

Digital Fiber Optic Amplifier Communication Converter

# BFC Series

**USER MANUAL**

**For COMMUNICATION**

CE





# Preface

Thank you for purchasing an Autonics product.





Please store this manual in a place where user can find easily, because it contains the guidance for the product and how to correctly use it.

# User Manual Guide

This user manual contains information about the product and its proper use, it should be kept in a place where it will be easy to access.


- Please familiarize yourself with the information in this manual before using the product.
- This manual provides detailed information on the product's features. It does not offer any guarantee concerning matters beyond the scope of this manual.
- This manual may not be edited or reproduced in either part or whole without permission.
- A user manual is not provided as part of the product package. Please visit [www.autonics.com](http://www.autonics.com) to download a copy.
- The manual's content may vary depending on changes to the product's software and other unforeseen developments within Autonics, therefore, the contents of this manual is subject to change without prior notice.
- We manage to describe this manual more easily and accurately. Nevertheless, if you have any questions or corrections, please leave comments on our website.


# User Manual Symbols

Symbol	Description
 <b>Note</b>	Supplementary information for a particular feature
 <b>Warning</b>	Failure to follow instructions can result in serious injury or death
 <b>Caution</b>	Failure to follow instructions can lead to a minor injury or product damage
 <b>Ex.</b>	An example of the concerned feature's use
※1	Annotation mark

# Safety Precautions

- Following these safety precautions will ensure the safe and proper use of the product and help prevent accidents and minimize hazards.
- Safety precautions are categorized as Warnings and Cautions, as defined below:

 <b>Warning</b>	<b>Warning</b>	Cases that may cause serious injury or fatal accident if instructions are not followed.
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 <b>Caution</b>	<b>Caution</b>	Cases that may cause minor injury or product damage if instructions are not followed.
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## Warning

- In case of using this unit with machinery(Nuclear power control, medical equipment, vehicle, train, airplane, combustion apparatus, entertainment or safety device etc.), it is required to install fail-safe device, or contact us for information required. It may cause a fire, human injury or property loss.
- Do not disassemble or modify this unit. Please contact us when required. It may give an electric shock and cause a fire.

## Caution

- This unit shall not be used outdoors. It might shorten the life cycle of the product or give an electric shock. Use this product indoors only. Do not use the product outdoors or at locations subject to the temperature or humidity of outdoors.(Example: rain, dirty, frost, sunlight, condensation, etc.)
- Do not use this unit where inflammable or explosive gas exists. It may cause a fire or explosion.
- Please observe the rated specifications. It may damage or shorten the life cycle of the product.
- Do not use this unit beyond rated power and do not supply AC power to a DC power type product. It may cause a damage to the product.
- Please check the polarity of power and wrong wiring. It may cause a damage to the product.
- Do not use this unit where there is vibration or a chance of impact. It may cause a damage to the product.
- When cleaning the unit, do not use water or an oil-based detergent. It may cause a fire, give an electric shock or damage to the product.

※ The specifications and dimensions of this manual are subject to change without any notice.

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# 1 Modbus RTU protocol

## 1.1 Read Coil Status(Func 01-01H)

Reads output(OX reference, Coil) ON/OFF status in the Slave device.

### (1) Query (Master)

Slave Address	Function	Starting Address		No. of Points		Error Check(CRC16)	
		Hi(Upper)	Lo(Lower)	Hi(Upper)	Lo(Lower)	Lo(Lower)	Hi(Upper)
1Byte	1Byte	1Byte	1Byte	1Byte	1Byte	1Byte	1Byte

←————— CRC16 —————→

### (2) Response (Slave)

Slave Address	Function	Byte Count	Data (Data)	Data (Data)	Data (Data)	Error Check(CRC16)	
						Lo(Lower)	Hi(Upper)
1Byte	1Byte	1Byte	1Byte	1Byte	1Byte	1Byte	1Byte

←————— CRC16 —————→

If reading the output status(ON: 1, OFF: 0) of 10 within coil 00001(0000 H) to 00010(0009 H) on Slave (Address 17) from Master.

#### ▪ Query (Master)

Slave Address	Function	Starting Address		No. of Points		Error Check(CRC16)	
		Hi(Upper)	Lo(Lower)	Hi(Upper)	Lo(Lower)	Lo(Lower)	Hi(Upper)
11 H	01 H	00 H	00 H	00 H	0A H	## H	## H

If the values range from coil 000008(0007 H) to 000001(0000 H) on the slave are “ON-ON-OFF-OFF-ON-ON-OFF-ON”, and the values from 000010(0009 H) to 000009(0008 H)are respectively “OFF-ON”.

#### ▪ Response (Slave)

Slave Address	Function	Byte Count	Data (000008 to 000001)	Data (000010 to 000009)	Error Check(CRC16)	
					Lo(Lower)	Hi(Upper)
11 H	01 H	02 H	CD H	01 H	## H	## H

## 1.2 Read Input Status(Func 02-02H)

Reads Input ON/OFF status(1X reference) in Slave device.

### (1) Query (Master)

Slave Address	Function	Starting Address		No. of Points		Error Check(CRC16)	
		Hi(Upper)	Lo(Lower)	Hi(Upper)	Lo(Lower)	Lo(Lower)	Hi(Upper)
1Byte	1Byte	1Byte	1Byte	1Byte	1Byte	1Byte	1Byte

←————— CRC16 —————→

### (2) Response (Slave)

Slave Address	Function	Byte Count	Data (Data)	Data (Data)	Data (Data)	Error Check(CRC16)	
						Lo(Lower)	Hi(Upper)
1Byte	1Byte	1Byte	1Byte	1Byte	1Byte	1Byte	1Byte

←————— CRC16 —————→

If reading the input status(ON: 1, OFF: 0) of 10 range 10001(0000 H)to10010(0009 H)in the Slave(Address 17) from the Master.

#### ▪ Query (Master)

Slave Address	Function	Starting Address		No. of Points		Error Check(CRC16)	
		Hi(Upper)	Lo(Lower)	Hi(Upper)	Lo(Lower)	Lo(Lower)	Hi(Upper)
11 H	02 H	00 H	00 H	00 H	0A H	## H	## H

If the values range 100008(0007 H) to 100001(0000 H) on slave are “ON-ON-OFF-OFF-ON-ON-OFF-ON”, and the values of 100010(0009 H) to 100009(0008 H) are respectively “OFF-ON”.

#### ▪ Response (Slave)

Slave Address	Function	Byte Count	Data (100008 to 100001)	Data (100010 to 100009)	Error Check(CRC16)	
					Lo(Lower)	Hi(Upper)
11 H	02 H	02 H	CD H	01 H	## H	## H

### 1.3 Read Holding Registers(Func 03–03H)

Reads the Binary data of Holding Registers(4X reference) in Slave device.

#### (1) Query (Master)

Slave Address	Function	Starting Address		No. of Points		Error Check(CRC16)	
		Hi(Upper)	Lo(Lower)	Hi(Upper)	Lo(Lower)	Lo(Lower)	Hi(Upper)
1Byte	1Byte	1Byte	1Byte	1Byte	1Byte	1Byte	1Byte

← CRC16 →

#### (2) Response (Slave)

Slave Address	Function	Byte Count	Data(Data)		Data(Data)		Data(Data)		Error Check(CRC16)	
			Hi(Upper)	Lo(Lower)	Hi(Upper)	Lo(Lower)	Hi(Upper)	Lo(Lower)	Lo(Lower)	Hi(Upper)
1Byte	1Byte	1Byte	1Byte	1Byte	1Byte	1Byte	1Byte	1Byte	1Byte	1Byte

← CRC16 →

If reading the values of 2, from Holding Register 400001(0000 H) to 400002(0001 H), in Slave(Address 17) from the Master.

#### ▪ Query (Master)

Slave Address	Function	Starting Address		No. of Points		Error Check(CRC16)	
		Hi(Upper)	Lo(Lower)	Hi(Upper)	Lo(Lower)	Lo(Lower)	Hi(Upper)
11 H	03 H	00 H	00 H	00 H	02 H	## H	## H

If the value of 400001(0000 H) on Slave is "555(22B H)" and the value of 400002(0001 H) is "100(64 H)".

#### ▪ Response (Slave)

Slave Address	Function	Byte Count	Data(Data)		Data(Data)		Error Check(CRC16)	
			Hi(Upper)	Lo(Lower)	Hi(Upper)	Lo(Lower)	Lo(Lower)	Hi(Upper)
11 H	03 H	04 H	02 H	2B H	00 H	64 H	## H	## H

## 1.4 Read Input Registers(Func 04-04H)

Reads the Binary data of Input Registers(3X reference) in Slave device.

### (1) Query (Master)

Slave Address	Function	Starting Address		No. of Points		Error Check(CRC16)	
		Hi(Upper)	Lo(Lower)	Hi(Upper)	Lo(Lower)	Lo(Lower)	Hi(Upper)
1Byte	1Byte	1Byte	1Byte	1Byte	1Byte	1Byte	1Byte

← CRC16 →

### (2) Response (Slave)

Slave Address	Function	Byte Count	Data	Data	Data	Error Check(CRC16)	
						Lo(Lower)	Hi(Upper)
1Byte	1Byte	1Byte	1Byte	1Byte	1Byte	1Byte	1Byte

← CRC16 →

If reading the values of 2 range from Input Register 300001(0000 H) to 300002(0001 H) on Slave (Address 17) from Master.

- Query (Master)

Slave Address	Function	Starting Address		No. of Points		Error Check(CRC16)	
		Hi(Upper)	Lo(Lower)	Hi(Upper)	Lo(Lower)	Lo(Lower)	Hi(Upper)
11 H	04 H	00 H	00 H	00 H	02 H	## H	## H

If the values of 300001(0000 H) on Slave is "10(A H)" and the values of 300002(0001 H) on Slave is "20(14 H)".

- Response (Slave)

Slave Address	Function	Byte Count	Data(Data)		Data(Data)		Error Check(CRC16)	
			Hi(Upper)	Lo(Lower)	Hi(Upper)	Lo(Lower)	Lo(Lower)	Hi(Upper)
11 H	04 H	04 H	00 H	0A H	00 H	14 H	## H	## H

## 1.5 Force single coil (Func 05–05H)

Turns ON (FF00 H) or OFF (0000 H) of single coil (0X reference) status within slave device.

### (1) Query (Master)

Slave address	Function	Starting address		Preset data		Error check (CRC16)	
		High	Low	High	Low	Low	High
1Byte	1Byte	1Byte	1Byte	1Byte	1Byte	1Byte	1Byte

←————— CRC16 —————→

### (2) Response (Slave)

Slave address	Function	Starting address		Preset data		Error check (CRC16)	
		High	Low	High	Low	Low	High
1Byte	1Byte	1Byte	1Byte	1Byte	1Byte	1Byte	1Byte

←————— CRC16 —————→

If Coil 000001 (0000 H) turns ON of Slave (Address 17) from Master.

#### ▪ Query (Master)

Slave address	Function	Starting address		Preset data		Error check (CRC16)	
		High	Low	High	Low	Low	High
11 H	05 H	00 H	00 H	FFH	00 H	## H	## H

#### ▪ Response (Slave)

Slave address	Function	Starting address		Preset data		Error check (CRC16)	
		High	Low	High	Low	Low	High
11 H	05 H	00 H	00 H	FF H	00 H	## H	## H

## 1.6 Preset Single Registers(Func 06–06H)

Writes the Binary data of single Holding Registers (4X reference) in Slave device.

### (1) Query (Master)

Slave Address	Function	Register Address		Preset Data(Data)		Error Check(CRC16)	
		Hi(Upper)	Lo(Lower)	Hi(Upper)	Lo(Lower)	Lo(Lower)	Hi(Upper)
1Byte	1Byte	1Byte	1Byte	1Byte	1Byte	1Byte	1Byte

←————— CRC16 —————→

### (2) Response (Slave)

Slave Address	Function	Register Address		Preset Data(Data)		Error Check(CRC16)	
		Hi(Upper)	Lo(Lower)	Hi(Upper)	Lo(Lower)	Lo(Lower)	Hi(Upper)
1Byte	1Byte	1Byte	1Byte	1Byte	1Byte	1Byte	1Byte

←————— CRC16 —————→

If writing “10(A H)” to Holding Register 40001(0000 H) on Slave(Address 17) from Master.

#### ▪ Query (Master)

Slave Address	Function	Starting Address		Preset Data(Data)		Error Check(CRC16)	
		Hi(Upper)	Lo(Lower)	Hi(Upper)	Lo(Lower)	Lo(Lower)	Hi(Upper)
11 H	06 H	00 H	00 H	00 H	0A H	## H	## H

#### ▪ Response (Slave)

Slave Address	Function	Starting Address		Preset Data(Data)		Error Check(CRC16)	
		Hi(Upper)	Lo(Lower)	Hi(Upper)	Lo(Lower)	Lo(Lower)	Hi(Upper)
11 H	06 H	00 H	00 H	00 H	0A H	## H	## H

## 1.7 Preset Multiple Registers(Func 16-10H)

Writes the Binary data of Holding Registers (4X reference) consecutively in Slave device.

### (1) Query (Master)

Slave Address	Function	Starting Address		No. of Register		Byte Count	Data(Data)		Data(Data)		Error Check (CRC16)	
		Hi (Upper)	Lo (Lower)	Hi (Upper)	Lo (Lower)		Hi (Upper)	Lo (Lower)	Hi (Upper)	Lo (Lower)	Lo	Hi
1Byte	1Byte	1Byte	1Byte	1Byte	1Byte	1Byte	1Byte	1Byte	1Byte	1Byte	1Byte	1Byte

← CRC16 →

### (2) Response (Slave)

Slave Address	Function	Starting Address		No. of Register		Error Check(CRC16)	
		Hi(Upper)	Lo(Lower)	Hi(Upper)	Lo(Lower)	Lo(Lower)	Hi(Upper)
1Byte	1Byte	1Byte	1Byte	1Byte	1Byte	1Byte	1Byte

← CRC16 →

If writing "10(A H)" in common to the range of Holding Register 40001(0000 H) to 40002(0001 H) on Slave(Address 17) from Master.

- Query (Master)

Slave Address	Function	Starting Address		No. of Register		Byte Count	Data(Data)		Data(Data)		Error Check (CRC16)	
		Hi (Upper)	Lo (Lower)	Hi (Upper)	Lo (Lower)		Hi (Upper)	Lo (Lower)	Lo	Hi		
11 H	10 H	00 H	00 H	00 H	02 H	04 H	00 H	0A H	00 H	0A H	## H	## H

- Response (Slave)

Slave Address	Function	Starting Address		No. of Register		Error Check(CRC16)	
		Hi(Upper)	Lo(Lower)	Hi(Upper)	Lo(Lower)	Lo(Lower)	Hi(Upper)
11 H	10 H	00 H	00 H	00 H	02 H	## H	## H

Please use the Single Register Write function rather than Multi Register Write function if you use the slave(device) connecting with external devices such as PLC, Graphic Panel, except in the case of download that presets the minimum/maximum or basic value of parameter by Input specifications in PC Loader Program.

## 1.8 Exception Response-Error Code

If occurs an error, send a response command and transmit each Exception Code after set(1) the highest-level bit of received command(Function).

Slave Address	Function +80 H	Exception Code	Error Check(CRC16)	
			Lo(Lower)	Hi(Upper)
1Byte	1Byte	1Byte	1Byte	1Byte

←————— CRC16 —————→

- ILLEGAL FUNCTION (Exception Code: 01 H): A command that is not supported.
- ILLEGAL DATA ADDRESS (Exception Code: 02 H): Starting address of queried data is inconsistent with transmittable address from the device.
- ILLRGAL DATA VALUE (Exception Code: 03 H): Numbers of queried data are inconsistent with the numbers of transmittable (transferable) data from the device.
- SLAVE DEVICE FAILURE (Exception Code: 04 H): Not properly completed the queried command (order).

If reading the output status of non-existing coil 001001(03E8 H) [ON: 1, OFF: 0] on Slave(Address 17) from Master.

- Query (Master)

Slave Address	Function	Starting Address		No. of Points		Error Check(CRC16)	
		Hi(Upper)	Lo(Lower)	Hi(Upper)	Lo(Lower)	Lo(Lower)	Hi(Upper)
11 H	01 H	03 H	E8 H	00 H	01 H	## H	## H

- Response (Slave)

Slave Address	Function +80 H	Exception Code	Error Check(CRC16)	
			Lo(Lower)	Hi(Upper)
11 H	81 H	02 H	## H	## H



## 2 Modbus Mapping Table

### 2.1 Read Input Status(0X02)

NO.	FUNC	R/W	ITEM	DETAILS
100001(0000)	02	R/W	CH1 OUT LED Status	"0" : OFF "1" : ON
100002(0001)	02	R/W	CH2 OUT LED Status	"0" : OFF "1" : ON
100003(0002)	02	R/W	CH3 OUT LED Status	"0" : OFF "1" : ON
100004(0003)	02	R/W	CH4 OUT LED Status	"0" : OFF "1" : ON
100005(0004)	02	R/W	CH5 OUT LED Status	"0" : OFF "1" : ON
100006(0005)	02	R/W	CH6 OUT LED Status	"0" : OFF "1" : ON
100007(0006)	02	R/W	CH7 OUT LED Status	"0" : OFF "1" : ON
100008(0007)	02	R/W	CH8 OUT LED Status	"0" : OFF "1" : ON
100009(0008)	02	R/W	CH9 OUT LED Status	"0" : OFF "1" : ON
100010(0009)	02	R/W	CH10 OUT LED Status	"0" : OFF "1" : ON
100011(000A)	02	R/W	CH11 OUT LED Status	"0" : OFF "1" : ON
100012(000B)	02	R/W	CH12 OUT LED Status	"0" : OFF "1" : ON
100013(000C)	02	R/W	CH13 OUT LED Status	"0" : OFF "1" : ON
100014(000D)	02	R/W	CH14 OUT LED Status	"0" : OFF "1" : ON
100015(000E)	02	R/W	CH15 OUT LED Status	"0" : OFF "1" : ON
100016(000F)	02	R/W	CH16 OUT LED Status	"0" : OFF "1" : ON
100017(0010)	02	R/W	CH17 OUT LED Status	"0" : OFF "1" : ON
100018(0011)	02	R/W	CH18 OUT LED Status	"0" : OFF "1" : ON
100019(0012)	02	R/W	CH19 OUT LED Status	"0" : OFF "1" : ON
100020(0013)	02	R/W	CH20 OUT LED Status	"0" : OFF "1" : ON
100021(0014)	02	R/W	CH21 OUT LED Status	"0" : OFF "1" : ON
100022(0015)	02	R/W	CH22 OUT LED Status	"0" : OFF "1" : ON
100023(0016)	02	R/W	CH23 OUT LED Status	"0" : OFF "1" : ON
100024(0017)	02	R/W	CH24 OUT LED Status	"0" : OFF "1" : ON
100025(0018)	02	R/W	CH25 OUT LED Status	"0" : OFF "1" : ON
100026(0019)	02	R/W	CH26 OUT LED Status	"0" : OFF "1" : ON
100027(001A)	02	R/W	CH27 OUT LED Status	"0" : OFF "1" : ON
100028(001B)	02	R/W	CH28 OUT LED Status	"0" : OFF "1" : ON
100029(001C)	02	R/W	CH29 OUT LED Status	"0" : OFF "1" : ON
100030(001D)	02	R/W	CH30 OUT LED Status	"0" : OFF "1" : ON
100031(001E)	02	R/W	CH31 OUT LED Status	"0" : OFF "1" : ON
100032(001F)	02	R/W	CH32 OUT LED Status	"0" : OFF "1" : ON

## 2.2 Read Input Register(Func: 0X04)

NO.	FUNC	R/W	ITEM	DETAILS
			Reserved	
300101(0064)	04	R	Product Serial No. H	-
300102(0065)	04	R	Product Serial No. L	-
300103(0066)	04	R	Hardware Version	10
300104(0067)	04	R	Software Version	10
300105(0068)	04	R	Model Name 1	"BF"
300106(0069)	04	R	Model Name 2	"C "
300107(006A)	04	R	Model Name 3	
300108(006B)	04	R	Model Name 4	
300109(006C)	04	R	Model Name 5	
300110(006D)	04	R	Model Name 6	
300111(006E)	04	R	Model Name 7	
300112(006F)	04	R	Model Name 8	
300113(0070)	04	R	Model Name 9	
300114(0071)	04	R	Model Name 10	
			Reserved	
300118(0075)	04	R	COIL START ADDRESS	0
300119(0076)	04	R	COIL QUANTITY	3
300120(0077)	04	R	INPUT START ADDRESS	0
300121(0078)	04	R	INPUT QUANTITY	0
300122(0079)	04	R	HOLDING REG START ADDRESS	0
300123(007A)	04	R	HOLDING REG QUANTITY	0
300124(007B)	04	R	INPUT REG START ADDRESS	0
300125(007C)	04	R	INPUT REG QUANTITY	4
			Reserved	

## 2.3 Read Input Register(Present Value List)

NO.	FUNC	R/W	ITEM	DETAILS
300201(00C8)	04	R	CH1 Present Value <i>d5PF</i> : Indicates 0 to 4000/9999	Indicates incident light level in the decimal system -UFAST, FAST, STD: Indicates 0 to 4000 -LONG: Indicates 0 to 9999
300202(00C9)	04	R	CH2 Present Value <i>d5PF</i> : Indicates 0 to 4000/9999	Indicates incident light level in the decimal system -UFAST, FAST, STD: Indicates 0 to 4000 -LONG: Indicates 0 to 9999
300203(00CA)	04	R	CH3 Present Value <i>d5PF</i> : Indicates 0 to 4000/9999	Indicates incident light level in the decimal system -UFAST, FAST, STD: Indicates 0 to 4000 -LONG: Indicates 0 to 9999
300204(00CB)	04	R	CH4 Present Value <i>d5PF</i> : Indicates 0 to 4000/9999	Indicates incident light level in the decimal system -UFAST, FAST, STD: Indicates 0 to 4000 -LONG: Indicates 0 to 9999
300205(00CC)	04	R	CH5 Present Value <i>d5PF</i> : Indicates 0 to 4000/9999	Indicates incident light level in the decimal system -UFAST, FAST, STD: Indicates 0 to 4000 -LONG: Indicates 0 to 9999
300206(00CD)	04	R	CH6 Present Value <i>d5PF</i> : Indicates 0 to 4000/9999	Indicates incident light level in the decimal system -UFAST, FAST, STD: Indicates 0 to 4000 -LONG: Indicates 0 to 9999
300207(00CE)	04	R	CH7 Present Value <i>d5PF</i> : Indicates 0 to 4000/9999	Indicates incident light level in the decimal system -UFAST, FAST, STD: Indicates 0 to 4000 -LONG: Indicates 0 to 9999
300208(00CF)	04	R	CH8 Present Value <i>d5PF</i> : Indicates 0 to 4000/9999	Indicates incident light level in the decimal system -UFAST, FAST, STD: Indicates 0 to 4000 -LONG: Indicates 0 to 9999
300209(00D0)	04	R	CH9 Present Value <i>d5PF</i> : Indicates 0 to	Indicates incident light level in the decimal system

NO.	FUNC	R/W	ITEM	DETAILS
			4000/9999	-UFAST, FAST, STD: Indicates 0 to 4000 -LONG: Indicates 0 to 9999
300210(00D1)	04	R	CH10 Present Value dSPF: Indicates 0 to 4000/9999	Indicates incident light level in the decimal system -UFAST, FAST, STD: Indicates 0 to 4000 -LONG: Indicates 0 to 9999
300211(00D2)	04	R	CH11 Present Value dSPF: Indicates 0 to 4000/9999	Indicates incident light level in the decimal system -UFAST, FAST, STD: Indicates 0 to 4000 -LONG: Indicates 0 to 9999
300212(00D3)	04	R	CH12 Present Value dSPF: Indicates 0 to 4000/9999	Indicates incident light level in the decimal system -UFAST, FAST, STD: Indicates 0 to 4000 -LONG: Indicates 0 to 9999
300213(00D4)	04	R	CH13 Present Value dSPF: Indicates 0 to 4000/9999	Indicates incident light level in the decimal system -UFAST, FAST, STD: Indicates 0 to 4000 -LONG: Indicates 0 to 9999
300214(00D5)	04	R	CH14 Present Value dSPF: Indicates 0 to 4000/9999	Indicates incident light level in the decimal system -UFAST, FAST, STD: Indicates 0 to 4000 -LONG: Indicates 0 to 9999
300215(00D6)	04	R	CH15 Present Value dSPF: Indicates 0 to 4000/9999	Indicates incident light level in the decimal system -UFAST, FAST, STD: Indicates 0 to 4000 -LONG: Indicates 0 to 9999
300216(00D7)	04	R	CH16 Present Value dSPF: Indicates 0 to 4000/9999	Indicates incident light level in the decimal system -UFAST, FAST, STD: Indicates 0 to 4000 -LONG: Indicates 0 to 9999
300217(00D8)	04	R	CH17 Present Value dSPF: Indicates 0 to 4000/9999	Indicates incident light level in the decimal system -UFAST, FAST, STD: Indicates 0 to 4000 -LONG: Indicates 0 to 9999
300218(00D9)	04	R	CH18 Present Value dSPF: Indicates 0 to	Indicates incident light level in the decimal system

NO.	FUNC	R/W	ITEM	DETAILS
			4000/9999	-UFAST, FAST, STD: Indicates 0 to 4000 -LONG: Indicates 0 to 9999
300219(00DA)	04	R	CH19 Present Value dSPF: Indicates 0 to 4000/9999	Indicates incident light level in the decimal system -UFAST, FAST, STD: Indicates 0 to 4000 -LONG: Indicates 0 to 9999
300220(00DB)	04	R	CH20 Present Value dSPF: Indicates 0 to 4000/9999	Indicates incident light level in the decimal system -UFAST, FAST, STD: Indicates 0 to 4000 -LONG: Indicates 0 to 9999
300221(00DC)	04	R	CH21 Present Value dSPF: Indicates 0 to 4000/9999	Indicates incident light level in the decimal system -UFAST, FAST, STD: Indicates 0 to 4000 -LONG: Indicates 0 to 9999
300222(00DD)	04	R	CH22 Present Value dSPF: Indicates 0 to 4000/9999	Indicates incident light level in the decimal system -UFAST, FAST, STD: Indicates 0 to 4000 -LONG: Indicates 0 to 9999
300223(00DE)	04	R	CH23 Present Value dSPF: Indicates 0 to 4000/9999	Indicates incident light level in the decimal system -UFAST, FAST, STD: Indicates 0 to 4000 -LONG: Indicates 0 to 9999
300224(00DF)	04	R	CH24 Present Value dSPF: Indicates 0 to 4000/9999	Indicates incident light level in the decimal system -UFAST, FAST, STD: Indicates 0 to 4000 -LONG: Indicates 0 to 9999
300225(00E0)	04	R	CH25 Present Value dSPF: Indicates 0 to 4000/9999	Indicates incident light level in the decimal system -UFAST, FAST, STD: Indicates 0 to 4000 -LONG: Indicates 0 to 9999
300226(00E1)	04	R	CH26 Present Value dSPF: Indicates 0 to 4000/9999	Indicates incident light level in the decimal system -UFAST, FAST, STD: Indicates 0 to 4000 -LONG: Indicates 0 to 9999
300227(00E2)	04	R	CH27 Present Value dSPF: Indicates 0 to	Indicates incident light level in the decimal system

NO.	FUNC	R/W	ITEM	DETAILS
			4000/9999	-UFAST, FAST, STD: Indicates 0 to 4000 -LONG: Indicates 0 to 9999
300228(00E3)	04	R	CH28 Present Value dSPF: Indicates 0 to 4000/9999	Indicates incident light level in the decimal system -UFAST, FAST, STD: Indicates 0 to 4000 -LONG: Indicates 0 to 9999
300229(00E4)	04	R	CH29 Present Value dSPF: Indicates 0 to 4000/9999	Indicates incident light level in the decimal system -UFAST, FAST, STD: Indicates 0 to 4000 -LONG: Indicates 0 to 9999
300230(00E5)	04	R	CH30 Present Value dSPF: Indicates 0 to 4000/9999	Indicates incident light level in the decimal system -UFAST, FAST, STD: Indicates 0 to 4000 -LONG: Indicates 0 to 9999
300231(00E6)	04	R	CH31 Present Value dSPF: Indicates 0 to 4000/9999	Indicates incident light level in the decimal system -UFAST, FAST, STD: Indicates 0 to 4000 -LONG: Indicates 0 to 9999
300232(00E7)	04	R	CH32 Present Value dSPF: Indicates 0 to 4000/9999	Indicates incident light level in the decimal system -UFAST, FAST, STD: Indicates 0 to 4000 -LONG: Indicates 0 to 9999
			Reserved	
300251(00FA)	04	R	The Number of Added Channels	The Last Amplifier Unit NO.
			Reserved	

※When communicates Master unit, BFC checks the number of added channels. If the number is over 32, the over channels are as illegal address.

## 2.4 Read Input Register(Set Value List)

NO.	FUNC	R/W	ITEM	DETAILS
300301(012C)	04	R	CH1 Setting Value <i>dSPF</i> : Indicates 0 to 4000/9999	Indicates incident light level in the decimal system -UFAST, FAST, STD: Indicates 0 to 4000 -LONG: Indicates 0 to 9999
300302(012D)	04	R	CH2 Setting Value <i>dSPF</i> : Indicates 0 to 4000/9999	Indicates incident light level in the decimal system -UFAST, FAST, STD: Indicates 0 to 4000 -LONG: Indicates 0 to 9999
300303(012E)	04	R	CH3 Setting Value <i>dSPF</i> : Indicates 0 to 4000/9999	Indicates incident light level in the decimal system -UFAST, FAST, STD: Indicates 0 to 4000 -LONG: Indicates 0 to 9999
300304(012F)	04	R	CH4 Setting Value <i>dSPF</i> : Indicates 0 to 4000/9999	Indicates incident light level in the decimal system -UFAST, FAST, STD: Indicates 0 to 4000 -LONG: Indicates 0 to 9999
300305(0130)	04	R	CH5 Setting Value <i>dSPF</i> : Indicates 0 to 4000/9999	Indicates incident light level in the decimal system -UFAST, FAST, STD: Indicates 0 to 4000 -LONG: Indicates 0 to 9999
300306(0131)	04	R	CH6 Setting Value <i>dSPF</i> : Indicates 0 to 4000/9999	Indicates incident light level in the decimal system -UFAST, FAST, STD: Indicates 0 to 4000 -LONG: Indicates 0 to 9999
300307(0132)	04	R	CH7 Setting Value <i>dSPF</i> : Indicates 0 to 4000/9999	Indicates incident light level in the decimal system -UFAST, FAST, STD: Indicates 0 to 4000 -LONG: Indicates 0 to 9999
300308(0133)	04	R	CH8 Setting Value <i>dSPF</i> : Indicates 0 to 4000/9999	Indicates incident light level in the decimal system -UFAST, FAST, STD: Indicates 0 to 4000 -LONG: Indicates 0 to 9999
300309(0134)	04	R	CH9 Setting Value <i>dSPF</i> : Indicates 0 to 4000/9999	Indicates incident light level in the decimal system

NO.	FUNC	R/W	ITEM	DETAILS
				-UFAST, FAST, STD: Indicates 0 to 4000 -LONG: Indicates 0 to 9999
300310(0135)	04	R	CH10 Setting Value <i>dSPF</i> : Indicates 0 to 4000/9999	Indicates incident light level in the decimal system -UFAST, FAST, STD: Indicates 0 to 4000 -LONG: Indicates 0 to 9999
300311(0136)	04	R	CH11 Setting Value <i>dSPF</i> : Indicates 0 to 4000/9999	Indicates incident light level in the decimal system -UFAST, FAST, STD: Indicates 0 to 4000 -LONG: Indicates 0 to 9999
300312(0137)	04	R	CH12 Setting Value <i>dSPF</i> : Indicates 0 to 4000/9999	Indicates incident light level in the decimal system -UFAST, FAST, STD: Indicates 0 to 4000 -LONG: Indicates 0 to 9999
300313(0138)	04	R	CH13 Setting Value <i>dSPF</i> : Indicates 0 to 4000/9999	Indicates incident light level in the decimal system -UFAST, FAST, STD: Indicates 0 to 4000 -LONG: Indicates 0 to 9999
300314(0139)	04	R	CH14 Setting Value <i>dSPF</i> : Indicates 0 to 4000/9999	Indicates incident light level in the decimal system -UFAST, FAST, STD: Indicates 0 to 4000 -LONG: Indicates 0 to 9999
300315(013A)	04	R	CH15 Setting Value <i>dSPF</i> : Indicates 0 to 4000/9999	Indicates incident light level in the decimal system -UFAST, FAST, STD: Indicates 0 to 4000 -LONG: Indicates 0 to 9999
300316(013B)	04	R	CH16 Setting Value <i>dSPF</i> : Indicates 0 to 4000/9999	Indicates incident light level in the decimal system -UFAST, FAST, STD: Indicates 0 to 4000 -LONG: Indicates 0 to 9999
300317(013C)	04	R	CH17 Setting Value <i>dSPF</i> : Indicates 0 to 4000/9999	Indicates incident light level in the decimal system -UFAST, FAST, STD: Indicates 0 to 4000 -LONG: Indicates 0 to 9999
300318(013D)	04	R	CH18 Setting Value <i>dSPF</i> : Indicates 0 to 4000/9999	Indicates incident light level in the decimal system



NO.	FUNC	R/W	ITEM	DETAILS
				-UFAST, FAST, STD: Indicates 0 to 4000 -LONG: Indicates 0 to 9999
300319(013E)	04	R	CH19 Setting Value <i>d5PF</i> : Indicates 0 to 4000/9999	Indicates incident light level in the decimal system -UFAST, FAST, STD: Indicates 0 to 4000 -LONG: Indicates 0 to 9999
300320(013F)	04	R	CH20 Setting Value <i>d5PF</i> : Indicates 0 to 4000/9999	Indicates incident light level in the decimal system -UFAST, FAST, STD: Indicates 0 to 4000 -LONG: Indicates 0 to 9999
300321(0140)	04	R	CH21 Setting Value <i>d5PF</i> : Indicates 0 to 4000/9999	Indicates incident light level in the decimal system -UFAST, FAST, STD: Indicates 0 to 4000 -LONG: Indicates 0 to 9999
300322(0141)	04	R	CH22 Setting Value <i>d5PF</i> : Indicates 0 to 4000/9999	Indicates incident light level in the decimal system -UFAST, FAST, STD: Indicates 0 to 4000 -LONG: Indicates 0 to 9999
300323(0142)	04	R	CH23 Setting Value <i>d5PF</i> : Indicates 0 to 4000/9999	Indicates incident light level in the decimal system -UFAST, FAST, STD: Indicates 0 to 4000 -LONG: Indicates 0 to 9999
300324(0143)	04	R	CH24 Setting Value <i>d5PF</i> : Indicates 0 to 4000/9999	Indicates incident light level in the decimal system -UFAST, FAST, STD: Indicates 0 to 4000 -LONG: Indicates 0 to 9999
300325(0144)	04	R	CH25 Setting Value <i>d5PF</i> : Indicates 0 to 4000/9999	Indicates incident light level in the decimal system -UFAST, FAST, STD: Indicates 0 to 4000 -LONG: Indicates 0 to 9999
300326(0145)	04	R	CH26 Setting Value <i>d5PF</i> : Indicates 0 to 4000/9999	Indicates incident light level in the decimal system -UFAST, FAST, STD: Indicates 0 to 4000 -LONG: Indicates 0 to 9999
300327(0146)	04	R	CH27 Setting Value <i>d5PF</i> : Indicates 0 to 4000/9999	Indicates incident light level in the decimal system

NO.	FUNC	R/W	ITEM	DETAILS
				-UFAST, FAST, STD: Indicates 0 to 4000 -LONG: Indicates 0 to 9999
300328(0147)	04	R	CH28 Setting Value <i>dSPF</i> : Indicates 0 to 4000/9999	Indicates incident light level in the decimal system -UFAST, FAST, STD: Indicates 0 to 4000 -LONG: Indicates 0 to 9999
300329(0148)	04	R	CH29 Setting Value <i>dSPF</i> : Indicates 0 to 4000/9999	Indicates incident light level in the decimal system -UFAST, FAST, STD: Indicates 0 to 4000 -LONG: Indicates 0 to 9999
300330(0149)	04	R	CH30 Setting Value <i>dSPF</i> : Indicates 0 to 4000/9999	Indicates incident light level in the decimal system -UFAST, FAST, STD: Indicates 0 to 4000 -LONG: Indicates 0 to 9999
300331(014A)	04	R	CH31 Setting Value <i>dSPF</i> : Indicates 0 to 4000/9999	Indicates incident light level in the decimal system -UFAST, FAST, STD: Indicates 0 to 4000 -LONG: Indicates 0 to 9999
300332(014B)	04	R	CH32 Setting Value <i>dSPF</i> : Indicates 0 to 4000/9999	Indicates incident light level in the decimal system -UFAST, FAST, STD: Indicates 0 to 4000 -LONG: Indicates 0 to 9999
			Reserved	

## 2.5 Read Input Register(LED Status List)

NO.	FUNC	R/W	ITEM	DETAILS
300401(0190)	04	R	CH1 Output LED Status	Front part Output LED status (Dual, Single)
300402(0191)	04	R	CH2 Output LED Status	Front part Output LED status (Dual, Single)
300403(0192)	04	R	CH3 Output LED Status	Front part Output LED status (Dual, Single)
300404(0193)	04	R	CH4 Output LED Status	Front part Output LED status (Dual, Single)
300405(0194)	04	R	CH5 Output LED Status	Front part Output LED status (Dual, Single)
300406(0195)	04	R	CH6 Output LED Status	Front part Output LED status (Dual, Single)
300407(0196)	04	R	CH7 Output LED Status	Front part Output LED status (Dual, Single)
300408(0197)	04	R	CH8 Output LED Status	Front part Output LED status (Dual, Single)
300409(0198)	04	R	CH9 Output LED Status	Front part Output LED status (Dual, Single)
300410(0199)	04	R	CH10 Output LED Status	Front part Output LED status (Dual, Single)
300411(019A)	04	R	CH11 Output LED Status	Front part Output LED status (Dual, Single)
300412(019B)	04	R	CH12 Output LED Status	Front part Output LED status (Dual, Single)
300413(019C)	04	R	CH13 Output LED Status	Front part Output LED status (Dual, Single)
300414(019D)	04	R	CH14 Output LED Status	Front part Output LED status (Dual, Single)
300415(019E)	04	R	CH15 Output LED Status	Front part Output LED status (Dual, Single)
300416(019F)	04	R	CH16 Output LED Status	Front part Output LED status (Dual, Single)
300417(01A0)	04	R	CH17 Output LED Status	Front part Output LED status (Dual, Single)
300418(01A1)	04	R	CH18 Output LED Status	Front part Output LED status (Dual, Single)
300419(01A2)	04	R	CH19 Output LED Status	Front part Output LED status (Dual, Single)
300420(01A3)	04	R	CH20 Output LED Status	Front part Output LED status (Dual, Single)
300421(01A4)	04	R	CH21 Output LED Status	Front part Output LED status (Dual, Single)
300422(01A5)	04	R	CH22 Output LED Status	Front part Output LED status (Dual, Single)
300423(01A6)	04	R	CH23 Output LED Status	Front part Output LED status (Dual, Single)
300424(01A7)	04	R	CH24 Output LED Status	Front part Output LED status (Dual, Single)
300425(01A8)	04	R	CH25 Output LED Status	Front part Output LED status (Dual, Single)
300426(01A9)	04	R	CH26 Output LED Status	Front part Output LED status (Dual, Single)
300427(01AA)	04	R	CH27 Output LED Status	Front part Output LED status (Dual, Single)
300428(01AB)	04	R	CH28 Output LED Status	Front part Output LED status (Dual, Single)
300429(01AC)	04	R	CH29 Output LED Status	Front part Output LED status (Dual, Single)
300430(01AD)	04	R	CH30 Output LED Status	Front part Output LED status (Dual, Single)
300431(01AE)	04	R	CH31 Output LED Status	Front part Output LED status (Dual, Single)
300432(01AF)	04	R	CH32 Output LED Status	Front part Output LED status (Dual, Single)
			Reserved	

## 2.6 Read Input Register(HI Peak Value List by Channel)

NO.	FUNC	R/W	ITEM	DETAILS
300501(01F4)	04	R	CH1 HI Peak Value	Indicates high peak value in decimal system [Output of max. incident light level ]
300502(01F5)	04	R	CH2 HI Peak Value	Indicates high peak value in decimal system [Output of max. incident light level ]
300503(01F6)	04	R	CH3 HI Peak Value	Indicates high peak value in decimal system [Output of max. incident light level ]
300504(01F7)	04	R	CH4 HI Peak Value	Indicates high peak value in decimal system [Output of max. incident light level ]
300505(01F8)	04	R	CH5 HI Peak Value	Indicates high peak value in decimal system [Output of max. incident light level ]
300506(01F9)	04	R	CH6 HI Peak Value	Indicates high peak value in decimal system [Output of max. incident light level ]
300507(01FA)	04	R	CH7 HI Peak Value	Indicates high peak value in decimal system [Output of max. incident light level ]
300508(01FB)	04	R	CH8 HI Peak Value	Indicates high peak value in decimal system [Output of max. incident light level ]
300509(01FC)	04	R	CH9 HI Peak Value	Indicates high peak value in decimal system [Output of max. incident light level ]
300510(01FD)	04	R	CH10 HI Peak Value	Indicates high peak value in decimal system [Output of max. incident light level ]
300511(01FE)	04	R	CH11 HI Peak Value	Indicates high peak value in decimal system [Output of max. incident light level ]
300512(01FF)	04	R	CH12 HI Peak Value	Indicates high peak value in decimal system [Output of max. incident light level ]
300513(0200)	04	R	CH13 HI Peak Value	Indicates high peak value in decimal system [Output of max. incident light level ]
300514(0201)	04	R	CH14 HI Peak Value	Indicates high peak value in decimal system [Output of max. incident light level ]
300515(0202)	04	R	CH15 HI Peak Value	Indicates high peak value in decimal system [Output of max. incident light level ]
300516(0203)	04	R	CH16 HI Peak Value	Indicates high peak value in decimal system [Output of max. incident light level ]
300517(0204)	04	R	CH17 HI Peak Value	Indicates high peak value in decimal system

NO.	FUNC	R/W	ITEM	DETAILS
				[Output of max. incident light level ]
300518(0205)	04	R	CH18 HI Peak Value	Indicates high peak value in decimal system [Output of max. incident light level ]
300519(0206)	04	R	CH19 HI Peak Value	Indicates high peak value in decimal system [Output of max. incident light level ]
300520(0207)	04	R	CH20 HI Peak Value	Indicates high peak value in decimal system [Output of max. incident light level ]
300521(0208)	04	R	CH21 HI Peak Value	Indicates high peak value in decimal system [Output of max. incident light level ]
300522(0209)	04	R	CH22 HI Peak Value	Indicates high peak value in decimal system [Output of max. incident light level ]
300523(020A)	04	R	CH23 HI Peak Value	Indicates high peak value in decimal system [Output of max. incident light level ]
300524(020B)	04	R	CH24 HI Peak Value	Indicates high peak value in decimal system [Output of max. incident light level ]
300525(020C)	04	R	CH25 HI Peak Value	Indicates high peak value in decimal system [Output of max. incident light level ]
300526(020D)	04	R	CH26 HI Peak Value	Indicates high peak value in decimal system [Output of max. incident light level ]
300527(020E)	04	R	CH27 HI Peak Value	Indicates high peak value in decimal system [Output of max. incident light level ]
300528(020F)	04	R	CH28 HI Peak Value	Indicates high peak value in decimal system [Output of max. incident light level ]
300529(0210)	04	R	CH29 HI Peak Value	Indicates high peak value in decimal system [Output of max. incident light level ]
300530(0211)	04	R	CH30 HI Peak Value	Indicates high peak value in decimal system [Output of max. incident light level ]
300531(0212)	04	R	CH31 HI Peak Value	Indicates high peak value in decimal system [Output of max. incident light level ]
300532(0213)	04	R	CH32 HI Peak Value	Indicates high peak value in decimal system [Output of max. incident light level ]

## 2.7 Read Input Register(LO Peak Value List by Channel)

NO.	FUNC	R/W	ITEM	DETAILS
300551(0226)	04	R	CH1 LO Peak Value	Indicates low peak value in decimal system [Output of min. incident light level]
300552(0227)	04	R	CH2 LO Peak Value	Indicates low peak value in decimal system [Output of min. incident light level]
300553(0228)	04	R	CH3 LO Peak Value	Indicates low peak value in decimal system [Output of min. incident light level]
300554(0229)	04	R	CH4 LO Peak Value	Indicates low peak value in decimal system [Output of min. incident light level]
300555(022A)	04	R	CH5 LO Peak Value	Indicates low peak value in decimal system [Output of min. incident light level]
300556(022B)	04	R	CH6 LO Peak Value	Indicates low peak value in decimal system [Output of min. incident light level]
300557(022C)	04	R	CH7 LO Peak Value	Indicates low peak value in decimal system [Output of min. incident light level]
300558(022D)	04	R	CH8 LO Peak Value	Indicates low peak value in decimal system [Output of min. incident light level]
300559(022E)	04	R	CH9 LO Peak Value	Indicates low peak value in decimal system [Output of min. incident light level]
300560(022F)	04	R	CH10 LO Peak Value	Indicates low peak value in decimal system [Output of min. incident light level]
300561(0230)	04	R	CH11 LO Peak Value	Indicates low peak value in decimal system [Output of min. incident light level]
300562(0231)	04	R	CH12 LO Peak Value	Indicates low peak value in decimal system [Output of min. incident light level]
300563(0232)	04	R	CH13 LO Peak Value	Indicates low peak value in decimal system [Output of min. incident light level]
300564(0233)	04	R	CH14 LO Peak Value	Indicates low peak value in decimal system [Output of min. incident light level]
300565(0234)	04	R	CH15 LO Peak Value	Indicates low peak value in decimal system [Output of min. incident light level]
300566(0235)	04	R	CH16 LO Peak Value	Indicates low peak value in decimal system [Output of min. incident light level]
300567(0236)	04	R	CH17 LO Peak Value	Indicates low peak value in decimal system [Output of min. incident light level]

NO.	FUNC	R/W	ITEM	DETAILS
300568(0237)	04	R	CH18 LO Peak Value	Indicates low peak value in decimal system [Output of min. incident light level]
300569(0238)	04	R	CH19 LO Peak Value	Indicates low peak value in decimal system [Output of min. incident light level]
300570(0239)	04	R	CH20 LO Peak Value	Indicates low peak value in decimal system [Output of min. incident light level]
300571(023A)	04	R	CH21 LO Peak Value	Indicates low peak value in decimal system [Output of min. incident light level]
300572(023B)	04	R	CH22 LO Peak Value	Indicates low peak value in decimal system [Output of min. incident light level]
300573(023C)	04	R	CH23 LO Peak Value	Indicates low peak value in decimal system [Output of min. incident light level]
300574(023D)	04	R	CH24 LO Peak Value	Indicates low peak value in decimal system [Output of min. incident light level]
300575(023E)	04	R	CH25 LO Peak Value	Indicates low peak value in decimal system [Output of min. incident light level]
300576(023F)	04	R	CH26 LO Peak Value	Indicates low peak value in decimal system [Output of min. incident light level]
300577(0240)	04	R	CH27 LO Peak Value	Indicates low peak value in decimal system [Output of min. incident light level]
300578(0241)	04	R	CH28 LO Peak Value	Indicates low peak value in decimal system [Output of min. incident light level]
300579(0242)	04	R	CH29 LO Peak Value	Indicates low peak value in decimal system [Output of min. incident light level]
300580(0243)	04	R	CH30 LO Peak Value	Indicates low peak value in decimal system [Output of min. incident light level]
300581(0244)	04	R	CH31 LO Peak Value	Indicates low peak value in decimal system [Output of min. incident light level]
300582(0245)	04	R	CH32 LO Peak Value	Indicates low peak value in decimal system [Output of min. incident light level]
			Reserved	

## 2.8 Read Input Register(Recognized Model List by Channel)

NO.	FUNC	R/W	ITEM	DETAILS
300601(0258)	04	R	CH1 Product type	Dual: 0, Single: 1, None Display: 2
300602(0259)	04	R	CH2 Product type	Dual: 0, Single: 1, None Display: 2
300603(025A)	04	R	CH3 Product type	Dual: 0, Single: 1, None Display: 2
300604(025B)	04	R	CH4 Product type	Dual: 0, Single: 1, None Display: 2
300605(025C)	04	R	CH5 Product type	Dual: 0, Single: 1, None Display: 2
300606(025D)	04	R	CH6 Product type	Dual: 0, Single: 1, None Display: 2
300607(025E)	04	R	CH7 Product type	Dual: 0, Single: 1, None Display: 2
300608(025F)	04	R	CH8 Product type	Dual: 0, Single: 1, None Display: 2
300609(0260)	04	R	CH9 Product type	Dual: 0, Single: 1, None Display: 2
300610(0261)	04	R	CH10 Product type	Dual: 0, Single: 1, None Display: 2
300611(0262)	04	R	CH11 Product type	Dual: 0, Single: 1, None Display: 2
300612(0263)	04	R	CH12 Product type	Dual: 0, Single: 1, None Display: 2
300613(0264)	04	R	CH13 Product type	Dual: 0, Single: 1, None Display: 2
300614(0265)	04	R	CH14 Product type	Dual: 0, Single: 1, None Display: 2
300615(0266)	04	R	CH15 Product type	Dual: 0, Single: 1, None Display: 2
300616(0267)	04	R	CH16 Product type	Dual: 0, Single: 1, None Display: 2
300617(0268)	04	R	CH17 Product type	Dual: 0, Single: 1, None Display: 2
300618(0269)	04	R	CH18 Product type	Dual: 0, Single: 1, None Display: 2
300619(026A)	04	R	CH19 Product type	Dual: 0, Single: 1, None Display: 2
300620(026B)	04	R	CH20 Product type	Dual: 0, Single: 1, None Display: 2
300621(026C)	04	R	CH21 Product type	Dual: 0, Single: 1, None Display: 2
300622(026D)	04	R	CH22 Product type	Dual: 0, Single: 1, None Display: 2
300623(026E)	04	R	CH23 Product type	Dual: 0, Single: 1, None Display: 2
300624(026F)	04	R	CH24 Product type	Dual: 0, Single: 1, None Display: 2
300625(0270)	04	R	CH25 Product type	Dual: 0, Single: 1, None Display: 2
300626(0271)	04	R	CH26 Product type	Dual: 0, Single: 1, None Display: 2
300627(0272)	04	R	CH27 Product type	Dual: 0, Single: 1, None Display: 2
300628(0273)	04	R	CH28 Product type	Dual: 0, Single: 1, None Display: 2
300629(0274)	04	R	CH29 Product type	Dual: 0, Single: 1, None Display: 2
300630(0275)	04	R	CH30 Product type	Dual: 0, Single: 1, None Display: 2
300631(0276)	04	R	CH31 Product type	Dual: 0, Single: 1, None Display: 2
300632(0277)	04	R	CH32 Product type	Dual: 0, Single: 1, None Display: 2
			Reserved	



## 2.9 Read Input Register(ERROR List by Channel)

NO.	FUNC	R/W	ITEM	DETAILS
300701(02BC)	04	R	CH1 ERROR	ErrL:0, Err:1, ErrA:2, Erb:3, nonE:4
300702(02BD)	04	R	CH2 ERROR	ErrL:0, Err:1, ErrA:2, Erb:3, nonE:4
300703(02BE)	04	R	CH3 ERROR	ErrL:0, Err:1, ErrA:2, Erb:3, nonE:4
300704(02BF)	04	R	CH4 ERROR	ErrL:0, Err:1, ErrA:2, Erb:3, nonE:4
300705(02C0)	04	R	CH5 ERROR	ErrL:0, Err:1, ErrA:2, Erb:3, nonE:4
300706(02C1)	04	R	CH6 ERROR	ErrL:0, Err:1, ErrA:2, Erb:3, nonE:4
300707(02C2)	04	R	CH7 ERROR	ErrL:0, Err:1, ErrA:2, Erb:3, nonE:4
300708(02C3)	04	R	CH8 ERROR	ErrL:0, Err:1, ErrA:2, Erb:3, nonE:4
300709(02C4)	04	R	CH9 ERROR	ErrL:0, Err:1, ErrA:2, Erb:3, nonE:4
300710(02C5)	04	R	CH10 ERROR	ErrL:0, Err:1, ErrA:2, Erb:3, nonE:4
300711(02C6)	04	R	CH11 ERROR	ErrL:0, Err:1, ErrA:2, Erb:3, nonE:4
300712(02C7)	04	R	CH12 ERROR	ErrL:0, Err:1, ErrA:2, Erb:3, nonE:4
300713(02C8)	04	R	CH13 ERROR	ErrL:0, Err:1, ErrA:2, Erb:3, nonE:4
300714(02C9)	04	R	CH14 ERROR	ErrL:0, Err:1, ErrA:2, Erb:3, nonE:4
300715(02CA)	04	R	CH15 ERROR	ErrL:0, Err:1, ErrA:2, Erb:3, nonE:4
300716(02CB)	04	R	CH16 ERROR	ErrL:0, Err:1, ErrA:2, Erb:3, nonE:4
300717(02CC)	04	R	CH17 ERROR	ErrL:0, Err:1, ErrA:2, Erb:3, nonE:4
300718(02CD)	04	R	CH18 ERROR	ErrL:0, Err:1, ErrA:2, Erb:3, nonE:4
300719(02CE)	04	R	CH19 ERROR	ErrL:0, Err:1, ErrA:2, Erb:3, nonE:4
300720(02CF)	04	R	CH20 ERROR	ErrL:0, Err:1, ErrA:2, Erb:3, nonE:4
300721(02D0)	04	R	CH21 ERROR	ErrL:0, Err:1, ErrA:2, Erb:3, nonE:4
300722(02D1)	04	R	CH22 ERROR	ErrL:0, Err:1, ErrA:2, Erb:3, nonE:4
300723(02D2)	04	R	CH23 ERROR	ErrL:0, Err:1, ErrA:2, Erb:3, nonE:4
300724(02D3)	04	R	CH24 ERROR	ErrL:0, Err:1, ErrA:2, Erb:3, nonE:4
300725(02D4)	04	R	CH25 ERROR	ErrL:0, Err:1, ErrA:2, Erb:3, nonE:4
300726(02D5)	04	R	CH26 ERROR	ErrL:0, Err:1, ErrA:2, Erb:3, nonE:4
300727(02D6)	04	R	CH27 ERROR	ErrL:0, Err:1, ErrA:2, Erb:3, nonE:4
300728(02D7)	04	R	CH28 ERROR	ErrL:0, Err:1, ErrA:2, Erb:3, nonE:4
300729(02D8)	04	R	CH29 ERROR	ErrL:0, Err:1, ErrA:2, Erb:3, nonE:4
300730(02D9)	04	R	CH30 ERROR	ErrL:0, Err:1, ErrA:2, Erb:3, nonE:4
300731(02DA)	04	R	CH31 ERROR	ErrL:0, Err:1, ErrA:2, Erb:3, nonE:4
300732(02DB)	04	R	CH32 ERROR	ErrL:0, Err:1, ErrA:2, Erb:3, nonE:4
			Reserved	

## 2.10 Read Holding Register & Preset Single Register & Write Multiple Register(Func:03/06/16)

### 2.10.1 Parameter Map List

NO.	FUNC	R/W	ITEM	DETAILS
CH1 – Program Group				
400001(0000)	03/06/16	R/W	SV	Indicates incident light level in the decimal system -UFST /FST/STD: Indicates 10 to 3980 -LONG: Indicates 5 to 9980
400002(0001)	03/06/16	R/W	HI Peak Value	Clear high peak value
400003(0002)	03/06/16	R/W	Lo Peak Value	Clear low peak value
400004(0003)	03/06/16	R/W	rSP [Response Speed Setting] ①UFSt: 0    ②FSt: 1 ③Std: 2    ④Long: 3	Response speed setting ①Ultra fast, ②Fast ③Standard, ④Long distance
400005(0004)	03/06/16	R/W	dSPF [Display Function] ①4000: 0    ②9999: 1	①Display standard (4000) for incident light level/setting value ②Display percentage (9999) for incident light level/setting value
400006(0005)	03/06/16	R/W	dir [Direction] ①1234hh: 0    ②HEI: 1	Display direction ①Standard display, ②Reversed display
400007(0006)	03/06/16	R/W	tMod [TIMER Setting] ①OFF: 0    ②onD: 1 ③OFd: 2    ④SHot: 3	Timer operation mode ①Timer OFF, ②On delay timer ③Off delay timer, ④One-shot timer
400008(0007)	03/06/16	R/W	tSE [TIME] 0 to 5000 [Min.: 1 ms]	Time setting (in the decimal point) 0 to 5000 ms [Min.: 1 ms]
400009(0008)	03/06/16	R/W	SEnS [Sensitivity Setting] ①Auto: 0    ②IPnt: 1 ③2Pnt: 2    ④PSEn: 3	Teaching sensitivity setting ①Auto-tuning, ②One-point setting ③Two-point setting, ④Positioning
400010(0009)	03/06/16	R/W	ESRu [Energy Saving Setting] ①nor: 0    ②SRu: 1    ③2SRu: 2	Energy saving setting mode ①Normal, ②Energy saving mode 1 ③Energy saving mode 2
400011(000A)	03/06/16	R/W	Ldon [Light/Dark On Setting] ①L-on: 0    ②d-on: 1	Operation mode ①Light On, ② Dark On
400012(000B)	03/06/16	R/W	Com [Communication Write] ①EnA: 0    ②di SA: 1	Communication write ①Enable, ②Disable
400013(000C)	03/06/16	R/W	LoCK [Lock Setting]	Lock setting

NO.	FUNC	R/W	ITEM	DETAILS
			①OFF: 0 ②LoC1: 1 ③LoC2: 2	①Unlock, ②Lock 1, ③Lock 2
			Reserved	
<b>CH1 – Data Bank Group</b>				
400021(0014)	03/06	R/W	<b>LoAd</b> [Data Bank Load] ①bAEd ②bAE1 ③bAE2	Loading set data Bank
400022(0015)	03/06	R/W	<b>SAvE</b> [Data Bank Save] ①bAEd ②bAE1 ③bAE2	Saving setting status of amplifier unit on data Bank
400023(0016)	03/06	R/W	<b>CoPY</b> [Data Bank Copy] ①5--ñ	Copying data Bank between amplifier units or communication converter units (Not available individual copy)
400024(0017)	03/06	R/W	<b>LdAL</b> [Data Bank Load All] ①bAEd ②bAE1 ③bAE2	Loading Bank of each amplifier unit connected communication converter unit
400025(0018)	03/06	R/W	<b>SvAL</b> [Data Bank Load Save] ①bAEd ②bAE1 ③bAE2	Saving selected group Bank of amplifier unit connected communication converter unit
400026(0019)	03/06	R/W	<b>TeCH1: ALL</b> [Teaching All] ①no ②YES	Teaching all sensitivity setting of amplifier unit connects communication converter unit
400027(001A)	03/06	R/W	<b>IniE</b> [Initialize] ①no ②YES	Initializes parameters
			Reserved	

※For single display type, it processes as an error that if previous set value is not equal during write instruction.

※CH2 to 31 increase address by the 100.

NO.	FUNC	R/W	ITEM	DETAILS
<b>CH2 – Program Group</b>				
400101(0064)	03/06/16	R/W	SV	Indicates incident light level in the decimal system -UFST /FST/STD: Indicates 10 to 3980 -LONG: Indicates 5 to 9980
400102(0065)	03/06/16	R/W	HI Peak Value	Clear high peak value
400103(0066)	03/06/16	R/W	Lo Peak Value	Clear low peak value
400104(0067)	03/06/16	R/W	rSP [Response Speed Setting] ①UFSt: 0    ②FSt: 1 ③Std: 2    ④Long: 3	Response speed setting ①Ultra fast, ②Fast ③Standard, ④Long distance
400105(0068)	03/06/16	R/W	dSPF [Display Function] ①4000: 0    ②9999: 1	①Display standard (4000) for incident light level/setting value ②Display percentage (9999) for incident light level/setting value
400106(0069)	03/06/16	R/W	dir [Direction] ①1234hh: 0    ②hE2l: 1	Display direction ①Standard display, ②Reversed display
400107(006A)	03/06/16	R/W	tMod [TIMER Setting] ①oFF: 0    ②oNd: 1 ③oFd: 2    ④SHot: 3	Timer operation mode ①Timer OFF, ②On delay timer ③Off delay timer, ④One-shot timer
400108(006B)	03/06/16	R/W	tIME [TIME] 0 to 5000 [Min.: 1 ms]	Time setting (in the decimal system) 0 to 5000 ms [Min.: 1 ms]
400109(006C)	03/06/16	R/W	SEnS [Sensitivity Setting] ①AUto: 0    ②IPnt: 1 ③2Pnt: 2    ④PSEn: 3	Teaching sensitivity setting ①Auto-tuning, ②One-point setting ③Two-point setting, ④Positioning
400110(006D)	03/06/16	R/W	ESRu [Energy Saving Setting] ①nor: 0    ②SRu: 1    ③2SRu: 2	Energy saving setting mode ①Normal, ②Energy saving mode 1 ③Energy saving mode 2
400111(006E)	03/06/16	R/W	Ldon [Light/Dark On Setting] ①L-on: 0    ②d-on: 1	Operation mode ①Light On, ② Dark On
400112(006F)	03/06/16	R/W	CoM [Communication Write] ①EnA: 0    ②di SA: 1	Communication write ①Enable, ②Disable
400113(0070)	03/06/16	R/W	LoCK [Lock Setting] ①oFF: 0    ②LoC 1: 1    ③LoC 2: 2	Lock setting ①Unlock, ②Lock 1, ③Lock 2
			Reserved	
<b>CH2 – Data Bank Group</b>				
400121(0078)	03/06	R/W	LoAd [Data Bank Load]	Loading set data Bank

NO.	FUNC	R/W	ITEM	DETAILS
			①bAEE0 ②bAEE1 ③bAEE2	
400122(0079)	03/06	R/W	<b>SAVE</b> [Data Bank Save] ①bAEE0 ②bAEE1 ③bAEE2	Saving setting status of amplifier unit on data Bank
400123(007A)	03/06	R/W	<b>COPY</b> [Data Bank Copy] ①5--ñ	Copying data Bank between amplifier units or communication converter units (Not available individual copy)
400124(007B)	03/06	R/W	<b>LOAD</b> [Data Bank Load All] ①bAEE0 ②bAEE1 ③bAEE2	Loading Bank of each amplifier unit connected communication converter unit
400125(007C)	03/06	R/W	<b>SAVE</b> [Data Bank Load Save] ①bAEE0 ②bAEE1 ③bAEE2	Saving selected group Bank of amplifier unit connected communication converter unit
400126(007D)	03/06	R/W	<b>TEACH:ALL</b> [Teaching All] ①no ②YES	Teaching all sensitivity setting of amplifier unit connected communication converter unit
400127(007E)	03/06	R/W	<b>INIT</b> [Initialize] ①no ② YES	Initializes parameters
			Reserved	

NO.	FUNC	R/W	ITEM	DETAILS
<b>CH31 – Program Group</b>				
403101(0C1C)	03/06/16	R/W	SV	Indicates incident light level in the decimal system -UFST /FST/STD: 10 to 3980 -LONG: Indicates 5 to 9980
403102(0C1D)	03/06/16	R/W	HI Peak Value	Clear high peak value
403103(0C1E)	03/06/16	R/W	Lo Peak Value	Clear low peak value
403104(0C1F)	03/06/16	R/W	<b>rSP</b> [Response Speed Setting] ①UFSt: 0    ②FSt: 1 ③Std: 2    ④Long: 3	Response speed setting ①Ultra fast, ②Fast ③Standard, ④Long distance
403105(0C20)	03/06/16	R/W	<b>dSPF</b> [Display Function] ①4000: 0    ②999P: 1	①Display standard (4000) for incident light level/setting value ②Display percentage (999P) for incident light level/setting value
403106(0C21)	03/06/16	R/W	<b>dir</b> [Direction] ①I234hh: 0    ②HE2I: 1	Display direction ①Standard display, ②Reversed display
403107(0C22)	03/06/16	R/W	<b>tMod</b> [TIMER Setting] ①oFF: 0    ②oNd: 1 ③oFd: 2    ④5HoB: 3	Timer operation mode ①Timer OFF, ②On delay timer ③Off delay timer, ④One-shot timer
403108(0C23)	03/06/16	R/W	<b>tIME</b> [TIME] 0 to 5000 [Min.: 1 ms]	Time setting (in the decimal system) 0 to 5000 ms [Min.: 1 ms]
403109(0C24)	03/06/16	R/W	<b>SEnS</b> [Sensitivity Setting] ①AUto: 0    ②IPnt: 1 ③2Pnt: 2    ④PStn: 3	Teaching sensitivity setting ①Auto-tuning, ②One-point setting ③Two-point setting, ④Positioning
403110(0C25)	03/06/16	R/W	<b>ESRu</b> [Energy Saving Setting] ①nor: 0    ②SRu: 1    ③2SRu: 2	Energy saving setting ①Normal, ②Energy saving setting 1 ③Energy saving setting 2
403111(0C26)	03/06/16	R/W	<b>Ldon</b> [Light/Dark On Setting] ①L-on: 0    ②d-on: 1	Operation mode ①Light On, ② Dark On
403112(0C27)	03/06/16	R/W	<b>Coñ</b> [Communication Write] ①EnA: 0    ②di SA: 1	Communication write ①Enable, ②Disable
403113(0C28)	03/06/16	R/W	<b>LoLk</b> [Lock Setting] ①oFF: 0    ②LoLk1: 1    ③LoLk2: 2	Lock setting ①Unlock, ②Lock 1, ③Lock 2
			Reserved	
<b>CH31 – Data Bank Group</b>				
403121(0C30)	03/06	R/W	<b>LoAd</b> [Data Bank Load]	Loading set data Bank

NO.	FUNC	R/W	ITEM	DETAILS
			① <b>BAE0</b> ② <b>BAE1</b> ③ <b>BAE2</b>	
403122(0C31)	03/06	R/W	<b>SAVE</b> [Data Bank Save] ① <b>BAE0</b> ② <b>BAE1</b> ③ <b>BAE2</b>	Saving setting status of amplifier unit on data Bank
403123(0C32)	03/06	R/W	<b>COPY</b> [Data Bank Copy] ① <b>S--n</b>	Copying data Bank between amplifier units or communication converter units (Not available individual copy)
403124(0C33)	03/06	R/W	<b>LOAD</b> [Data Bank Load All] ① <b>BAE0</b> ② <b>BAE1</b> ③ <b>BAE2</b>	Loading Bank of each amplifier unit connected communication converter unit
403125(0C34)	03/06	R/W	<b>SAVE</b> [Data Bank Load Save] ① <b>BAE0</b> ② <b>BAE1</b> ③ <b>BAE2</b>	Saving selected group Bank of amplifier unit connected communication converter unit
403126(0C35)	03/06	R/W	<b>TEACH:ALL</b> [Teaching All] ① <b>no</b> ② <b>YES</b>	Teaching all sensitivity setting of amplifier unit connected communication converter unit
403127(0C36)	03/06	R/W	<b>INIT</b> [Initialize] ① <b>no</b> ② <b>YES</b>	Initializes parameters
			Reserved	

## 2.10.2 Parameter Mapping Table

NO.	FUNC	R/W	ITEM	DETAILS
<b>CH1 – Data Bank</b>				
400031(001E)	03/06/16	R/W	$bA\#0 \Rightarrow rSPd : 5td$	Response speed setting of Bank 0
400032(001F)	03/06/16	R/W	$bA\#0 \Rightarrow dSPF : 4000$	Display function setting of Bank 0
400033(0020)	03/06/16	R/W	$bA\#0 \Rightarrow dir : 1234$	Display direction setting of Bank 0
400034(0021)	03/06/16	R/W	$bA\#0 \Rightarrow t\#od : oFF$	Timer operation mode setting of Bank 0
400035(0022)	03/06/16	R/W	$bA\#0 \Rightarrow t\#E : 2000$	Time setting of Bank 0
400036(0023)	03/06/16	R/W	$bA\#0 \Rightarrow SE\#S : AUto$	Teaching sensitivity setting of Bank 0
400037(0024)	03/06/16	R/W	$bA\#0 \Rightarrow ES\#U : nor$	Energy saving setting of Bank 0
400038(0025)	03/06/16	R/W	$bA\#0 \Rightarrow Ldon : L-on$	Operation mode setting of Bank 0
400039(0026)	03/06/16	R/W	$bA\#0 \Rightarrow Co\#n : EnR$	Communication write setting of Bank 0
400040(0027)	03/06/16	R/W	$bA\#0 \Rightarrow Lo\#L : oFF$	Lock setting of Bank 0
400041(0028)	03/06/16	R/W	$bA\#0 \Rightarrow SEt : 2000$	SV setting of Bank 0
			Reserved	
400051(0032)	03/06/16	R/W	$bA\#1 \Rightarrow rSPd : 5td$	Response speed setting of Bank 1
400052(0033)	03/06/16	R/W	$bA\#1 \Rightarrow dSPF : 4000$	Display function setting of Bank 1
400053(0034)	03/06/16	R/W	$bA\#1 \Rightarrow dir : 1234$	Display direction setting of Bank 1
400054(0035)	03/06/16	R/W	$bA\#1 \Rightarrow t\#od : oFF$	Timer operation mode setting of Bank 1
400055(0036)	03/06/16	R/W	$bA\#1 \Rightarrow t\#E : 2000$	Time setting of Bank 1
400056(0037)	03/06/16	R/W	$bA\#1 \Rightarrow SE\#S : AUto$	Teaching sensitivity setting of Bank 1
400057(0038)	03/06/16	R/W	$bA\#1 \Rightarrow ES\#U : nor$	Energy saving setting of Bank 1
400058(0039)	03/06/16	R/W	$bA\#1 \Rightarrow Ldon : L-on$	Operation mode setting of Bank 1
400059(003A)	03/06/16	R/W	$bA\#1 \Rightarrow Co\#n : EnR$	Communication write setting of Bank 1
400060(003B)	03/06/16	R/W	$bA\#1 \Rightarrow Lo\#L : oFF$	Lock setting of Bank 1
400061(003C)	03/06/16	R/W	$bA\#1 \Rightarrow SEt : 2000$	SV setting of Bank 1
			Reserved	
400071(0046)	03/06/16	R/W	$bA\#2 \Rightarrow rSPd : 5td$	Response speed setting of Bank 2
400072(0047)	03/06/16	R/W	$bA\#2 \Rightarrow dSPF : 4000$	Display function setting of Bank 2
400073(0048)	03/06/16	R/W	$bA\#2 \Rightarrow dir : 1234$	Display direction setting of Bank 2
400074(0049)	03/06/16	R/W	$bA\#2 \Rightarrow t\#od : oFF$	Timer operation mode setting of Bank 2
400075(004A)	03/06/16	R/W	$bA\#2 \Rightarrow t\#E : 2000$	Time setting of Bank 2
400076(004B)	03/06/16	R/W	$bA\#2 \Rightarrow SE\#S : AUto$	Teaching sensitivity setting of Bank 2
400077(004C)	03/06/16	R/W	$bA\#2 \Rightarrow ES\#U : nor$	Energy saving setting of Bank 2
400078(004D)	03/06/16	R/W	$bA\#2 \Rightarrow Ldon : L-on$	Operation mode setting of Bank 2
400079(004E)	03/06/16	R/W	$bA\#2 \Rightarrow Co\#n : EnR$	Communication write setting of Bank 2
400080(004F)	03/06/16	R/W	$bA\#2 \Rightarrow Lo\#L : oFF$	Lock setting of Bank 2



NO.	FUNC	R/W	ITEM	DETAILS
400081(0050)	03/06/16	R/W	bRt2 => SEt : 2000	SV setting of Bank 2
			Reserved	

※For single type, it processes all parameters related Bank as “0XFFFF.”

※Error process

- For reading parameter of one channel
- It processes as Slave Device Busy(0x06) when it is over response waiting time..
  - For reading parameter of more than two channels
- It processes related parameters as “30000” when over I2C communication response waiting time.
- It processes related parameter as “30001” when it is CRC error of I2C communication.

※Address of Channel 2 to 31 is increased by the 100 unit.

NO.	FUNC	R/W	ITEM	DETAILS
<b>CH2 – Data Bank</b>				
400131(0082)	03/06/16	R/W	bRt0 => rSPd : 5td	Response speed setting of Bank 0
400132(0083)	03/06/16	R/W	bRt0 => dSPF : 4000	Display function setting of Bank 0
400133(0084)	03/06/16	R/W	bRt0 => dir : 1234	Display direction setting of Bank 0
400134(0085)	03/06/16	R/W	bRt0 => tMod : oFF	Timer operation mode setting of Bank 0
400135(0086)	03/06/16	R/W	bRt0 => tNE : 2000	Time setting of Bank 0
400136(0087)	03/06/16	R/W	bRt0 => SEN5 : AUto	Teaching sensitivity setting of Bank 0
400137(0088)	03/06/16	R/W	bRt0 => ESAu : nor	Energy saving setting of Bank 0
400138(0089)	03/06/16	R/W	bRt0 => Ldon : L-on	Operation mode setting of Bank 0
400139(008A)	03/06/16	R/W	bRt0 => CoWn : EnR	Communication write setting of Bank 0
400140(008B)	03/06/16	R/W	bRt0 => Lock : oFF	Lock setting of Bank 0
400141(008C)	03/06/16	R/W	bRt0 => SEt : 2000	SV setting of Bank 0
			Reserved	
400151(0096)	03/06/16	R/W	bRt1 => rSPd : 5td	Response speed setting of Bank 1
400152(0097)	03/06/16	R/W	bRt1 => dSPF : 4000	Display function setting of Bank 1
400153(0098)	03/06/16	R/W	bRt1 => dir : 1234	Display direction setting of Bank 1
400154(0099)	03/06/16	R/W	bRt1 => tMod : oFF	Timer operation mode setting of Bank 1
400155(009A)	03/06/16	R/W	bRt1 => tNE : 2000	Time setting of Bank 1
400156(009B)	03/06/16	R/W	bRt1 => SEN5 : AUto	Teaching sensitivity setting of Bank 1
400157(009C)	03/06/16	R/W	bRt1 => ESAu : nor	Energy saving setting of Bank 1
400158(009D)	03/06/16	R/W	bRt1 => Ldon : L-on	Operation mode setting of Bank 1
400159(009E)	03/06/16	R/W	bRt1 => CoWn : EnR	Communication write setting of Bank 1
400160(009F)	03/06/16	R/W	bRt1 => Lock : oFF	Lock setting of Bank 1
400161(00A0)	03/06/16	R/W	bRt1 => SEt : 2000	SV setting of Bank 1

NO.	FUNC	R/W	ITEM	DETAILS
			Reserved	
400171(00AA)	03/06/16	R/W	bAŁŁ => rSPd : 5Łd	Response speed setting of Bank 2
400172(00AB)	03/06/16	R/W	bAŁŁ => dSPF : 4000	Display function setting of Bank 2
400173(00AC)	03/06/16	R/W	bAŁŁ => dl r : 1234	Display direction setting of Bank 2
400174(00AD)	03/06/16	R/W	bAŁŁ => ŁŁŁŁ : oFF	Timer operation mode setting of Bank 2
400175(00AE)	03/06/16	R/W	bAŁŁ => ŁŁ ŁŁ : 2000	Time setting of Bank 2
400176(00AF)	03/06/16	R/W	bAŁŁ => 5EŁŁ : AUŁŁ	Teaching sensitivity setting of Bank 2
400177(00B0)	03/06/16	R/W	bAŁŁ => 55AU : ŁŁŁ	Energy saving setting of Bank 2
400178(00B1)	03/06/16	R/W	bAŁŁ => ŁŁŁŁ : ŁŁŁŁ	Operation mode setting of Bank 2
400179(00B2)	03/06/16	R/W	bAŁŁ => ŁŁŁŁ : EŁŁ	Communication write setting of Bank 2
400180(00B3)	03/06/16	R/W	bAŁŁ => ŁŁŁŁ : oFF	Lock setting of Bank 2
400181(00B4)	03/06/16	R/W	bAŁŁ => 5EŁŁ : 2000	SV setting of Bank 2
			Reserved	

NO.	FUNC	R/W	ITEM	DETAILS
<b>CH31 – Data Bank</b>				
403131(0C3A)	03/06/16	R/W	bAŁŁ => rSPd : 5Łd	Response speed setting of Bank 0
403132(0C3B)	03/06/16	R/W	bAŁŁ => dSPF : 4000	Display function setting of Bank 0
403133(0C3C)	03/06/16	R/W	bAŁŁ => dl r : 1234	Display direction setting of Bank 0
403134(0C3D)	03/06/16	R/W	bAŁŁ => ŁŁŁŁ : oFF	Timer operation mode setting of Bank 0
403135(0C3E)	03/06/16	R/W	bAŁŁ => ŁŁ ŁŁ : 2000	Time setting of Bank 0
403136(0C3F)	03/06/16	R/W	bAŁŁ => 5EŁŁ : AUŁŁ	Teaching sensitivity setting of Bank 0
403137(0C40)	03/06/16	R/W	bAŁŁ => 55AU : ŁŁŁ	Energy saving setting of Bank 0
403138(0C41)	03/06/16	R/W	bAŁŁ => ŁŁŁŁ : ŁŁŁŁ	Operation mode setting of Bank 0
403139(0C42)	03/06/16	R	bAŁŁ => ŁŁ : 1	Read set channel of Bank 0
403140(0C43)	03/06/16	R/W	bAŁŁ => ŁŁŁŁ : EŁŁ	Communication write setting of Bank 0
403141(0C44)	03/06/16	R/W	bAŁŁ => ŁŁŁŁ : oFF	Lock setting of Bank 0
403142(0C45)	03/06/16	R/W	bAŁŁ => 5EŁŁ : 2000	SV setting of Bank 0
			Reserved	
403151(0C4E)	03/06/16	R/W	bAŁŁ 1 => rSPd : 5Łd	Response speed setting of Bank 1
403152(0C4F)	03/06/16	R/W	bAŁŁ 1 => dSPF : 4000	Display function setting of Bank 1
403153(0C50)	03/06/16	R/W	bAŁŁ 1 => dl r : 1234	Display direction setting of Bank 1
403154(0C51)	03/06/16	R/W	bAŁŁ 1 => ŁŁŁŁ : oFF	Timer operation mode setting of Bank 1
403155(0C52)	03/06/16	R/W	bAŁŁ 1 => ŁŁ ŁŁ : 2000	Time setting of Bank 1
403156(0C53)	03/06/16	R/W	bAŁŁ 1 => 5EŁŁ : AUŁŁ	Teaching sensitivity setting of Bank 1

NO.	FUNC	R/W	ITEM	DETAILS
403157(0C54)	03/06/16	R/W	Bank 1 => ESRU : nor	Energy saving setting of Bank 1
403158(0C55)	03/06/16	R/W	Bank 1 => Ldon : L-on	Operation mode setting of Bank 1
403159(0C56)	03/06/16	R	Bank 1 => CH : 1	Read set channel of Bank 1
403160(0C57)	03/06/16	R/W	Bank 1 => Conn : EnR	Communication write setting of Bank 1
403161(0C58)	03/06/16	R/W	Bank 1 => Lock : OFF	Lock setting of Bank 1
403162(0C59)	03/06/16	R/W	Bank 1 => SEt : 2000	SV setting of Bank 1
			Reserved	
403171(0C62)	03/06/16	R/W	Bank 2 => rSPd : 5td	Response speed setting of Bank 2
403172(0C63)	03/06/16	R/W	Bank 2 => dSPF : 4000	Display function setting of Bank 2
403173(0C64)	03/06/16	R/W	Bank 2 => dir : 1234	Display direction setting of Bank 2
403174(0C65)	03/06/16	R/W	Bank 2 => tmod : OFF	Timer operation mode setting of Bank 2
403175(0C66)	03/06/16	R/W	Bank 2 => tIE : 2000	Time setting of Bank 2
403176(0C67)	03/06/16	R/W	Bank 2 => SEN5 : AUTO	Teaching sensitivity setting of Bank 2
403177(0C68)	03/06/16	R/W	Bank 2 => ESRU : nor	Energy saving setting of Bank
403178(0C69)	03/06/16	R/W	Bank 2 => Ldon : L-on	Operation mode setting of Bank
403179(0C6A)	03/06/16	R	Bank 2 => CH : 1	Read set channel of Bank 2
403180(0C6B)	03/06/16	R/W	Bank 2 => Conn : EnR	Communication write setting of Bank 2
403181(0C6C)	03/06/16	R/W	Bank 2 => Lock : OFF	Lock setting of Bank 2
403182(0C6D)	03/06/16	R/W	Bank 2 => SEt : 2000	SV setting of Bank 2
			Reserved	

## 2.11 Exception process

There are exception processes as below when communicating between amplifier unit and communication converter unit or between communication converter unit and Master.

- It processes as busy when amplifier unit connected communication converter unit is set parameter.  
(Select disable communication)
- It processes as busy when amplifier unit connected communication converter unit is set teaching sensitivity.  
(Select disable communication)
- It processes as busy when communication converter unit communicating Master is changing parameter settings.
- Group teaching [E [HI ]]
- Loading data Bank [L [RD ]]
- Saving data Bank [S [RE ]]
- Copying group data bank [C [PY ]]

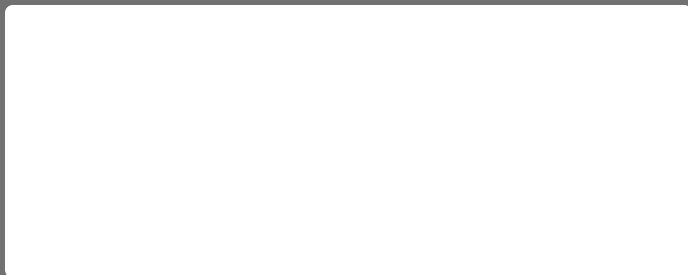


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