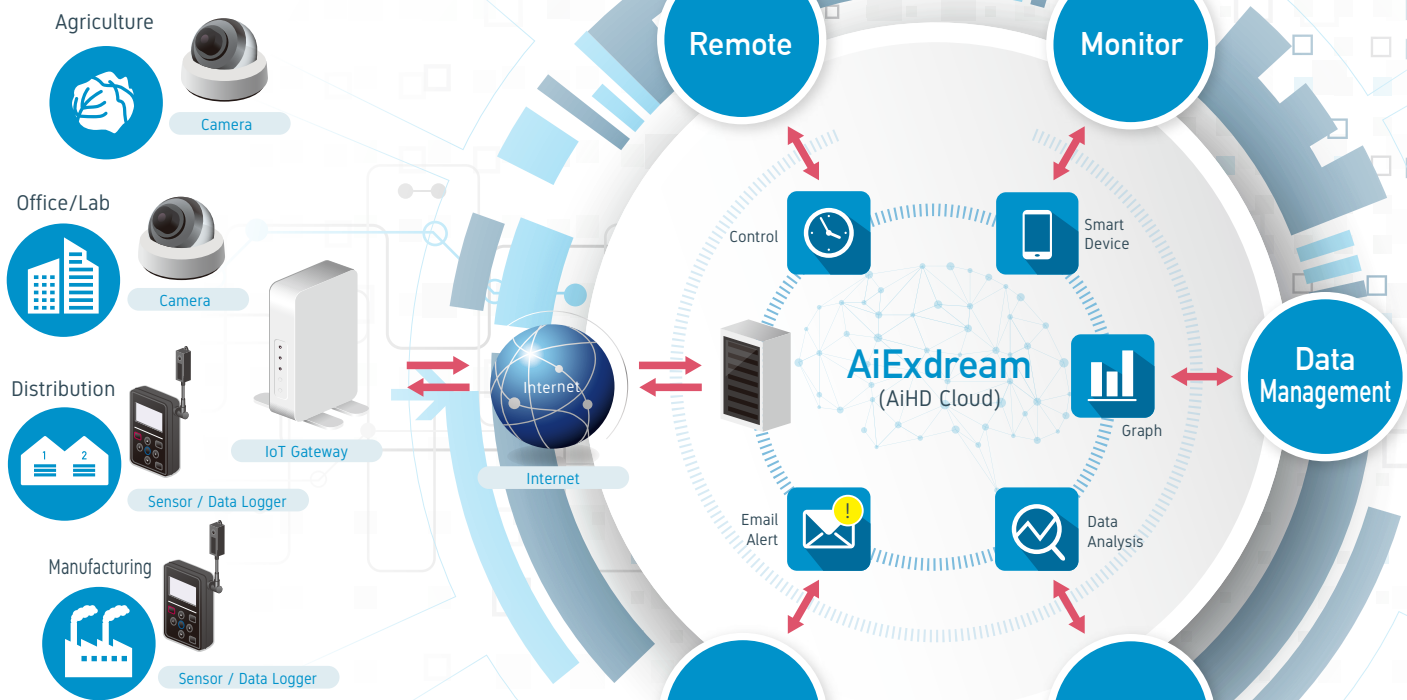


Advancing AiHD Cloud Solution

Ai Holdings Corporation (parent company to Graphtec) created the "AiExdream" cloud system by consolidating resources from group companies to provide advanced IoT platform with services delivering remote monitoring, remote data management and simulation analysis, bringing innovation to your business.

Expandable
Cloud Service Platform

GRM Series



GRM Series

Ver. 1

Take control of your remote facilities with remote access to sensors and camera info.

Remote Monitoring System

GRM-ONE Series

If you have troubles with :

- * Retrieving data from remote location with additional travel cost.
- * Asking line operators to use test instruments with no operating knowledge. Requesting factories to send data frequently.
- * Delayed messaging from remote facilities in case of emergency. Not having accurate data from the spot of the incident.
- * Too large of file size, and not having enough space for storage.

Look into the **GRM-ONE Solution!**

- Acquire data from your PC back at your office.
- Use the web server function to operate the instruments remotely.
- Emergency alert notification by e-mail. Visual confirmation of site by network camera.
- Data will be stored in the cloud.

Key Feature

Simplified Cloud Set Up - One-stop contract at Graphtec

Graphtec will provide all set up for the cloud platform.

All cloud setup procedures will be solidified by Graphtec

- Company A Cloud Server
- Company B Cloud Software
- Company C Internet
- Company D IoT Gateway Router
- Company E Instrument
- Company F Network Camera



All procedures will be supported!



- AiExdream (Cloud Server / Cloud Software)
- Internet
- Instrument *1
- IoT Gateway Router
- Network Camera *2

*1 : Service available with Graphtec-branded data loggers only.
 *2 : Manufactured by Dodwell BMS. 1 unit is available per one IoT gateway station.

IoT gateway carries a built-in operation for GL series data loggers.

Examples : Wireless connection with GL840.



4 step Easy Access!

- 1 Reference the Quick Start Guide (included with the product)
- 2 Connect the AC adapter and USB type router* (w/SIM) to IoT Gateway
- 3 Prepare the GL840 and GL wireless LAN unit (B-568)
- 4 Set up Wireless LAN settings

* A device required for LTE transmission using the data SIM card.

Available in Pro and Premium Versions

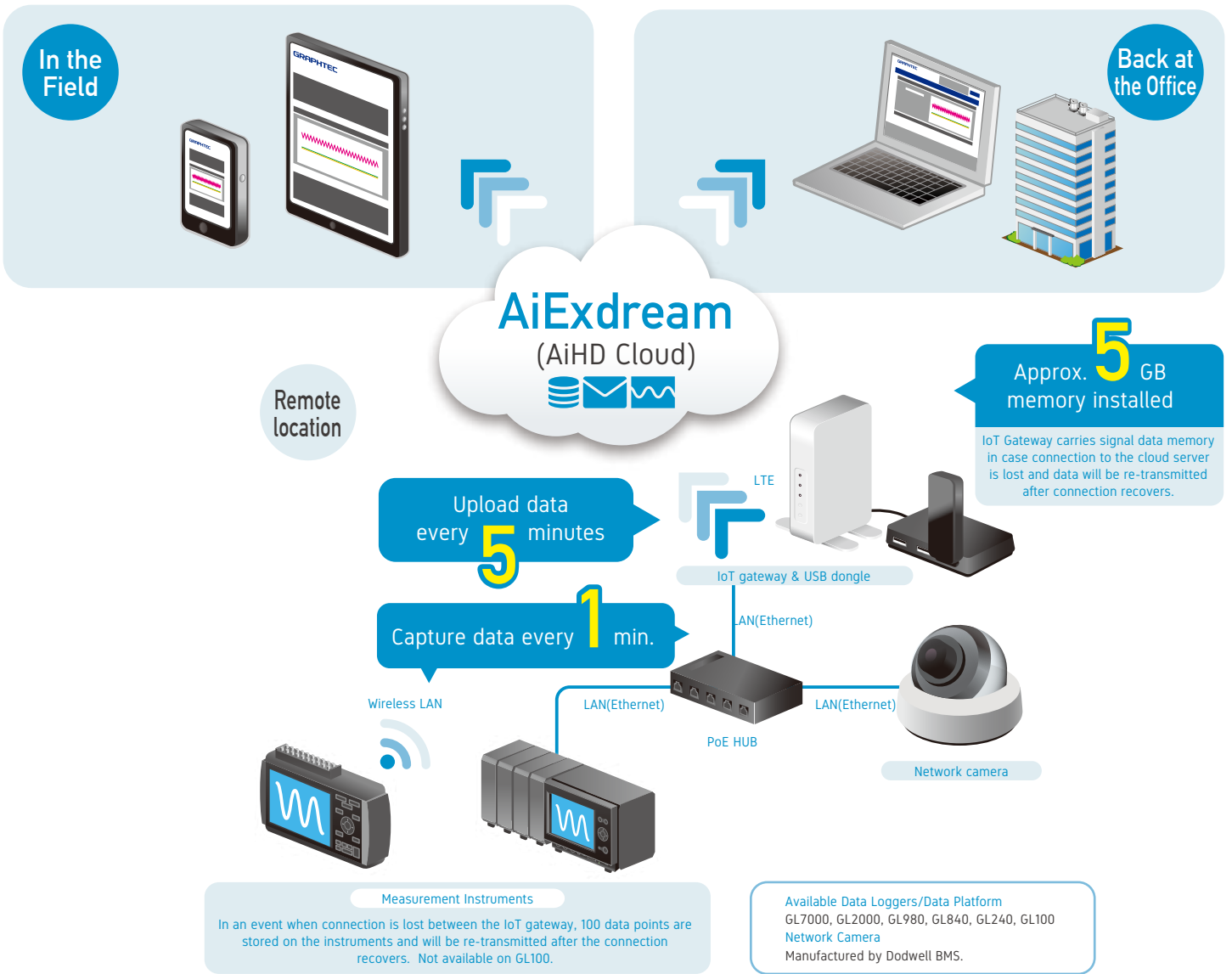
Simplified usage on the Pro version and additional features available on the Premium versions.

- Pro Version** Best for periodic observation of signal data from the GL series and video data from the remote camera.
- Premium Version** Data transfer amount: Unlimited(Typical)
 Ideal for FTP transfer of high-speed sampling data and frequent usage of the network camera.
 Email notification and data report function available.

Functions	Pro Version with Camera	Premium Version with Camera
Number of IoT gateway per cloud server	Unlimited	
Number of GL instruments per IoT gateway	5 units OR Max. 1000channels	
Measurement recording interval (between GL datalogger and Cloud server)	1 minute	
Remote Operation	●	●
Remote file download	●*1	●
Map Display	●	●
Network Camera Function (1 unit per gateway)	●*2	●*2
Mobile smart devices	●*3	●
Alarm-based live PDF reporting	—	●
User defined report format	—	●
PDF-based reporting (with Password feature)	—	●
Pop-up window for alarm occurrences	—	●

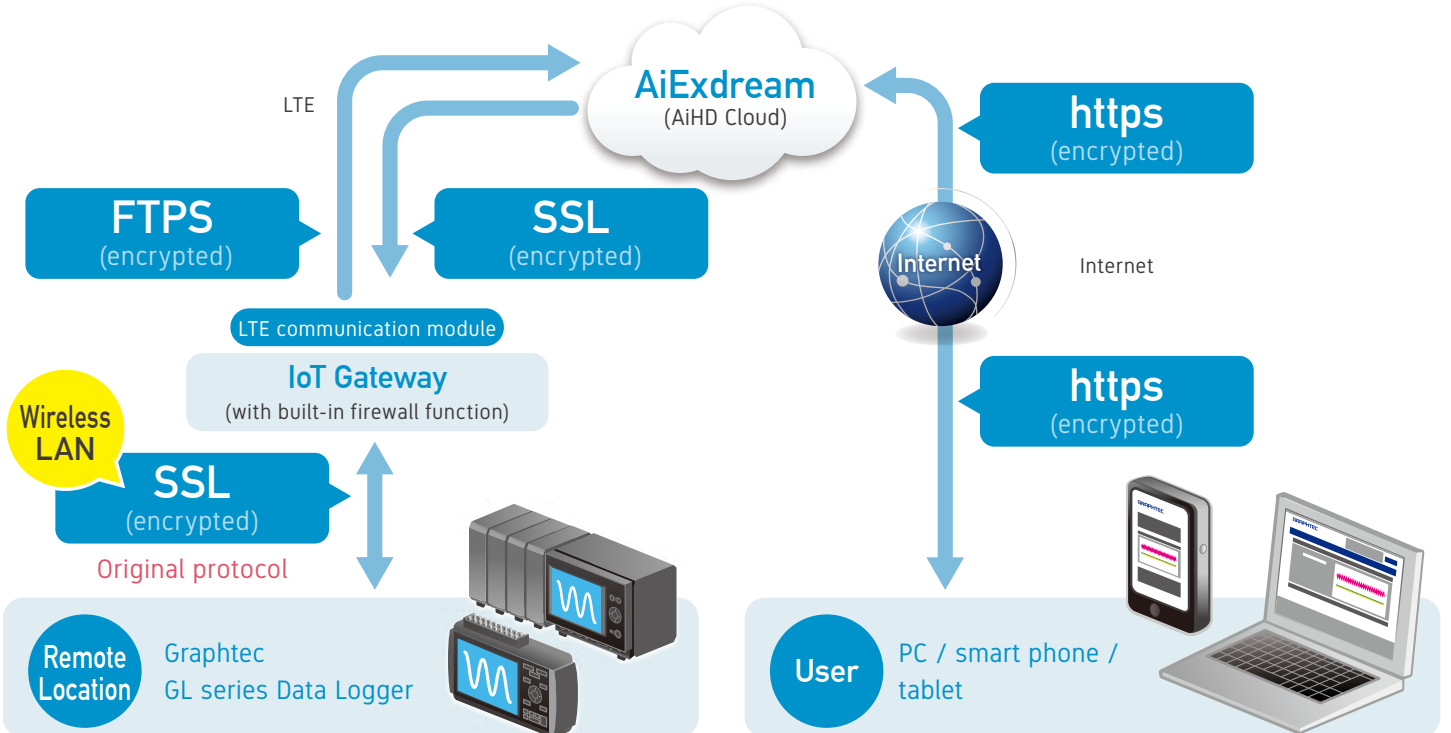
*1 The data transfer amount may exceed the capacity depending on the file size. Please refer to page 7 for the available service on data capacity.
 *2 Available for Pro version camera or Premium version camera. Pro version camera may exceed maximum upload capacity depending upon the network camera setting.
 *3 Available using the internet browser of mobile smart devices.

System Outline



System Security

Every part of the data communication is encrypted for secure remote monitoring.



GRM-ONE Functions

Number of Administrators and Users

Admin. (Administrator) :

Has authority over all settings of the cloud software.
One administrator per IoT gateway.

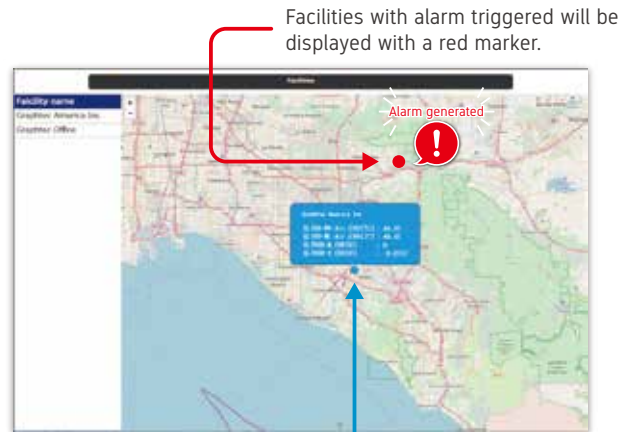
User :

Can view all measurement screens.
No limit in number of users.



Location Views

Displays location information of the facilities where IoT gateway is installed on a map. Multiple facilities can be viewed on one screen.

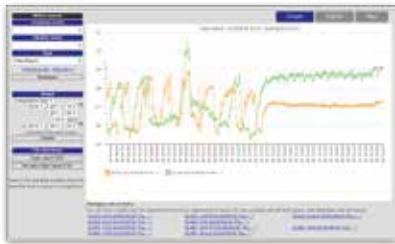


The current value will be displayed when the cursor is placed over the location.

Monitor the Measurement Data from Remote Location

Displays data measured in designated period of time at designated facility in waveform, digital values, and the map. Display can be viewed by location, date (daily, monthly, annual reports), and duration.

Waveform Display



Digital Value Display

Total, average, maximum, minimum are also displayed

Map Display



Updates measured values automatically

Displays map around the designated facility with the IoT Gateway.

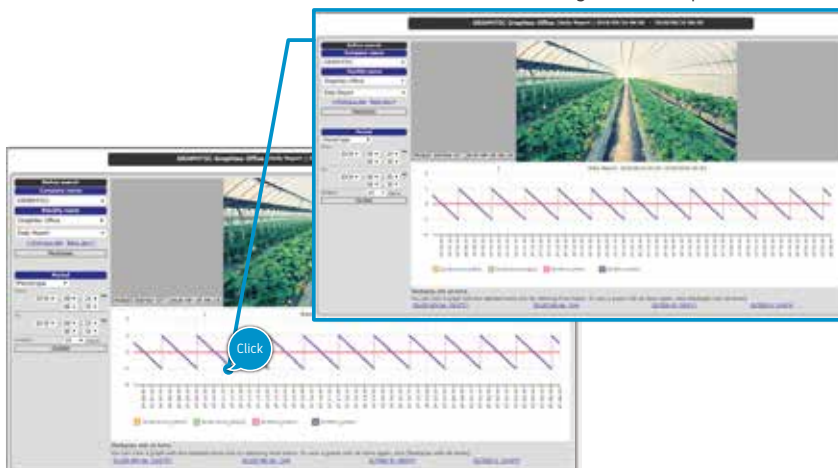
View the Real Time Camera Image of the Remote Location (requires camera plan with the network camera)

* One Camera per IoT Gateway available.

Get a better grasp of the situation in the remote location with the real-time camera display on top of the signal waveform and data. Specified network camera will display live streaming video. Click on a particular historical data and the streaming video data will pop up.

Key Feature

The camera data for the designated time point.



Cloud server can hold maximum 1 TB of video data at 1fps with 640 x 360 basic picture quality. This translated to approximately 2 years of image data.

Image data capacity on the cloud server

1TB of [1fps] [640 x 360 pixel] video data

1TB

Approx. 2 years

Alarm Reporting Feature

When alarm is triggered, GRM-One will send alarm email to registered email addresses. History of alarm is available for review and you can add comments to each incidents.

Alarm List Display

Refine search and display only applicable alarms.



Send Alarm Email

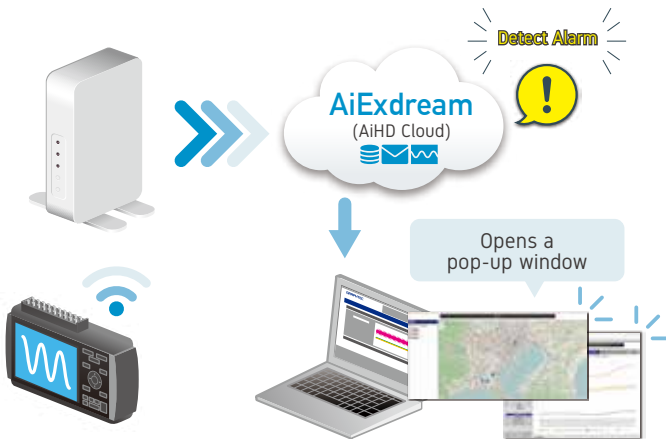


Auto Window Pop-up Feature Triggered by Alarm

Only Available on Premium Edition

Pop up a map or a graph when an alarm is triggered.

Key Feature



Reporting Feature with the Alarm Condition

Only Available on Premium Edition

Alert email with PDF report is issued when alarm condition is met. Get to know your anomalies immediately.

Key Feature



Remotely Configure and Operate GL Data Loggers

Operate GL located in remote places from a distant location.

GL7000, GL980, GL2000, GL240 and GL840 series

Built-in WEB server function on the instruments allows users to change settings and operate remotely. The main body image of the GL will be displayed on PC browser.

GL100

GL100 web feature has dedicated screen with measurement range setting and recording start/stop controls.

Measured value and graphs can be displayed
Able to operate with mouse



Download Feature for Measurement Data Files

Download in CSV format

Download measurement files saved on the cloud server in CSV format.

Daily CSV Files

Data measured in designated time interval for designated facility is outputted in CSV. (Available with statistical calculation)

Categorized Daily CSV

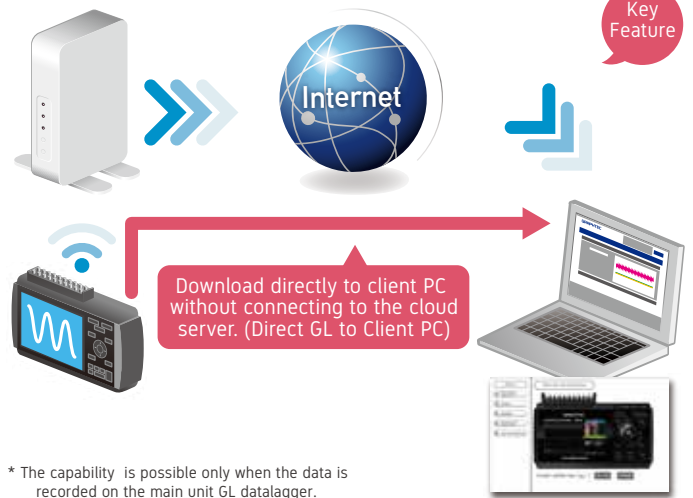
Itemized data measured in designated period of time at designated facility can be outputted to CSV.

Daily CSV Files

Categorized Daily CSV

Download data saved in GL to client PC remotely.

Download the measurement data saved in GL to client PC by using FTP function installed on the GL. Suitable for recording data with high speed sampling.



* The capability is possible only when the data is recorded on the main unit GL datalogger.

Reporting Formats including Email Reports

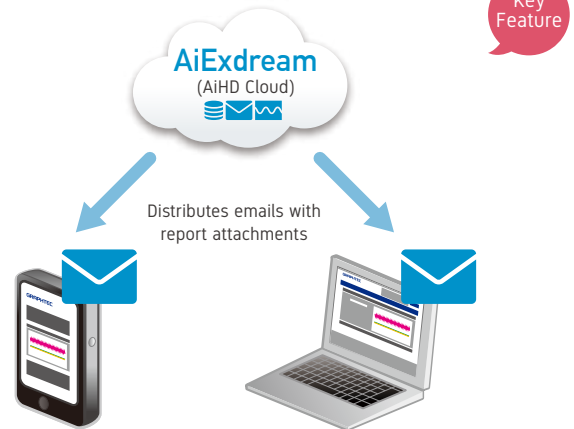
Output PDF formatted reports

Data measured in designated interval at designated location can be put out to a PDF file. (With statistical calculation)

Auto Report Emails

Only Available on Premium Edition

Auto-distributes measured data (PDF) at specified time.

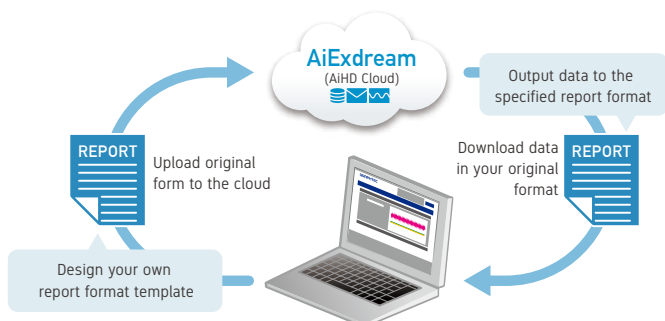


Customized Report Formats

Only Available on Premium Edition

Once the original report format is uploaded onto the cloud server, the format will be available for download and eliminates the need to edit original CSV data format.

Key Feature

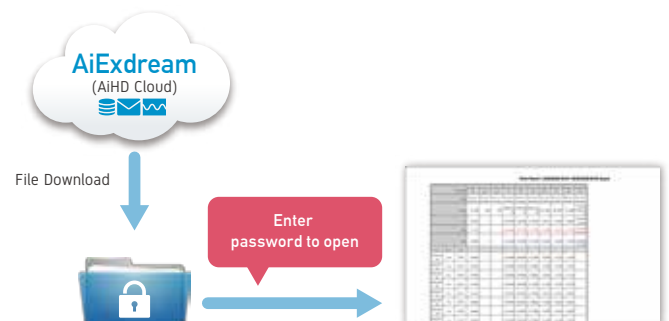


Data Report Output Function in PDF can be Secured with Password

Only Available on Premium Edition

For additional security purposes, passcode can be encrypted on the PDF report file.

Key Feature



System Specifications

Items	Description	Pro ver. / Pro ver. with camera	Premium ver. / Premium ver. with camera
Required OS	Windows OS (Windows 7 or later), Mac OS X (10.10 or later), iOS (iOS9 or later), Android (Ver5.0 or later)	●	●
Supported Web Browser	Google Chrome, Internet Explorer (later than Ver11), Microsoft Edge, Firefox, Safari * Requires HTML5.	●	●
Maximum GL units	Maximum 5 units of GL series or up to 1000 channels per individual IoT gateway	●	●
Data Transfer Capacity	Depends on the content of communication service contract. * please refer to this page for data transfer volume	●	—
Server Storage Capacity	10GB per IoT gateway (will be deleted after 5 years OR when the server is full)	●	●
Recording Function	Real-time recording: every 1minutes FTP transfer: Data file from GL unit download to client PC.	●	●
Display Function	Map (device location and data), Graph, Digital value, Video image	●	●
Reporting function	Send alarm emails, Output data in CSV format, Output reports	●	●
Automatic Report Transfer function	Distributes report triggered by alarm or by designated time	—	●
Customer report form template function	Design custom report formats.	—	●
Report output in PDF	Create a report in PDF format and secure with password	—	●
Pop-up window function triggered by an alarm	Map or graph opens in a pop-up window when an alarm is triggered.	—	●
GL setting function	Set GL by using the web server function. (GL100 has dedicated setting screen)	●	●
Network camera function (connect 1 unit per IoT gateway)	Optional GRM Network camera kit is required (1 unit per IoT Gateway)Server capacity for video data: 1TB maximum per 1 unit of IoT Gateway (Once the data capacity is met, old data is deleted)	● (Pro version with camera)	● (Premium version with camera)

Supports GL series

models	GL100-WL	GL240	GL840-M/WV	GL980	GL2000	GL7000
wireless LAN	●	● (requires B-568)	● (requires B-568)	—	—	—
LAN(Ethernet)	—	—	●	●	●	●

Approximate data targets for GRM-ONE

when recording for 1 month with 1 min. interval sampling

* Calculated value for a month of Transfer per minutes from datalogger to GRM-ONE
* number is an estimate amount and may vary depending on the setting.

Model name	GL100 (TH)	GL240 (10ch)	GL840 (20ch)	GL980 (8ch)	GL2000 (4ch)	GL7000 (GL7-V x 10units)
Data format	CSV	CSV	CSV	CSV	CSV	CSV
traffic per month	20.0 MB	100.0 MB	200.0 MB	80.0 MB	50.0 MB	800.0 MB
Ratio with 3GB/month	0.6%	3%	7%	3%	2%	27%

IoT Gateway Specifications

Items	Description
Supply Power	DC5V supplied by AC adapter
Power Consumption	Approx. 7W
Operating Environment	Temperature : 5 to 40°C Humidity : up to 80% or lower (non-condensing)
Interface	LAN(Ethernet): 100BASE-TX wireless LAN: 802.11b/g/n, USB 2.0
WAN	Support USB type router (4G/LTE)
Dimensions [W x D x H]	approx. 35 x 130 x 140 mm (excluding protrusions)
Weight	approx. 300 g

Network Camera Specifications

Items		Descriptions
Camera	Display Element	1/3" CMOS
	Lens	Fixed focus
	Focal length	f=2.8 mm
	Angle of view	Horizontal: 110° Vertical: 61°
	Minimum illumination of object	Color: 0.1 lux @F2.0 B / W: 0.01 lux @ IR LED ONE
	Scanning mode	Progressive scan
	Dynamic Range	120 dB (True EDR)
	Day & Night	Compatible
	IR LED	20 m
Video	frame rate	1 ips
	Video compression	H265
	Resolution	640 x 360
Connector	Network	RJ45 (10/100BASE-T)
Others	Dimension (Diameter x H)	111.9 x 82 mm
	Weight	250 g
	Operating Temperature	-10 to 50°C IR LED ON : -10 to 45°C
	Operating Humidity	0 - 90% (non-condensing)
	Supply Power	PoE (IEEE 802.3af Class 2)
	Power Consumption	4.36W
	Certification	FCC, CE, KC

- Due to the possibility of equipment or PC failure, the data files on the instrument are not guaranteed to hold memory.
- Please make a backup of data whenever possible to avoid data loss.
- Brand names and product names listed in this brochure are the trademarks or registered trademarks of their respective owners.
- Items mentioned are subject to change without notice. For more information about product, please check the web site or contact your local representative.



For using equipment in correctly and safely

- Before using it, please read the user manual and then please use it properly in accordance with the description.
- To avoid an occurrence of malfunction or an electric shock by leakage, please ensure ground connection and use it in specified power source.

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