DAIKIN

INSTALLATION AND OPERATION MANUAL

Address card

EKACPG

READ THIS MANUAL ATTENTIVELY BEFORE STARTING UP THE UNIT. DO NOT THROW IT AWAY. KEEP IT IN YOUR FILES FOR FUTURE REFERENCE.

IMPROPER INSTALLATION OR ATTACHMENT OF EQUIPMENT OR ACCESSORIES COULD RESULT IN ELECTRIC SHOCK, SHORT-CIRCUIT, LEAKS, FIRE OR OTHER DAMAGE TO EQUIPMENT. BE SURE ONLY TO USE ACCESSORIES MADE BY DAIKIN THAT ARE SPECIFICALLY DESIGNED FOR USE WITH THE EQUIPMENT AND HAVE THEM INSTALLED BY A PROFESSIONAL.

IF UNSURE OF INSTALLATION PROCEDURES OR USE, ALWAYS CONTACT YOUR DAIKIN DEALER FOR ADVICE AND INFORMATION.

Introduction

Thank you for purchasing the EKACPG address card. This address card will enable you to setup a DICN system and/or to communicate with your chiller through a Building Management System or supervisory system via the MODBUS protocol.

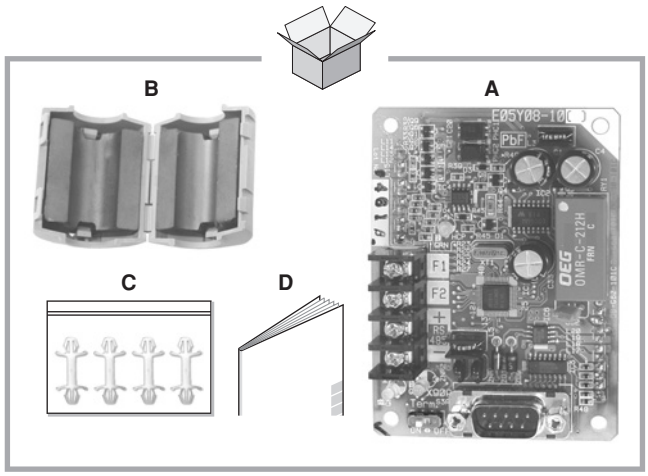
Chiller range

This specific address card is designed to function with chillers of the ranges

- EWAQ080~260DAYN****,
- EWYQ080~250DAYN****

*= , , 1, 2, 3, ..., 9, A, B, C, ..., Z

Contents of the kit



This kit consists of:

A Address card
B Ferrite core
C Plastic bag containing 4 spacers
D Installation manual

Tools required for installation

Before you handle the address card

If handled inappropriately, your address card may suffer damage. Hold your address card by the edges. Never touch the backside of the card with your hands.

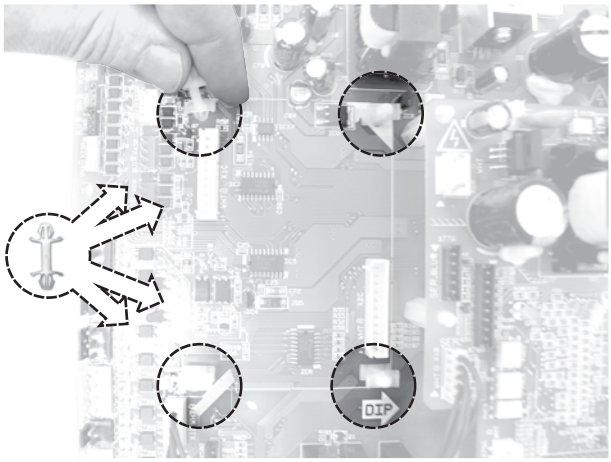
Before starting up the unit for the first time, make sure that it has been properly installed. It is therefore necessary to read the installation manual supplied with the unit and the recommendations listed in "Checks before initial start-up" carefully.

How to install the address card

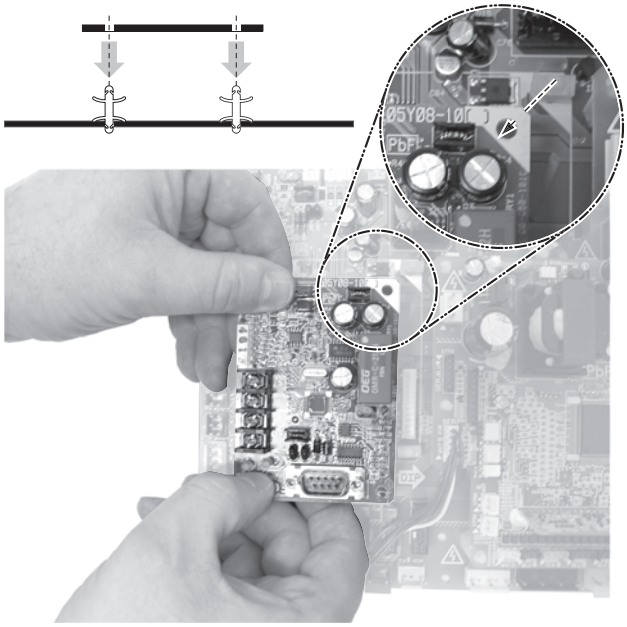
Turn the power off before installing the address card.

Installing the address card

1 Mount the 4 spacers in the holes provided for this purpose in the A11P PCB panel in the switch box as shown in the figure:



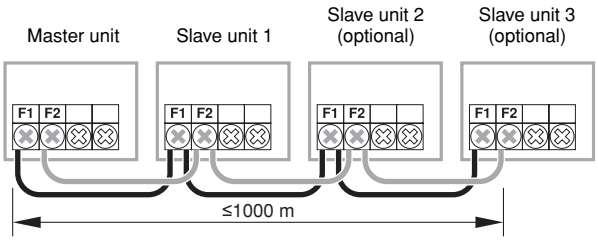
2 Install the address card as shown in the figure:



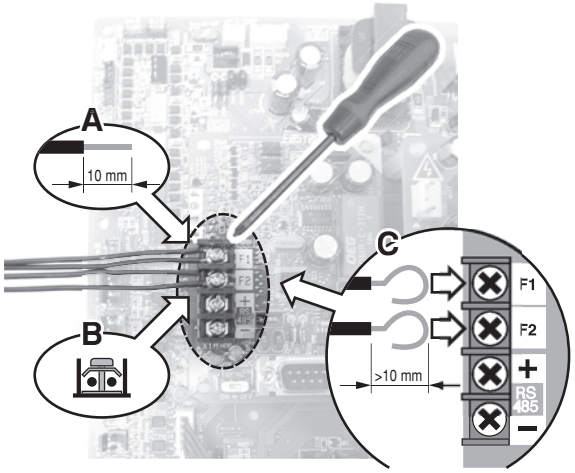
Make sure that the address card is firmly fixed. The heads of the spacers must be properly pushed through the mounting holes located at the 4 corners of the address card.

Connecting the wires

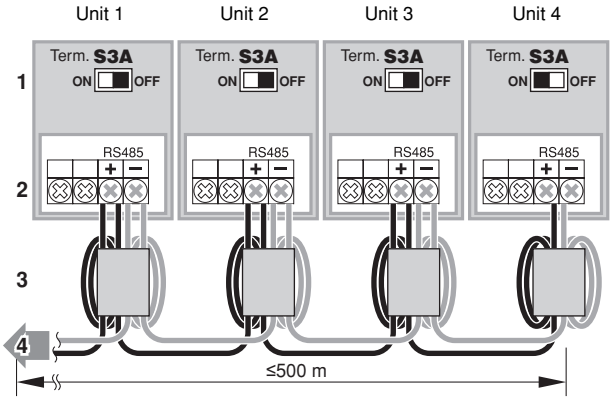
- In case of a **DICN** setup (maximum of 4 chiller units):
  - The wiring between the master unit and the slave units must be performed as shown on the wiring diagram and in the figure below.



  - Make the F1/F2 connection for DIII communication using a 0.75~1.25 mm^2 2-wire cable (maximum of 1000 m from start to end).
  - For F1/F2 connections on the master unit and on the last slave unit in line: strip the cables and fix them to the terminal on the address card as shown in the figure below (detail C).
  - For F1/F2 connections on the slave units between the master and on the last slave unit in line: strip the cables (detail A) and fix them to the terminal on the address card as shown in the figure below (detail B).



- In case of a **MODBUS** communication setup (maximum of 32 chiller units):
  - The wiring between the units must be performed as shown on the wiring diagram and as shown in the example below.



1 Setting of the S3A DIP switch on the PCB

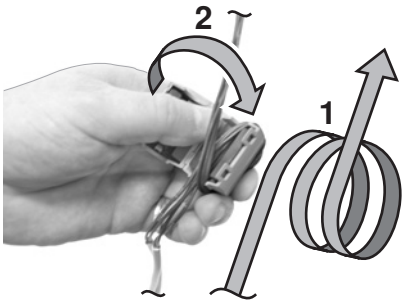
2 Terminal on the address card (connect to **+** and **–** of RS485)

3 Ferrite core (wind the cables 2 times)

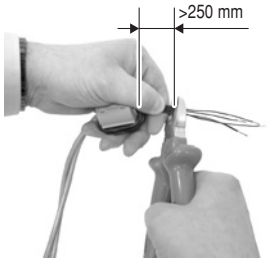
4 Up to BMS terminal

■ = DIP switch setting

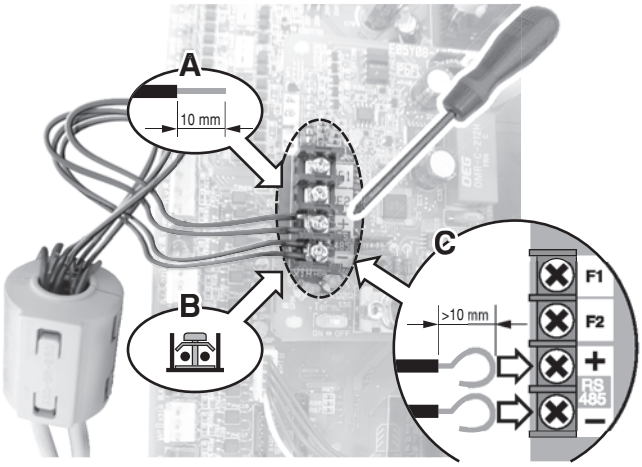
  - Make the RS485 +/– connection for Modbus communication using a 0.75~1.25 mm^2 2-wire cable (maximum of 500 m from BMS to connection on last unit in line).
  - For each group of cables to be connected to the terminals, first wind the cables 2 times through the ferrite core (1) and then firmly close the two halves of the ferrite core (2):



  - Cut the wiring:



- For RS485+/– connections on the units except the last unit in line: strip the cables (detail A) and fix them to the terminal on the address card as shown in the figure below (detail B).
- For RS485+/– connections on the last unit in line: strip the cables and fix them to the terminal on the address card as shown in the figure below (detail C).



General description of DICN

Refer to the chapter "Connection and setup of a DICN system" in the installation manual and to the operation manual delivered with the unit for adjusting the settings on the remote controller and for operating the unit in a DICN system.

General description of Modbus

The address card communicates using the Modbus protocol.

Different parts of the communication network

- The communication network consists of two major players:
  - The Building Management System (BMS) or supervisory system.
  - The chiller or multiple chillers.
- The BMS or other supervisory system is able to communicate with the chillers through the address card.
  The management of the communication occurs in accordance with a master-slave structure in polling, where the supervising BMS is the master and the address cards are the slaves.
- The chiller unit can be identified by the supervisor through the assignment of an address within the Modbus network. The address of the chiller unit can be programmed during the configuration of the BMS settings.
- The variables database of every chiller with installed address card is the point of reference for the supplier of the supervisory system in Modbus to assign a suitable meaning to the variables. The variables can be read and/or written by the supervisory system. Whether the variables are read-only or read/write depends on the connected chiller and/or the application program being used.
  - If the supervisory system assigns a value to a variable with read-only status, the command will not be executed at all.
  - Variables requested by the supervisory system that are not available in a chiller with an address card are sent from the address card to the supervisory system with zero value. The supervisory system will have to manage these properly.
  - In case the supervisory system tries to write a value of a parameter that is out of range, the writing will be ignored.

General information about the Modbus protocol

The Modicon Modbus protocol implemented in the address card complies with the content of the following document:

Modicon Modbus Protocol
Reference Guide
June 1996, PI-MBUS-300 Rev. J

The Modbus protocol implemented is of the RTU (Remote Terminal Unit) type based on character tranmission times. The configuration uses the multi-drop feature of RS-485. The address sent within the Modbus packet addresses the chiller unit.

Implemented commands for the Modbus protocol

The implemented commands in the program are as listed:

Modbus command		Meaning	Notes
01	read coil status	Read digital variable(s)	obtains current status (ON/OFF) of a group of logic coils or discrete input
02	read input status	Read digital variable(s)	obtains current status (ON/OFF) of a group of logic coils or discrete input
03	read holding registers	Read analogue variable(s)	obtains current binary value in one or more holding registers
04	read input registers	Read analogue variable(s)	obtains current binary value in one or more holding registers
05	force single coil	Write individual digital variable(s)	forces single coil to ON or OFF status
06	preset single register	Write individual analogue variable(s)	places a specific binary value into a holding register
15	force multiple coils	Write series of digital variables	forces a series of consecutive logic coils to be defined to ON or OFF status
16	preset multiple registers	Write series of analogue variables	places specific binary values into a series of consecutive holding registers

Note that:

- Due to the variety of chillers with installed address cards, no distinction is made between input variables (with read-only status) and output variables (with read/write status) so that the knowledge of the database and its management depends on the part present on the supervisory system.
- Due to the general nature of the system, the address card answers in the same way to various Modbus commands.

Data representation of the Modbus protocol

- Digital
  All digital data is coded by a single bit:
  - '0' for OFF
  - '1' for ON.

  All digital variables are assigned to bits of consecutive registers, each one having:
  - the lower-address variable assigned to the less significant bit
  - the higher-address variable assigned to the most significant bit.

- Analogue and integer data
  An analogue and integer value is represented by a 16-bit WORD register in binary notation. For each register, the first byte contains the high order bits and the second byte contains the low order bits.
  - The analogue variables are represented in tenths:
  - for example, the value 10.0 is transmitted as 0064h=100d
  - for example, the value -10.0 is transmitted as FF9Ch=-100d
  - The integer variables are transferred using the effective value:
  - for example, the value 100 is transmitted as 0064h=100d

  The address card operates on registers where one register must be considered at 16-bit.

In case the BMS or supervisory system tries to write a value of a parameter that is out of range, the writing will be ignored.

Implemented error code

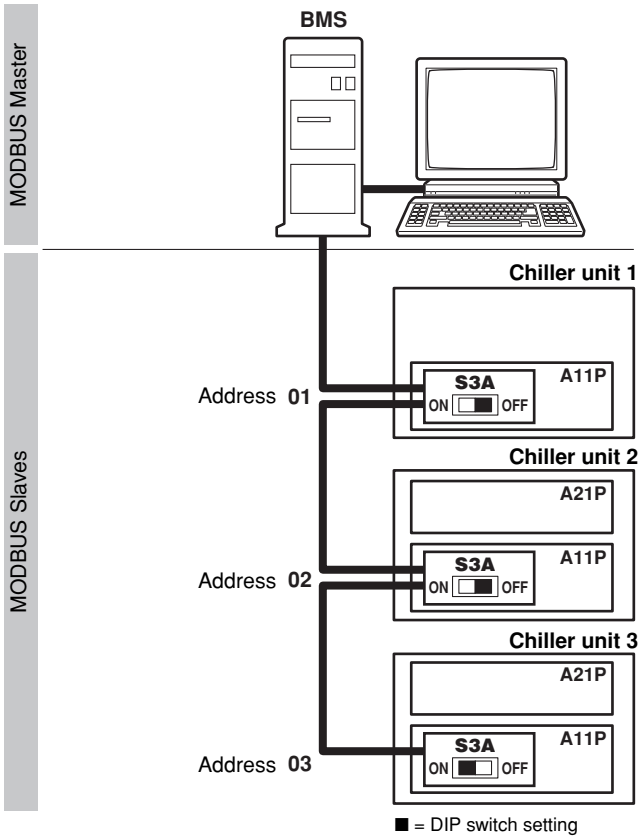
Code	Modbus interpretation	Condition
1	Illegal function	Message is not supported or the number of variables required is greater than the allowed limit (length ≤30)

DEFINING THE BMS SETTING

Refer to the installation manual of the chiller unit for defining the BMS settings.

The cable terminal (resistor) is integrated on the address card and is enabled by means of a DIP switch (S3A).

Example:



■ = DIP switch setting

In this example, the last in line DIP switch on the address cards of chiller units 1 and 2 are to be set to OFF. Because chiller unit 3 is the last unit in line, the last in line DIP switch on the address card must be set to ON.

Service menu: Submenu: communication

COMMUNICATION (fourth screen)

	Unit 1	Unit 2	Unit 3	...
RS485	MODBUS	MODBUS	MODBUS	MODBUS
ADDR: (Address)	01	02	03	...
BR: (Baudrate)	19200	19200	19200	19200
PARITY:	EVEN (1 STOPb)	EVEN (1 STOPb)	EVEN (1 STOPb)	EVEN (1 STOPb)

COMMUNICATION (sixth screen)

	Unit 1	Unit 2	Unit 3	...
BMS CONTROL ALLOWED:	Y	Y	Y	Y

HOW TO OPERATE THE ADDRESS CARD

Make sure that the address card is firmly fitted onto the A11P PCB panel, the wiring for a DICN system and/or the wiring for a MODBUS communication setup is connected properly, and that the BMS settings are correctly defined.

In the input/output status menu you can always check if the RS485 and DIII communication is active.

```
COMMUNICATION
RS232 ONLINE:N
RS485 ONLINE:Y
DIII ONLINE:Y
```

VARIABLES DATABASE

The BMS or supervisory system and the chiller unit communicate through a fixed set of variables, also called address numbers. Hereafter, you will find the information you need about the digital, integer and analogue variables that the BMS or supervisory system can read from or write to the address card of the chiller.

NOTE

- The register numbering and the number of coils starts with "1" in decimal notation.
- The register address numbering and coil address numbering starts with "00" in hexadecimal notation.

Digital variables

Register number (decimal)	Register address (hexadecimal)	Coil number (decimal)	Coil address (hexadecimal)	Read/ Write	Description	Comment
1	00	1	00	—	—	Not used
4	03	49	30	R	Unit status: monitoring	0= Off, 1= On
		50	31	W	Unit status: control	0= Off, 1= On
		51	32	R	General alarm	0= no alarm, 1= alarm
		52	33	R	Thermostat status	0= Off, 1= On
		53	34	R	Low noise status (only for OPIF)	0= no, 1= yes
		54	35	R	Low pressure bypass active C1	0= no, 1= yes
		55	36	R	Low pressure bypass active C2	0= no, 1= yes
		63	3E	R	Free cooling active	0= no, 1= yes
		64	3F	R	Remote on/off enabled	0= no, 1= yes ("yes" if "REMOTE ON/OFF" is selected on a changeable digital input)
7	06	97	60	R	Reverse phase detection (L1-L2-L3) circuit 1	0= OK, 1= not OK [X12A (1-3-5)]
		98	61	R	Digital input: High pressure switch circuit 1	0= Open, 1= closed [X4A]
		99	62	R	Digital input: Compressor interlock 1 circuit 1	0= Open, 1= closed [X5A]
		100	63	R	Digital input: Compressor interlock 2 circuit 1	0= Open, 1= closed [X6A]
		101	64	R	Digital input: Fan overcurrent relay Fanstep 1 circuit 1	0= Open, 1= closed [X7A]
		102	65	R	Digital input: Fan overcurrent relay Fanstep 2 circuit 1	0= Open, 1= closed [X8A]
		103	66	R	Digital input: Fan overcurrent relay Fanstep 3 circuit 1	0= Open, 1= closed [X9A]
		107	6A	R	Digital input: Fan inverter safety circuit 1 (only for OPIF)	0= Open, 1= closed [X27A]
		111	6E	R	Digital input: Flow switch	0= Open, 1= closed [X30A]
		112	6F	R	Digital input: Pump interlock	0= Open, 1= closed [X31A]
8	07	113	70	R	Changeable digital input1: function not pre-defined (default)	0= Open, 1= closed [X32A (3-4)]
		114	71	R	Changeable digital input2: function not pre-defined (default)	0= Open, 1= closed [X32A (1-2)]
		115	72	R	Digital output: Compressor contactor 1 circuit 1	0= Open, 1= closed [X13A]
		116	74	R	Digital output: Compressor contactor 2 circuit 1	0= Open, 1= closed [X14A]
		117	74	R	Digital output: Heatertape	0= Open, 1= closed [X15A]
		118	75	R	Digital output: Pump contactor	0= Open, 1= closed [X16A]
		119	76	R	Digital output: Reverse valve circuit 1 (Only for EWYQ)	0= Open, 1= closed [X17A]
		121	78	R	Digital output: Fanstep 1 circuit 1	0= Open, 1= closed [X19A (1-3)]
		122	79	R	Digital output: Fanstep 2 circuit 1	0= Open, 1= closed [X19A (5-7)]
		123	7A	R	Digital output: Fanstep 3 circuit 1	0= Open, 1= closed [X20A]
		126	7D	R	Changeable digital output1: "SAFETY+W.(NO)" (default)	0= Open, 1= closed [X22A]
		128	7F	R	Changeable digital output2: "GEN.OPERATION" (default)	0= Open, 1= closed [X24A]
9	08	129	80	R	Changeable digital output3: function not pre-defined (default)	0= Open, 1= closed [X25A]
		130	81	R	Changeable digital input3: function not pre-defined (default)	0= Open, 1= closed [X65A] (1-2)
		131	82	R	Changeable digital input4: function not pre-defined (default)	0= Open, 1= closed [X65A] (3-4)
		136	87	R	Changeable digital output6: function not pre-defined (default)	0= Open, 1= closed [X63A]
		137	88	R	Changeable digital output4: function not pre-defined (default)	0= Open, 1= closed [X64A] (1-3)
		138	89	R	Changeable digital output5: function not pre-defined (default)	0= Open, 1= closed [X64A] (5-7)
10	09	145	90	R	Reverse phase detection (L1-L2-L3) circuit 2	0= OK, 1= not OK [X12A (1-3-5)]
		146	91	R	Digital input: High pressure switch circuit 2	0= Open, 1= closed [X4A]
		147	92	R	Digital input: Compressor interlock 1 circuit 2	0= Open, 1= closed [X5A]
		148	93	R	Digital input: Compressor interlock 2 circuit 2	0= Open, 1= closed [X6A]
		149	94	R	Digital input: Fan overcurrent relay Fanstep 1 circuit 2	0= Open, 1= closed [X7A]
		150	95	R	Digital input: Fan overcurrent relay Fanstep 2 circuit 2	0= Open, 1= closed [X8A]
		151	96	R	Digital input: Fan overcurrent relay Fanstep 3 circuit 2	0= Open, 1= closed [X9A]
		155	9A	R	Digital input: Fan inverter safety circuit 2 (only for OPIF)	0= Open, 1= closed [X27A]
11	0A	163	A2	R	Digital output: Compressor contactor 1 circuit 2	0= Open, 1= closed [X13A]
		164	A3	R	Digital output: Compressor contactor 2 circuit 2	0= Open, 1= closed [X14A]
		167	A6	R	Digital output: Reverse valve circuit 2 (only for EWYQ)	0= Open, 1= closed [X17A]
		169	A8	R	Digital output: Fanstep 1 circuit 2	0= Open, 1= closed [X19A (1-3)]
		170	A9	R	Digital output: Fanstep 2 circuit 2	0= Open, 1= closed [X19A (5-7)]
		171	AA	R	Digital output: Fanstep 3 circuit 2	0= Open, 1= closed [X20A]

Analogue and integer variables

Address (decimal)	Register address (hexadecimal)	Read/ Write	Description	Unit of measurement	Comment
18	11	R/W	Active Cooling inlet setpoint	°C x1/10	Depends on changeable digital input: Dual setpoint
19	12	R/W	Active Cooling outlet setpoint	°C x1/10	Depends on changeable digital input: Dual setpoint
21	14	R/W	Active Heating inlet setpoint (only EWYQ)	°C x1/10	Depends on changeable digital input: Dual setpoint
22	15	R/W	Active Heating outlet setpoint (only EWYQ)	°C x1/10	Depends on changeable digital input: Dual setpoint
23	16	R/W	Cooling inlet setpoint 1	°C x1/10	—
24	17	R/W	Cooling inlet setpoint 2	°C x1/10	—
25	18	R/W	Cooling outlet setpoint 1	°C x1/10	—
26	19	R/W	Cooling outlet setpoint 2	°C x1/10	—
29	1C	R/W	Heating inlet setpoint 1 (only EWYQ)	°C x1/10	—
30	1D	R/W	Heating inlet setpoint 2 (only EWYQ)	°C x1/10	—
31	1E	R/W	Heating outlet setpoint 1 (only EWYQ)	°C x1/10	—
32	1F	R/W	Heating outlet setpoint 2 (only EWYQ)	°C x1/10	—
35	22	R/W	Thermostat A	°C x1/10	—
36	23	R/W	Thermostat B	°C x1/10	—
37	24	R/W	Thermostat C	°C x1/10	—
39	26	R	Minimum Outlet Water	°C x1/10	—
40	27	R	High Pressure Circuit 1 Temperature	°C x1/10	—
41	28	R	Low Pressure Circuit 1 Temperature	°C x1/10	—
42	29	R	High Pressure Circuit 2 Temperature	°C x1/10	—
43	2A	R	Low Pressure Circuit 2 Temperature	°C x1/10	—
82	51	R	Analogue input: Ambient sensor	°C x1/10	[X33A]
83	52	R	Analogue input: Inlet water sensor	°C x1/10	[X34A]
84	53	R	Analogue input: Outlet water sensor	°C x1/10	[X35A]
85	54	R	Analogue input: Suction temperature sensor circuit 1	°C x1/10	[X36A]
86	55	R	Analogue input: Refrigerant piping temperature sensor circuit 1	°C x1/10	[X37A]
87	56	R	Analogue input: Coil temperature sensor 1 circuit 1 (only for EWYQ)	°C x1/10	[X38A]
88	57	R	Analogue input: Coil temperature sensor 2 circuit 1 (only for EWYQ)	°C x1/10	[X39A]
89	58	R	Analogue input: Discharge temperature sensor 1 circuit 1	°C x1/10	[X40A]
90	59	R	Analogue input: Discharge temperature sensor 2 circuit 1	°C x1/10	[X41A]
91	5A	R	Analogue input: High pressure sensor circuit 1	bar x1/10	[X42A]
92	5B	R	Analogue input: Low pressure sensor circuit 1	bar x1/10	[X43A]
93	5C	R	Analogue input: Current measurement (only for OP57)	A x1/10	[X44A]
94	5D	R	Analogue input: Voltage measurement (only for OP57)	V x1/10	[X45A]
96	5F	R	Analogue input: Heating suction temperature sensor 1 circuit 1 (only for EWYQ)	°C x1/10	[X66A]
98	61	R	Analogue input: Heating suction temperature sensor 2 circuit 1 (only for EWYQ)	°C x1/10	[X67A]
99	62	R	Changeable analogue input2: function not pre-defined (default)	(V or mA or °C x1/10) or DI	In case type= DI then 0= Open, 50= Closed [X68A]
100	63	R	Changeable analogue input1: function not pre-defined (default)	(V or mA or °C x1/10) or DI	In case type= DI then 0= Open, 50= Closed [X69A]
101	64	R	Changeable analogue input4: function not pre-defined (default)	(V or mA or °C x1/10) or DI	In case type= DI then 0= Open, 50= Closed [X70A]
102	65	R	Changeable analogue input3: function not pre-defined (default)	(V or mA or °C x1/10) or DI	In case type= DI then 0= Open, 50= Closed [X71A]
103	66	R	Analogue output: Fanspeed signal circuit 1 (only for OPIF)	V x1/10	[X72A (3-4)]
105	68	R	Changeable analogue input1: function not pre-defined (default)	V or mA x1/10	[X73A]
106	69	R	Analogue output: Fanspeed signal circuit 2 (only for OPIF)	V x1/10	[X74A (4-5)]
131	82	R	Analogue input: Heating suction temperature sensor 1 circuit 2 (only for EWYQ)	°C x1/10	[X34A]
132	83	R	Analogue input: Heating suction temperature sensor 2 circuit 2 (only for EWYQ)	°C x1/10	[X35A]
133	84	R	Analogue input: Suction temperature sensor circuit 2	°C x1/10	[X36A]
134	85	R	Analogue input: Refrigerant piping temperature sensor circuit 2	°C x1/10	[X37A]
135	86	R	Analogue input: Coil temperature sensor 1 circuit 2 (only for EWYQ)	°C x1/10	[X38A]
136	87	R	Analogue input: Coil temperature sensor 2 circuit 2 (only for EWYQ)	°C x1/10	[X39A]

Address (decimal)	Register address (hexadecimal)	Read/ Write	Description	Unit of measurement	Comment
137	88	R	Analogue input: Discharge temperature sensor 1 circuit 2	°C x1/10	[X40A]
138	89	R	Analogue input: Discharge temperature sensor 2 circuit 2	°C x1/10	[X41A]
139	8A	R	Analogue input: High pressure sensor c2	bar x1/10	[X42A]
140	8B	R	Analogue input: Low pressure sensor c2	bar x1/10	[X43A]
178	B1	R	Error Code (of highest priority active error)	—	0= no safety 1=… (refer to "Overview integer values of safety codes" on page 9)
179	B2	R	Error Code (of highest priority active error)	—	0= unit, 1= circuit 1, 2= circuit 2, 5= network, 6= warning
180	B3	R	Error Code (of selected active error) refer to integer parameter 182	—	0= no safety 1=… (refer to "Overview integer values of safety codes" on page 9)
181	B4	R	Error Type (of selected active error) refer to integer parameter 182	—	0= unit, 1= circuit 1, 2= circuit 2, 5= network, 6= warning
182	B5	R/W	Selected active error number	—	The information of the active error corresponding to this reference number is displayed in variables 180 and 181 (the maximum allowed input = value of variable 183)
183	B6	R	Maximum number of active errors that are present	—	—
184	B7	R/W	Cooling/Heating mode setting Remark: R only in case remote cool/heat by digital input is selected in software	—	0= COOLING, 1= HEATING
185	B8	R/W	Thermostat mode	—	0= MANUAL CONTROL, 1= INL WATER, 2= OUTL WATER
186	B9	R	Active mode	—	0= MANUAL MODE, 1= INLSETP1, 2= INLSETP2, 3= OUTSETP1, 4= OUTSETP2
187	BA	R	Unit capacity	%	—
188	BB	R	Capacity C1	%	—
189	BC	R	Capacity C2	%	—
192	BF	R	Unit current (only for OP57)	A	—
199	C6	R/W	Capacity limit mode	—	0= NOT ACTIVE, 1= CHANG.DIG.INP, 2= LIMIT 25%, 50%, 75% or SETTING (refer to next variable)
200	C7	R/W	Capacity limit mode selection	—	Only valid in case address 199 is equal to "2" 0= LIMIT 25%, 1= LIMIT 50%, 2= LIMIT 75%, 3= LIMIT SETTING
201	C8	R/W	Capacity Limitation Setting for C11	—	0= OFF, 1= ON
202	C9	R/W	Capacity Limitation Setting for C12	—	0= OFF, 1= ON
203	CA	R/W	Capacity Limitation Setting for C21	—	0= OFF, 1= ON
204	CB	R/W	Capacity Limitation Setting for C22	—	0= OFF, 1= ON
205	CC	R/W	Low noise mode	—	0= NOT ACTIVE, 1= CHANG.DIG.INP, 2= DAILY SCHEDULE, 3= ACTIVE
206	CD	R	Status of C11	—	1= CAN STARTUP, 2= NO PRIORITY, 3= NO FLOW, 4= PUMPLEAD TIM, 5= TIMER BUSY, 6= FREE COOLING, 7= AREC INLET, 8= UNIT OFF, 9= STANDBY DICN, 10= LIMIT, 11= MIN.RUN.TIM, 12= HP SETBACK, in case of software V1.0: 13= DEFROST BUSY, 14= FREEZEUP PR, 15= FREEZEUP DIS, 16= SAFETY ACT. in case of software V2.0 and above: 13= COMP PR, 14= DEFROST BUSY, 15= FREEZEUP PR, 16= FREEZEUP DIS, 17= SAFETY ACT.
207	CE	R	Status of C12		
208	CF	R	Status of C21		
210	D1	R	Status of C22		
211	D2	R	RH11 (compressor 11 running hours) higher part	h x 1000	Running hours= higher part x 1000 + lower part
212	D3	R	RH11 (compressor 11 running hours) lower part	h	
213	D4	R	RH12 (compressor 12 running hours) higher part	h x 1000	
214	D5	R	RH12 (compressor 12 running hours) lower part	h	
215	D6	R	RH21 (compressor 21 running hours) higher part	h x 1000	
216	D7	R	RH21 (compressor 21 running hours) lower part	h	
217	D8	R	RH22 (compressor 22 running hours) higher part	h x 1000	
218	D9	R	RH22 (compressor 22 running hours) lower part	h	

Address (decimal)	Register address (hexadecimal)	Read/ Write	Description	Unit of measurement	Comment
219	DA	R	C11C (compressor 11 cooling hours) higher part (only for EWYQ)	h x 1000	Running hours= higher part x 1000 + lower part
220	DB	R	C11C (compressor 11 cooling hours) lower part (only for EWYQ)	h	
221	DC	R	C12C (compressor 12 cooling hours) higher part (only for EWYQ)	h x 1000	
222	DD	R	C12C (compressor 12 cooling hours) lower part (only for EWYQ)	h	
223	DE	R	C21C (compressor 21 cooling hours) higher part (only for EWYQ)	h x 1000	
224	DF	R	C21C (compressor 21 cooling hours) lower part (only for EWYQ)	h	
226	E1	R	C22C (compressor 22 cooling hours) higher part (only for EWYQ)	h x 1000	
227	E2	R	C22C (compressor 22 cooling hours) lower part (only for EWYQ)	h	
228	E3	R	C11H (compressor 11 heating hours) higher part (only for EWYQ)	h x 1000	Running hours= higher part x 1000 + lower part
229	E4	R	C11H (compressor 11 heating hours) lower part (only for EWYQ)	h	
230	E5	R	C12H (compressor 12 heating hours) higher part (only for EWYQ)	h x 1000	
231	E6	R	C12H (compressor 12 heating hours) lower part (only for EWYQ)	h	
232	E7	R	C21H (compressor 21 heating hours) higher part (only for EWYQ)	h x 1000	
233	E8	R	C21H (compressor 21 heating hours) lower part (only for EWYQ)	h	
234	E9	R	C22H (compressor 22 heating hours) higher part (only for EWYQ)	h x 1000	
235	EA	R	C22H (compressor 22 heating hours) lower part (only for EWYQ)	h	
236	EB	R	CS11 (number of compressor 11 startups) higher part	—	Number of compressor startups= higher part x 1000 + lower part
237	EC	R	CS11 (number of compressor 11 startups) lower part	—	
238	ED	R	CS12 (number of compressor 12 startups) higher part	—	
239	EE	R	CS12 (number of compressor 12 startups) lower part	—	
242	F1	R	CS21 (number of compressor 21 startups) higher part	—	
243	F2	R	CS21 (number of compressor 21 startups) lower part	—	
244	F3	R	CS22 (number of compressor 22 startups) higher part	—	
245	F4	R	CS22 (number of compressor 22 startups) lower part	—	
246	F5	R	Actual status fan circuit 1	—	0= Off, 1= LLLL, 2= LLL, 3= LL, 4= Low, 5= Medium, 6= High
			Actual status fan circuit 1 (OPIF)	%	0~100
247	F6	R	Actual status fan circuit 2	—	0= Off, 1= LLLL, 2= LLL, 3= LL, 4= Low, 5= Medium, 6= High
			Actual status fan circuit 2 (OPIF)	%	0~100
250	F9	R/W	Loadup time inlet control	s	—
251	FA	R/W	Loaddown time inlet control	s	—
252	FB	R/W	Loadup time outlet control	s	—
253	FC	R/W	Loaddown time outlet control	s	—
254	FD	R	BMS allowed	—	0= No, 1= Yes
255	FE	R	Software version high	—	Version= Software version high.Software version low
256	FF	R	Software version low	—	
258	101	R	SoftCode Main PCB	—	xxxx value => SPxxxxy zzz (e.g. SP1532A 036)
259	102	R	SoftCode Extension 1 PCB	—	xxxx value => SPxxxxy zzz (e.g. SP1559A 009)
260	103	R	SoftCode Remocon	—	xxxx value => SPxxxxy zzz (e.g. SP1534A 028)
261	104	R	SoftCode Main PCB character	—	y value (0=" ", 1="A", 2="B" …) => SPxxxxy zzz
262	105	R	SoftCode Extension PCB character	—	y value (0=" ", 1="A", 2="B" …) => SPxxxxy zzz
263	106	R	SoftCode Remocon character	—	y value (0=" ", 1="A", 2="B" …) => SPxxxxy zzz
264	107	R	SoftVersion Main PCB	—	zzz value => SPxxxxy zzz
265	108	R	SoftVersion Extension PCB	—	zzz value => SPxxxxy zzz
266	109	R	SoftVersion Remocon PCB	—	zzz value => SPxxxxy zzz
267	10A	R	Unittype 1	—	0= AW
268	10B	R	Unittype 2	—	0= CO, 1= RH
269	10C	R	Unittype 3	kW	0~999
270	10D	R	Number of circuits	—	1, 2
271	10E	R	Number of evaporators	—	1
272	10F	R	Number of coils	—	1, 2
274	111	R	Refrigerant	—	0= R410A

Address (decimal)	Register address (hexadecimal)	Read/ Write	Description	Unit of measurement	Comment
275	112	R	Compressor type	—	0= SCL
276	113	R	EEV Type	—	0= "P"
277	114	R	VA option (OP57)	—	0= No, 1= Yes
278	115	R	Fan option (OPIF)	—	0= No, 1= Yes
279	116	R	Dual-pump option (OPTP or OPTC)	—	0= No, 1= Yes
280	117	R	Evaporator option (OP10)	—	0= No, 1= Yes
281	118	R/W	Number of slaves (only for DICN + Master)	—	—
282	119	R	Master or slave (only for DICN)	—	0= Master, 1= Slave1, 2= Slave2, 3= Slave3
283	11A	R/W	Mode (only for DICN)	—	0= Normal, 1= standby, 2= disconnect on/off
284	11B	R	Status of master (only for DICN)	—	0= Normal, 1= standby, 2= disconnect on/off, 3= safety
285	11C	R	Status of S1 (only for DICN)	—	0= Normal, 1= standby, 2= disconnect on/off, 3= safety
286	11D	R	Status of S2 (only for DICN)	—	0= Normal, 1= standby, 2= disconnect on/off, 3= safety
287	11E	R	Status of S3 (only for DICN)	—	0= Normal, 1= standby, 2= disconnect on/off, 3= safety

Overview integer values of safety codes

Value		Message safety menu
0	UNIT SAFETY	No safety
1	UNIT SAFETY	"0F0:EMERGENCY STOP"
2	UNIT SAFETY	"0AE:FLOW HAS STOPPED"
3	UNIT SAFETY	"0A4:FREEZE UP"
4	UNIT SAFETY	"0C9:INL SENSOR ERR"
5	UNIT SAFETY	"0CA:OUT SENSOR ERR"
6	UNIT SAFETY	"0H9:AMB T SENSOR ERR"
9	UNIT SAFETY	"0U4:EXT PCB COMM.ERR"
10	UNIT SAFETY	"0U4:MAINPCB COMM.ERR"
12	UNIT SAFETY	"0AE:PUMPINTERLOCK"
14	UNIT WARNING	"0AE:FLOW HAS STOPPED"
16	UNIT WARNING	"0C9:INL SENSOR ERR"
17	UNIT SAFETY	"0A9:EEV PCB COMM ERR"
18	UNIT SAFETY	"0A9:EEV PCB ERR"
19	UNIT SAFETY	"0UA:OP.NOT CONFIRMED"
29	UNIT SAFETY	"0U5:PCB COMM.PROBLEM"
30	CIRCUIT 1 SAFETY	"1U1:REV PHASE PROT"
31	CIRCUIT 1 SAFETY	"1E3:HIGH PRESSURE SW"
35	CIRCUIT 1 SAFETY	"1E4:LOW PRESSURE"
37	CIRCUIT 1 SAFETY	"1JA:HP SENSOR ERR"
38	CIRCUIT 1 SAFETY	"1JC:LP SENSOR ERR"
42	CIRCUIT 1 SAFETY	"153:FAN INV ERR."
44	CIRCUIT 1 SAFETY	"1J3:DISCHSENSOR ERR1"
45	CIRCUIT 1 SAFETY	"1F3:HIGH DISCH TEMP1"
46	UNIT WARNING	"153:FAN OVERC. ST1"
47	UNIT WARNING	"153:FAN OVERC. ST2"
48	UNIT WARNING	"153:FAN OVERC. ST3"
49	CIRCUIT 1 SAFETY	"1A9:EEV ERR"
50	CIRCUIT 1 SAFETY	"153:FAN OVERC. ST1"
51	CIRCUIT 1 SAFETY	"153:FAN OVERC. ST2"
52	CIRCUIT 1 SAFETY	"153:FAN OVERC. ST3"
53	CIRCUIT 1 SAFETY	"1J5:SUCTSENSOR ERR"
54	CIRCUIT 1 SAFETY	"1A9:SUPERHEAT ERR"
56	UNIT WARNING	"1E3:HP SETBACK"
57	UNIT WARNING	"1E6:COMP PR"
58	CIRCUIT 1 SAFETY	"1E6:COMPR 1 SAFETY"
59	CIRCUIT 1 SAFETY	"1E6:COMPR 2 SAFETY"
60	CIRCUIT 1 SAFETY	"1J3:DISCHSENSOR ERR2"
61	CIRCUIT 1 SAFETY	"1F3:HIGH DISCH TEMP2"

Value		Message safety menu
62	CIRCUIT 1 SAFETY	"1J5:SUCTSENSOR ERRH1"
63	CIRCUIT 1 SAFETY	"1J5:SUCTSENSOR ERRH2"
64	UNIT WARNING	"1J6:COIL1 SENSOR ERR"
65	UNIT WARNING	"1J7:COIL2 SENSOR ERR"
66	CIRCUIT 1 SAFETY	"1J5:REFR SENSOR ERR"
67	UNIT SAFETY	"0A4:FREEZE UP C1"
70	CIRCUIT 2 SAFETY	"2U1:REV PHASE PROT"
71	CIRCUIT 2 SAFETY	"2E3:HIGH PRESSURE SW"
75	CIRCUIT 2 SAFETY	"2E4:LOW PRESSURE"
77	CIRCUIT 2 SAFETY	"2JA:HP SENSOR ERR"
78	CIRCUIT 2 SAFETY	"2JC:LP SENSOR ERR"
82	CIRCUIT 2 SAFETY	"253:FAN INV ERR."
84	CIRCUIT 2 SAFETY	"2J3:DISCHSENSOR ERR1"
85	CIRCUIT 2 SAFETY	"2F3:HIGH DISCH TEMP1"
86	UNIT WARNING	"253:FAN OVERC. ST1"
87	UNIT WARNING	"253:FAN OVERC. ST2"
88	UNIT WARNING	"253:FAN OVERC. ST3"
89	CIRCUIT 2 SAFETY	"2A9:EEV ERR"
90	CIRCUIT 2 SAFETY	"253:FAN OVERC. ST1"
91	CIRCUIT 2 SAFETY	"253:FAN OVERC. ST2"
92	CIRCUIT 2 SAFETY	"253:FAN OVERC. ST3"
93	CIRCUIT 2 SAFETY	"2J5:SUCTSENSOR ERR"
94	CIRCUIT 2 SAFETY	"2A9:SUPERHEAT ERR"
96	UNIT WARNING	"2E3:HP SETBACK"
97	UNIT WARNING	"2E6:COMP PR"
98	CIRCUIT 2 SAFETY	"2E6:COMPR 1 SAFETY"
99	CIRCUIT 2 SAFETY	"2E6:COMPR 2 SAFETY"
100	CIRCUIT 2 SAFETY	"2J3:DISCHSENSOR ERR2"
101	CIRCUIT 2 SAFETY	"2F3:HIGH DISCH TEMP2"
102	CIRCUIT 2 SAFETY	"2J5:SUCTSENSOR ERRH1"
103	CIRCUIT 2 SAFETY	"2J5:SUCTSENSOR ERRH2"
104	UNIT WARNING	"2J6:COIL1 SENSOR ERR"
105	UNIT WARNING	"2J7:COIL2 SENSOR ERR"
106	CIRCUIT 2 SAFETY	"2J5:REFR SENSOR ERR"
107	UNIT SAFETY	"0A4:FREEZE UP C2"
190	NETWORK SAFETY	"0U4:PCB COMM.PROBLEM"
191	NETWORK SAFETY	"0CA:OUT E SENSOR ERR"
192	NETWORK SAFETY	"0C9:INL E SENSOR ERR"
194	NETWORK SAFETY	"0U4:SW VERSION ERR"

NOTES

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