service3<tel No.>			Silent	(8)	DAIKIN DS-NET #Service3<Tel No.>		
	Erase Error Alert Notification Number	#Service1<>	This erases the registered error alert notification number which.		Silent	(6)	DAIKIN DS-NET #Service1 Deleted		
		#Service2<>			Silent	(7)	DAIKIN DS-NET #Service2 Deleted		
		#Service3<>			Silent	(8)	DAIKIN DS-NET #Service3 Deleted		
	Request Authorized Number	#Allow?	This requests the registered authorized number.		Answer	(3)	DAIKIN DS-NET #Allow1<Tel No.> #Allow2<Tel No.> #Allow3<Tel No.> #Allow4<Tel No.>	It returns the registered authorized number.	
	Register Authorized Number	#Allow1<tel No.>	This registers the number from which commands will be accepted. When an SMS is sent from a GSM cellular phone, only commands in SMS sent from the register number are accepted. If no authorized number is registered, commands will only be accepted if the telephone number from which they are received matches the number of the first Allow command. (See note *2 below.) The <tel No.> can be up to 15 numbers (0 through 9).		Silent	(9)	DAIKIN DS-NET #Allow1<Tel No.>		
		#Allow2<tel No.>			Silent	(10)	DAIKIN DS-NET #Allow2<Tel No.>		
		#Allow3<tel No.>			Silent	(11)	DAIKIN DS-NET #Allow3<Tel No.>		
		#Allow4<tel No.>			Silent	(12)	DAIKIN DS-NET #Allow4<Tel No.>		
	Erase Authorized Number	#Allow1<>	This erases the registered authorized number.		Silent	(9)	DAIKIN DS-NET #Allow1 Deleted		
		#Allow2<>			Silent	(10)	DAIKIN DS-NET #Allow2 Deleted		
		#Allow3<>			Silent	(11)	DAIKIN DS-NET #Allow3 Deleted		
		#Allow4<>			Silent	(12)	DAIKIN DS-NET #Allow4 Deleted		

*1) The letters in the command string can be either upper or lower case.
*2) If registering a cellular phone which can handle international calls, enter the number starting with the country code.
*3) If there is no response, enter a plus sign (+) before the country code, e.g. +61123456789.
*4) Square brackets ([]) indicate that section can be left out. Do not enter the brackets around sections which can be left out.
*5) The '<' and '>' must be included.
*6) If multiple commands are sent with the same response order, the last command is valid.
*7) Commands must be separated by a space. It is not possible to enter several commands over several lines separating them with carriage returns.

10. Examples of Sending and Receiving SMS

(1) Air Conditioner Control (User Commands)

Command	On #1 20 Cool #2 30 Heat #3 Fan #4 Off
Response	DAIKIN DS-NET #1 On 20degC Cool #2 On 30degC Heat #3 On Fan #4 Off
Remarks	After a command has been executed, the air conditioner is checked to see whether it is in the instructed status, and a response is sent. * A maximum of 10 commands can be included in one SMS message.

(2) Request Air Conditioner Status Data (User Commands)

Command	Report
Response	DAIKIN DS-NET #1 On 20degC Cool #2 On 30degC Heat #3 On 20degC Fan #4 Error A0
Remarks	This responds with the statuses of all the air conditioners which are detected as being connected. If an MALFUNCTION, WARNING, or PRECAUTION has been generated, the response will contain the error type and error code.

(3) Command Format Error

Command	Ox #1 20 Cool #2 33 Heat #3 Fam #5 Off
Response	DAIKIN DS-NET The following commands weren't able to be accepted. Ox 33 Fam #5
Remarks	The response only contains the command with the format error. Commands are only executed when all the command strings are successfully received. * A maximum of 10 commands can be included in one SMS message.

(4) Command Execution Error

Command	On #1 20 Cool #2 30 Heat #3 Fan #4 Off
Response	DAIKIN DS-NET The following commands weren't able to be executed. #2 On
Remarks	After executing a command, if for example only Air Conditioner 2 did not follow the instruction to turn On, the above response will be received as the command execution error response. * no success response will be received in this case. If a command is not reported with an error response, this should be taken to mean that it was successfully executed. When air conditioner control commands cannot be executed, commands which could not be executed are returned while commands which could be executed are not.

(5) Error alert

Alert data	DAIKIN DS-NET #2 Error A0
Remarks	Error A0 is generated in Air Conditioner 2.

(6) Multiple Commands

Command	#Al low? On #Report
Response	<div>DAIKIN DS-NET #1 On 20degC Cool #2 On 30degC Heat #3 On Fan #4 Off</div> <div>Response Order when Multiple Commands are Sent (1)</div> <div>DAIKIN DS-NET Allow 1<Tel No.> Allow 2<Tel No.> Allow 3<Tel No.> Allow 4<Tel No.></div> <div>Response Order when Multiple Commands are Sent (3)</div> <div>DAIKIN DS-NET #1 On #2 On #3 On #4 On</div> <div>Response Order when Multiple Commands are Sent (13)</div>
Remarks	SMS responses are made in the response priority order for when multiple commands are sent.