OMRON

V720-CD1D,CD2D

Users Manual
(Supplementary Material)

Notice:
In this supplementary material the explanations of the commands are summarized that were not mentioned in the Users Manual of V720 series controller.
Please be sure to refer to the users manual of V720-CD1D, too.

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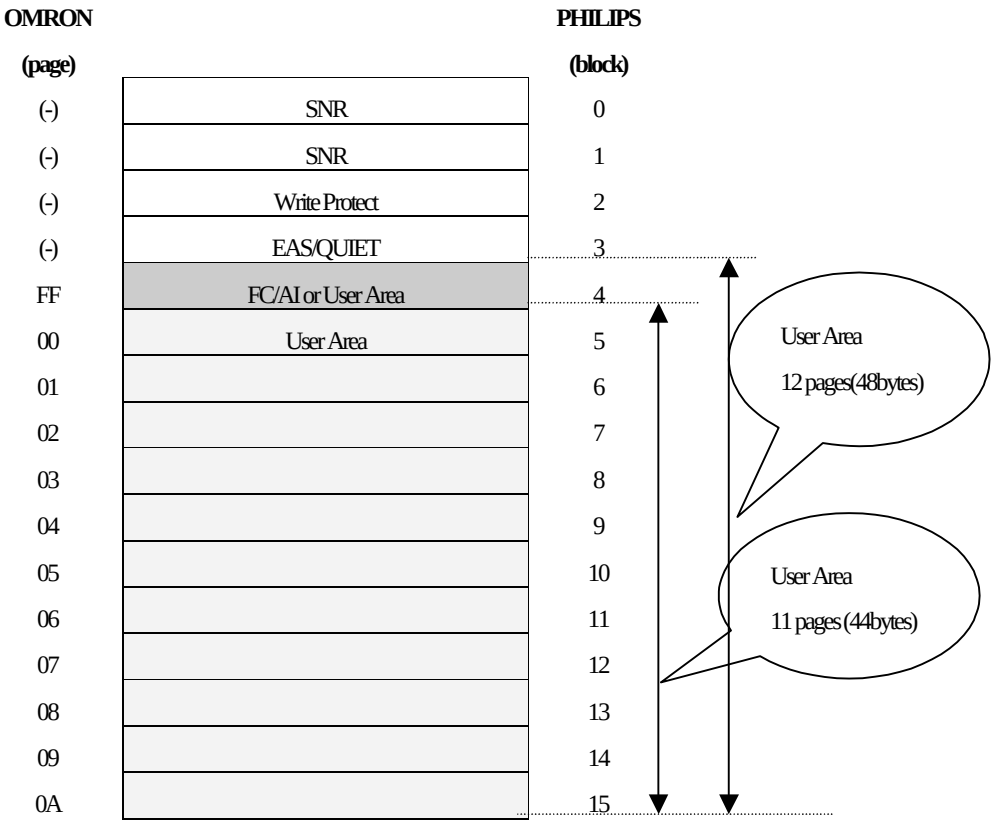
Produced: 2001.6.5	Material N0.: RFP-H-01047	REV. B	Pages: 1/9

1. Memory Map

The accesed tags by this controller (V720-CD1D, CD2D) should be embedded with IC chip, I-CODE Label IC (SL1 ICS30 01) by Philps. Its memory area consists of 64bytes. And the upper five blocks (Block 0 to 4) are system areas which can not be used for the user areas. Omron applys the specified commands to access to the system areas, for customer easy to use such functions. Please refer 5-4-6 (System Commands) in the users manual of V720-CD1D and 2-3 in this manual for details. Therefore Omron defines the subsequent blocks after 5 as user areas and the block 5 as page ''00''. And the later memory areas are allocated as follows:

Furthermore one page consists of 4 bytes in the user memory area (= 32 bits). One page is the minimum unit to write/read.



Notice:

Exceptionaly, in case that Family Code (FC) and Application ID (AI) in the block 4 are not used, the block 4 can be used as user area. In such a case please define the block 4 as page ''FF'' by using it as user area. As a result the user areas has 12 pages totally.

2. Command
2.1. Read (RD)

(1) Special Read

If there is one Tag within the communication area, data will be read from the Tag at speed faster than Single Access Command of Read (Users Manual, V720-CD1D, 5-4-1). Multiple reading at high speed by using this commond is also possible by adjusting the tag number setting.

Notice: As this command is different from the Multiple Access Command (Users Manual, V720-CD1D, 5-4-3), the anticollision function doesn't work in this command. In case that the collisions occure, they might cause leakage of reading on response. Therefore, some measurements are required such as several retrials on the host side.

<Command Frame Structure>

STX	Node No.	Command code ''RD''	Communi-cations	Data type	*1	First read page	No. of read pages	ETX	BCC
1	2	2	2	1	1	2	2	1	1

*1 Tag number setting

Communications	Specifies a communications method UT: Special Read Trigger UA: Special Read Auto UR: Special Read Repeat For details, refer to the manual 5-6 (Communication Methodes)
Data type	Specifies whether the read data is represented in ASCII or HEX. A: ASCII code H: HEX code For details, refer to the manual 5-7 (Data Type)
First read page	Specifieds the first page in hexadecimal to read from the Tags. Specification range: FFh, 00 h to 0A h
No. of read page	Specifies the number of pages in hexadecimal to read from the Tags. Specification range: 01 h to 0C h
Tag number setting	Specifies the number of time slots (1,4,8,16,32,64,128,256) Specification range: 0 to 7 Set on ''0'' is recommendable on special read. For details, refer to the manual 5-8 (Tag Number Setting)

<Response Frame Structure>

STX	Node No.	Retry flag	Command code ''RD''	Response code ''00''	Read data	ETX	BCC
1	2	1	2	2	Specified number	1	1

Response code	00: Normal End 72: Communication End (in the case that the no. of time slots is set except '0') For other response codes, refer to the manual 5-11(Response Code List).
Read data	Indicates the data having been read. The number of characters of the data are as follows: ASCII code: (No. of read pages * 4) characters HEX code: (No. of read pages * 8) characters

*By setting BCC invalid (DIPSW3-8 ON), BCC is not added on command and response.

* New added functions.

(2) Single-, FIFO-, Multiple-, Selective Read

<Command Frame Structure>

STX	Node No.	Command code ''RD''	Communi-cations	Data type	*1	First read page	No. of read pages	ETX	BCC
1	2	2	2	1	1	2	2	1	1

*1 Set '0' by Single-, FIFO-, Selective Read (specified tag type)

Set the number of time slots by Multiple-, Selective (tag detection type)

Communications	Specifies a communication method. ST: Single Trigger SA: Single Auto SR: Single Repeat FT: FIFO Trigger FA: FIFO Auto FR: FIFO Repeat MT: Multipul Trigger MR: Multipul Repeat	Selective·Access·Trigger oLT: Tag Detection o : Tag Specified(Temporary No.) Setting range: 00 h to 7 Fh For details, refer to the manual 5-6 (Communications Method).
Data type	Specifies whether the read data is represented in ASCIIor HEX. A: ASCII code H: HEX code For details, refer to the manual 5-7 (Data Type).	
First read page	Specifies the first page of the Tag containing data to be read in HEX. Setting range: FFh, h, 00 h to 0A h	
No. of read pages	Specifies the number of pages to which data is written in HEX. Setting range: 01 h to 0C h	
Tag number setting	Do not set '0' by Multiple Access- and Selective Access Trigger mode. Surely set '0' by Single Access- and FIFO Access mode. Set the Number of time slots (1, 4, 8, 16, 32, 64, 128, 256). Setting range: 0 to 7 For details, refer to the manual 5-8 (Tag Number Setting).	

<Response Frame Structure>

Refer the items for each commands in the users manual,V720-CD1D.

*By setting BCC invalid (DIPSW3-8 ON), BCC is not added on command and response.

* New added function

2.2 Write(WT)

(1)Single-, FIFO-, Multiple-, Selective Write

Command for writing to all tages in the communication area.

Notice: On the write commands verify read is carried out before sending response.

<Command Frame Structure>

STX	Node No.	Command code ''WT''	Communi-cations	Data type	*1	First write page	No. of write page	Write data	ETX	BCC
1	2	2	2	1	1	2	2	Specified Number	1	1

*1: Set '0' by Single-, FIFO-, Selective Write (specufiied tag type)

Set the number of time slots by Multiple Write

Communications	Specifies a communication method. ST: Single Trigger SA: Single Auto AR: Single Repeat FT: FIFO Trigger FA: FIFO Auto FR: FIFO Repeat MT: Multi Trigger MR: Multi Repeat	Selective·Access·Trigger o : Tag Specified type (Temporary No.) Setting range : 00 h to 7 Fh For detais, refer to the manual 5-6 (Communication Methods)
Data type	Specifies whether the write data is represented in ASCII or HEX. A: ASCII code H: HEX code For details, refer to the manual 5-7 (Data Type)	
First write page	Specifies the first page of the Tag to which data is written in HEX. Setting range: FFh, 00 h to 0A h	
No. of write pages	Specifies the number of pages to which data is written in HEX. Setting range: 01 h to 0C h	
Write data	Indicates data to be written to the Tag. The number of charactoers of the data is as follows: ASCII code: No. of write pates × 4 (characters) HEX code : No. of write pates × 8 (characters)	
Tag number setting	Do not set '0' by Multiple Access- and Selective Access Trigger mode. Surely set '0' by Single Access- and FIFO Access mode. Set the Number of time slots by Multiple Access: (1, 4, 8, 16, 32, 64, 128, 256). Setting range : 0 to 7(0=slot,7=256 slots) For details, refer to the manual 5-8 (Tag Number Setting)	

<Response Frame Structure>

Refer the items for each commands in the manual.

*By setting BCC invalid (DIPSW3-8 ON), BCC is not added on command and response.

* New added function

2.3 System Commands

(1) Version (VS)

Command for the use of reading software version of the controller.

<Command Frame Structure>

STX	Node No.	Command code ''VS''	ETX	BCC
1	2	2	1	1

<Response Frame Structure>

STX	Node No.	Retry Flag	Command code ''VS''	Response code ''00''	Software version	ETX	BCC
1	2	1	2	2	4	1	1

Response code	00: Normal end Refer to the manual 5-11 (Response Code List) for other response codes.

*By setting BCC invalid (DIPSW3-8 ON), BCC is not added on command and response.

(2)EAS Set (ES)

Command for the use of setting EAS valid /invalid.

Do not return response to EAS commands, while setting on EAS invalid.

<Command Frame Structure>

STX	Node No.	Command code ''ES''	Set value	ETX	BCC
1	2	2	2	1	1

Set Value	Setting range: 00h to 01h 00: EAS valid 01: EAS invalid

<Response Frame Instructure>

STX	Node No.	Retry flag	Command code ''ES''	Response code ''00''	ETX	BCC
1	2	1	2	2	1	1

Response code	00: Normal End Refer to 5-11 (Response Code List) for other response codes.

*By setting BCC invalid (DIPSW3-8 ON), BCC is not added on command and response.

(3)EAS Check (EA)

Command for the use of checking EAS.

Keep operating until the Stop Command is sent.

<Command Frame Structure>

STX	Node No.	Command code ''EA''	ETX	BCC
1	2	2	1	1

<Response Frame Structure>

STX	Node No.	Retry flag	Command code ''EA''	Response code ''00''	EAS Data ''2FB36270D5...12A57237EF''	ETX	BCC
1	2	1	2		32	1	1

Response code	00: Normal End Refer to the manual 5-11 (Response Code List) for other response codes.
EAS data	Sends the received data to the host and host device judges the data. These are all normal received data. 2F B3 62 70 D5 A7 90 7F E8 B1 80 38 D2 81 49 76 82 DA 9A 86 6F AF 8B B0 F1 9C D1 12 A5 72 37 EF

*By setting BCC invalid (DIPSW3-8 ON), BCC is not added on command and response.

(4)QueitBit set (QB)

Command for the use of setting QuietBit.

Do not return response except EAS commands, while setting on QB invalid.

<Command Format Sturucture>

STX	Node No.	Command code ''QB''	Set value	ETX	BCC
1	2	2	2	1	1

Set value	Setting range: 00 h to 01 h 00: QuietBit invalid 01: QuietBit valid

<Response Format Structure>

STX	Node No.	Retry flag	Command code ''QB''	Response code ''00''	ETX	BCC
1	2	1	2	2	1	1

Response code	00: Normal End Refer to the manual 5-11 (Response Code List) for other response codes.

*This function requires that the software version of the controller is more than 1.3 version.

*By setting BCC invalid (DIPSW3-8 ON), BCC is not added on command and response.