

Gas Detector Head

GD-84D-EX Series (Ethernet models)

GD-84D-EX-ET-EC GD-84D-EX-ET GD-84D-EX-EA-EC GD-84D-EX-EA

Communication Functions Operating Manual

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About this document

1-1 Introduction

Thank you for purchasing this GD-84D-EX series Gas Detector (Ethernet models) ("product" hereinafter). This operating manual describes product operating procedures and specifications for GD-84D-EX series (Ethernet models) Ethernet functions.

Make sure you have read and fully understood the contents of this manual before use. Note that the GD-84D-EX series (Ethernet models) are intended to be used as part of a network. Additionally, be sure to read the 'GD-84D-EX Series Gas Detector Head Operating Manual'. Keep this operating manual on hand to allow ready reference during use.

The contents of this manual are subject to change without notice to allow product improvements. Any duplication or reproduction of this manual without permission is prohibited, whether in whole or in part. Riken Keiki accepts no liability for accidents or damage resulting from use of programs of devices communicating with the product, whether within or outside the warranty period. Review the warranty policy indicated on the warranty.

<Models covered by this operating manual>

- · GD-84D-EX-ET-EC
- GD-84D-EX-ET
- · GD-84D-EX-EA-EC
- GD-84D-EX-EA

<About the notations used in this document>

<Notations used for numbers> Decimal: Numbers only indicated Example: 1, 100, 1000, etc. Hexadecimal: Values are prefixed with "0x". Example: 0x00, 0x64, 0x3EB, etc.

<Sensor positioning indications>

In this document, the positions [A1], [A2], [B1], and [B2] at which the sensors are fitted in this product are indicated as slot 1, slot 2, slot 3, and slot 4.

1-2 DANGER, WARNING, and NOTE

This operating manual uses the following categories to indicate potential damage/hazards if the user disregards the information provided and uses the product incorrectly:

	This indicates situations in which improper handling may result in fatal or serious injury or significant property damage.
WARNING	This indicates situations in which improper handling may result in serious injury or significant property damage.
	This indicates situations in which improper handling may result in minor injury or minor property damage.

Additionally, usage recommendations are indicated as follows:

NOTE	This indicates items that will be helpful to know when using the product.
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2

Device connection

2-1 Connecting the product and a PC

Connect the product and the PC as shown below.

When using a switching hub (PoE+)>

GD-84D-EX (Ethernet model)



<When using a switching hub (non PoE+)>

Connect the product to a 24 V DC power supply. A switching hub (non PoE+) can be used with EA models (GD-84D-EX-EA-EC, GD-84D-EX-EA).

GD-84D-EX (EA model)



2-2 Setting IP addresses

2-2-1 Setting the IP address for this product

Set the following IP address in this product. Refer to '7-10-18 ETHERNET settings (ETHERNET)' in the 'GD-84D-EX Series Gas Detector Head Operating Manual' for setting instructions. IP address: 192.168.1.1 Subnet mask: 255.255.255.0

NOTE

It takes about 10 seconds to write the IP address.

2-2-2 Setting the IP address for the PC

Set the following IP address in Internet Protocol (TCP/IP) Properties. IP address: 192.168.1.2 Subnet mask: 255.255.255.0

Internet Protocol Version 4 (TCP/IPv4)	Properties	×						
General								
You can get IP settings assigned auton this capability. Otherwise, you need to for the appropriate IP settings.	natically if your network supports ask your network administrator							
O Obtain an IP address automatically								
• Use the following IP address:								
IP address:	192.168.1.2							
S <u>u</u> bnet mask:	255.255.255.0							
Default gateway:								
Obtain DNS server address autom	natically							
• Use the following DNS server add	resses:							
Preferred DNS server:								
<u>A</u> lternate DNS server:								
Vaļidate settings upon exit	Ad <u>v</u> anced							
	OK Cancel							

* The above assumes the user is running Windows 10.

• If the IP address of the device following replacement is identical to the one before replacement, it may not be possible to communicate from the PC to the connected device for a certain period (usually 10 minutes) after replacement.

To enable communication as quickly as possible, disable the network connection, then enable once again.

2-2-3 Performing communication tests

- 1 Launch the Windows Command Prompt.
- 2 Enter "ping 192.168.1.1" and press the <Enter> key.

If the communication test is successful, icons (TX for transmission, RX for reception) will appear on the product LCD as data is transmitted and received.



NOTE

If the communication test fails, recheck the connections with the product, the IP address, and other settings.

3

Setting GAS DETECTOR MANAGER

3-1 Overview of GAS DETECTOR MANAGER

3-1-1 About GAS DETECTOR MANAGER

GAS DETECTOR MANAGER is a Web application that connects the product to a PC, allowing real-time monitoring of the status of this product and changes in network and alarm setpoint settings from a Web browser. GAS DETECTOR MANAGER also displays an event history (alarm history) and calibration history and can be used to run calibrations and alarm tests.

GAS DETECTOR MANAGER has a user mode and an administrator mode; each mode has different functions.

<User mode>

Displays basic product information, such as the gas names and alarm setpoints, as well as event history (alarm history) and communication history.

				M M	
2					
KEIKI			GAS D	ETECTOR MANAGER	
Detector	GD-84D				
TAG No.	TAG-002				
Device Name					
Location	KAIHATSU CENTER	3			
Alarm	093681002				
Gas Name	03	F2	03	03	
Concentration	0.000 ppm	0.00 ppm	0.000 ppm	0.000 ppm	
Serial No. of Sensor	07K3186012	06K3185001	07K3186008	07K3186010	
Alarm	0110100012	00100100001	01103100000		
INHIBIT	OFF	OFF	OFF	OFF	
	0.11			0.11	
	General				
us	General Slot	A1	A2	B1	82
E tus int History	General Slot Gas Name	A1 03	A2 F2	B1 03	B2 03
tus Int History work Event History	General Slot Gas Name Full Scale	A1 03 0.600 ppm	A2 F2 3.00 ppm	B1 03 0.600 ppm	B2 O3 0.600 ppm
us Int History work Event History Inmunication History	General Slot Gas Name Full Scale Digit	A1 O3 0.600 ppm 0.005 ppm	A2 F2 3.00 ppm 0.02 ppm	B1 O3 0.600 ppm 0.005 ppm	B2 O3 0.600 ppm 0.005 ppm
tus nt History work Event History mmunication History	General Slot Gas Name Full Scale Digit Alarm Configuration	A1 O3 0.600 ppm 0.005 ppm	A2 F2 3.00 ppm 0.02 ppm	B1 O3 0.600 ppm 0.005 ppm	B2 O3 0.600 ppm 0.005 ppm
a Int History work Event History mmunication History	General Slot Gas Name Full Scale Digit Alarm Configuration Latching Alarms	A1 O3 0.600 ppm 0.005 ppm	A2 F2 3.00 ppm 0.02 ppm	B1 O3 0.600 ppm 0.005 ppm	B2 O3 0.600 ppm 0.005 ppm
s us nt History work Event History mnunication History	General Slot Gas Name Full Scale Digit Alarm Configuration Latching Alarms Alarm Point 1	A1 O3 0.600 ppm 0.005 ppm No 0.200 ppm	A2 F2 3.00 ppm 0.02 ppm	B1 03 0.000 ppm 0.005 ppm	82 03 0.600 ppm 0.005 ppm
us int History work Event History imunication History	General Stot Gas Name Full Scale Digit Alarm Configuration Latching Alarms Alarm Point 1 Alarm Point 2	A1 O3 0.600 ppm 0.005 ppm No 0.200 ppm 0.400 ppm	A2 F2 3.00 ppm 0.02 ppm 1.00 ppm 2.00 ppm	B1 03 0.600 ppm 0.005 ppm 0.200 ppm 0.400 ppm	B2 O3 0.600 ppm 0.005 ppm 0.200 ppm 0.400 ppm
tu nt History work Event History nmunication History	General Slot Gas Name Full Scale Digit Alarm Configuration Latching Alarms Alarm Point 1 Alarm Point 2 Alarm Type	A1 O3 0.600 ppm 0.005 ppm 0.200 ppm 0.400 ppm H-HH	A2 F2 3.00 ppm 0.02 ppm 1.00 ppm 2.00 ppm H-HH	B1 0.000 ppm 0.005 ppm 0.200 ppm 0.400 ppm H-HH	82 03 0.600 ppm 0.005 ppm 0.200 ppm 0.400 ppm H-HH
us nt History work Event History munication History	General Stot Gas Name Full Scale Digit Alarm Configuration Latching Alarms Alarm Point 1 Alarm Point 2 Alarm Type Ist Alarm Relay State	A1 O3 0.600 ppm 0.005 ppm 0.200 ppm 0.400 ppm H-HH ND	A2 F2 3.00 ppm 0.02 ppm 1.00 ppm 2.00 ppm H-HH ND	B1 O3 0.600 ppm 0.005 ppm 0.200 ppm 0.400 ppm H-HH ND	B2 03 0.600 ppm 0.005 ppm 0.200 ppm 0.400 ppm H-HH ND
t us nt History work Event History nmunication History	General Stot Gas Name Full Scale Digit Alarm Configuration Alarm Point 1 Alarm Point 2 Alarm Type 1st Alarm Relay State 2nd Alarm Relay State	A1 O3 0.600 ppm 0.005 ppm 0.200 ppm 0.400 ppm H-HH ND ND ND	A2 F2 3.00 ppm 0.02 ppm 1.00 ppm 2.00 ppm H-HH ND ND	B1 O3 0.600 ppm 0.005 ppm 0.200 ppm 0.400 ppm H-HH ND ND	82 03 0 600 ppm 0 005 ppm 0 200 ppm 0 400 ppm H-HH ND ND
us nt History work Event History nmunication History	General Slot Gas Name Full Scale Digit Alarm Configuration Latching Alarms Alarm Point 1 Alarm Point 2 Alarm Type Tst Alarm Relay State 2nd Alarm Relay State Calibration	A1 O3 0.600 ppm 0.005 ppm No 0.200 ppm 0.400 ppm H-HH ND ND	A2 F2 3.00 ppm 0.02 ppm 2.00 ppm H-HH ND ND	B1 03 0.600 ppm 0.005 ppm 0.400 ppm H-HH ND ND	82 03 0 600 ppm 0.005 ppm 0.200 ppm 1-HH ND ND
us nr History work Event History munication History	General Slot Gas Name Full Scale Digit Alarm Configuration Latching Alarms Alarm Point 1 Alarm Type 1st Alarm Relay State 2nd Alarm Relay State Calibration Last Calibration Date	A1 O3 0.600 ppm 0.005 ppm 0.200 ppm 0.400 ppm H-HH ND ND ND	A2 F2 3.00 ppm 0.02 ppm 1.00 ppm 2.00 ppm H-HH ND ND	B1 O3 0.600 ppm 0.005 ppm 0.200 ppm 0.400 ppm H-HH ND ND ND 2020/10/12 14:09:00	B2 03 0.600 ppm 0.005 ppm 0.400 ppm H-HH ND ND 2020/10/12 14:15:00
us nrt History work Event History munication History	General Stot Gas Name Full Scale Digit Alarm Configuration Latching Alarms Alarm Point 1 Alarm Point 2 Alarm Type 1st Alarm Relay State Calibration Last Calibration Date Sensor Configuration	A1 O3 0.600 ppm 0.005 ppm 0.200 ppm 0.200 ppm 0.400 ppm H-HH ND ND ND 2020/10/12 14:10:00	A2 F2 3.00 ppm 0.02 ppm 1.00 ppm 2.00 ppm H-HH ND ND	B1 O3 0.600 ppm 0.005 ppm 0.400 ppm H-HH ND ND 2020/10/12 14:09:00	B2 O3 0.600 ppm 0.005 ppm 0.400 ppm H-HH ND ND 2020/10/12 14:15:00
nt History and Kistory amunication History	General Slot Gas Name Full Scale Digit Alarm Configuration Latching Alarms Alarm Point 1 Alarm Point 2 Alarm Point 2 Alarm Point 2 Alarm Point 2 Alarm Relay State Calibration Last Calibration Date Sensor Configuration Sensor Type	A1 03 0.500 ppm 0.005 ppm No 0.200 ppm 0.400 ppm H-HH ND ND 2020/10/12 14:10:00 8249	A2 F2 3.00 ppm 0.02 ppm 1.00 ppm 2.00 ppm H-HH ND ND ND ND	B1 O3 0.600 ppm 0.005 ppm 0.400 ppm H-HH ND ND 2020/10/12 14:09:00 B249	B2 G3 0 600 ppm 0 005 ppm 0 200 ppm 0 400 ppm H-HH ND ND 2020/10/12 14:15:00 B249
us nrt History work Event History munication History	General Slot Gas Name Full Scale Digit Alarm Configuration Latching Alarms Alarm Point 1 Alarm Point 2 Alarm Type 1st Alarm Relay State 2nd Alarm Relay State Calibration Last Calibration Date Sensor Configuration Sensor Type Serial No.	A1 O3 0.600 ppm 0.005 ppm 0.400 ppm 0.400 ppm H-HH ND ND 2020/10/12 14:10:00 E249 07K3186012	A2 F2 3.00 ppm 0.02 ppm 2.00 ppm H-HH ND ND ND B2452 06K3185001	B1 O3 0.600 ppm 0.005 ppm 0.200 ppm 0.400 ppm H-HH ND ND 2020/10/12 14:09:00 B249 07K3186008	B2 03 0.600 ppm 0.005 ppm 0.200 ppm 400 ppm H-HH ND 2020/10/12 14:15:00 B249 07K3186010 07K3186010
tus nrt History work Event History munication History	General Slot Gas Name Full Scale Digit Alarm Configuration Latching Alarms Alarm Point 1 Alarm Type 1st Alarm Relay State Calibration Last Calibration Date Sensor Configuration Sensor Type Serial No.	A1 O3 0.600 ppm 0.005 ppm 0.400 ppm 0.400 ppm 0.400 ppm H-HH H-HH ND ND 2020/10/12 14:10:00 E249 07K3186012 FFFFFF16	A2 F2 3.00 ppm 0.02 ppm 2.00 ppm H-HH ND ND B2452 06K3185001 FFFFFFF16	B1 O3 0.600 ppm 0.005 ppm 0.400 ppm H-HH ND ND 2020/10/12 14:09:00 B249 07K3156008 FC1F87F010	B2 Q3 0.600 ppm 0.005 ppm 0.005 ppm 0.400 ppm ND 2020/10/12 14:15:00 B249 07K3188010 FC1F87F010
n History work Event History nmunication History	General Slot Gas Name Full Scale Digit Alarm Configuration Latching Alarms Alarm Point 1 Alarm Point 1 Alarm Relay State Calibration Last Calibration Date Sensor Configuration Sensor Type Serial No. Version Date/Time	A1 O3 0.500 ppm 0.005 ppm 0.200 ppm 0.400 ppm 0.400 ppm H-HH ND ND 2020/10/12 14:10:00 E249 07K3186012 FFFFFFFF16	A2 F2 3.00 ppm 0.02 ppm 1.00 ppm 2.00 ppm H-HH ND ND B2452 06K3185001 FFFFFFF16	B1 O3 0.600 ppm 0.005 ppm 0.400 ppm H-HH ND 2020/10/12 14:09:00 B249 07K3186008 FC1F87F010	B2 O3 0 600 ppm 0 .005 ppm 0 .200 ppm 0 .400 ppm H-HH ND 2020/10/12 14:15:00 B249 07K3186010 FC1F87F010
tut nt History work Event History nmunication History	General Slot Gas Name Full Scale Digit Alarm Configuration Latching Alarms Alarm Point 1 Alarm Point 2 Alarm Type Tist Alarm Relay State 2nd Alarm Relay State Calibration Last Calibration Date Sensor Configuration Sensor Type Serial No. Version Date/Time Time	A1 O3 O 600 ppm 0.005 ppm No 0.200 ppm 0.400 ppm H-HH ND ND 2020/10/12 14:10:00 B249 07K3186012 FFFFFF16 11:00.42	A2 F2 3.00 ppm 0.02 ppm 2.00 ppm H-HH ND ND ND B2452 06K3185001 FFFFFFF18	B1 O3 0.600 ppm 0.005 ppm 0.400 ppm 0.400 ppm H-HH ND 2020/10/12 14:09:00 B249 07K3186008 FC1F87F010	B2 O3 0 600 ppm 0.005 ppm 0.005 ppm 0.400 ppm H-HH ND ND ND 2020/10/12 14:15:00 B249 07K3188010 FC1F87F010
tus nrt History work Event History munication History	General Slot Gas Name Full Scale Digit Alarm Configuration Latching Alarms Alarm Point 1 Alarm Point 2 Alarm Type 1st Alarm Relay State 2nd Alarm Relay State Calibration Last Calibration Date Serial No.	A1 O3 0.600 ppm 0.005 ppm 0.005 ppm 0.400 ppm 0.400 ppm 0.400 ppm H-HH HH ND ND 2020/10/12 14:10:00 E249 FFFFFF16 11:00:42 2020/12/01	A2 F2 3.00 ppm 0.02 ppm 2.00 ppm H-HH ND ND B2452 06K3185001 FFFFFFF16	B1 Q3 0.500 ppm 0.005 ppm 0.400 ppm 0.400 ppm H-HH ND 2020/10/12 14:09:00 B249 07K3156008 FC1F87F010	B2 Q3 0.600 ppm 0.005 ppm 0.200 ppm 0.400 ppm ND ND 2020/10/12 14:15:00 B249 07K3188010 FC1F87F010

<Administrator mode>

Displays basic product information and event history (alarm history), communication history, calibration history, alarm trends, etc.

You can also change settings for alarm setpoints or the network, run calibrations, alarm tests and fault alarm tests, reset alarms, and set INHIBIT.

GD-84D TAG-002 KAIHATSU CENTER 093681002 03 F2 0.000 ppm 0.00 ppm 07K3186012 06K3185001 OFF OFF INHIBIT INHIBIT ral A1	GAS DETI	INCE 3337 03 0.000 ppm 07K3186010 0FF INHERT 1	
GD-84D TAG-002 KAIHATSU CENTER 093681002 O3 F2 0.000 ppm 0.00 ppm 0.00 ppm 0.00 ppm 0FF OFF INHIBIT INHIBIT Tal	O3 0.000 ppm 07K3186008 0FF 0FF	NOE 3567 03 0.000 ppm 07K3186010 0FF INHUBIT	
GD-84D TAG-002 KAIHATSU CENTER 09381002 03 F2 0.000 ppm 0.00 ppm 07K3186012 06K3185001 0FF 0FF INHIBIT INHIBIT ral	O3 0.000 ppm 07K3186008 OFF	NOCE 3367 03 0.000 ppm 07K3186010 0FF INHUBIT	
TAG-002 KAIHATSU CENTER 093681002 03 F2 0.00 ppm 0.00 ppm 07K3186012 06K3185001 OFF OFF INHIBIT INHIBIT	03 0.000 ppm 07K3186008 0FF 0FF	03 0.000 ppm 07K3186010 0FF INHIBI7	
KAIHATSU CENTER 093681002 0.000 ppm 0.000 ppm 0.000 ppm 0.000 ppm 07K3186012 06K3185001 0FF 0FF INHIBIT INHIBIT 10FF AIL	03 0.000 ppm 07K3186008 0FF INHIBIT	NCE 3337 0.000 ppm 07K3186010 0FF INHIBIT	
KAIHATSU CENTER 09381002 O3 F2 0.000 ppm 0.00 ppm 07K3186012 06K3185001 OFF OFF INHIBIT INHIBIT Tal	O3 0.000 ppm 07K3186008 0FF 0FF	03 0.000 ppm 07K3186010 OFF INHUBIT	
093681002 03 F2 0.000 ppm 0.00 ppm 0.00 ppm 0.00 ppm 0FX186012 0FF 0FF INHIBIT INHIBIT rat A1	03 0.000 ppm 07K3186008 0FF 0FF	03 0.000 ppm 07K3186010 OFF INHIBIT	
O3 F2 0.000 ppm 0.00 ppm 07K3186012 06K3185001 OFF OFF INHIBIT INHIBIT ral	O3 0.000 ppm 07K3186008 0FF INHIBIT	03 0.000 ppm 07K3186010 0FF INHIBIT	
O3 F2 0.000 ppm 0.00 ppm 0.00 ppm 0.00 ppm 0FK 0FF 0FF 0FF 0FF 0FF 1NHIBI7 1NHIBI7 1A1	03 0.000 ppm 07K3186008 0FF 1NH1917	03 0.000 ppm 07K3186010 OFF INHIBIT	
0.000 ppm 0.00 ppm 0.00 ppm 07K3186012 06K3185001 0FF 0FF 10FF 10FF 10FF 10FF 10FF 10	0.000 ppm 07K3186008 0FF 0FF	0.000 ppm 07K3186010 OFF INHIBIT	
07K3186012 06K3185001 OFF OFF INHIBIT INHIBIT ral A1	07K3186008 OFF INHIBIT7	07K3186010 OFF INHIBIT?	
OFF OFF OFF INHIBIT	OFF		
OFF OFF INHIBIT INHIBIT rat A1			
INHIBIT INHIBIT		INHIEIT	
ral A1			
ral A1			
	A2	B1	B2
Vame O3	F2	03	03
cale 0.600 ppm	3.00 ppm	0.600 ppm	0.600 ppm
0.005 ppm	0.02 ppm	0.005 ppm	0.005 ppm
n Configuration			
ing Alarms No			
Point 1 0.200 ppm	1.00 ppm	0.200 ppm	0.200 ppm
Point 2 0.400 ppm	2.00 ppm	0.400 ppm	0.400 ppm
Type H-HH		H-HH	н-нн
1989	H-HH		ND
arm Relay State ND	H-HH ND	ND	ND
arm Relay State ND Iarm Relay State ND	H-HH ND ND	ND ND	
arm Relay State ND Jarm Relay State ND ration	H-HH ND ND	ND ND	
arm Relay State ND Jarm Relay State ND ration Salibration Date 2020/10/12 14:10	H-HH ND ND 10:00	ND ND 2020/10/12 14:09:00	2020/10/12 14:15:00
arm Relay State ND Jarm Relay State ND ration Calibration Date 2020/10/12 14:10 or Configuration	H-HH ND ND 10:00	ND ND 2020/10/12 14:09:00	2020/10/12 14:15:00
arm Relay State ND Jarm Relay State ND Calibration Date 2020/10/12 14:10 or Configuration pr Type B249	H-HH ND ND 10:00 B2452	ND ND 2020/10/12 14:09:00 B249	2020/10/12 14:15:00 B249
Amm Relay State ND Jarm Relay State ND Calibration Date 2020/10/12 14:10 or Configuration v Type B249 No. 07K3186012	H-HH ND ND 10:00 B2452 06K3185001	ND ND 2020/10/12 14:09:00 B249 07K3186008	2020/10/12 14:15:00 B249 07K3186010
Image Image Aarm Relay State ND Jarm Relay State ND attion 2020/10/12 14:10 or Configuration 07 Type B249 No. 07K3186012 n FFFFFFF16	H-HH ND ND 10:00 E2452 06K3185001 FFFFFF16	ND ND 2020/10/12 14:09:00 B249 07K3186008 FC1F87F010	2020/10/12 14:15:00 B249 07K3186010 FC1F87F010
arm Relay State ND arm Relay State ND ration Configuration or Configuration or Type B249 NO. 07K3186012 n FFFFFFF16 Time	H-HH ND ND 10.00 B2452 06K3185001 FFFFFFF16	ND ND 2020/10/12 14:09:00 8249 07K3186008 FC1F87F010	2020/10/12 14:15:00 B249 07K3186010 FC1F87F010
ND ND arm Relay State ND Jarm Relay State ND cation 2020/10/12 14:10 Conformation 2020/10/12 14:10 or Configuration 07K3186012 n FFFFFFF6 Time 11:01:58	H-HH ND ND 10:00 B2452 06K3185001 FFFFFFF16	ND ND 2020/10/12 14:09:00 8249 07K3186008 FC1F87F010	2020/10/12 14:15:00 E249 07K3186010 FC1F87F010
Aum Fill Aum Relay State ND Jaim Relay State ND Jaim Relay State ND Cation 2020/10/12 14:10 or Configuration 07 Type B249 No. 07 Type B249 INo. 07K3186012 on FFFFFFF16 Time 11:01:58 2020/12/01	H-HH ND ND 10:00 B2452 06K3185001 FFFFFFF16	ND ND 2020/10/12 14.09:00 B249 07K3186008 FC1F87F010	2020/10/12 14:15:00 B249 07K3186010 FC1F87F010
cale n Con ing Ala Point Point	0.600 ppm 0.005 ppm figuration arms No 1 0.200 ppm 2 0.400 ppm	0.600 ppm 3.00 ppm 0.005 ppm 0.02 ppm figuration	0.600 ppm 3.00 ppm 0.600 ppm 0.005 ppm 0.02 ppm 0.005 ppm figuration

NOTE

For more information on GAS DETECTOR MANAGER, refer to '5-1 List of GAS DETECTOR MANAGER functions'.

3-1-2 Supported browsers

GAS DETECTOR MANAGER is designed to run in Microsoft Edge. GAS DETECTOR MANAGER may not be fully compatible with other browsers.

3-2 Launching GAS DETECTOR MANAGER

3-2-1 Network environment settings

<Proxy server settings (Windows 10)>

This feature cannot be used via a proxy server. If you are using a proxy server, turn the proxy server settings off.

- 1 In Windows, select [Settings] \rightarrow [Network & Internet] \rightarrow [Proxy].
- 2 Confirm that [Use a proxy server] is switched to [Off].

If [Use a proxy server] is switched to [On], switch to [Off].

← Settings	- 🗆 X	
ඟි Home	Proxy	
Find a setting	Automatic proxy setup	
Network & Internet	Use a proxy server for Ethernet or Wi-Fi connections. These settings don't apply to VPN connections.	
Status	Automatically detect settings	
루그 Ethernet	Off Use setup script	
📅 Dial-up	Off	
% VPN	Script address	1
Proxy	Save	
	Manual proxy setup	
	Use a proxy server for Ethernet or Wi-Fi connections. These settings don't apply to VPN connections.	
	Use a proxy server	2
		-
	Address Port	

<When using a local address (Windows 10)>



- The following operations are for the settings to use a local address for this product. GAS DETECTOR MANAGER cannot be used via a proxy server.
- 1 In Windows, select [Settings] \rightarrow [Network & Internet] \rightarrow [Proxy].
- 2 Select the [Don't use the proxy server for local (intranet) addresses] check box.
- 3 In the [Use the proxy server except for addresses that start with the following entries. Use semicolons (;) to separate entries.] field, enter the IP address for this product.
- 4. Click the [Save] button.

← Settings	- • ×	
ŵ Home	Proxy	
Find a setting	Manual proxy setup	
Network & Internet	Use a proxy server for Ethernet or Wi-Fi connections. These settings don't apply to VPN connections.	
Status	Use a proxy server	
문 Ethernet	On International	
ි Dial-up	Address Port 192.168.1.248 8080	
% VPN	Use the proxy server except for addresses that start with the following entries. Use semicolons (;) to separate entries.	
Proxy	localhost:192.168.1.1	
	Don't use the proxy server for local (intranet) addresses	
	Save	

NOTE

- If product settings are modified, the message [Data is updated.] will appear when you exit maintenance mode, and the screen is shown again.
- Login details are recorded on this product when you log on in administrator mode. These login details are deleted when the product is turned OFF. For this reason, the PC will display an error if you turn the product ON while GAS DETECTOR MANAGER runs on the PC. Before turning the product OFF, close GAS DETECTOR MANAGER. After starting the product, log into GAS DETECTOR MANAGER once again.

> Do not change the settings on GAS DETECTOR MANAGER and this product at the same time.

3-2-2 Logging on in user mode

- 1 Launch Microsoft Edge.
- 2 In the [Search or enter web address] field, enter "http://192.168.1.1" and press the <Enter> key.



Displays the user mode screen for GAS DETECTOR MANAGER.

	22.100.1.1/			K Li	
C			CAS D		
a1963			and bi		
Detector	GD-84D				
TAG No.	TAG-002		\square		
Device Name	KAIHATSU CENTE	0			
Serial No. of Detector	093681002	n	-0		
Alarm					
Gas Name	03	F2	03	03	
Concentration	0.000 ppm	0.00 ppm	0.000 ppm	0.000 ppm	
Serial No. of Sensor	07K3186012	06K3185001	07K3186008	07K3186010	
Alarm					
INHIBIT	OFF	OFF	OFF	OFF	
	General				
us nt History	General Slot	A1	A2	B1	B2
us nt History work Event History	General Siot Gas Name	A1 03	A2 F2	B1 03	B2 03
us nt History vork Event History munication History	General Siot Gas Name Full Scale	A1 O3 0.600 ppm	A2 F2 3.00 ppm	B1 03 0.600 ppm	B2 O3 0.600 ppm
us nt History vork Event History imunication History	General Slot Gas Name Full Scale Digit	A1 O3 0.600 ppm 0.005 ppm	A2 F2 3.00 ppm 0.02 ppm	B1 03 0.600 ppm 0.005 ppm	B2 O3 0.600 ppm 0.005 ppm
us nt History work Event History munication History	General Slot Gas Name Full Scale Digit Alarm Configuration	A1 O3 0.600 ppm 0.005 ppm	A2 F2 3.00 ppm 0.02 ppm	B1 O3 0.600 ppm 0.005 ppm	82 03 0.600 ppm 0.005 ppm
us nt History work Event History immunication History	General Slot Gas Name Full Scale Digit Alarm Configuration Latching Alarms	A1 O3 0.600 ppm 0.005 ppm	A2 F2 3.00 ppm 0.02 ppm	B1 03 0.600 ppm 0.005 ppm	B2 O3 0.600 ppm 0.005 ppm
us us Nork Event History Imunication History	General Slot Gas Name Full Scale Digit Alarm Configuration Latching Alarms Alarm Point 1	A1 03 0.600 ppm 0.005 ppm No 0.200 ppm	A2 F2 3.00 ppm 0.02 ppm	B1 O3 0.600 ppm 0.005 ppm	B2 O3 0.600 ppm 0.005 ppm
us nt History work Event History munication History	General Slot Gas Name Full Scale Digit Alarm Configuration Latching Alarms Alarm Point 1 Alarm Point 2	A1 O3 0.500 ppm 0.005 ppm No 0.200 ppm 0.400 ppm	A2 F2 3.00 ppm 0.02 ppm 1.00 ppm 2.00 ppm	B1 O3 0.600 ppm 0.005 ppm 0.200 ppm 0.400 ppm	B2 03 0.600 ppm 0.005 ppm 0.200 ppm 0.400 ppm
us nf History work Event History imunication History	General Siot Gas Name Full Scale Digit Alarm Configuration Latching Alarms Alarm Point 1 Alarm Point 2 Alarm Type	A1 O3 0.600 ppm 0.005 ppm No 0.200 ppm 0.400 ppm H-HH	A2 F2 3.00 ppm 0.02 ppm 1.00 ppm 2.00 ppm H-HH	B1 03 0.600 ppm 0.005 ppm 0.200 ppm 0.400 ppm H-HH	B2 03 0.600 ppm 0.005 ppm 0.200 ppm 0.400 ppm H-HH
us nt History work Event History imunication History	General Slot Gas Name Full Scale Digit Alarm Configuration Latching Alarms Alarm Point 1 Alarm Point 2 Alarm Type Ist Alarm Relay State	A1 O3 0.600 ppm 0.005 ppm 0.200 ppm 0.400 ppm H-HH H-HH ND v=	A2 F2 3.00 ppm 0.02 ppm 2.00 ppm H-HH H-HH	B1 O3 0.600 ppm 0.005 ppm 0.200 ppm 0.400 ppm H-HH ND	B2 03 0.600 ppm 0.005 ppm 0.200 ppm 0.400 ppm H-HH NO
us Int History vork Event History imunication History	General Siot Gas Name Full Scale Digit Alarm Configuration Latching Alarms Alarm Point 1 Alarm Point 1 Alarm Type 1st Alarm Relay State 2nd Alarm Relay State	A1 O3 O.600 ppm 0.005 ppm 0.000 ppm 0.200 ppm H-HH H-HH ND ND	A2 F2 3.00 ppm 0.02 ppm 1.00 ppm 2.00 ppm H-HH ND ND	B1 O3 0.600 ppm 0.005 ppm 0.400 ppm H-HH ND ND	B2 03 0.600 ppm 0.005 ppm 0.400 ppm H-HH ND ND
us nt History work Event History imunication History	General Slot Gas Name Full Scale Digit Alarm Configuration Latching Alarms Alarm Point 1 Alarm Point 2 Alarm Type 1st Alarm Relay State Calibration Evel Chibration	A1 O3 0.600 ppm 0.005 ppm 0.200 ppm 0.200 ppm H-HH ND ND	A2 F2 3.00 ppm 0.02 ppm 1.00 ppm 2.00 ppm H-HH ND ND	В1 03 0.600 ppm 0.005 ppm 0.200 ppm 0.400 ppm H-HH ND ND	B2 O3 0 600 ppm 0 005 ppm 0 005 ppm 0 200 ppm 0.400 ppm H-HH ND ND ND
us nt History work Event History munication History	General Slot Gas Name Full Scale Digit Alarm Configuration Latching Alarms Alarm Point 1 Alarm Point 2 Alarm Type 1st Alarm Relay State Calibration Last Calibration Date	A1 O3 0.600 ppm 0.005 ppm 0.000 ppm 0.400 ppm H-HH ND ND 2020/10/12 14:10:00	A2 F2 3.00 ppm 0.02 ppm 1.00 ppm 2.00 ppm H-HH ND ND	B1 O3 0.600 ppm 0.005 ppm 0.200 ppm 0.400 ppm H-HH ND ND ND 2020/10/12 14:09:00	B2 03 0.600 ppm 0.005 ppm 0.200 ppm H-HH ND ND 2020/10/12 14:15:00
us In History vork Event History imunication History	General Slot Gas Name Full Scale Digit Alarm Configuration Latching Alarms Alarm Point 1 Alarm Point 2 Alarm Type Ist Alarm Relay State Calibration Last Calibration Date Sensor Configuration Date	A1 O3 0.600 ppm 0.005 ppm 0.200 ppm 0.200 ppm H-HH ND ND ND 2020/10/12 14:10 00	A2 F2 3.00 ppm 0.02 ppm 1.00 ppm 2.00 ppm H-HH ND ND	B1 O3 0.600 ppm 0.005 ppm 0.200 ppm 0.400 ppm H-HH ND ND 2020/10/12 14:09:00	B2 03 0.600 ppm 0.005 ppm 0.005 ppm 0.005 ppm 0.400 ppm H-HH ND ND ND 202010/12 14:15:00
us nt History work Event History imunication History	General Slot Gas Name Full Scale Digit Alarm Configuration Latching Alarms Alarm Point 1 Alarm Point 2 Alarm Type 1st Alarm Relay State Calibration Last Calibration Date Sensor Configuration Sensor Type	A1 O3 O 600 ppm 0.005 ppm N0 0.200 ppm 0.200 ppm H-HH ND ND 2020/10/12 14:10:00 E249 Oracecee	A2 F2 3.00 ppm 0.02 ppm 1.00 ppm 2.00 ppm H-HH ND ND ND	B1 O3 0.600 ppm 0.005 ppm 0.400 ppm H-HH ND ND 2020/10/12 14:09:00 B249	B2 O3 0 600 ppm 0 .005 ppm 0 .200 ppm 0 .400 ppm H-HH ND 2020/10/12 14:15:00 B249
us In History work Event History imunication History	General Slot Gas Name Full Scale Digit Alarm Configuration Latching Alarms Alarm Point 1 Alarm Point 2 Alarm Type 1st Alarm Relay State Calibration Last Calibration Date Sensor Configuration Sensor Type Serial No.	A1 O3 O 600 ppm 0.005 ppm No 0.200 ppm 0.400 ppm H-HH ND ND 2020/10/12 14:10:00 B249 07K3156012 preperper de	A2 F2 3.00 ppm 0.02 ppm 2.00 ppm H-HH ND ND B2452 6853185001	B1 O3 0.600 ppm 0.005 ppm 0.400 ppm 0.400 ppm H-HH ND 2020/10/12 14:09:00 B249 07K3186008 CORESTER	B2 03 0.600 ppm 0.005 ppm 0.200 ppm 0.400 ppm H-HH ND ND 2020/10/12 14:15:00 B249 07K3186010 Condensity 0.005 ppm
us In History work Event History imunication History	General Slot Gas Name Full Scale Digit Alarm Configuration Latching Alarms Alarm Point 1 Alarm Point 2 Alarm Type Ist Alarm Relay State Calibration Last Calibration Date Sensor Configuration Sensor Type Serial No. Version	A1 O3 0.600 ppm 0.005 ppm 0.000 ppm 0.400 ppm H-HH ND ND 2020/10/12 14:10 00 B249 07K3186012 FFFFFFF16	A2 F2 3.00 ppm 0.02 ppm 2.00 ppm H-HH ND ND B2452 06K3185001 FFFFFFF16	B1 O3 0.600 ppm 0.005 ppm 0.200 ppm 0.400 ppm H-HH ND ND 2020/10/12 14:09:00 B249 07K3186008 FC1F87F010	B2 03 0.600 ppm 0.005 ppm 0.200 ppm 0.400 ppm H-HH ND ND 2020/10/12 14 15:00 B249 07K3186010 FC1F87F010 FC1F87F010
us nt History work Event History imunication History	General Slot Gas Name Full Scale Digit Alarm Configuration Latching Alarms Alarm Point 1 Alarm Point 2 Alarm Type 1st Alarm Relay State Calibration Last Calibration Date Sensor Configuration Sensor Type Serial No. Version DateTime	A1 O3 O 600 ppm O 005 ppm N0 O 200 ppm O 200 ppm O 200 ppm H-HH ND ND 2020/10/12 14:10:00 E249 O7K3186012 FFFFFFF16 11:00.42	A2 F2 3.00 ppm 0.02 ppm 1.00 ppm 2.00 ppm H-HH ND ND ND B2452 06K3185001 FFFFFFF16	B1 O3 0.600 ppm 0.005 ppm 0.400 ppm H-HH ND 2020/10/12 14:09:00 B249 07K3186008 FC1F87F010	B2 O3 0 600 ppm 0 .005 ppm 0 .200 ppm 0 .400 ppm H-HH ND 2020/10/12 14 15:00 B249 07K3186010 FC1F87F010
us nt History work Event History imunication History	General Siot Gas Name Full Scale Digit Alarm Configuration Latching Alarms Alarm Point 1 Alarm Point 1 Alarm Point 2 Alarm Type 1st Alarm Relay State Calibration Last Calibration Date Sensor Configuration Sensor Type Serial No. Version Date/Time Time	A1 O3 O 600 ppm 0.005 ppm N0 0.200 ppm 0.400 ppm H-HH ND ND 2020/10/12 14:10:00 B249 07K3186012 FFFFFF16 11:00-42 2020/12045	A2 F2 3.00 ppm 0.02 ppm 2.00 ppm H-HH ND ND ND B2452 06K3185001 FFFFFFF16	B1 O3 0.600 ppm 0.005 ppm 0.400 ppm H-HH ND 2020/10/12 14:09:00 B249 07K3186008 FC1F87F010	B2 O3 0.600 ppm 0.005 ppm 0.400 ppm 0.400 ppm H-HH ND ND ND 2020/10/12 14:15:00 B249 07K3186010 FC1F87F010
us In History work Event History imunication History	General Slot Gas Name Full Scale Digit Alarm Configuration Latching Alarms Alarm Point 1 Alarm Point 1 Alarm Point 2 Alarm Type Ist Alarm Relay State 2nd Alarm Relay State Calibration Last Calibration Date Sensor Configuration Sensor Type Serial No. Version Date Time Date Date Exerced	A1 O3 O, 600 ppm O, 005 ppm N0 O, 200 ppm O, 400 ppm H-HH ND ND 2020/10/12 14:10:00 E249 O7K3186012 FFFFFFF16 11:00:42 2020/12/01	A2 F2 3.00 ppm 0.02 ppm 2.00 ppm H-HH ND ND B2452 06K3185001 FFFFFFF16	B1 O3 0.600 ppm 0.005 ppm 0.200 ppm 0.400 ppm H-HH ND ND 2020/10/12 14:09:00 B249 07K3186008 FC1F87F010	B2 03 0.600 ppm 0.005 ppm 0.200 ppm 400 ppm H-HH ND ND 2020/10/12 14 15:00 B249 07K3186010 FC1F87F010 FC1F87F010

NOTE

> Depending on the version and settings of the browser, the actual display may differ.

3-2-3 Logging on in administrator mode

1 Launch Microsoft Edge.

- 2 In the [Search or enter web address] field, enter "http://192.168.1.1/login.html" and press the <Enter> key.
- **3 Enter the password and click the [Login] button.** The default password is "GD-84D".



Displays the administrator mode screen for GAS DETECTOR MANAGER.

- □	GAS DETECTOR MANA	$x \times + \vee$							-		×
$\leftarrow \rightarrow$	び û 19	2.168.1.1/index.html					☆	☆≡	12	Ŀ	
R				0							
RIKEN KEIKI	1			G/	AS DETECT	OR MANAGER					
	Detector	GD-84D			\sim						
	TAG No.	TAG-002									
	Device Name				\cup						
	Location	KAIHATSU CENTER	2		MAINTENANCE						
	Serial No. of Detector										
	Alarm		52			ALARMIRESET					
	Gas Name	03	F2	03	03						
	Concentration	0.000 ppm	0.00 ppm	0.000 ppm	0.00) ppm					
	Serial No. of Sensor	07K3186012	06K3185001	07K3186008	07K3	186010					
	INHIBIT	OFF	OFF	OFF	OFF						
		INHIBIT	INHIBIT	INHIBIT		INHIBIT'					
HOME											_
Status		General	1			1	10				
Event H	listory	Slot	A1	A2		B1		B2			_
Calibrat	tion History	Gas Name	03	F2		03		03			_
Alarm T	frend	Full Scale	0.000 ppm	3.00 ppm		0.000 ppm		0.000 ppr	11 72		-
Network	k Event History	Digit	0.005 ppm	0.02 ppm		U.005 ppm		0.005 ppi			
Commu	inication History	Latching Alarms	No								
Logout		Alarm Point 1	0 200 ppm	1 00 ppm		0 200 ppm		0 200 nn	m		-
CALIDDA	TION	Alarm Point 2	0.200 ppm	2 00 ppm		0.400 ppm		0.200 ppi 0.400 nni	n		-
Zero Ca	alibration	Alarm Type	Н-НН	н-нн		н-нн		H-HH			-
Span C	alibration	1st Alarm Relay State	ND	ND		ND		ND			-
		2nd Alarm Relay State	ND	ND		ND		ND			
TEST		Calibration				J					
Alarm I	lest	Last Calibration Date	2020/10/12 14:10:00			2020/10/12 14:09:0	0	2020/10/-	12 14:1	5:00	
■Fault le	est	Sensor Configuration									
AUTHOR	IZED USERS	Sensor Type	B249	B2452		B249		B249			
Alarm		Serial No.	07K3186012	06K318500	01	07K3186008	ĺ	07K3186	010		
Network	k	Version	FFFFFFFF16	FFFFFFF	16	FC1F87F010		FC1F87F	010		
Date/Tir	me	Date/Time									
Configu	Iration	Time	11:01:58								
		Date	2020/12/01								
		Date Format	YYYY/MM/DD								
					Open	Print Page					

NOTE

> Depending on the version and settings of the browser, the actual display may differ.

<Logging out of administrator mode>

Click [Logout] in [HOME].

HOME	General						
Status	Slot	A1	A2	B1	B2		
Event History	Gas Name	03	F2	03	03		
Calibration History	Full Scale	0.600 ppm	3.00 ppm	0.600 ppm	0.600 ppm		
Alarm Trend	Digit	0.005 ppm	0.02 ppm	0.005 ppm	0.005 ppm		
Network Event History	Alarm Configuration						
Communication History	Latching Alarms	No					
Logout	Alarm Point 1	0.200 ppm	1.00 ppm	0.200 ppm	0.200 ppm		
ALIBRATION	Alarm Point 2	0.400 ppm	2.00 ppm	0.400 ppm	0.400 ppm		
Zero Calibration	Alarm Type	н-нн	Н-НН	н-нн	н-нн		
Span Calibration	1st Alarm Relay State	ND	ND	ND	ND		
EGT	2nd Alarm Relay State	ND	ND	ND	ND		
EST Alerm Test	Calibration						
Foult Toot	Last Calibration Date	2020/10/12 14:10:00		2020/10/12 14:09:00	2020/10/12 14:15:00		
Fault lest	Sensor Configuration						
UTHORIZED USERS	Sensor Type	B249	B2452	B249	B249		
Alarm	Serial No.	07K3186012	06K3185001	07K3186008	07K3186010		
Network	Version	FFFFFFFF16	FFFFFFFF16	FC1F87F010	FC1F87F010		
Date/Time	Date/Time						
Configuration	Time	11:01:58					
	Date	2020/12/01					
	Date Format	YYYY/MM/DD					

4

PLC communication settings

This is a simple setup that allows easy connection to OMRON PLCs (CJ/CS series) and Mitsubishi Electric PLCs (Q series) by setting the PLC mode and PLC area.

PLC mode: Select the PLC model to be connected and the communication data size. PLC area: Select the data area to be used for writing/reading detectors in the destination PLC.

*When setting up using PLC mode or PLC area, the IP address of the PLC to be connected will be fixed at xxx.xxx.251.

4-1-1 PLC communication settings (OMRON CJ/CS series)

There are two ways to set PLC communications.

<Setting with GAS DETECTOR MANAGER>

Log in at the administrator mode screen for GAS DETECTOR MANAGER. Make the settings in Network screen.

Detailed PLC communication settings can be made in GAS DETECTOR MANAGER. For instructions on making or modifying settings, refer to '4-1-3 Setting PLC communication (OMRON CJ/CS series) with GAS DETECTOR MANAGER'.

NOTE

> Detailed settings for PLC communication can be made when the [PLC Mode] is [1].

<Setting in product maintenance mode>

Set [PLC Mode] and [PLC Area] in the ETHERNET settings in product maintenance mode ([SET-18 ETHERNET] in [2-10 SETTING2]).

In each of the [PLC Mode] and [PLC Area] modes, the setting values for the PLC communication settings are set automatically for each area.

For instructions on making or modifying settings, refer to '4-1-4 Setting PLC communication (OMRON CJ/CS series) with the product'.

4-1-2 Connecting the PLC (OMRON CJ/CS series)

Connect the product and the PLC (OMRON CJ/CS series).

The following shows an example of making a connection when using a PoE+ compliant switching hub. Set the following IP address in the PLC:

- IP address: 192.168.1.251
- FINS/UDP port: 9600

GD-84D-EX (Ethernet model)



NOTE

The PLC IP address is set to xxx.xxx.251, with the NODE fixed at 251. (xxx is the product IP address.)

4-1-3 Setting PLC communication (OMRON CJ/CS series) with GAS DETECTOR MANAGER

Log in at the administrator mode screen for GAS DETECTOR MANAGER and click [■Network] to display the Network screen.

The [PLC Mode] must be set to [1] to make detailed settings for PLC communications.

The following screen shows an example of writing Basic Data:Small in the 0 address of the D memory of the PLC.

In this example, note that the PLC IP address is: 192.168.1.251; the NODE: 251; and the FINS/UDP port: 9600.

Make the [PLC Mode] [1] PLC Mode 1 \ PLC Area 0 \ Items that can be set PLC Type Not Use ● FINS O MC Type of Basic Data ● Small ○ Large ○ Very Small Use Optional Data ○ Yes ● No Interval Min 1000 msec Interval Max 3000 msec Items thistory Timeout 10 sec Event History IP Address 192 . 168 . 1251 Ramm Trend Note Address 0 Network Event History Detector Node Address 0 Calibration Detector Node Address 0			PLC						
PLC Area 0 PLC Type Not Use • FINS • MC PLC Type of Basic Data • Small • Large • Very Small Use Optional Data • Yes • No Interval Min Max 3000 msec Timeout 10 sec FINS Fins Event History IP Address Alarm Tred Port Network Event History Detector Node Address 0 Calibration Detector Node Address 0 Calibration PLC Network Address 0 Port 9600 Network Address 0 Calibration PLC Node Address 0 Unit Number 0 Span Calibration PLC Network Address 0 PLC Node Address 0 Vint Number 0 Interval Aurm Test PLC Network Address 0 Flaim Detector Write Memory Address 0 Alarm Detector Read <	Make the [PLC Mode]	PLC Mode		1 🗸					
Items that can be set PLC Type Not Use ● FINS ● MC be set Type of Basic Data ● Small ● Large ● Very Small Use Optional Data ♥ es ● No Iver of Basic Data ● Small ● Large ● Very Small Use Optional Data ♥ es ● No Iver of Basic Data ● Small ● Large ● Very Small Use Optional Data ♥ es ● No Iver of Basic Data ● Small ● Large ● Very Small Use Optional Data ♥ es ● No Iver of Basic Data ● Small ● Large ● Very Small Use Optional Data ♥ es ● No Iver of Basic Data ● Small ● Large ● No Iver of Basic Data ● Small ● Large ● No Iver of Basic Data ● Small ● Large ● No Iver of Basic Data ● Small ● Large ● No Iver of Basic Data ● Small ● Large ● Files ● Invector Items = True Network Address ● Invector ● Small ● Large			PLC Area		0 ~				
be set Type of Basic Data • Small ○ Large ○ Very Small Use Optional Data ○Yes ● No Interval Min 1000 msec Interval Max 3000 msec Status Timeout 10 sec Event History Timeout 10 sec Calibration History IP Address 192 . 168 . 1 . 251 Network Event History IP Address 0 Commication History Port 9600 Network Address 0 . Commication History Detector Node Address 0 Logout Detector Node Address 0 . Calibration Event History 0 . . Exerce Calibration Port 9600 0 . Test Network Address 0 . . Authorize Dusters 0 . . . Alarm Test Authorize Dusters Alarm Detector Write Memor	Items that can		PLC Type		○Not Use ● FINS ○ MC				
HOME Min 1000 msec Interval Min 1000 msec Max 3000 msec Timeout 10 sec FINS 192 . 168 . 1 . 251 Event History IP Address 192 . 168 . 1 . 251 Port 9600 Network Event History Port 9600 Ecentration History Detector Network Address 0 CALIBRATION Detector Node Address 0 0 Event History Detector Node Address 0 0 Event History Detector Node Address 0 0 Interval Network Address 0 0 0 Event History Detector Node Address 0 0 Event History Unit Number 0 0 0 Balarn Test Fault Test Node Address 0 0 0 Alarm Detector Write Memory Address 0 0 0 0 0 Alarm	be set		Type of Basic Da	ta	● Small ○ Large ○ Very Small				
HOME Min 1000 msec Status Timeout 3000 msec Event History I0 sec FINS Ecalibration History IP Address 192 . 168 . 1 . 251 Alarm Trend Port 9600 Network Event History Port 9600 Ecommunication History Detector Node Address 0 Constrained Detector Node Address 0 0 Zero Calibration Span Calibration PLC Node Address 0 0 TEST Alarm Test Fault Test Unit Number 0 0 Alarm Test Fault Test Detector Write Memory Address 0 0 Alarm Test Fault Test Detector Write Memory Address 0 0 Alarm Test Fault Test Detector Write Memory Address 0 0 Alarm Detector Write Memory Address 0 0 130 Network Detector Read Memory Address 10000 130<			Use Optional Dat	a	⊖Yes ●No				
HOME Max 3000 msec Status Timeout 10 sec Event History Calibration History IP Address 192 . 168 . 1 . 251 Calibration History IP Address 9600 9600 Network Event History Port 9600 9600 Network Event History Detector Network Address 0 Ucgout Detector Node Address 0 0 Zero Calibration Span Calibration Node Address 0 0 Span Calibration PLC Node Address 0 0 TEST Alarm Test PLC Node Address 0 0 I Alarm Test Pait Test Unit Number 0 0 0 Alarm Detector Write Memory Address 0 0 0 0 I Alarm Detector Read Memory Address 0 0 0 0 0 I Date/Time Detector Read Memory Address 0 0 0 0 0 0 0 0 0 0 0 0			Intonial	Min	1000 msec				
HOME Timeout 10 sec Status Event History IP Address 192 . 168 . 1 . 251 Calibration History IP Address 192 . 168 . 1 . 251 Alarm Trend Port 9600 Network Event History Port 9600 Ecommunication History Detector Node Address 0 Logout Detector Node Address 0 0 Zero Calibration Span Calibration Network Address 0 0 Span Calibration PLC Node Address 0 0 Harm Test Fault Test Unit Number 0 0 AurthORIZED USERS Detector Write Memory Address 0 0 Alarm Detector Write Memory Address 0 0 0 Network Detector Write Memory Address 0 0 0 0 Alarm Detector Read Memory Address 130 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0			Interval	Max	3000 msec				
■ Status FINS ■ Event History ■ Address 192 168 1 .251 ■ Alarm Trend Port 9600 9600 ■ Network Event History ■ O ■ O ■ O ■ Communication History ■ Detector Node Address 0 ■ O ■ Logout Detector Node Address 0 ■ O ■ O ■ Zero Calibration ■ Span Calibration 0 ■ O <t< td=""><td>HOME</td><td></td><td>Timeout</td><td>·</td><td>10 sec</td></t<>	HOME		Timeout	·	10 sec				
■ Event History ■ Address 192 168 1 251 ■ Alarm Trend Port 9600 9600 ■ Network Event History ■ Communication History ■ O ■ O ■ O ■ O ■ Communication History ■ Detector Network Address 0 ■ O	Status		FINS						
■Alarm Trend Port 9600 ■Network Event History ■Communication History ■Logout Detector Network Address 0 CALIBRATION ■Communication History Detector Node Address 0 ■Zero Calibration ■Span Calibration 0 0 0 TEST ■Alarm Test ■Fault Test 0 0 0 ■Alarm Test ■Fault Test Unit Number 0 0 0 AUTHORIZED USERS ■Alarm Detector Write Memory Address 0 0 ■Alarm ■Detector Read Memory Address 0 0 0 0 ■Lotorfiguration ■Detector Read Memory Address 0 0 0 0 ■Configuration ■Detector Read Memory Address 0<	Calibration History		IP Address		192 . 168 . 1 . 251				
Image: Second state of the second s	Alarm Trend		Port		9600				
Logout Detector Node Address 0 CALIBRATION Unit Number 0 "Zero Calibration Unit Number 0 "Span Calibration PLC Network Address 0 TEST Node Address 251 1 "Alarm Test Fault Test Unit Number 0 AUTHORIZED USERS Detector Write Memory Address 0 Network Detector Write Memory Address 0 Network Detector Read Memory Address 130	Network Event History Communication History		Detector	Network Address	0				
CALIBRATION Unit Number 0 IZero Calibration Span Calibration Network Address 0 TEST Network Address 0 Node Address 251 IAlarm Test Fault Test Unit Number 0 0 AUTHORIZED USERS Detector Write Memory Address 0 0 IAlarm Detector Write Memory Address 0 0 INetwork Detector Read Memory Address 130	Logout			Node Address	0				
Image: Span Calibration PLC Network Address 0 TEST Alarm Test Dote Address 251 Image: Alarm Unit Number 0 AUTHORIZED USERS Detector Write Memory Address 0 Image: Alarm Detector Write Memory Address 0 Image: Alarm Detector Write Memory Address 0 Image: Alarm Detector Read Memory Address 130 Image: Alarm Detector Read Memory Address 10000				Unit Number	0				
TEST Alarm Test ■Alarm Test Unit Number ■Fault Test Unit Number AUTHORIZED USERS Detector Write ■Alarm Detector Write ■Date/Time Detector Read ■Configuration Memory Address 1000 Memory Address 1000 Memory Address ■Date/Time Detector Read ■Configuration Memory Address ■ Detector Read ■ Memory Address ■ Detector Read	Span Calibration			Network Address	0				
Alarm Test Unit Number 0 Fault Test Unit Number 0 AUTHORIZED USERS Detector Write Memory Address 0 Alarm Detector Write Area Type DM < 130	TEST		PLC	Node Address	251				
AUTHORIZED USERS Alarm Detector Write Memory Address D Memory	Alarm Test Fault Test			Unit Number	0				
Alarm Detector Write Area Type DM 130 Network Date/Time Detector Read Memory Address 10000 Configuration Detector Read Area Type DM 130	AUTHORIZED USERS			Memory Address	0				
	Alarm		Detector Write	Area Type	DM V 130				
Configuration Detector Read	Date/Time			Memory Address	10000				
	Configuration		Detector Read	Area Type	DM 🗸 130				

NOTE

- ▶ For more information on settings for PLC communication, refer to '7. PLC communication'.
- > For information on PLC settings and tools, refer to the PLC operating manual.



• Any errors in data written to the PLC memory may result in unexpected PLC behavior. Check the data for errors before finalizing the settings.

4-1-4 Setting PLC communication (OMRON CJ/CS series) with the product

Set [PLC Mode] and [PLC Area] in the ETHERNET settings in product maintenance mode ([SET-18 ETHERNET] in [2-10 SETTING2]). (Refer to '7-10-18 ETHERNET settings (ETHERNET)' in the 'GD-84D-EX Series Gas Detector Head Operating Manual')

If you set the [PLC Mode] to [2] and the [PLC Area] to [2] with this unit, the PLC communication settings will be as follows.

In this example, note that the PLC IP address is: 192.168.1.251; the NODE: 251; and the FINS/UDP port: 9600.

PLC Mode = 2							
	PLC Typ	e	FINS				
	Type of I	Basic Data	Small				
	Memory	Address					
		Detector write	0*				
		Detector read	-				
PLC /	PLC Area = 2						
	Area Typ	e (FINS)	E2				

* When the product IP address is 192.168.1.1

NOTE

- The PLC IP address is set to xxx.xxx.251, with the NODE fixed at 251. (xxx is the product IP address.)
- ▶ For more information on settings for PLC communication, refer to '7. PLC communication'.
- For more information on [PLC Mode], the various [PLC Area] modes, and the PLC communication settings corresponding to each area, refer to '7-6 PLC communication setting specifications using this product'.
- ▶ For information on PLC settings and tools, refer to the PLC operating manual.



• Any errors in data written to the PLC memory may result in unexpected PLC behavior. Check the data for errors before finalizing the settings.

4-2 MELSEC Q series

4-2-1 PLC communication settings (MELSEC Q series)

There are two ways to set PLC communications.

<Setting with GAS DETECTOR MANAGER>

Log in at the administrator mode screen for GAS DETECTOR MANAGER. Make the settings in Network screen.

Detailed communication settings can be made in GAS DETECTOR MANAGER.

For instructions on making or modifying settings, refer to '4-4-3 Setting PLC communication (MELSEC Q series) with GAS DETECTOR MANAGER'.

NOTE

> Detailed settings for PLC communication can be made when the [PLC Mode] is [1].

<Setting in product maintenance mode>

Set [PLC Mode] and [PLC Area] in the ETHERNET settings in product maintenance mode ([SET-18 ETHERNET] in [2-10 SETTING2]).

In each of the [PLC Mode] and [PLC Area] modes, the setting values for the PLC communication settings are set automatically for each area.

For instructions on making or modifying settings, refer to '4-2-4 Setting PLC communication (MELSEC Q series) with the product'.

4-2-2 Connecting the PLC (MELSEC Q series)

Connect the product and the PLC (MELSEC Q series).

The following shows an example of making a connection when using a PoE+ compliant switching hub. Set the following IP address in the PLC:

- IP address: 192.168.1.251
- UDP local port number: 2000

GD-84D-EX (Ethernet model)



NOTE

> The PLC IP address is set to xxx.xxx.251. (xxx is the same as the product IP address)

4-2-3 Setting PLC communication (MELSEC Q series) with GAS DETECTOR MANAGER

Log in at the administrator mode screen for GAS DETECTOR MANAGER and click [■Network] to display the Network screen.

The [PLC Mode] must be set to [1] to make detailed settings for PLC communications.

The following screen shows an example of writing Basic Data:Small in the 0 address of the D memory of the PLC.

In this example, note that the PLC IP address is: 192.168.1.251, and the UDP local port number: 2000.

	PLC					
Make the [PLC Mode] [1]	PLC Mode		1 ~			
	PLC Area		2 🗸			
Items that can —	PLC Type		○ Not Use ○ FINS ● MC			
be set	Type of Basic Da	ata	● Small ○ Large ○ Very Small			
HOME	Use Optional Da	ta	O Yes ● No			
Event History		Min	1000 msec			
Calibration History	Interval	Max	2000 msec			
Alarm Frend Network Event History	Timeout	Л	10 sec			
Communication History	<u> </u>					
Logout	MC	С				
CALIBRATION	IP Address		192 . 168 . 1 . 251			
Span Calibration	Port		2000			
TEST		Network Address	0			
Alarm Test	PLC	Node Number	0			
AUTHORIZED USERS		Memory Address	0			
Alarm	Detector Write	Device Code	D* V 168			
		Memory Address	10000			
Configuration	Detector Read	Device Code	D* 168			

NOTE

- ▶ For more information on settings for PLC communication, refer to '7. PLC communication'.
- ▶ For information on PLC settings and tools, refer to the PLC operating manual.



• Any errors in data written to the PLC memory may result in unexpected PLC behavior. Check the data for errors before finalizing the settings.

4-2-4 Setting PLC communication (MELSEC Q series) with the product

Set [PLC Mode] and [PLC Area] in the ETHERNET settings in product maintenance mode ([SET-18 ETHERNET] in [2-10 SETTING2]). (Refer to '7-10-18 ETHERNET settings (ETHERNET)' in the 'GD-84D-EX Series Gas Detector Head Operating Manual'.)

If you set the [PLC Mode] to [4] and the [PLC Area] to [2] with this unit, the PLC communication settings will be as follows.

In this example, note that the PLC IP address is: 192.168.1.251, and the UDP local port number: 2000.

PLC Mode = 4							
	PLC Ty	/pe	MC				
	Туре о	f Basic Data	Small				
	Memor	y Address					
		Detector write	0*				
		Detector read	-				
PLC Area = 2							
	Area T	ype (MC)	ZR (65536)				

* When the product IP address is 192.168.1.1

NOTE

- ▶ The PLC IP address is set to xxx.xxx.251. (xxx is the same as the product IP address)
- ▶ For more information on settings for PLC communication, refer to '7. PLC communication'.
- For more information on [PLC Mode], the various [PLC Area] modes, and the PLC communication settings corresponding to each area, refer to '7-6 PLC communication setting specifications using this product'.
- ▶ For information on PLC settings and tools, refer to the PLC operating manual.

• Any errors in data written to the PLC memory may result in unexpected PLC behavior. Check the data for errors before finalizing the settings.

4-3 PLC memory-saving setting function

This function allows a slot that is not equipped with an F-sensor but has a dummy sensor connected to it to be optionally omitted from the data sent to the PLC. The setting of this function can be specified for each slot and is to be selected from enable/disable. The standard settings are all enabled (when disabled, the target sensor is omitted from the transmitted data).

As shown in the figure below, the slot to which the dummy sensor is connected can be set to the disabled setting to save area in the PLC used by one product.

When all are enable					When partially disabled								
	GD-84	D			PLC	_	GD-84D PLC				PLC		
	Slot	Sensor Type	PLC memory saving setting		Memory			Slot	Sensor Type	PLC memory saving setting		Memory	
	A1	F sensor	ON		1			A1	F sensor	ON		1	
	A2	Dummy Sensor	ON		2			A2	Dummy Sensor	OFF		2	
	B1	F sensor	ON		3			B1	F sensor	ON		3	
	B2	Dummy sensor	ON		4			B2	Dummy sensor	OFF		4	
				Data	:						Data	:	



- If a sensor other than a dummy sensor is connected, the target slot cannot turn off the PLC memorysaving setting.
- Sensors other than dummy sensors cannot be replaced in slots where the PLC memory saving setting is OFF. (By turning the setting ON before replacement work, it is possible to replace the sensor with one other than a dummy sensor.) Therefore, when changing the configuration of the F sensor and dummy sensor, turn on all PLC memory-saving settings once before replacing the sensor, and then replace the sensor and make the settings again.
- If the address setting of the PLC is wrong regardless of this setting, data in a certain area of the PLC will be duplicated as shown in the figure below. In this case, the same area will be rewritten for each other, resulting in unstable operation.
- When using this function, the size of the area occupied by each PLC is variable depending on the setting, whereas it was fixed at a multiple of 4.



4-3-1 Setting PLC memory saving

Step (1)

Operate the button on the GD-84D series main unit to enter the maintenance mode from the detection mode. For details on GD-84D series button operation, please refer to the instruction manual of the main unit.

1 In detection mode, hold down the MODE key (about three seconds).



Switches to user mode



2 Press the ▲ key or ▼ key to select [1-8 M MODE], then press the TEST/SET key.



3 Hold down the TEST/SET key for about three seconds.

Switches to maintenance mode.





Step(2)

1 In maintenance mode, press the ▲ key or ▼ key to select [2-10 SETTING2], then press the TEST/SET key.

2 Press the ▲ key or ▼ key to select[SET-18 ETHERNET], then press the TEST/SET key.

After switching to maintenance mode, proceed to step (2).





3 PLC Data Select on the third page of the maintenance mode "2-10 SETTING2" - "SET-18 ETHERNET". Select PLC data saving settings in the menu from the top to the bottom.

PLC D	ata Select
A 1:	ON (*HOLD)
A 2:	ON (*HOLD)
B 1:	O N
B 2:	OFF
	ETHERNET
\cup	MAINIE

Display	Setting	Additional information
ON	Enable	Can be changed only
OFF	Disabled	mounted
ON(*HOLD)	Enable	When a sensor other than a dummy sensor is mounted, the setting cannot be changed.

*The ON/OFF setting can be changed for the dummy sensor.

For F sensor, the setting is fixed at ON (*HOLD).

Step (3).

The settings are reflected at the time you exit the "SET-18 ETHERNET" menu.

5

Operating GAS DETECTOR MANAGER

5-1 List of GAS DETECTOR MANAGER functions

NOTE

- If product settings are modified, the message [Data is updated.] will appear when you exit maintenance mode, and the screen is shown again.
- Login details are recorded on this product when you log on in administrator mode. These login details are deleted when the product is turned OFF. For this reason, the PC will display an error if you turn the product ON while GAS DETECTOR MANAGER runs on the PC. Before turning the product OFF, close GAS DETECTOR MANAGER. After starting the product, log into GAS DETECTOR MANAGER once again.
- > Do not change the settings on GAS DETECTOR MANAGER and this product at the same time.

O: Can be displayed ×: Cannot be displayed

Menu	items	User mode	Administrator mode	Function details		
HOME	Status	0	0	Displays information about the various settings for the product.		
	Event History	0	0	Displays event history (alarm history). A trend graph can also be displayed.		
	Calibration History	×	0	Displays the calibration history for each slot.		
	Alarm Trend	×	0	Displays a list of alarm trends.		
	Network Event History	0	0	Displays the network event history in list format.		
	Communication History	0	0	Displays the communication history in list format.		
	Logout	×	0	Logs out of administrator mode.		
CALIBRATION	Zero Calibration	×	0	Performs zero calibration.		
	Span Calibration	×	0	Performs span adjustment.		
TEST	Alarm Test	×	0	Performs alarm tests.		
	Fault Test	×	0	Performs fault alarm tests.		
AUTHORIZED	Alarm	×	0	View and set alarm settings.		
USERS	Network	×	0	View and make settings for communications, email, and networks.		
	Date/Time	×	0	View and set date and time.		
	Configuration	×	0	View and set detailed information for the product and the details of sensor information related settings.		
[MAINTENANCE] b	outton	×	0	Switches to maintenance mode.		
[INHIBIT] button		×	0	Set ON/OFF for INHIBIT.		
[ALARM RESET] b	utton	×	0	Resets the alarms.		

5-2 Checking the current status of the product

The upper part of the screen of GAS DETECTOR MANAGER displays flow and gas concentration for the product in real-time.

<User mode screen>

← -	→ Ů ŵ ① 192.	168.1.1/				□ ☆	2,≡	h	Ŀ	
R				040		D				
RIKEN KE	M			GAS L	PETEOTOR MANAGE	.n				-
	Detector	GD-84D				1				
	TAG No.	TAG-002								
	Device Name				É					
	Location	KAIHATSU CENTE	R							
	Scrial No. of Detector	093681002								
	Alarm			1		-				
	Gas Name	03	F2	03	03					
	Concentration	0.000 ppm	0.00 ppm	0.000 ppm	0.000 ppm					
	Serial No. of Sensor	07K3186012	06K3185001	07K3186008	07K3186010	1				
	Alarm					1				
	INHIBIT	OFF	OFF	OFF	OFF	1				

<Administrator mode screen>

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	\leftrightarrow \rightarrow \circlearrowright \textcircled{a}	① 192.168.1.1	/index.html				□ ☆	տե	h l	ŝ	
					GAS	S DETECTOR MANA	AGER				
	Detector		6D-84D			٦					0
	TAG No.	1	AG-002			•j [*]					<u> </u>
	Location	=k	AIHATSU CENTER								3
	Serial No. of	Detector 0	93681002			APMPESET					
D -	Alarm						_				े ज
	Gas Name		03	F2	03	03					
	Concentratio	on ().000 ppm	0.00 ppm	0.000 ppm	0.000 ppm					
	Serial No. of	Sensor	07K3186012	06K3185001	07K3186008	07K3186010					
	Alarm										
	INHIBIT		DFF	OFF	OFF	OFF					
			INHIBIT	INHIBIT	INHIBIT	INHIBIT					
	u de la constante de										Ē

Number	ltem	Description
1	Status of this product	Displays the model, TAG number, device name, installation location, serial number, and alarms of the product, along with the gas names, gas concentration, serial numbers, and INHIBIT settings of the sensors fitted.
2	Flow display	Displays the current flow of the product.
3	[MAINTENANCE] button*	Click to switch to the maintenance mode of the product.
4	[ALARM RESET] button*	Click to reset the alarm state of the product.
5	[INHIBIT] button [*]	Click to switch the sensor INHIBIT setting ON/OFF. If the button is light blue, the INHIBIT setting is ON. If the button is gray, the INHIBIT setting is OFF.

* This can be set only in administrator mode.

NOTE

When the first alarm and second alarm are triggered, the following displays will appear on the screen of GAS DETECTOR MANAGER.

<User mode screen>

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\leftarrow \rightarrow \circlearrowright $ເall$ \odot 192.1	58.1.141/				☆	zţ≡	l~	Ŀ	
8				GAS DET	FCTO		NAGE	B	
RIKEN KEIKI					LUIU		Innal		
Detector	GD-84D							٦	
TAG No.	TAG-095			\sim					
Device Name									
Location	KAIHATSU CENT	ER							
Serial No. of Detector	093680095								
Alarm									
Gas Name	H2	H2	i-C4H10		i-C4H1	0			
Concentration	0 ppm	0 ppm	0.0 %LEL		58.5 %	LEL		1	
Serial No. of Sensor	2093680041	2033140013	19Y314000)1	19Y314	0001		1	
Alarm					1st, 2nd				
INHIBIT	OFF	OFF	OFF		OFF			7	
								-	

<Administrator mode screen>

If you logged in as an administrator, you can cancel the alarm state on the product by clicking the [ALARM RESET] button.

🖻 🕫 🖾 GAS DETECTOR MANAC 🛛	+ ~				-		×	
\leftrightarrow \rightarrow \circlearrowright $ເall$ \odot 192.168.	1.141/index.html		[□ ☆	☆= 1	2 6	>	
R			GAS	DETEC	TOR MAN	AGER		
KIKEN KEIKI								
Detector	GD-84D			<u> </u>				
TAG No.	TAG-095			•				
Device Name				ر				
Location	KAIHATSU CENTER		MA	MAINTENANCE				
Serial No. of Detector	093680095			20000000000				
Alarm			AL	ARM RESET				
Gas Name	H2	H2	i-C4H10	i-C4	4H10			
Concentration	0 ppm	0 ppm	0.0 %LEL	58.5	5 %LEL			
Serial No. of Sensor	2093680041	2033140013	19Y3140001	19Y	/3140001			
Alarm				1st,	2nd			
INHIBIT	OFF	OFF	OFF	OFF	F			
	INHIBIT	INHIBIT	INHIBIT		INHIBIT]		

5-3 Displaying the setting information for the product (Status)

Click [■Status] in GAS DETECTOR MANAGER to view product settings.

<User mode screen>

	Slot	A1	A2	B1	B2			
Ý	Gas Name	03	F2	03	03			
vent History	Full Scale	0.600 ppm	3.00 ppm	0.600 ppm	0.600 ppm			
cation History	Digit	0.005 ppm	0.02 ppm	0.005 ppm	0.005 ppm			
	Alarm Configuration		<u>,</u>		-			
	Latching Alarms	No						
	Alarm Point 1	0.200 ppm	1.00 ppm	0.200 ppm	0.200 ppm			
	Alarm Point 2	0.400 ppm	2.00 ppm	0.400 ppm	0.400 ppm			
	Alarm Type	H-HH	Н-НН	H-HH	H-HH			
	1st Alarm Relay State	ND	ND	ND	ND			
	2nd Alarm Relay State	ND	ND	ND	ND			
	Calibration							
	Last Calibration Date	2020/10/12 14:10:00		2020/10/12 14:09:00	2020/10/12 14:15:00			
	Sensor Configuration	Sensor Configuration						
	Sensor Type	B249	B2452	B249	B249			
	Serial No.	07K3186012	06K3185001	07K3186008	07K3186010			
	Version	FFFFFFFF16	FFFFFFFF16	FC1F87F010	FC1F87F010			
	Date/Time							
	Time	11:00:42						
	Date	2020/12/01						
	Date Format	YYYY/MM/DD						

<Administrator mode screen>

	General				
S	Slot	A1	A2	B1	B2
History	Gas Name	03	F2	03	03
ration History	Full Scale	0.600 ppm	3.00 ppm	0.600 ppm	0.600 ppm
Trend	Digit	0.005 ppm	0.02 ppm	0.005 ppm	0.005 ppm
k Event History	Alarm Configuration		- ^	· · ·	
inication History	Latching Alarms	No			
	Alarm Point 1	0.200 ppm	1.00 ppm	0.200 ppm	0.200 ppm
NON	Alarm Point 2	0.400 ppm	2.00 ppm	0.400 ppm	0.400 ppm
bration	Alarm Type	H-HH	H-HH	н-нн	H-HH
ibration	1st Alarm Relay State	ND	ND	ND	ND
	2nd Alarm Relay State	ND	ND	ND	ND
	Calibration				
	Last Calibration Date	2020/10/12 14:10:00		2020/10/12 14:09:00	2020/10/12 14:15:00
	Sensor Configuration				
ED USERS	Sensor Type	B249	B2452	B249	B249
	Serial No.	07K3186012	06K3185001	07K3186008	07K3186010
	Version	FFFFFFFF16	FFFFFFFF16	FC1F87F010	FC1F87F010
	Date/Time				
m	Time	11:01:58			
	Date	2020/12/01			
	Date Format	YYYY/MM/DD			

Number	ltem	Description
1	General information (General)	Displays the gas names, full scale values, and setting units for the sensors in each of the slots.
2	Alarm setpoint (Alarm Configuration)	Displays the alarm pattern, first and second alarm setpoints for the sensors in each slot, the alarm type, and the energized/de- energized setting (first alarm contact, second alarm contact).
3	Calibration	Displays the date on which calibration was last performed for the sensors in each slot.
4	Sensor information (Sensor Configuration)	Displays the model, serial number, and version for each sensor in each slot.
5	Date and time (Date/Time)	Displays the date and time on the product as well as the date format.
6	[Open Print Page] button	Click to view the screen for printing the current page. To print, press the [Print] button in the printing screen.

5-4 Displaying histories

5-4-1 Displaying the event history (Event History)

Click [■Event History] in GAS DETECTOR MANAGER to view 10 event history (alarm history) items in a single screen. You can display a maximum of 272 history items.

<User mode screen>

HOME			Page01		
	No.	Time Stamp	Description	Data	
Network Event History	1	2020/12/01 10:57:20	Slot B2 2nd alarm		
Communication History	2	2020/12/01 10:57:20	Slot B2 1st alarm	Graph	
,	3	2020/12/01 10:56:54	Power ON		
	4	2020/12/01 10:53:28	Maintenance end	i 	
	5	2020/12/01 10:53:08	Maintenance start		
	6	2020/12/01 09:43:40	Slot B2 2nd alarm		
	7	2020/12/01 09:43:40	Slot B2 1st alarm	Graph	
	8	2020/12/01 09:43:13	Power ON		
	9	2020/12/01 09:36:59	Slot B1 Sensor deterioration diagnosis		
	10	2020/12/01 09:36:58	Maintenance end		
			Page01 V GO >>		
			Open Print All Open	Print Page	

<Administrator mode screen>



Number	ltem	Description
1	Displayed page number	Displays the page number being displayed.
2	Event history (alarm history)	Displays the date and time events occur and the descriptions of events (alarms). When there is graph data, the [Graph] button is displayed, and when you click it, it displays the trend graph showing the three minutes before and after the alarm was triggered. (Refer to <displaying graph="" the="" trend=""> on this page)</displaying>
3	Select page number to display	Select the page number to display and click the [GO] button to view the selected page. Press the [>>] button or [<<] button to view the next page or the previous page.

Number	ltem	Description
4	[Open Print Page] button	Click to view the screen for printing the current page. To print, press the [Print] button in the printing screen.
5	[Open Print All] button	Click to view the screen for printing all pages, including pages not currently displayed. To print, press the [Print] button in the printing screen.

<Displaying the trend graph>



Number	ltem	Description
1	Event information	Displays for the event for which the graph is displayed the date and time the event occurred, the description of the event (alarm), the serial number of the product, the serial number of the sensor, and the gas name.
2	Graph	Displays the trend graph showing the three minutes before and after the alarm was triggered for each slot.
3	[Return] button	Click to return to the event history screen.
4	[Open Print Page] button	Click to view the screen for printing the current page. To print, press the [Print] button in the printing screen.

5-4-2 Displaying the calibration history (Calibration History)

Click [■Calibration History] in GAS DETECTOR MANAGER to view 10 calibration history events in a single screen. You can display a maximum of 64 sensor calibration history items for each slot. You must log in as an administrator.

<Administrator mode screen>



Number	Item	Description
1	Displayed slot number and page number	Displays the slot number and page number being displayed.
2	Calibration History	Displays the date of calibration and calibration details for the sensor fitted in the slot being displayed.
3	Select page number to display	Select the page number to display and click the [GO] button to view the selected page. Press the [>>] button or [<<] button to view the next page or the previous page.
4	Slot selection	Select the slot number to display. [Slot A1], [Slot A2], [Slot B1], and [Slot B2] correspond to the indications [A1], [A2], [B1], and [B2] on the product that indicate the positions at which the sensors are fitted.
5	[Open Print Page] button	Click to view the screen for printing the current page. To print, press the [Print] button in the printing screen.
6	[Open Print All] button	Click to view the screen for all pages, including pages not currently displayed. To print, press the [Print] button in the printing screen.

5-4-3 Displaying alarm trends (Alarm Trend)

Click [■Alarm Trend] in GAS DETECTOR MANAGER to view 26 alarm trend items in a single screen. You must log in as an administrator.

<Administrator mode screen>

HOME	No.	Time Stamp	Description	Data	· · · · · · · · · · · · · · · · · · ·	
Event History	1	2020/12/04 14:56:37	Slot B2 1st Alarm	Graph		
Calibration History	2	2020/12/01 14:34:18	Slot B2 2nd Alarm	Graph		
Alarm Trend	3	2020/12/01 14:31:31	Slot B2 1st Alarm	Graph		
Network Event History	4	2020/12/01 14:26:00	Slot B2 1st Alarm	Graph	_	_
Logout	5	2020/12/01 10:57:20	Slot B2 1st Alarm	Graph		
CALIBRATION	6	2020/12/01 09:43:40	Slot B2 1st Alarm	Graph		
Zero Calibration	7	2020/11/30 17:00:24	Slot B2 1st Alarm	Graph		
Span Calibration	8	2020/11/18 13:14:47	Slot B2 1st Alarm	Graph		
TEST	9	2020/11/17 14:08:30	Slot B2 1st Alarm	Graph		
Alarm Test	10					
Fault lest	11					
AUTHORIZED USERS	12					
Alarm	13					
Network	14					
Date/Time	15					
Configuration	16					
	17					

		•			
Alarm	23				1
Network	24				
Date/Time	25				
Configuration	26				
			Open	Print Page	<u> </u>

Number	ltem	Description
1	Alarm Trend	The times the alarms triggered and the alarm details are displayed.
		Press the [Graph] button to display the trend graph showing the three minutes before and after the alarm was triggered. (Refer to ' <displaying graph="" the="" trend="">' on this page)</displaying>
2	[Open Print Page] button	Click to view the screen for printing the current page. To print, press the [Print] button in the printing screen.
Event Data Occurrence Time 2020/12/25 09:06:50 SLOT:4 1st Alarm Event -1) Serial No. Gas Name Unit Serial No. 20X3680113 H2(2000 ppm) 2000 ppm 2 Slot-1 Slot-2 1000 ppm Slot-3 500 ppm 0 ppm -3min -2min -1min 0min 1min 2min 3min Open Print Page Return 3 4

<Displaying the trend graph>

Number	ltem	Description
1	Alarm information	Displays for the alarm for which the graph is displayed the date and time the alarm occurred, the description of the alarm, the serial number of the product, the serial number of the sensor, and the gas name.
2	Graph	Displays the trend graph showing the three minutes before and after the alarm was triggered for each slot.
3	[Return] button	Click to return to the event history screen.
4	[Open Print Page] button	Click to view the screen for printing the current page. To print, press the [Print] button in the printing screen.

5-4-4 Displaying network event history (Network Event History)

Click [■Network Event History] in GAS DETECTOR MANAGER to view 100 network event history items in a single screen. You can display a maximum of 2000 history items.

<User mode screen>

HOME Status			Page01	^	-1
Event History	No.	Time Stamp	Description		
Network Event History	1	2020/12/04 14:28:28	SETTING OK		
	2	2020/12/04 12:30:38	Communication OK		
Communication History	3	2020/12/04 00:10:07	ARP SEND		
	4	2020/12/04 00:10:06	ARP SEND		
	5	2020/12/04 00:10:01	ARP SEND		
	6	2020/12/04 00:00:00	AGGREGATE		G
	7	2020/12/03 00:10:08	ARP SEND		
	8	2020/12/03 00:10:06	ARP SEND		
	9	2020/12/03 00:10:02	ARP SEND		
	10	2020/12/03 00:00:00	AGGREGATE		
	11	2020/12/02 00:10:07	ARP SEND		
	12	2020/12/02 00:10:06	ARP SEND		
	13	2020/12/02 00:10:01	ARP SEND		

		•	
95	2020/11/18 10:42:28	PLC Receive OK	
96	2020/11/18 08:02:03	SETTING OK	
97	2020/11/18 08:00:47	SETTING OK	
98	2020/11/18 08:00:47	SETTING OK	
99	2020/11/18 07:57:52	PLC Receive OK	
100	2020/11/18 07:55:41	PLC Receive Timeout	
 		Page01 V GO >>	3
		Open Print All Open Print Page	4
		(5)

<Administrator mode screen>

HOME	-		Page01	^	-(1
Event History	No.	Time Stamp	Description		
	1	2020/12/04 14:28:28	SETTING OK		
	2	2020/12/04 12:30:38	Communication OK		
Notwork Event History	3	2020/12/04 00:10:07	ARP SEND		
	4	2020/12/04 00:10:06	ARP SEND		
	5	2020/12/04 00:10:01	ARP SEND		
Logout	6	2020/12/04 00:00:00	AGGREGATE		
CALIBRATION	7	2020/12/03 00:10:08	ARP SEND		
Zero Calibration	8	2020/12/03 00:10:06	ARP SEND		
Span Calibration	9	2020/12/03 00:10:02	ARP SEND		
TEST	10	2020/12/03 00:00:00	AGGREGATE		
Alarm Test	11	2020/12/02 00:10:07	ARP SEND		
Fault Test	12	2020/12/02 00:10:06	ARP SEND		
AUTHORIZED USERS	13	2020/12/02 00:10:01	ARP SEND		

			•
TEST	95	2020/11/18 10:42:28	PLC Receive OK
■Alarm Test	96	2020/11/18 08:02:03	SETTING OK
Fault Test	97	2020/11/18 08:00:47	SETTING OK
AUTHORIZED LISERS	98	2020/11/18 08:00:47	SETTING OK
Alarm	99	2020/11/18 07:57:52	PLC Receive OK
	100	2020/11/18 07:55:41	PLC Receive Timeout
Date/Time			Page01 V GO >>>
Configuration			
			Open Print All Open Print Page

Number	ltem	Description
1	Displayed page number	Displays the page number being displayed.
2	Network event history	Displays the dates and times the network events occurred and descriptions of the network events.
3	Select page number to display	Select the page number to display and click the [GO] button to view the selected page. Press the [>>] button or [<<] button to view the next page or the previous page.
4	[Open Print Page] button	Click to view the screen for printing the current page. To print, press the [Print] button in the printing screen.
5	[Open Print All] button	Click to view the screen for all pages, including pages not currently displayed. To print, press the [Print] button in the printing screen.

5-4-5 Displaying communication history (Communication History)

Click [■Communication History] in GAS DETECTOR MANAGER to view 100 communication history events in a single screen. You can display a maximum of 2000 history items.

<User mode screen>

HOME			Page01-			
Event History	No.	Time Stamp	Sender	Send Port	Receive Port	
Notwork Event History	1	2020/12/04 14:29:33	192.168.1.253	55323	502	
	2	2020/12/04 14:29:33	192.168.1.253	55323	502	1
Communication History	3	2020/12/04 14:29:33	192.168.1.253	55323	502	
	4	2020/12/04 14:29:33	192.168.1.253	55323	502	1
	5	2020/12/04 14:29:33	192.168.1.253	55323	502]
	6	2020/12/04 14:29:33	192.168.1.253	55323	502	1
	7	2020/12/04 14:29:33	192.168.1.253	55323	502	
	8	2020/12/04 14:29:33	192.168.1.253	55323	502	1
	9	2020/12/04 14:29:33	192.168.1.253	55323	502]
	10	2020/12/04 14:29:32	192.168.1.253	55323	502]
	11	2020/12/04 14:29:32	192.168.1.253	55323	502]
	12	2020/12/04 14:29:32	192.168.1.253	55323	502	
	13	2020/12/04 14:29:32	192.168.1.253	55323	502	

				•		
		502	55325	192.168.1.253	2020/12/04 14:29:28	95
		502	55323	192.168.1.253	2020/12/04 14:29:28	96
		502	55324	192.168.1.253	2020/12/04 14:29:28	97
		502	55324	192.168.1.253	2020/12/04 14:29:28	98
		502	55325	192.168.1.253	2020/12/04 14:29:28	99
		502	55323	192.168.1.253	2020/12/04 14:29:28	100
		>>		Page01 V GO		
(Print Page	t All Øpen F	Open Print			
~						
(•						

•

<Administrator mode screen>

HOME			Page01			^
Status	No.	Time Stamp	Sender	Send Port	Receive Port	1
Colibration History	1	2020/12/04 14:29:33	192.168.1.253	55323	502	
Alarm Trond	2	2020/12/04 14:29:33	192.168.1.253	55323	502	
Network Event History	3	2020/12/04 14:29:33	192.168.1.253	55323	502	
Communication History	4	2020/12/04 14:29:33	192.168.1.253	55323	502	
Logout	5	2020/12/04 14:29:33	192.168.1.253	55323	502	
Logout	6	2020/12/04 14:29:33	192.168.1.253	55323	502	
ALIBRATION	7	2020/12/04 14:29:33	192.168.1.253	55323	502	
Zero Calibration	8	2020/12/04 14:29:33	192.168.1.253	55323	502	
Span Calibration	9	2020/12/04 14:29:33	192.168.1.253	55323	502	
EST	10	2020/12/04 14:29:32	192.168.1.253	55323	502	
Alarm Test	11	2020/12/04 14:29:32	192.168.1.253	55323	502	
Fault Test	12	2020/12/04 14:29:32	192.168.1.253	55323	502	
	13	2020/12/04 14:29:32	192.168.1.253	55323	502	



Number	ltem	Description
1	Displayed page number	Displays the page number being displayed.
2	Communication history	Displays the date and time the communication occurred, the sender IP address, the sender port, and the receiver port.
3	Select page number to display	Select the page number to display and click the [GO] button to view the selected page. Press the [>>] button or [<<] button to view the next page or the previous page.
4	[Open Print Page] button	Click to view the screen for printing the current page. To print, press the [Print] button in the printing screen.
5	[Open Print All] button	Click to view the screen for all pages, including pages not currently displayed. To print, press the [Print] button in the printing screen.

5-5 Performing calibration

5-5-1 Running zero calibration (Zero Calibration)

Click [■Zero Calibration] in GAS DETECTOR MANAGER to view the zero calibration screen. You must log in as an administrator.

When preparations for zero calibration are complete on the product, click the [Start] button.

• When performing zero calibrations, carefully read '7-5 Performing calibration' in the 'GD-84D-EX Series Gas Detector Head Operating Manual'. Comply with the procedures given.

<Administrator mode screen>

HOME Status	Instructions
Event History Calibration History Alarm Trend Network Event History Communication History Logout	Press Start to enter zero calibration mode. Start
CALIBRATION Zero Calibration Span Calibration	
TEST Alarm Test Fault Test	
AUTHORIZED USERS Alarm Network Date/Time Configuration	

<Maintenance service>

Riken Keiki provides services related to regular maintenance, including gas calibration, adjustments, and servicing.

Preparing a calibration gas requires dedicated equipment, including gas cylinders of the specified concentration and gas sampling bags. Our certified service engineers have expert knowledge of these dedicated tools and products.

Please take advantage of the Riken Keiki maintenance service to maintain safe operation of the product.

5-5-2 Running span adjustment (Span Calibration)

Click [■Span Calibration] in GAS DETECTOR MANAGER to view the span adjustments screen. You must log in as an administrator.

Click the [Start] button when product span adjustment preparations are complete.

• Before performing span adjustments, carefully read '7-5 Performing calibration' in the 'GD-84D-EX Series Gas Detector Head Operating Manual'. Comply with the procedures given.

<Administrator mode screen>

ME Status Event History Calibration History Alarm Trend Network Event History Communication History LIBRATION Zero Calibration	Instructions Press Start to enter span calibration mode. Start
TEST Alarm Test Fault Test AUTHORIZED USERS Alarm Network Date/Time Configuration	

<Maintenance service>

Riken Keiki provides services related to regular maintenance, including gas calibration, adjustments, and servicing.

Preparing a calibration gas requires dedicated equipment, including gas cylinders of the specified concentration and gas sampling bags. Our certified service engineers have expert knowledge of these dedicated tools and products.

Please take advantage of the Riken Keiki maintenance service to maintain safe operation of the product.

5-6 Performing alarm tests and fault alarm tests

5-6-1 Performing alarm tests (Alarm Test)

Click [■Alarm Test] in GAS DETECTOR MANAGER to view the screen for performing alarm tests.

You must log in as an administrator.

Click the [Start] button to start the alarm test.

<Administrator mode screen>

HOME Status	Instructions
Event History Calibration History Alarm Trend Network Event History Communication History Logout	Press Start to enter alarm test mode. Start
CALIBRATION Zero Calibration Span Calibration	
TEST Alarm Test Fault Test	
AUTHORIZED USERS Alarm Network Date/Time Configuration	



• When performing an alarm test, be sure to notify the relevant departments in advance and take measures to prevent the external output signal or alarm contact from being activated and detected as abnormal by peripheral devices or host systems. Please refer to the instruction manual of the main unit for the operating conditions of the external output signal and alarm contact.

5-6-2 Performing fault alarm tests (Fault Test)

Click [■Fault Test] in GAS DETECTOR MANAGER to view the screen for performing fault alarm tests. You must log in as an administrator.

Click the [Start] button to start the fault alarm test.

<Administrator mode screen>

HOME Status	Instructions
Event History Calibration History Alarm Trend Network Event History Communication History Logout	Press Start to enter fault test mode. Start
CALIBRATION Zero Calibration Span Calibration	
TEST Alarm Test Fault Test	
AUTHORIZED USERS Alarm Network Date/Time Configuration	



 In the case of EA models (GD-84D-EA, GD-84D-EA-ET), if a failure alarm test is performed, the failure contact will be activated depending on the setting even during maintenance mode. Be sure to take measures to prevent external output signals and alarm contacts from operating and being detected as abnormal by peripheral devices and host systems before performing the test. Refer to the instruction manual of the main unit for the operating conditions of the external output signal and alarm contact.

5-7 Viewing and changing setting details

NOTE

- If product settings are modified, the message [Data is updated.] will appear when you exit maintenance mode, and the screen is shown again.
- > Do not change the settings on GAS DETECTOR MANAGER and this product at the same time.

5-7-1 Changing alarm related settings (Alarm)

Click [■Alarm] in GAS DETECTOR MANAGER to view the screen for viewing and changing a variety of alarm related settings.

You must log in as an administrator.

<Administrator mode screen>



Number		Item	Description
1	Aları	m related settings (Alarm	Configuration)
		Alarm Limiter	Set ON/OFF for the alarm point limiter. [Yes]: Set ON for the alarm point limiter. [No]: Set OFF for the alarm point limiter.
		Latching Alarms	Set the alarm pattern. [Yes]: Self-latching [No]: Auto-reset
		Relay for Alarm Test	Enable/disable contacts during alarm tests. [Yes]: Contact operation ON [No]: Contact operation OFF Setting available with EA models

Number	Item	Description
	Output for Alarm Test	Set to enable/disable external output during alarm tests. [Yes]:External output [No]: No external output Setting available with EA models
	Gas Name	Set the detection target gas for each slot. This can be up to eight characters in length.
	Alarm Point 1	Set the first alarm setpoint for the sensors in each slot.
	Alarm Point 2	Set the second alarm setpoint for the sensors in each slot.
	Alarm Type	Set the alarm type for the sensors in each slot. When an oxygen deficiency alarm model ESF sensor is fitted, any of H-HH type, L-LL type, or L-H type can be set.
	1st Alarm Relay State	Set energized/de-energized for the first alarm for the sensors in each slot. [ND]: De-energized [NE]: Energized Setting available with EA models
	2nd Alarm Relay State	Set energized/de-energized for the second alarm for the sensors in each slot. [ND]: De-energized [NE]: Energized Setting available with EA models
	Alarm Delay	Set the alarm delay time (seconds) for the sensors in each slot.
2	Fault alarm related settings (F	Fault Configuration)
	Latching Fault	Set the fault alarm pattern. [Yes]: Self-latching [No]: Auto-reset
	Relay for Flow Fault	Set the behavior of fault contacts when flow is low. [Yes]: Contact operation ON [No]: Contact operation OFF
	Trouble Alarm Relay State	Set the energized/de-energized state for the fault alarm pattern. [ND]: De-energized [NE]: Energized Setting available with EA models
	Caution Display	Set to enable/disable warning displays. Select the check boxes for the fault codes to display.
	Caution Output	Set whether to output warnings. Select the check boxes for the fault codes to output.
	Gas Name	Set the detection target gas for each slot. This can be up to eight characters in length.
	Fault Output	Set the value output at a sensor fault for each slot. Select [0.5mA], [21.5mA], or [OPT]. If you selected [OPT], set a value (digit: 0.1) in the 0.0 mA - 4.0 mA range. Setting available with EA models
3	[Update] button	Click this button to update the settings.



• Be sure to click the [Update] button if you changed the settings. The settings will not be updated unless you click the [Update] button.

5-7-2 Changing settings related to the network, email, and PLC communications (Network)

Click [■Network] in GAS DETECTOR MANAGER to view the screen for viewing and changing network, email, time, and PLC communication related settings. You must log in as an administrator.

NOTE

For information on the PLC communication settings, refer to '7-3 PLC communication setting details'.

<Administrator mode screen>

HOME	Network	_	^	-(1
Status	DHCP	○ On ● Off		0
Calibration History	IP Address	192 . 168 . 1 . 1		
Alarm Trend	Subnet Mask	255 . 255 . 0 . 0		
Network Event History	Default Gateway	192 . 168 . 1 . 254		
Communication History	MAC Address	00:21:BB:FF:FF:2D		
Logout	Net Version	06495		
CALIBRATION				
Zero Calibration	Zone Time			-(2
Span Calibration	Zone Time	● + ○ - 0 9 0 0		
TEST	* Used in Mail and Time Synchron	nization.		
Eault Test				
	Mail			-(
	Use	O Yes ● No		
Network	SMTP Server Domain Name	@ rikenkeiki.com		
■Date/Time	SMTP Server IP Address	192 . 168 . 1 . 10		
Configuration	Mail Address (From)			
	Mail Address (To 1)			
	Mail Address (To 2)			
	Mail Address (To 3)		\sim	

Device Code	ZR 🗸 176		
Time Synchronization			-4
Use	⊖Yes ●No		
NTP Server IP Address	192 . 168 . 7 . 1		
Execution Time	Hour 0		
	Minute 0		
	Upd	ate	-5

Number		Item	Description
1	Con (Net	nmunication settings work)	
		DHCP	Set DHCP ON/OFF. The IP address is acquired automatically from the DHCP server if [On] is selected. [IP Address], [Subnet Mask], and [Default Gateway] settings are not used in this case.
		IP Address	Set the IP address.
		Subnet Mask	Set the subnet mask.
		Default Gateway	Set the default gateway.
		MAC Address	An identification number unique to the device. This setting cannot be changed.
		Net Version	The version of the communication PCB. This setting cannot be changed.
2	Star Time	ndard time setting (Zone e)	Set the standard time (Zone Time). This is used by the mail settings and the time synchronization settings.
3	Mail	sending settings (Mail)	
		Use	Set enable ([Yes]) or disable ([No]) for the function to send mail when an alarm is triggered. If the function to send mail when an alarm is triggered is set to [Yes], then when an alarm or fault alarm is triggered, an email with the event details is sent to the registered recipient email addresses.
		SMTP Server Domain Name	Set the domain name of the SMTP server for the mail sender.
		SMTP Server Address	Set the IP address for the SMTP Server.
		Mail Address(From)	Set the email address for the mail sender.
		Mail Address(To 1) : Mail Address(To 10)	Set the email address of the mail recipient. A maximum of 10 recipient email addresses can be registered. The email is sent simultaneously to all of the registered addresses.
4	Time	e synchronization setting (T	ime Synchronization)
		Use	Set enable ([Yes]) or disable ([No]) for the Time Synchronization function. If the Time Synchronization function is set to [Yes], the date and time are acquired from the NTP server at the specified time ([Execution Time]) to adjust the clock. (There is no correction made for the delay caused by communication with the NTP server.)
		NTP Server IP Address	Set the IP address for the NTP server from which date and time are acquired.
		Execution Time	Set the time when date and time are acquired.
(5)	[Upo	date] button	Click this button to update the settings.



• Be sure to click the [Update] button if you changed the settings. The settings will not be updated unless you click the [Update] button.

NOTE

> When an alarm is triggered on this product, email such as those below is sent.

<When the first alarm is triggered>

2020/11/26 (木) 16:04 GD84D-062 <sendonly@user.com> [Test] CAUTION [Alarm:1st warning] 宛先 □ edadmin@mobile.user.com</sendonly@user.com>	~
Occurrence Time:	
2020/11/26 16:03:52	
Description:	
[Test] Alarm:1st warning	
Slot:	
Slot1A	
Device Name:	
CH4-CH4-CH4	
Sensor Type:	
SGF SGF-8581	
SGF SGF-8581	*
SCE SCE-8581	Ċ.

<When a flow abnormality alarm is triggered>

2020/11/26 (木) 16:12 GD84D-062 <sendonly@user.com> CAUTION [E-5 FLOW] 雍先 @cdadmin@mobileuser.com</sendonly@user.com>	~
	^
Occurrence Time:	
2020/11/20 10:11:43	
Location:	
KAIHATSU CENTER	
Description:	
E-51 Low flow error	
Slot:	
Slot1A	
Slot1B	
Slot2A	
Slot2B	
Tor No :	
Device Name:	
CH4-CH4-CH4	
Saneor Tyna:	*

5-7-3 Changing the date and time (Date/Time)

Click [■Date/Time] in GAS DETECTOR MANAGER to view the screen for viewing and changing date and time settings.

You must log in as an administrator.

<Administrator mode screen>

HOME			
Status	Date/Time Date Format	YYYY/MM/DD V	
Calibration History	No Change Date/Time		
Alarm Trend	O Synchronize with PC	2020/10/15 19:59:32	
Network Event History Communication History Logout	 Specification 	Year 2020 Month 10	
CALIBRATION Zero Calibration Span Calibration		Hour 19 Minute 59	
TEST ■Alarm Test ■Fault Test		Second 29	
AUTHORIZED USERS			
Date/Time Configuration			

Number		Item	Description
1	Date (Dat	e and time setting e/Time)	
		Date Format	Set the format for displaying the date and time.
		No Change Date/Time	You cannot change the date and time.
		Synchronize with PC	The date and time of this product is synchronized with the date and time of the PC.
		Specification	Set date and time of the product as specified. Specify the year ([Year]), month ([Month]), day ([Day]), hour ([Hour]), minutes ([Minute]), and seconds ([Second]).
2	[Upd	late] button	Click this button to update the settings.



• Be sure to click the [Update] button if you changed the settings. The settings will not be updated unless you click the [Update] button.

5-7-4 Changing the settings of this product (Configuration)

Click [■Configuration] in GAS DETECTOR MANAGER to view the screen for viewing and changing settings such as TAG number, device name, and installation location of this product. You must log in as an administrator.

<Administrator mode screen>

Istatus	Detector Configuration	1							
Event History	TAG No.	GD84D-062							
Calibration History	Device Name	CH4-CH4-CH4-C	:H4						
Alarm Trend	Location	KAIHATSU CEN	rer						
Network Event History	Password (Authorized User)	GD-84D							
Logout	Auto Flow								
LIBRATION	Pump Check								
Zero Calibration	Gas Name	CH4		CH4		CH4		CH4	
Span Calibration	Zero Suppression Value	200	ppm	200	ppm	200	ppm	200	ppm
ST	Zero Suppression Setting	◯ Slope		◯ Slope		◯ Slope		◯ Slope	
Alarm Test	Sensitivity Compensation				F		F)FF
	Zero Follower	O ON OFF			F		F)FF
Alarm	Zero Follower in 24-Hour	O ON OFF			F		F)FF
Network	Maintenance Output	2.5mA 🗸		2.5mA 🗸		2.5mA 🗸		2.5mA ∨]
Date/Time	4mA Adjustment	100.0	%	100.0	%	100.0	%	100.0	%
			0/	100.0	0/.	100.0	0/	100.0	0/

Number	Item		Description
1	Settings of this product (Configuration)		
		TAG No.	Set the TAG number. The TAG number is used as the mail sender when the mail function is used.
		Device Name	Set this device name of this product.
		Location	Set the installation location of this product.
		Password (Authorized User)	Set the password for administrator mode on GAS DETECTOR MANAGER.
		Auto Flow	Set ON/OFF for the automatic flow adjuster function.
		Pump Check	Set ON/OFF for pump drive level diagnostics.
		Gas Name	Set the detection target gas for each slot. This can be up to eight characters in length.
		Zero Suppression Value	Set zero suppression value for the sensors in each slot.
		Zero Suppression Setting	Set the zero suppression type for each sensor in each slot. Select either [Slope] (SLOPE type) or [Cut off] (CUT type).
		Sensitivity Compensation	Set ON/OFF for the sensitivity correction function for the sensors in each slot. This can be set for electrochemical type detection principle sensors.
		Zero Follower	Set ON/OFF for the zero follower function for the sensors in each slot.
		Zero Follower in 24-Hour	Set ON/OFF for the 24-hour zero follower function for the sensors in each slot.

Number		ltem	Description
		Maintenance Output	Set the external output during maintenance mode for the sensors in each slot. Select [2.5mA], [4-20mA], [HOLD] (hold previous value), or [4.0mA]. Setting available with EA models
		4mA Adjustment	Adjust the external output of the sensor 4 mA for each slot. Setting available with EA models
		20mA Adjustment	Adjust the external output of the sensor 20 mA for each slot. Setting available with EA models
2	[Update] button		Click this button to update the settings.



• Be sure to click the [Update] button if you changed the settings. The settings will not be updated unless you click the [Update] button.

6

Modbus/TCP communication

6-1 Modbus/TCP communication specifications

6-1-1 Communication specifications

The specifications for Modbus/TCP communication are as follows:

ltem	Specification
Protocol	Modbus/TCP
Transmission mode	RTU
Port number	502 port
Supported functions	Read Holding Register (0x03) Preset Multiple Registers (0x10)
Simultaneous connections	8

6-1-2 Exception responses

This product will return Modbus/TCP exception responses in the following cases:

<When an unsupported function is specified>

This product supports functions 0x03 and 0x10.

Data example:

Query:	00000000006010400000001	← Function code: 0x04
Response:	00000000003018401	← Exception response 01: invalid function

<When an address that does not exist is specified>

The address of this product is in the range between 40001 and 41024. Data example:

- Query: 00000000006010304000001 ← Address: 41025
 - ← Exception response 02: invalid data address
- Response: 00000000003018302

<When access to an address that does not exist is specified>

The address is correct, but the data count exceeds the last address (40256).			
Data example:			
Query:	00000000006010303FF0002	← Read two registers from address 41024	
Response:	00000000003018303	← Exception response 03: invalid data	

<When an unwritable address is specified>

The entire function will return an error if even one location is unwritable. Data example:

Query: 00000000000000110002E000306000503E80000 ← Write three registers from address 40047

(Address 40049 is unwritable)

Response: 00000000003019003

← Exception response 03: invalid data

<When an invalid alarm setpoint is specified>

If the upper 16 bits and lower 16 bits cannot be written as a single query, no query is executed (i.e., the system does not write one or the other instead). The system returns an error. (Exception response 03: invalid data)

An error is also returned if the value is not a valid alarm setpoint, as shown below. (Exception response 03: invalid data)

- Alarm setpoint 1 is a negative value.
- Alarm setpoint 2 is a negative value.
- Alarm setpoint 1 is greater than full scale.
- Alarm setpoint 2 is greater than full scale.
- When alarm setpoint 1 is greater than alarm setpoint 2 (when the alarm type is H-HH or L-H)
- When alarm setpoint 2 is greater than alarm setpoint 1 (when the alarm type is L-LL)
- Alarm setpoint 1 is less than 1/10 of full scale (when the alarm type is H-HH and the alarm point limiter is ON).
- Alarm setpoint 2 is less than 1/10 of full scale (when the alarm type is H-HH and the alarm point limiter is ON).
- Alarm setpoint 1 cannot be divided by a digit (determined by the value after rounding to significant digits).
- Alarm setpoint 2 cannot be divided by a digit (determined by the value after rounding to significant digits).

NOTE

These operating instructions do not address general specifications for Modbus/TCP. Refer to the Modbus/TCP specification documents. (http://www.modbus.org/)

6-2 Modbus/TCP communication register map

The Modbus/TCP register map for this product is as follows:

Slot 1: addresses 40001 - 40256 Slot 2: addresses 40257 - 40512 Slot 3: addresses 40513 - 40768

Slot 4: addresses 40769 - 41024

Lines colored orange (=): information on main unit of the product. All slots have the same values. Lines colored light blue (=): sensor information. Values for each slot

Address	Write	ltem	Description
40001	_	Status	bit0 - 3: Mode (0: initializing; 1: measurement mode, 3: INHIBIT; 5: test mode) bit5: Fault flag bit6: 1st alarm flag bit7: 2nd alarm flag bit8: 1st alarm contact flag bit9: 2nd alarm contact flag bit10: Fault contact flag bit11: Heartbeat (0 and 1 repeat in two-second cycle.)
40002	_	(Reserved)	-
40003	_	Concentration value	Floating point number Address 40003: lower 16 bits
40004	-		Address 40004: upper 16 bits
40005	_	Concentration value ^{*4}	Signed integer (concentration rounded to nearest integer)
40006	—	(Reserved)	-
40007	_	Concentration units	bit0 - 2: Factor (0: same; 1: 1/10; 2: 1/100; 3: 1/1000) bit8 - 11: Units (1: ppm; 2: ppb; 4: vol%; 8: %LEL)
40008	_	Temperature	 Unsigned integer The temperature is displayed if the value is within the operating temperature range (0 - 40 °C) for the product. Beyond range values are indicated as higher than 40 °C or lower than 0 °C. 0 - 40: temperature (0 - 40 °C) 41 - 3276: Higher than 40 °C Other: Less than 0 °C
40009	_	(Reserved)	-
40010	_	Date and time	The lower 16 bits of the value for the number of seconds elapsed since 0 o'clock, January 1, 1970
40011	_	Flow	Signed integer Indicated in units of mL/min
40012	_	(Reserved)	-
40013	0	Alarm setpoint 1 ^{*6}	Floating point number Address 40013: lower 16 bits
40014	0		Address 40014: upper 16 bits
40015	0	Alarm setpoint 2 ^{*6}	Floating point number

Address	Write	Item	Description
40016	0		Address 40015: lower 16 bits Address 40016: upper 16 bits
40017	_	Alarm status	bit0: 1st alarm flag bit1: 2nd alarm flag
40018	_	Fault status	bit1: Fault flag
40019	_		Floating point number
40020	_	Full scale	Address 40019: lower 16 bits Address 40020: upper 16 bits
40021	0	(Reserved)	-
40022	0	(Reserved)	-
40023	_	Status ^{*1, *2}	bit0 - 1: Factor (0: same; 1: 1/10; 2: 1/100; 3: 1/1000) bit2 - 3: Units (0: vol%; 1: %LEL; 2: ppm; 3: ppb) bit4: Flow caution flag bit5: Flow fault flag bit6: Communication fault flag bit6: Communication fault flag bit7: Sensor fault flag bit8: 1st alarm flag bit8: 1st alarm flag bit9: 2nd alarm flag bit10: Smoke alarm flag (SiO2) bit11: Full scale over flag bit12: Initialization flag bit13: INHIBIT flag bit14: Alarm test flag bit15: Maintenance mode flag
40024	_	Concentration value ^{*3, *5}	Signed integer (equals significant integers of the concentration value.) The actual concentration value is the value obtained by multiplying this value by the bit0 - 1 (= factor) of address 40023.
40025	-	Flow	Signed integer Indicated in units of mL/min
40026	-	PLU heater temperature	Signed integer The temperature set for the PLU (units: °C)
40027	0	Y/M	Upper bytes: year (0- 99) Lower bytes: month
40028	0	Day/hour	Upper bytes: day Lower bytes: hour
40029	0	Minute/seconds	Upper bytes: minutes Lower bytes: seconds
40030	_	Date and time	The lower 16 bits of the value for the number of seconds elapsed since 0 o'clock, January 1, 1970 (Same as address 40010)
40031	-	Set potential	Signed integer Indicated in units of mV
40032	-	Element voltage	Signed integer Indicated in units of mV
40033	_	Temperature	Signed integer Value that is 10 times the temperature (units: °C)

Address	Write	Item	Description
40034	_	PLU temperature	Signed integer Indicated in units of °C
40035	_	Flow without PLU bypass	Signed integer Indicated in units of mL/min
40036	_	PLU power	Unsigned integer PLU voltage × PLU current
40037	-	PLU voltage	Unsigned integer Indicated in units of mV
40038	_	PLU current	Unsigned integer Indicated in units of mA
40039	—	Device information	bit0 - 1: Model code (0: 70D; 1: 81D; 2: 84D-EX)
40040	-	Percentage for forecasting service life	A percentage that changes, with 100% being the value at the time of the shipping adjustment. 0 - 100 (Units: %)
40041	_	Full scale	Signed integer (the significant figures of the full scale turned into an integer) The actual full scale is the value obtained by multiplying this value by the bit0 - 1 (= factor) of address 40023.
40042	_	Digit	Signed integer (the significant figures of the digit turned into an integer) The actual digit is the value obtained by multiplying this value by the bit0 - 1 (= factor) of address 40023.
40043	—	Factor	0: same; 1: 1/10; 2: 1/100; 3: 1/1000
40044	—	Units	0: vol%; 1: %LEL; 2: ppm; 3: ppb
40045	0	Alarm setpoint 1	Signed integer (the significant figures of alarm setpoint 1 turned into an integer) The actual alarm setpoint 1 is the value obtained by multiplying this value by the bit0 - 1 (= factor) of address 40023.
40046	0	Alarm setpoint 2	Signed integer (the significant figures of alarm setpoint 2 turned into an integer) The actual alarm setpoint 2 is the value obtained by multiplying this value by the bit0 - 1 (= factor) of address 40023.
40047	0	Zero suppression value	A signed integer (the significant figures of the zero suppression value turned into an integer). The actual zero suppression value is the value obtained by multiplying this value by the bit0 - 1 (= factor) of address 40023.
40048	0	Alarm delay time	Signed integer Indicated in units of 10 milliseconds
40049	0	Fault hold	0: Auto reset; 1: Self-latching
40050	0	Smoothing settings	0: Cut off, 1: Slope
40051	0	Alarm type	0: H-HH; 1: L-LL; 2: L-H
40052	00	Alarm hold	0: Auto reset; 1: Self-latching
40053	0	Contact operation during tests	0: Off; 1: On
40054	0	(Reserved)	-
40055	0	Energized/de- energized	bit0: 1st alarm (0: de-energized; 1: energized) bit1: 2nd alarm (0: de-energized; 1: energized) bit2: Fault (0: de-energized; 1: energized)
40056	0	(Reserved)	-
40057	0	(Reserved)	-
40058	0	(Reserved)	-
40059	0	Automatic correction	0: Off; 1: On

Address	Write	Item	Description
40060	0	Zero following	0: Off; 1: On
40061	0	24-hour zero follower	0: Off; 1: On
40062	—		
40063	—		
40064	—		ASCII character string
40065	_	Date and time last calibrated	Indicated as year 4 places + month 2 places + days 2 places + hours 2 places + minutes 2 places + seconds 2
40066	—		places
40067	—		
40068	—		
40069	0		
40070	0		
40071	0		
40072	0		
40073	0	Carial number	ASCII character string
40074	0	Serial number	Left-justified; blanks are spaces (0x20).
40075	0		
40076	0		
40077	0		
40078	0		
40079	—		
40080	—		ASCII character string Left-justified; blanks are spaces (0x20).
40081	—	Gas name	
40082	—		
40083	—		
40084	0		
40085	0		
40086	0		
40087	0		
40088	0	TAO murch an	ASCII character string
40089	0	TAG number	Left-justified; blanks are spaces (0x20).
40090	0		
40091	0		
40092	0		
40093	0		
40094	0		
40095	0		
40096	0		ASCII character string
40097	0	Device Name	Left-justified; blanks are spaces (0x20).
40098	0		
40099	0		

Address	Write	Item	Description
40100	0		
40101	0		
40102	0		
40103	0		
40104	0		
40105	0		
40106	0		
40107	0		
40108	0	Measured location	ASCII character string
40109	0		Left-justified; blanks are spaces (0x20).
40110	0		
40111	0		
40112	0		
40113	0		
40114	0		
40115	0		ASCII character string Left-justified; blanks are spaces (0x20).
40116	0	Client code	
40117	0		
40118	0		
40119	—		
40120	—		
40121	—		
40122	—		
40123	—	Sensor serial	ASCII character string Left-justified; blanks are spaces (0x20).
40124	—	number	
40125	—		
40126	—		
40127	—		
40128	—		
40129	—		
40130	—		
40131	—	Sensor model	ASCII character string
40132	—		
40133	—		
40134	_	Unit type	0: None; 1: NCF; 2: TEF; 3: IRF; 4: SGF; 5: SHF; 6: ESF; 7: OSF; 8: PIF; 9: SSF
40135	—		From the most significant bits of address 40135: Error flag 0
40136	—	Error flog	to least significant bit of address 40142: Error flag 127
40137	—	Enormag	
40138	—		However, 100 - 127 are unused.

Address	Write	Item	Description
40139	—		
40140	—		
40141	-		
40142	-		
40143	_	Alarm/fault new flag	bit0: Alarm new flag bit1: Fault new flag
40144	_	Fault flag	bit0: E-1 bit1 - 3: Reserved bit4: E-5 bit5: E-6 bit6: E-7 bit7: Reserved bit8: E-9 bit9: FLOW bit10: RTC bit11 - 14: Reserved bit15: Concentration display flag
40145	—		
40146	—	MAC address	From the upper bytes of address 40145: First octet to lower bytes of address 40147: Sixth octet
40147	—		
40148	0	IP address	From the upper bytes of address 40148: First octet to lower bytes of address 40149: Fourth octet
40149	0		
40150	0	Cubrat maak	From the upper bytes of address 40150: First octet to lower bytes of address 40151: Fourth octet
40151	0	Subliet mask	
40152	0	Default gateway	From the upper bytes of address 40152: First octet to lower bytes of address 40153: Fourth octet
40153	0	Delault gateway	
40154	0	DHCP	0: Off; 1: On
40155	_	Service life determination flag	Upper bytes: Service life forecast support flag (0: service life forecasting not supported; 1: service life forecasting supported) Lower bytes: Service life determination flag (0: Before service life expiration; 1: Service life expired)
40156	_	Serviceable life expiration flag	0: Before serviceable life expiration; 1: Serviceable life expired
40157	—	Additional status	
40158	_	Degradation diagnosis rate	
40159	—	Days sensor used	
40160	_		
40161	—	Sensor type	Left-justified; blanks are spaces (0x20).
40162	—		
40163 - 40250	0	(Reserved)	-
40251	0	Command	
40252	0	Subcommand	Refer to '6-3 Modbus/TCP communication commands'.
40253	0	Parameter 1	

Address	Write	Item	Description
40254	0	Parameter 2	
40255	0	Parameter 3	
40256	0	Parameter 4	
40257 - 40512	*	Slot 2	Same as 40001 - 40256.
40513 - 40768	*	Slot 3	Same as 40001 - 40256.
40769 - 41024	*	Slot 4	Same as 40001 - 40256.

*1 Bit patterns for each status (address 40023)

	15	14	13	12	11	10	9	8	7	6	5	4	3 - 0
Status	Maintenance mode flag	Alarm test flag	INHIBIT flag	Initialization flag	Full scale over flag	Smoke alarm flag (SiO ₂)	2nd alarm flag	1st alarm flag	Sensor fault flag	Communication fault flag	Flow fault flag	Flow caution flag	Factor, units
Normal: measuring	0	0	0	0	0	0	0	0	0	0	0	0	*
Normal: alarm (1st)	0	0	0	0	0	0	0	1	0	0	0	0	*
Normal: alarm (2nd)	0	0	0	0	0	0	1	*	0	0	0	0	*
Normal: alarm (smoke)	0	0	0	0	1	1	1	1	0	0	0	0	*
Full scale over	0	0	0	0	1	0	*	*	0	0	0	0	*
Initialization	0	0	0	1	0	0	0	0	0	0	0	0	*
Maintenance	1	0	0	0	0	0	0	0	0	0	0	0	*
Alarm test	1	1	0	0	*	0	*	*	0	0	0	0	*
Fault alarm test	1	0	0	0	0	0	0	0	1	1	1	0	*
Problem: sensor	0	0	0	0	0	0	0	0	1	0	0	0	*
Problem: communication	0	0	0	0	0	0	0	0	0	1	0	0	*
Problem: flow	0	0	0	0	0	0	0	0	0	0	1	0	*
Caution: flow	0	0	0	0	0	0	0	0	0	0	0	1	*
INHIBIT	1	0	1	0	0	0	0	0	0	0	0	0	*

*: Undetermined value

- *2 When in the maintenance status, the alarm flag will not stand even if the concentration value goes above the alarm setpoint. However, in a case such as when performing the maintenance mode [2- 0 GAS TEST] on the main unit, then the maintenance flag and the alarm flag will both stand.
- *3 If the sensor output is under the 0 base point, then the concentration value will be output as 0 during the normal detection state. In the maintenance status, a negative concentration value (2's complement representation) will be output.
- *4 An integer rounded off to the closest whole number.
 - Example: \cdot Full scale 25.0 concentration value 20.9 \rightarrow 21
 - Full scale 50.0 concentration value $0.2 \rightarrow 0$
 - Full scale 5.00 concentration value $0.20 \rightarrow 0$

- *5 An integer including the significant figures
 - Example: Full scale 25.0 concentration value $20.9 \rightarrow 209$
 - + Full scale 50.0 concentration value $0.2 \rightarrow 2$
 - Full scale 5.00 concentration value $0.20 \rightarrow 20$
- *6 Be aware of the following points when writing alarm setpoints.
 - (1) The upper 16 bits and lower 16 bits must be written as a single query. A query to write one of them only is not executed, and an error is returned. (Exception response 03: invalid data)
 - (2) Concentration value is rounded off after the significant digits.
 - Example: $20.888 \rightarrow 20.9$
 - (3) An error is returned if the value is not a valid alarm setpoint, as shown below. (Exception response 03: invalid data)
 - Alarm setpoint 1 is a negative value.
 - Alarm setpoint 2 is a negative value.
 - Alarm setpoint 1 is greater than full scale.
 - · Alarm setpoint 2 is greater than full scale.
 - Alarm setpoint 1 is greater than alarm setpoint 2 (when the alarm type is H-HH or L-H).
 - Alarm setpoint 2 is greater than alarm setpoint 1 (when the alarm type is L-LL).
 - Alarm setpoint 1 is less than 1/10 of full scale (when the alarm type is H-HH and the alarm point limiter is ON).
 - Alarm setpoint 2 is less than 1/10 of full scale (when the alarm type is H-HH and the alarm point limiter is ON).
 - · Alarm setpoint 1 cannot be divided by a digit (determined by the value after rounding to significant digits).
 - Alarm setpoint 2 cannot be divided by a digit (determined by the value after rounding to significant digits).

6-3 Modbus/TCP communication commands

You can execute the following functions by writing commands and parameters in the registers of addresses 40251 - 40256.

Execution of the functions is triggered by writing to the command (address 40251).

Normally, commands, subcommands, and if necessary, parameters, are written in a single query for execution, but if only a command is written, then the subcommand and parameter at that point are used for execution.

NOTE

You can execute the functions by writing the commands and parameters as shown below to the registers for addresses 40507 - 40512 for Slot 2, 40763 - 40768 for Slot 3, and 41019 - 41024 for Slot 4.

40251	40252	40253	40253 40254		40256	Function	
Command	Subcommand	Parameter 1	Parameter 2	Parameter 3	Parameter 4	Function	
ММ	S (0x0053)	-	-	-	-	Maintenance mode start	
(0x4D4D)	E (0x0045)	-	-	-	-	Maintenance mode exit	
GS W		0x0000	-	-	-	INHIBIT off	
(0x4753)	(0x0057)	0x0001	-	-	-	INHIBIT on	
	S (0x0053)	-	-	-	-	Alarm test Start	
RA (0x5241)	E (0x0045)	-	-	-	-	Alarm test End	
	W (0x0057)	Concentration value	-	-	-	Alarm test, apply concentration value	
S RT (0x0053)		-	-	-	-	Fault alarm test Start	
(0x5254)	E (0x0045)	-	-	-	-	Fault alarm test End	
SB (0x5342)	W (0x0057)	-	-	-	-	Alarm reset	
SP (0x5350)	W (0x0057)	-	-	-	-	Air calibration execute	
SZ (0x535A)	W (0x0057)	-	-	-	-	Zero calibration execute	

NOTE

Only one slot specified is effective in the alarm test. If multiple slots are specified simultaneously, only one of the specified slots will be applied.



• Exception responses are not returned if you write any commands other than those shown above. This is also the case if failure is the execution result of the above commands. Modbus/TCP responses merely indicate whether the write was successful. To determine whether a command execution succeeded, reload the status and concentration values.

7

PLC communication

7-1 PLC communication specifications

The specifications for PLC communication are as follows:

Item	Specification		
Protocol	For OMRON PLCs: FINS/UDP		
	For MELSEC PLCs: MC/UDP		
Supported PLCs	OMRON CJ/CS Series		
	MELSEC Q series		
Data type	Basic Data (Small)		
	Basic Data (Large)		
	Basic Data (Small) + Optional Data		
	Basic Data (Large) + Optional Data		
	Very Small		
	Very Small + Optional Data		

NOTE

These instructions do not address the use or specifications of PLCs. Refer to the operating manual for your PLC.

7-2 PLC communication data types

7-2-1 Basic Data: Small

The following data is written to the PLC:

· Alarm status, concentration value, alarm setpoint, other basic data



7-2-2 Basic Data: Large

The following data is written to the PLC:

- · Alarm status, concentration value, alarm setpoint, other basic data
- Date/time, gas name

The following data is read from the PLC:

• Data for changing settings such as alarm patterns, alarm setpoints, etc.



7-2-3 Basic Data: Small + Optional Data

The following data is written to the PLC:

· Alarm status, concentration value, alarm setpoint, other basic data

The following data is read from the PLC:

- Extended data: names, sensor models, sensor serial numbers, etc.
- · Data for changing various names, etc.



7-2-4 Basic Data: Large + Optional Data

The following data is written to the PLC:

- · Alarm status, concentration value, alarm setpoint, other basic data
- Date/time, gas name

The following data is read from the PLC:

- Data for changing settings such as alarm patterns, alarm setpoints, etc.
- Extended data: names, sensor models, sensor serial numbers, etc.
- Data for changing various names, etc.



7-2-5 Basic Data: Very Small

The following data is written to the PLC:

· Alarm status, concentration value data

The following data is read from the PLC:

• Point skip, data required for maintenance mode


7-2-6 Basic Data: Very Small + Optional Data

The following data is written to the PLC:

- Alarm status, concentration value data
- Date/time, gas name

The following data is read from the PLC:

- Point skip, data required for maintenance mode
- Extended data: names, sensor models, sensor serial numbers, etc.
- Data for changing various names, etc.



7-3 PLC communication setting details

Use GAS DETECTOR MANAGER and this product to make PLC communication settings. To make settings in GAS DETECTOR MANAGER, log on in Administrator mode and go to the Network screen.

(Refer to '5-7-2 Changing settings related to the network, email, and PLC communications (Network)'.) While making product settings, refer to '7-10-18 ETHERNET settings (ETHERNET)' in the 'GD-84D-EX Series Gas Detector Head Operating Manual'. For more information on communication settings for this product, refer to '7-6 PLC communication setting specifications using this product'. Note that some settings are not available with this product.

	ltem		Description	Remarks
PLC	PLC Mode		Make batch settings for PLC Type, Type of Basic Data, and Use Optional Data. Also, addresses for Detector Write and Detector Read are set automatically:	 User-defined setting FINS; Basic Data: Small; do not use Optional. FINS; Basic Data: Large; do not use Optional. MC; Basic Data: Small; do not use Optional. MC; Basic Data: Large; do not use Optional. FINS; Basic Data: Very Small; do not use Optional. FINS; Basic Data: Very Small; do not use Optional. FINS; Basic Data: Very Small; do not use Optional.
	PLC Area		Used to determine the address when setting automatically in PLC Mode	
	РЬС Туре		Select the PLC communication type. The FINS settings in this table are used when FINS is selected. The MC settings in this table are used when MC is selected.	Not Used: Do not use (default). FINS: OMRON CJ/CS series MC: MELSEC Q series
	Type of Basic Data		Set the basic data type.	Small: small Large: large Very Small: very small
	Use Optional Data		Set whether to use optional data.	Yes: Use No: Do not use (default).
	Interval Min		Set the minimum transmission interval. This is the transmission interval when the data varies and the mode is not detection mode (at an alarm state, in maintenance state).	250 - 10,000 msec Default minimum time: 1,000 msec (with variation in concentration) Default maximum time: 3,000 msec (without variation in concentration)
	Max		Set the maximum transmission interval. This is the transmission interval in detection mode when the data does not vary.	
	Timeout		Set the timeout for reception from a PLC. Waiting is canceled if the specified time elapses after a transmission from a PLC and no response is made. Data is resent after the time set in [Interval] elapses.	1 - 10 sec Default: 5 sec
FINS	IP Address		Set the IP address for the PLC.	
	Port		Set the UDP port number.	Default: 9600

ltem			Description	Remarks
	Detector	Network Address	Set the network address for this product. (Setting value in FINS specifications)	
		Node Address	Set the node address for this product. (Setting value in FINS specifications)	
		Unit Number	The unit number of this product (Setting value in FINS specifications)	
	PLC	Network Address	Set the network address for the PLC. (Setting value in FINS specifications)	
		Node Address	Set the node address for the PLC. (Setting value in FINS specifications)	
		Unit Number	Set the PLC unit number. (Setting value in FINS specifications)	
De Wr	Detector Write	Memory Address	Set the memory address for writing to the PLC.	
		Area Type	Set the memory area for writing to the PLC.	
	Detector Read	Memory Address	Set the memory address to be read from the PLC.	
		Area Type	Set the memory area to be read from the PLC.	
MC	IP Address		Set the IP address for the PLC.	
	Port		Set the UDP port number.	Default: 5000
	PLC	Network Address	Set the network address for the PLC. (Setting value in MC specifications)	
		Node Address	Set the node address for the PLC. (Setting value in MC specifications)	
	Detector Write	Memory Address	Set the starting memory address for writing to the PLC.	
		Area Type	Set the memory area for writing to the PLC.	
	Detector Read	Memory Address	Set the starting memory address to be read from the PLC.	
		Area Type	Set the memory area to be read from the PLC.	

7-4 PLC communication data map

7-4-1 Basic Data: Small

<Write data map (GD-84D-EX write area)>

	Address	Item	Remarks
GD-84D- EX data	0	Status	bit15: Maintenance bit14: Test bit13: INHIBIT bit12: Initial bit11: Alarm: RANGE OVER bit10: Smoke detection bit9: Alarm: 2nd bit8: Alarm: 1st bit7: Error: Sensor bit6: Error: Communication(Internally, it consists of the CPU on the main unit side and the CPU for Ethernet communication, and the CPU on the main unit side and the CPU for Ethernet communication communicate with each other via serial communication. This indicates a communication error between the CPU on the main unit side and the CPU for Ethernet communication.) bit5: Error: Flow bit4: Caution: Flow bit2 - 3: Concentration unit code (00: vol%; 01: %LEL; 10: ppm; 11: ppb) bit0 - 1: Decimal places code (00: 1/1; 01: 1/10; 10: 1/100; 11: 1/1000)
	1	Concentration value	Signed integer (equals significant integers of the concentration value.) The actual concentration value is the value obtained by multiplying this value by the decimal places code in status.
	2	Counter to confirm continued operation	This value increments with each transmission. Reverts to 0 if an overflow occurs.
	3	Supply flow rate	Indicated in mL/min
	4	Pyrolyzer temperature	Indicated in °C (or 0x8000 if no pyrolyzer is present)
	5	IP address (Upper 16 bits)	First half of IP address Example: For 192.168.0.1, this would be 0xC0A8.
	6	IP address (Lower 16 bits)	Second half of IP address. Example: For 192.168.0.1, this would be 0x0001.
	7	Subnet mask (Upper 16 bits)	First half of subnet mask Example: For 255.225.225.0, this would be 0xFFFF.
	8	Subnet mask (Lower 16 bits)	Second half of subnet mask Example: For 255.225.225.0, this would be 0xFF00.

Address	ltem	Remarks
9	Flag	bit11 - 12: Slot numbers (0: Slot 1; 1: Slot 2; 2: Slot 3; 3: Slot 4) bit9 - 10: Model code (0: 70D; 1: 81D; 2: 84D-EX) bit8: Fault new flag bit7: Alarm new flag bit6: Sensitivity correction (0: off; 1: on) bit5: Zero following (0: off; 1: on) bit4: Suppression type (0: Cut off; 1: Slope) bit3: Fault alarm pattern (0: auto reset; 1: self-latching) bit2: Gas alarm pattern (0: auto reset; 1: self-latching) bit0 - 1: Alarm type (0: H-HH; 1: L-LL, 2: L-H)
10	Full scale	Signed integer The full scale is the value obtained by multiplying this value by the decimal places code in status.
11	1st alarm setpoint	Signed integer The actual 1st alarm setpoint is the value obtained by multiplying this value by the decimal places code in status.
12	2nd alarm setpoint	Signed integer The actual 2nd alarm setpoint is the value obtained by multiplying this value by the decimal places code in status.
13	Concentration value 3200 units	The relative value when full scale is represented as 3200.
14	1st alarm setpoint 3200 units	The relative value when full scale is represented as 3200.
15	2nd alarm setpoint 3200 units	The relative value when full scale is represented as 3200.



• During maintenance, the concentration value of address 1 can become a negative value. Take into account the issue of negative values when obtaining working values from measured concentrations.

7-4-2 Basic Data: Large

<Write data map (GD-84D-EX write area)>

	Address	Item	Remarks
GD-84D- EX data	0 - 15	Concentration/Alarm status, etc.	Same as Basic Data (Small) (Refer to '7-4-1 Basic Data: Small'.)
	16	Date and time (Year/Date)	The upper bytes indicate year (last two digits); the lower bytes indicate month.
	17	Date and time (Day/hour)	The upper bytes indicate day; the lower bytes indicate hour.
	18	Date and time (minute/seconds)	The upper bytes indicate minutes; the lower bytes indicate seconds.
	19	Alarm delay time	Indicated in 10 milliseconds
	20	Digit	Signed integer The actual digit is the value obtained by multiplying this value by the decimal places code in status.
	21	Zero suppression value	Signed integer The actual zero suppression value is the value obtained by multiplying this value by the decimal places code in status.
	22 - 27	Gas name	An ASCII character string. Left-justified; blanks are spaces (0x20).
	28 - 33	(Reserved)	
	34	Pump duty	
	35	(Reserved)	
	36	Service life data	bit0 - 7: Service life forecasting percentage bit8 - 11: Reserved bit12: Degradation diagnosis result bit13: Used determination bit14: Service life determination bit15: Service life function yes/no
	37	Service life data 2	bit0 - 7: Degradation diagnosis rate
	38	Service life data 3	Number of days sensor used
	39	(Reserved)	
Command data	40	Command execution status (GD-84D-EX)	0: Normal state 1: Processing
	41	Command execution result	For Command 1 (setting changes) (When successful: bit on; when unsuccessful: bit off) bit12: Sensitivity correction bit11: Date and time bit10: Zero following bit9: Zero suppression type bit8: Zero suppression value bit7: Alarm delay time bit6: Fault alarm pattern bit5: Gas alarm pattern bit5: Gas alarm setpoint bit3: 1st alarm setpoint bit2: Alarm type bit1: Subnet mask bit0: IP address Command 2 - 0: failure 1: success



• During maintenance, the concentration value of address 1 can become a negative value. Take into account the issue of negative values when obtaining working values from measured concentrations.

	Address	ltem	Remarks
GD-84D- EX	0	IP address (Upper 16 bits)	First half of IP address
setting data	1	IP address (Lower 16 bits)	Second half of IP address.
	2	Subnet mask (Upper 16 bits)	First half of subnet mask
	3	Subnet mask (Lower 16 bits)	Second half of subnet mask
	4	Flag	bit3: Fault alarm pattern (0: auto reset; 1: self-latching) bit2: Gas alarm pattern (0: auto reset; 1: self-latching) bit0 - 1: Alarm type (0: H-HH; 1: L-LL, 2: L-H)
	5	1st alarm setpoint	Signed integer The actual 1st alarm setpoint is the value obtained by multiplying this value by the decimal places code in status.
	6	2nd alarm setpoint	Signed integer The actual 2nd alarm setpoint is the value obtained by multiplying this value by the decimal places code in status.
	7	Date and time (Year/Date)	The upper bytes indicate year (last two digits); the lower bytes indicate month.
	8	Date and time (Day/hour)	The upper bytes indicate day; the lower bytes indicate hour.
	9	Date and time (minute/seconds)	The upper bytes indicate minutes; the lower bytes indicate seconds.
	10	Alarm delay time	Indicated in 10 milliseconds
	11	Zero suppression value	Signed integer The actual zero suppression value is the value obtained by multiplying this value by the decimal places code in status.
	12 - 15	(Reserved)	
Command data	16	Command execution status (PLC)	0: Normal state 1: Processing
	17	Command code	(Refer to '7-5 PLC communication commands'.)
	18	Parameter	
	19 - 21	(Reserved)	

<Read data map (GD-84D-EX read area)>

7-4-3 Basic Data: Very Small

	Address	ltem	Remarks
GD-84D- EX data	0	Status	bit15: Maintenance bit14: Test bit13: INHIBIT bit12: Initial bit11: Alarm: RANGE OVER bit10: Smoke detection bit9: Alarm: 2nd bit8: Alarm: 1st bit7: Error: Sensor bit6: Error: Communication bit5: Error: Flow bit4: Caution: Flow bit4: Caution: Flow bit2 - 3: Concentration unit code (00: vol%; 01: %LEL; 10: ppm; 11: ppb) bit0 - 1: Decimal places code (00: 1/1; 01: 1/10; 10: 1/100; 11: 1/100)
	1	Concentration value	Signed integer (equals significant integers of the concentration value.) The actual concentration value is the value obtained by multiplying this value by the decimal places code in status.
	2	Counter to confirm continued operation	This value increments with each transmission. Reverts to 0 if an overflow occurs.
	3	(Reserved)	

<Write data map (GD-84D-EX write area)>



• During maintenance, the concentration value of address 1 can become a negative value. Take into account the issue of negative values when obtaining working values from measured concentrations.

<Read data map (GD-84D-EX read area)>

	Address	ltem	Remarks
Command data	0	Command execution status (PLC)	0: Normal state 1: Processing
	1	Command code	(Refer to '7-5 PLC communication commands'.)
	2 - 3	(Reserved)	

7-4-4 Optional Data

	Address Basic Data (Small)	Address Basic Data (Large)	Address Basic Data (Very Small)	Item	Remarks
GD-84D- EX data	16 - 25	42 - 51	4 - 13	TAG number	An ASCII character string. Left-justified; blanks are spaces (0x20).
	26 - 35	52 - 61	14 - 23	Device Name	An ASCII character string. Left-justified; blanks are spaces (0x20).
	36 - 45	62 - 71	24 - 33	Measured location	An ASCII character string. Left-justified; blanks are spaces (0x20).
	46 - 50	72 - 76	34 - 38	Client code	An ASCII character string. Left-justified; blanks are spaces (0x20).
	51 - 55	77 - 81	39 - 43	Sensor model	An ASCII character string. Left-justified; blanks are spaces (0x20).
	56 - 65	82 - 91	44 - 53	Sensor serial number	An ASCII character string. Left-justified; blanks are spaces (0x20).
	66 - 67	92 - 93	54 - 55	Unit type setting.	An ASCII character string. Justified left.
	68 - 85	94 - 111	56 - 73	(Reserved)	
Command data	86	112	74	Command execution status (GD-84D-EX)	0: Normal state 1: Processing
	87	113	75	Command execution result	For Command 1 (setting changes) (When successful: bit on; when unsuccessful: bit off) bit3: Client code bit2: Measured location bit1: Device name bit0: TAG number Command 2 - (Reserved) 0: Failure 1: Success

<Write data map (GD-84D-EX write area)>

<Read data map (GD-84D-EX read area)>

	Address Basic Data (Small)	Address Basic Data (Large)	Address Basic Data (Very Small)	Item	Remarks
GD-84D- EX setting data	0 - 9	22 - 31	4 - 13	TAG number	An ASCII character string. Left-justified; blanks are spaces (0x20).
	10 - 19	32 - 41	14 - 23	Device Name	An ASCII character string. Left-justified; blanks are spaces (0x20).
	20 - 29	42 - 51	24 - 33	Measured location	An ASCII character string. Left-justified; blanks are spaces (0x20).
	30 - 34	52 - 56	34 - 38	Client code	An ASCII character string. Left-justified; blanks are spaces (0x20).
	35 - 49	57 - 71	39 - 53	(Reserved)	
Command data	50	72	54	Command execution status (PLC)	0: Normal state 1: Processing
	51	73	55	Command code	(Refer to '7-5 PLC communication commands'.)
	52	74	56	Parameter	
	53 - 55	75 - 77	57 - 59	(Reserved)	

7-5 PLC communication commands

Execute a variety of functions by writing Basic Data: Large, Basic Data: Very Small, and Optional Data GD-84D-EX setting data, command execution statuses (PLC), command codes, and parameters.

7-5-1 Issuing command 1 (setting change)

- 1 Confirm that [Command execution status (PLC)] is "0" (normal state).
- 2 Issue command 1 (setting change).
 - (1) Set data in the items to be changed in [GD-84D-EX setting data] (multiple settings possible).
 - (2) Set "1" (setting change) in [Command code].
 - (3) Set the values that turn on the bits for the items to be changed in [Parameter] (multiple settings possible).
- 3 Set "1" (execute process) in [Command execution status (PLC)].
- 4 Confirm that [Command execution status (GD-84D-EX)] is "1" (processing complete).

5 Set "0" (normal state) in [Command execution status (PLC)].

If the setting change was successful, the bits for the changed items in [Command execution result] will be on.

If the setting change was unsuccessful, the bits for the changed items in [Command execution result] will be off.



7-5-2 Issuing command 2 - 9 (Basic Data: Large only)

1 Confirm that [Command execution status (PLC)] is "0" (normal state).

2 Issue commands 2 - 9.

- (1) Set data in the items to be changed in [GD-84D-EX setting data] (multiple settings possible).
- (2) Set one of commands "2" to "9" in the [Command code].
- (3) Set "0" in [Parameter] (commands 2 9 do not use parameters).
- 3 Set "1" (execute process) in [Command execution status (PLC)].
- 4 Confirm that [Command execution status (GD-84D-EX)] is "1" (processing complete).

5 Set "0" (normal state) in [Command execution status (PLC)].

If the setting change was successful, the [Command execution result] will be "1". If the setting change was unsuccessful, the [Command execution result] will be "0".

7-5-3 Issuing command 10 (alarm test concentration setting) (Basic Data: Large only)

- 1 Confirm that [Command execution status (PLC)] is "0" (normal state).
- 2 Issue command 10 (alarm test concentration setting).
 - (1) Set data in the items to be changed in [GD-84D-EX setting data] (multiple settings possible).
 - (2) Set "10" (alarm test concentration setting) in [Command code].
 - (3) Set the alarm test concentration value in [Parameter].
- 3 Set "1" (execute process) in [Command execution status (PLC)].
- 4 Confirm that [Command execution status (GD-84D-EX)] is "1" (processing complete).

5 Set "0" (normal state) in [Command execution status (PLC)].

If the setting change was successful, the [Command execution result] will be "1". If the setting change was unsuccessful, the [Command execution result] will be "0".

7-5-4 Issuing command 3 - 6 (Basic Data: Very Small only)

- 1 Confirm that [Command execution status (GD-84D-EX)] is "0" (normal state).
- 2 Set one of commands "3" to "6" in the [Command code].
- 3 Confirm that [Command execution status (GD-84D-EX)] is "1" (processing complete).
- 4 Confirm that it is the value specified in bit15: maintenance and bit13: INHIBIT of [Status].

7-5-5 Basic Data: Large command related data

	Address	ltem	Description
	40	Command execution status (GD-84D-EX)	0: Normal state 1: Processing
GD-84D- EX write area	41	Command execution result	For Command 1 (setting changes) (When successful: bit on; when unsuccessful: bit off) bit12: Sensitivity correction bit11: Date and time bit10: Zero following bit9: Zero suppression type bit8: Zero suppression value bit7: Alarm delay time bit6: Fault alarm pattern bit5: Gas alarm pattern bit5: Gas alarm pattern bit4: 2nd alarm setpoint bit3: 1st alarm setpoint bit2: Alarm type bit1: Subnet mask bit0: IP address Command 2 - 0: Failure 1: Success

	Address	Item	Description
GD-84D-	0 - 15	Data for different settings	
EX read area	16	Command execution status (PLC)	0: Normal state 1: Execute process
	17	Command	Sets the command code.
	18	Depends on parameters and commands.	(Refer to ' <basic codes="" command="" data:="" large="">' below.)</basic>

Command code	Details	Parameter
1 Setting changes		Setting flags (Refer to ' <parameters (setting="" 1="" change)="" code="" command="" flags)="" for="">' below.)</parameters>
2	Buzzer stop	Not used
3	INHIBIT on	Not used
4	INHIBIT off	Not used
5	Maintenance mode start	Not used
6	Maintenance mode exit	Not used
7	Zero calibration execute	Not used
8	Alarm test mode start	Not used
9	Alarm test mode end	Not used
10	Alarm test concentration setting	Test concentration value
11	Air calibration execute	Not used

<Basic Data: Large command codes>

<Parameters (setting flags) for Command code 1 (setting change)>

Multiple items can be changed simultaneously. In this case, turn on multiple bits at the same time.

Parameter (bit)	Details	
bit15	(Reserved)	
bit14	(Reserved)	
bit13	(Reserved)	
bit12	Sensitivity correction	
bit11	Date and time	
bit10	Zero following	
bit9	Zero suppression type	
bit8	Zero suppression value	
bit7	Alarm delay time	
bit6	Fault alarm pattern	
bit5	Gas alarm pattern	
bit4	2nd alarm setpoint	
bit3	1st alarm setpoint	
bit2	Alarm type	
bit1	Subnet mask	
bit0	IP address	

7-5-6 Basic Data: Very Small command related data

	Address	ltem	Description
GD-84D-EX read	0	Command execution status (PLC)	0: Normal state 1: Execute process
area	1	Command	Sets the command code.

<Basic Data: Very Small command codes>

Command code Details		Parameter
3	INHIBIT on	Not used
4	INHIBIT off	Not used
5	Maintenance mode start	Not used
6	Maintenance mode exit	Not used

7-4-4 Optional Data command related data

	Address Basic Data (Small)	Address Basic Data (Large)	Address Basic Data (Very Small)	ltem	Description
GD-84D- EX write area	86	112	74	Command execution status (GD-84D-EX)	0: Normal state 1: Processing
	87	113	75	Command execution result	For Command 1 (setting changes) (When successful: bit on; when unsuccessful: bit off) bit3: Client code bit2: Measured location bit1: Device name bit0: TAG number Command 2 - (Reserved) 0: NG 1: OK

	Address Basic Data (Small)	Address Basic Data (Large)	Address Basic Data (Very Small)	Item	Description
GD-84D- EX	0 - 49	22 - 71	4 - 53	Data for different settings	
read area	50	72	54	Command execution status (PLC)	0: Normal state 1: Execute process
	51	73	55	Command	Sets the command code.
	52	74	56	Depends on parameters and commands.	(Refer to ' <optional data<br="">command code>' below.)</optional>

<Optional Data command code>

Command code	Details	Parameter
1	Setting changes	Setting flags (Refer to ' <parameters (setting="" 1="" change)="" code="" command="" flags)="" for="">' below.)</parameters>

<Parameters (setting flags) for Command code 1 (setting change)>

Multiple items can be changed simultaneously. In this case, turn on multiple bits at the same time.

Parameter (bit)	Details
bit15	(Reserved)
bit14	(Reserved)
bit13	(Reserved)
bit12	(Reserved)
bit11	(Reserved)
bit10	(Reserved)
bit9	(Reserved)
bit8	(Reserved)
bit7	(Reserved)
bit6	(Reserved)
bit5	(Reserved)
bit4	(Reserved)
bit3	Client code
bit2	Measured location
bit1	Device Name
bit0	TAG number

7-5-8 Changing alarm setpoint settings

The alarm setpoint settings use the following addresses:

ltem	Address
[GD-84D-EX setting data (1st alarm setpoint)]	Basic Data: Large GD-84D-EX read area address: 5
[Command execution status (PLC)]	Basic Data: Large GD-84D-EX read area address: 16
[Command code]	Basic Data: Large GD-84D-EX read area address: 17
[Parameter]	Basic Data: Large GD-84D-EX read area address: 18
[Command execution status (GD-84D-EX)]	Basic Data: Large GD-84D-EX write area address: 40
[Command execution result]	Basic Data: Large GD-84D-EX write area address: 41

Set as shown below to set the 1st alarm setpoint to "500" and the 2nd alarm setpoint to "1000".

1 Confirm that [Command execution status (PLC)] is "0" (normal state).

2 Set the alarm setpoints.

- (1) Set "500" in [GD-84D-EX setting data].
- (2) Set "1" (setting change) in [Command code].
- (3) Set "0x0018" in [Parameter].

"0x0018" is a parameter (setting flag) with command code 1 (setting change) indicating that the 1st alarm setpoint (bit3) and the 2nd alarm setpoint (bit4) were turned on.

3 Set "1" (execute process) in [Command execution status (PLC)].

4 Confirm that [Command execution status (GD-84D-EX)] is "1" (processing complete).

5 Set "0" (normal state) in [Command execution status (PLC)].

If the setting change was successful, the [Command execution result] will be "0x0018". ("0x0018" indicates the 1st alarm setpoint (bit3) and the 2nd alarm setpoint (bit4) were turned on.) If the setting change was unsuccessful, the [Command execution result] will be "0x0000". ("0x0000" indicates the 1st alarm setpoint (bit3) and 2nd alarm setpoint (bit4) were turned off.)

7-5-9 Setting INHIBIT

The INHIBIT setting uses the following addresses:

Item	Address
[Command execution status (PLC)]	Basic Data: Large GD-84D-EX read area address: 16
[Command code]	Basic Data: Large GD-84D-EX read area address: 17
[Parameter]	Basic Data: Large GD-84D-EX read area address: 18
[Command execution status (GD-84D-EX)]	Basic Data: Large GD-84D-EX write area address: 40
[Command execution result]	Basic Data: Large GD-84D-EX write area address: 41

1 Confirm that [Command execution status (PLC)] is "0" (normal state).

2 Set ON/OFF for INHIBIT.

- (1) When turning INHIBIT on, set "3" in the [Command code]; when turning off, set "4" in the [Command code].
- (2) Set "0" (parameter not used) in [Parameter]
- 3 Set "1" (execute process) in [Command execution status (PLC)].
- 4 Confirm that [Command execution status (GD-84D-EX)] is "1" (processing complete).

5 Set "0" (normal state) in [Command execution status (PLC)].

If the setting change was successful, the [Command execution result] will be "1". If the setting change was unsuccessful, the [Command execution result] will be "0".

7-6 PLC communication setting specifications using this product

You can configure the ETHERNET settings in the maintenance mode of the product ([SET-18 ETHERNET] in [2-10 SETTING2]) to set the [PLC Mode] to [1] - [7] and [PLC Area] to [0] - [15]. (Refer to '7-10-18 ETHERNET settings (ETHERNET)' in the 'GD-84D-EX Series Gas Detector Head Operating Manual'.)

When [PLC Mode] setting of this product is [2] - [7], and [PLC Area] setting is [0] - [15], the following values corresponding to the different PLC modes and PLC memory areas set on this product are automatically set in the Network screen of GAS DETECTOR MANAGER. Note that items that were automatically set are grayed out and cannot be changed.

PLC				
PLC Mode		2 ∨		
PLC Area		2 🗸		
PLC Type		○ Not Use ● FINS ○ MC		
Type of Basic Da	ata	Small Clarge Very Small		
Use Optional Da	ta	O Yes ● No		
Interval	Min	1000 msec		
Interval	Max	2000 msec		
Timeout		10 sec		
FINS				
IP Address		192 . 168 . 1 . 251		
Port		9600		
	Network Address	0		
Detector	Node Address	1		
	Unit Number	0		
	Network Address	0		
PLC	Node Address	251		
	Unit Number	0		
Detector Write	Memory Address	0		
	Area Type	E2 V 162		
	Memory Address	10752		
Detector Read	Area Type	E2 V 162		
MC	J.			
IP Address		192 . 168 . 1 . 251		
Port		2000		
PLC	Network Address	0		
FLU	Node Number	0		
Data stas Weits	Memory Address	65536		
Detector Write	Device Code	ZR 🗸 176		
Detector Dec.d	Memory Address	76288		
Detector Read	Device Code	ZR 🗸 176		
	PLC PLC Mode PLC Area PLC Type Type of Basic Da Use Optional Da Interval Timeout FINS IP Address Port Detector PLC Detector Write Detector Read MC IP Address Port Detector Write Detector Write Detector Write Detector Write	PLC PLC Mode PLC Area PLC Type Type of Basic Data Use Optional Data Interval Min Interval Max Timeout FINS IP Address Port Detector Node Address Unit Number Node Address Unit Number Node Address Detector Write Memory Address Detector Read Memory Address Area Type Memory Address Port Node Number IP Address Node Number PLC Network Address Port Network Address Putc Memory Address Detector Write Device Code Detector Write Device Code Detector Read Device Code		

	Item		Remarks	[PLC Mode] (When [2] - [7])	
1	IP Address*		0 - 254	IP4 of IP1.IP2.IP3.PLC	Default: 251
2	Port [*]		0 - 65535		Default: 9600 (FINS) Default: 5000 (MC)
0		Min	250 - 10000		Default: 1,000 msec
3	mervar	Max	250 - 10000		Default: 3,000 msec
4	TimeOut		1 - 10		Default: 5 sec
		Network Address	0 - 255		Default: 0
5	Detector	(Node Address)	0 - 255	IP4	
		Unit Number	0 - 255		Default: 0
		Network Address	0 - 255		Default: 0
6 PLC	PLC	(Node Address)	0 - 255	IP4 of PLC	
	Unit Number	0 - 255		Default: 0	

The IP address for this product is assumed to be IP1.IP2.IP3.IP4.

* [FINS] and [MC] share the same [IP Address] and [Port].

NOTE

- Log on in Administrator mode to view the Network screen.
- Grayed out items cannot have their settings changed in GAS DETECTOR MANAGER.
- When [PLC Mode] has been set to [1] in the product ETHERNET settings, communication settings can be made in Network screen of GAS DETECTOR MANAGER. (Refer to '4. PLC communication settings'.)
- ▶ For more information on settings for each item, refer to '7-3 PLC communication setting details'.

7-6-1 PLC Mode settings

When [2] - [7] are set in [PLC Mode] on the product, the following Network screen items are set automatically.

The information set differs for each IP address on the product. Refer to the following table for details of the settings:

	PLC				
[PLC Mode] setting value ——	PLC Mode		2 🗸		
	PLC Area		2 🗸		
14	PLC Type		O Not Use FINS O MC		
by IPLC Model settings	Type of Basic Da	ita	Small O Large O Very Small		
([2] - [7])	Use Optional Da	ta	Yes No		
	Interval	Min	1000 msec		
	Interval	Мах	2000 msec		
	Timeout		10 sec		
	FINS				
	IP Address		192 . 168 . 1 . 251		
	Port		9600		
		Network Address	0		
	Detector	Node Address	1		
		Unit Number	0		
	PLC	Network Address	0		
		Node Address	251		
		Unit Number	0		
-		Memory Address	0		
	Detector Write	Area Type	E2 🗸 162		
+		Memory Address	10752		
	Detector Read	Area Type	E2 V 162		
	МС	Л			
	IP Address		192 . 168 . 1 . 251		
-	Port		2000		
		Network Address	0		
	PLC	Node Number	0		
		Memory Address	65536		
	Detector Write	Device Code	ZR 🗸 176		
		Memory Address	76288		
	Detector Read	Device Code	ZR 🗸 176		

NOTE

▶ Log on in Administrator mode to view the Network screen.

<[PLC Mode]: [1] - [4]>

Communication mode [PLC Mode]	1	2		3		4		
Default: 1								
PLC Type	Not use	FINS	6	FINS		МС	MC	
Type of Basic Data		Smal	I	La	arge	Small	Small	
Memory		Detector	Dotoctor	Detector	Detector	Detector	Detector	
Address IP address		write	read	write	read	write	read	
xxx.xxx.xxx.1		0 - 167	-	0 - 167	10752 - 10839	0 - 167	-	
xxx.xxx.xxx.2		42 - 209	-	42 - 209	10774 - 10861	42 - 209	-	
xxx.xxx.xxx.3		84 - 251	-	84 - 251	10796 - 10883	84 - 251	-	
xxx.xxx.xxx.4		126 - 293	-	126 - 293	10818 - 10905	126 - 293	-	
xxx.xxx.xxx.5		168 - 335	-	168 - 335	10840 - 10927	168 - 335	-	
xxx.xxx.xxx.6		210 - 377	-	210 - 377	10862 - 10949	210 - 377	-	
xxx.xxx.xxx.7		252 - 419	-	252 - 419	10884 - 10971	252 - 419	-	
xxx.xxx.xxx.8		294 - 461	-	294 - 461	10906 - 10993	294 - 461	-	
xxx.xxx.xxx.9		336 - 503	-	336 - 503	10928 - 11015	336 - 503	-	
xxx.xxx.xxx.10		378 - 545	-	378 - 545	10950 - 11037	378 - 545	-	
xxx.xxx.xxx.11		420 - 587	-	420 - 587	420 - 587 10972 - 11059		-	
xxx.xxx.xxx.12		462 - 629	-	462 - 629	10994 - 11081	462 - 629	-	
xxx.xxx.xxx.13		504 - 671	-	504 - 671	11016 - 11103	504 - 671	-	
xxx.xxx.xxx.14		546 - 713	-	546 - 713	11038 - 11125	546 - 713	-	
xxx.xxx.xxx.15		588 - 755	-	588 - 755	11060 - 11147	588 - 755	-	
xxx.xxx.xxx.16		630 - 797	-	630 - 797	11082 - 11169	630 - 797	-	
•	•	•	•	•	•	•	•	
•	•	•	•	•	•	•	•	
xxx.xxx.xxx.164		6846 - 7013	-	6846 - 7013	14338 - 14425	6846 - 7013	-	
xxx.xxx.xxx.165		6888 - 7055	-	6888 - 7055	14360 - 14447	6888 - 7055	-	
xxx.xxx.xxx.166		6930 - 7097	-	6930 - 7097	14382 - 14469	6930 - 7097	-	
xxx.xxx.xxx.167		6972 - 7139	-	6972 - 7139	14404 - 14491	6972 - 7139	-	
xxx.xxx.xxx.168		7014 - 7181	-	7014 - 7181	14426 - 14513	7014 - 7181	-	
xxx.xxx.xxx.169		7056 - 7223	-	7056 - 7223	14448 - 14535	7056 - 7223	-	
xxx.xxx.xxx.170		7098 - 7265	-	7098 - 7265	14470 - 14557	7098 - 7265	-	
xxx.xxx.xxx.1/1		/140 - /30/	-	/140 - /30/	14492 - 14579	/140 - /30/	-	
xxx.xxx.xxx.1/2		7182 - 7349	-	7182 - 7349	14514 - 14601	7182 - 7349	-	
XXX.XXX.XXX.1/3		7224 - 7391	-	7224 - 7391	14536 - 14623	7224 - 7391	-	
XXX.XXX.XXX.1/4		7266 - 7433	-	7266 - 7433	14558 - 14645	7266 - 7433	-	
XXX.XXX.XXX.1/5		7308 - 7475	-	7308 - 7475	14580 - 14667	7308 - 7475	-	
XXX.XXX.XXX.1/6		7350 - 7517	-	7350 - 7517	14602 - 14689	7350 - 7517	-	
XXX.XXX.XXX.1//		7392 - 7559	-	7392 - 7559	14624 - 14711	7392 - 7559	-	
XXX.XXX.XXX.1/8		7434 - 7601	-	7434 - 7601	14040 - 14/33	7434 - 7601	-	
XXX.XXX.XXX.179		7476 - 7643	-	7476 - 7643	14668 - 14755	7476 - 7643	-	
xxx.xxx.xxX.180		1010 - 1685	-	1010 - 1005	14090 - 14///	1010 - 1005	-	
	•	•	•	•	•	•	•	
	-		•		•		•	
xxx.xxx.xxx.249		10416 - 10583	-	10416 - 10583	16208 - 16295	10416 - 10583	-	
XXX.XXX.XXX.250		10458 - 10625	-	10458 - 10625	10230 - 10317	10458 - 10625	-	

xxx: Product IP address

<[PLC Mode]: [5] - [7]>

Communication mode [PLC Mode]		5	6		7		
Default: 1							
PLC Type	M	IC	F	INS	MC		
Type of Basic Data	La	rge	Very	Small	Very	Very Small	
Memory Address	Detector write	Detector read	Detector write	Detector read	Detector write	Detector read	
	0 167	10752 10920	0 15	1024 1020	0 15	1024 1020	
	42 200	10752 - 10859	0 - 15	1024 - 1039	0 - 15	1024 - 1039	
xxx xxx xxx 3	42 - 209 84 - 251	10774 - 10801	4 - 19	1028 - 1043	4 - 19	1028 - 1043	
xxx xxx xxx /	126 - 293	10818 - 10005	12 - 27	1036 - 1051	12 - 27	1036 - 1051	
xxx xxx xxx 5	168 - 335	10840 - 10903	16 - 31	1040 - 1055	16 - 31	1040 - 1055	
xxx xxx xxx 6	210 - 377	10862 - 10927	20 - 35	1044 - 1059	20 - 35	1044 - 1059	
	252 - 419	10884 - 10971	24 - 39	1048 - 1063	24 - 39	1048 - 1063	
	294 - 461	10906 - 10993	28 - 43	1052 - 1067	28 - 43	1052 - 1067	
xxx xxx xxx 9	336 - 503	10928 - 11015	32 - 47	1056 - 1071	32 - 47	1056 - 1071	
xxx xxx xxx 10	378 - 545	10950 - 11037	36 - 51	1060 - 1075	36 - 51	1060 - 1075	
	420 - 587	10972 - 11059	40 - 55	1064 - 1079	40 - 55	1064 - 1079	
xxx.xxx.xxx.12	462 - 629	10994 - 11081	44 - 59	1068 - 1083	44 - 59	1068 - 1083	
xxx.xxx.xxx.13	504 - 671	11016 - 11103	48 - 63	1072 - 1087	48 - 63	1072 - 1087	
xxx.xxx.xxx.14	546 - 713	11038 - 11125	52 - 67	1076 - 1091	52 - 67	1076 - 1091	
xxx.xxx.xxx.15	588 - 755	11060 - 11147	56 - 71	1080 - 1095	56 - 71	1080 - 1095	
xxx.xxx.xx.16	630 - 797	11082 - 11169	60 - 75	1084 - 1099	60 - 75	1084 - 1099	
	•	•	•	•	•	•	
xxx xxx xxx 164	6846 - 7013	14338 - 14425	652 - 667	1676 - 1691	652 - 667	1676 - 1691	
xxx xxx xxx 165	6888 - 7055	14360 - 14447	656 - 671	1680 - 1695	656 - 671	1680 - 1695	
xxx.xxx.xxx.166	6930 - 7097	14382 - 14469	660 - 675	1684 - 1699	660 - 675	1684 - 1699	
xxx.xxx.xxx.167	6972 - 7139	14404 - 14491	664 - 679	1688 - 1703	664 - 679	1688 - 1703	
xxx.xxx.xxx.168	7014 - 7181	14426 - 14513	668 - 683	1692 - 1707	668 - 683	1692 - 1707	
xxx.xxx.xxx.169	7056 - 7223	14448 - 14535	672 - 687	1696 - 1711	672 - 687	1696 - 1711	
xxx.xxx.xxx.170	7098 - 7265	14470 - 14557	676 - 691	1700 - 1715	676 - 691	1700 - 1715	
xxx.xxx.xxx.171	7140 - 7307	14492 - 14579	680 - 695	1704 - 1719	680 - 695	1704 - 1719	
xxx.xxx.xxx.172	7182 - 7349	14514 - 14601	684 - 699	1708 - 1723	684 - 699	1708 - 1723	
xxx.xxx.xxx.173	7224 - 7391	14536 - 14623	688 - 703	1712 - 1727	688 - 703	1712 - 1727	
xxx.xxx.xxx.174	7266 - 7433	14558 - 14645	692 - 707	1716 - 1731	692 - 707	1716 - 1731	
xxx.xxx.xxx.175	7308 - 7475	14580 - 14667	696 - 711	1720 - 1735	696 - 711	1720 - 1735	
xxx.xxx.xxx.176	7350 - 7517	14602 - 14689	700 - 715	1724 - 1739	700 - 715	1724 - 1739	
xxx.xxx.xxx.177	7392 - 7559	14624 - 14711	704 - 719	1728 - 1743	704 - 719	1728 - 1743	
xxx.xxx.xxx.178	7434 - 7601	14646 - 14733	708 - 723	1732 - 1747	708 - 723	1732 - 1747	
xxx.xxx.xxx.179	7476 - 7643	14668 - 14755	712 - 727	1736 - 1751	712 - 727	1736 - 1751	
xxx.xxx.xxx.180	7518 - 7685	14690 - 14777	716 - 731	1740 - 1755	716 - 731	1740 - 1755	
•	•	•	•	•	•	•	
•	•	•	•	•	•	•	
xxx.xxx.xxx.249	10416 - 10583	16208 - 16295	992 - 1007	2016 - 2031	992 - 1007	2016 - 2031	
xxx.xxx.xxx.250	10458 - 10625	16230 - 16317	996 - 1011	2020 - 2035	996 - 1011	2020 - 2035	
xxx.xxx.xxx.251	IP address of the communication destination PLC						

xxx: Product IP address

NOTE

To make detailed communication settings in the Network screen of GAS DETECTOR MANAGER, set [PLC Mode] in the product ETHERNET settings to [1]. (Refer to '4. PLC communication settings'.)



- The PLC IP address is fixed at xxx.xxx.251. (xxx is the product IP address.)
- You cannot use the IP address of the PLC or IP addresses after xxx.xxx.252. (xxx is the product IP address.)
- When [PLC Mode] is [2] [7], four IP address areas are used by each unit of this product. Leave at least four spaces for IP addresses when allocating them so that the areas used do not overlap.
- When setting Very Small, it is not possible to mix with other PLC Modes.

7-6-2 PLC Area settings

When [1] - [15] are set in [PLC Area], the following Network screen items are set automatically: Refer to the following table for details of the settings:

	PLC						
	PLC Mode		2 🗸				
[PLC Area] setting value —	PLC Area		2 🗸				
	PLC Type		○ Not Use ● FINS ○ MC				
	Type of Basic [Data	Small C Large Very Small				
	Use Optional D	ata	Yes No				
	Interval	Min	1000 msec				
	interver	Max	2000 msec				
	Timeout		10 sec				
	FINS						
	IP Address		192 . 168 . 1 . 251				
	Port		9600				
		Network Address	0				
	Detector	Node Address	1				
		Unit Number	0				
		Network Address	0				
	PLC	Node Address	251				
		Unit Number	0				
Itoma automatically act	Detector Write	Memory Address	0				
by IPI C Areal settings		Area Type	E2 V 162				
([1] - [15])	Detector Read	Memory Address	10752				
	Delector Nead	Area Type	E2 V 162				
	MC	MC					
	IP Address		192 . 168 . 1 . 251				
	Port		2000				
	PLC	Network Address	0				
		Node Number	0				
	Detector Write	Memory Address	65536				
		Device Code	ZR 🗸 176				
	Detector Read	Memory Address	76288				
	Detector ricelu	Device Code	ZR 🗸 176				

NOTE

Log on in Administrator mode to view the Network screen.

[PLC Area] (PLC memory area)		[F (WI	PLC Mode] nen [1] - [5])	[PLC Mode] (When [6] - [7])	
(PLC memory a	irea)	FINS	MC	FINS	MC
Default: 3	0	E0(0)	ZR(0)	E0(0)	ZR(0)
	1	E1(0)	ZR(32768)	E0(2048)	ZR(2048)
	2	E2(0)	ZR(65536)	E0(4096)	ZR(4096)
	3	E3(0)	ZR(98304)	E0(6144)	ZR(6144)
	4	E4(0)	ZR(131072)	E0(8192)	ZR(8192)
	5	E5(0)	ZR(163840)	E0(10240)	ZR(10240)
	6	E6(0)	ZR(196608)	E0(12288)	ZR(12288)
	7	E7(0)	ZR(229376)	E0(14336)	ZR(14336)
	8	E8(0)	ZR(262144)	E0(16384)	ZR(16384)
	9	E9(0)	ZR(294912)	E0(18432)	ZR(18432)
	10	E10(0)	ZR(327680)	E0(20480)	ZR(20480)
	11	E11(0)	ZR(360448)	E0(22528)	ZR(22528)
	12	E12(0)	ZR(393216)	E0(24576)	ZR(24576)
	13	E13(0)	ZR(425984)	E0(26624)	ZR(26624)
	14	E14(0)	ZR(458752)	E0(28672)	ZR(28672)
	15	E15(0)	ZR(491520)	E0(30720)	ZR(30720)

NOTE

▶ When using the [MC], note that the numbers in parentheses () are the offset values for the [Memory Address].

			PLC	PLC	Detector	Detector
	Wodel	IP address	Mode	Area	write	read
O a data da 1	00.700	100 100 0 1	0	2	E3	E3
Gas detector 1	GD-70D	192.168.0.1	3	3	0~41	10752~10773
	GD-84D				E3	E3
	A1			3 3	42~83	10774~10795
Gas detector 2 –	A Q		3		E3	E3
	AZ	100 100 0 0			84~125	10796~10817
	B1	192.108.0.2			E3	E3
		-			126~167	10818~10839
	DA				E3	E3
	BZ				168~209	10840~10861
Coo data atau 2		102 169 0 6	2	2	E3	E3
Gas detector 3	GD-81D	192.108.0.0	3	3	210~251	10862~10883
Communication	OMRON	100 100 0 051				
target PLC	CJ series	192.168.0.251	-	_	_	_

Example of communication setting) OMRON PLC

*For both devices, the subnet mask should be $^{\prime\prime}255.255.255.0^{\prime\prime}.$

	Madal	ID a dalua a a	PLC	PLC	Detector	Detector
	wodei	IP address	Mode	Area	write	read
	GD-84D				ZR	ZR
	A1				65536~65577	76288~76309
	GD-84D				ZR	ZR
	A2	100 100 0 1	_	0	65578~65619	76310~76331
Gas detector 1	GD-84D	192.168.0.1	5	Z	ZR	ZR
	B1				65620~65661	76332~76353
	GD-84D			ZR	ZR	
	В2				65662 [~] 65703	76354 [~] 76375
	GD-84D			ZR	ZR	
	A1	-	192 168 0 5 5 2		65704 [~] 65745	76376 [~] 76397
	A 0				ZR	ZR
	AZ	100 100 0 5		65746~65787	76398~76419	
Gas detector 2	D.	192.168.0.5	5	Z	ZR	ZR
	ВТ				65788 [~] 65829	76420 [~] 76441
					ZR	ZR
	BZ				65830 [~] 65871	76442~76463
	MITSUBISHI					
Communication	ELECTRIC					
target PLC	Corporation	192.168.0.251	_	-	_	_
	Q series					

Example of communication setting) MITSUBISHI ELECTRIC Corporation PLC

*For both devices, the subnet mask should be $\rappa\!255.255.255.0\rap$.

Revision History

Issue	Revision details	Issue date
0	First issue	1/25/2021
1	PLC memory saving function added.	1/23/2023