MONITORING
INVIEW GATEWAY
User Manual V1.4

THE NEW GENERATION OF MONITORING

- WEB-BASED USER INTERFACE

- EXTENDED LOG CAPABILITIES

- TINY DISPLAY (GW-DIN)

Table of content

Release Note:

Version	Release date (DD/MM/YYYY)	Modified page number	Modifications
1.0	03/05/2021	-	First release of the manual.
1.1	07/01/2022	-	Removed SNMP related information.
1.2	19/05/2022	67	Added "8. Annex 1: Software update procedure", page 67.
1.3	21/02/2023	74	Added "10. Annex 3: Inview GW2 - Module Paramters list", page 74.
1.4	30/01/2024	20	Added a screenshot in "6.5.5.6 Phase", page 20.

1. CE+T at a glance

CE+T Power designs, manufactures and markets a range of products for industrial operators with mission critical applications, who are not satisfied with existing AC backup systems performances, and related maintenance costs.

Our product is an innovative AC backup solution that unlike most used UPS's

- Maximizes the operator's applications uptime;
- Operates with lowest OPEX;
- Provides best protection to disturbances;
- Optimizes footprint.

Our systems are:

- Modular
- Truly redundant
- Highly efficient
- Maintenance free
- Battery friendly

CE+T power puts 60+ years expertise in power conversion together with worldwide presence to provide customized solutions and extended service 24/7 - 365 days per year.

2. Abbreviations

ECI	Enhanced Conversion Innovation
EPC	Enhanced Power Conversion
REG	Regular
DSP	Digital Signal Processor
AC	Alternating current
DC	Direct current
PE	Protective Earth (also called Main Protective Conductor)
N	Neutral
PCB	Printed Circuit Board
TRS	True Redundant Structure
PWR	Power
ESD	Electro Static Discharge
MET	Main Earth Terminal
MBP	Manual By-pass
MBB	Measure Box Battery
MBDC	Measure Box DC Loads
TCP/IP	Transmission Control Protocol/Internet Protocol
USB	Universal Serial Bus
LAN	Local Access Network
ETH	Ethernet
HTTP	HyperText Transfer Protocol
HTTPS	Secure HyperText Transfer Protocol
NTP	Network Time Protocol
MIB	Management Information Base
DHCP	Dynamic Host Configuration Protocol
NT/KO	Not Okay
AL	Alarm

3. Warranty and Safety Conditions*

WARNING:

The electronics in the power supply system are designed for an indoor, clean environment.

When installed in a dusty and/or corrosive environment, outdoor or indoor, it is important to:

- Install an appropriate filter on the enclosure door, or on the room's air conditioning system.
- Keep the enclosure door closed during operation.
- Replace the filters on a regular basis.

Important safety instructions, save these instructions.

3.1 Disclaimer

- The manufacturer declines all responsibilities if equipment is not installed, used or operated according to the instructions herein by skilled technicians according to local regulations.
- Warranty does not apply if the product is not installed, used and handled according to the instructions in the manuals.

3.2 Technical care

- This electric equipment can only be repaired or maintained by a "qualified employee" with adequate training. Even personnel who are in charge of simple repairs or maintenance are required to have knowledge or experience related to product maintenance.
- Please follow the procedures contained in this Manual, and note all the "DANGER", "WARNING" AND "NOTICE" marks contained in this Manual. Warning labels must not be removed.
- Qualified employees are trained to recognize and avoid any dangers that might be present when working on or near exposed electrical parts.
- Qualified employees understand how to lock out and tag out machines so the machines will not accidentally be turned on and injure employees working on them.
- Qualified employees also understand safety related work practices, including those by OSHA and NFPA, as well as knowing what personal protective equipment should be worn.
- All operators are to be trained to perform the emergency shut-down procedure.
- Never wear metallic objects such as rings, watches, or bracelets during installation, service and maintenance of the product.
- Insulated tools must be used at all times when working with live systems.
- When handling the system/units pay attention to sharp edges.

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* These instructions are valid for most CE+T Products/Systems. Some points might however not be valid for the product described in this manual.

3.3 Installation

- This product is intended to be installed only in restricted access areas.

- The Inverter System may contain output over current protection in the form of circuit breakers. In addition to these circuit breakers, the user must observe the recommended upstream and downstream circuit breaker requirements as per the local regulations.

- Please use extreme caution when accessing circuits that may be at hazardous voltages or energy levels.

- The modular inverter rack is a dual input power supply. The complete system shall be wired in a way that both input and output leads can be made power free.

- In REG systems, to comply with local and international safety standards the N (output) and PE shall be bonded. The bonded connection between N (output) and PE must be removed once the AC input is connected.

- AC and DC circuits shall be terminated with no voltage / power applied.

- The safety standard IEC/EN62040-1-1 requires that, in the event of an output short circuit, the inverter must disconnect in 5 seconds maximum. The parameter can be adjusted on Inview controller; however, if the parameter is set at a value > 5 seconds, an external protection must be provided so that the short circuit protection operates within 5 seconds. Default setting is 60 seconds.

- The system is designed for installation within an IP20 or IP21 environment. When installed in a dusty or humid environment, appropriate measures (air filtering) must be taken.

- All illustrations in the manual are for general reference.

3.3.1 Handling

- The cabinet shall not be lifted using lifting eyes.

- Remove weight from the cabinet by unplugging the inverters. Mark inverters clearly with shelf and position for correct rebuild. This is especially important in dual or three phase configurations.

- Empty module positions must not be left open. Replace with dummy cover.

3.3.2 Surge and transients

The mains (AC) supply of the modular inverter system shall be fitted with Lightning surge suppression and Transient voltage surge suppression suitable for the application at hand. Manufacturer's recommendations of installation shall be adhered to. Selecting a device with an alarm relay for function failure is advised.

Indoor sites are considered to have a working lightning surge suppression device in service.

- Indoor sites Min Class II.

- Outdoor sites Min Class I + Class II or combined Class I+II. The modular inverter system/rack can reach hazardous leakage currents. Earthing must be carried out prior to energizing the system. Earthing shall be made according to local regulations.

3.3.3 Other

- Isolation test (Hi-Pot) must not be performed without instructions from the manufacturer.

3.4 Pre-cautions before maintenance

- The modular inverter system/rack can reach hazardous leakage currents. Earthing must be carried out prior to energizing the system. Earthing shall be made according to local regulations.
- Prior to any work conducted on a system/unit make sure that AC input voltage and DC input voltage are disconnected.
- Inverter modules and shelves contain capacitors for filtering and energy storage. Prior to accessing the system/modules after power down, wait at least 5 minutes to allow capacitors to discharge.
- Some components and terminals carry high voltage during operation. Contact may result in fatal injury.

3.5 Replacement and Dismantling

- ESD Strap must be worn when handling PCBs and open units.
- CE+T cannot be held responsible for disposal of the Inverter system and therefore the customer must segregate and dispose of the materials which are potentially harmful to the environment, in accordance with the local regulations in force in the country of installation.
- If the equipment is dismantled, to dispose of its component products, you must comply with the local regulations in force in the country of destination and in any case avoid causing any kind of pollution.

To download the latest documentation and software, please visit our website at www.cet-power.com

4. Introduction

The **Inview GW** is the simplest and cost-effective solution to monitor a CE+T converter system. While **Inview S/Slot** and **X** shares the same software solution, the Inview GW doesn't. Inview GW is an embedded system and is not running Linux. Hence, its features are lesser than those of other Inview products.

The Inview GW covers four different use cases.

4.1 Quick Start

If there is no time to read the full user manual before using the unit, follow the below process to get started.

IP address: **10.250.250.1**

Default Basic access password: **Basic**

Default Expert access password: **Expert**

Inview GW **Read** access over Modbus TCP is enabled by default and accessible at:

IP address: **10.250.250.1**

Default Port: **502**

Default Unit ID: **0**

4.2 Standalone monitoring

The Inview GW offers the ability to configure and monitor a system. Anyway, the web UI is limited to inventory and file transfer (configuration, logs), no live monitoring data is provided in the browser. For complete monitoring, the user should take advantage of Modbus TCP.

The Inview GW can monitor bi-directional Sierra systems as well, but **Battery Management System (BMS)** is not included. It is only possible to configure Floating voltage and current limitation (based on the converter's reading). If one is looking for extended battery management features, he should look into **Inview S/Slot** or **X** and Measure Boxes.

4.3 Third party gateway

In system with different converters brands such as no break solution, the Inview GW acts as a pure gateway, providing an easy interface for complete management and monitoring from a third-party controller. This solution is especially designed for OEM market.

NB: A specific hardware version embedded in **Bravo/Sierra 10** shelf is available upon request for OEM market.

4.4 Large and/or complex solution

Get in touch with the regional CE+T sales representative to know more about solutions for markets such as Datacenter or Energy management. In such solutions, different kind of converters from CE+T could be used either to extend system capacity or to provide extended features. In order to aggregate these systems, Inview GW is used as an internal gateway for the **Inview X**.

5. Hardware

There are two types of Inview GW as follows:

- **GW - DIN version** (T602004000)
- **GW - Rack version (T602004020)**

Note: The GW - Rack version is available only with Bravo 10 and Sierra 10 modules at the rear side of the shelf.

5.1 DIN version

5.1.1 Connection descriptions
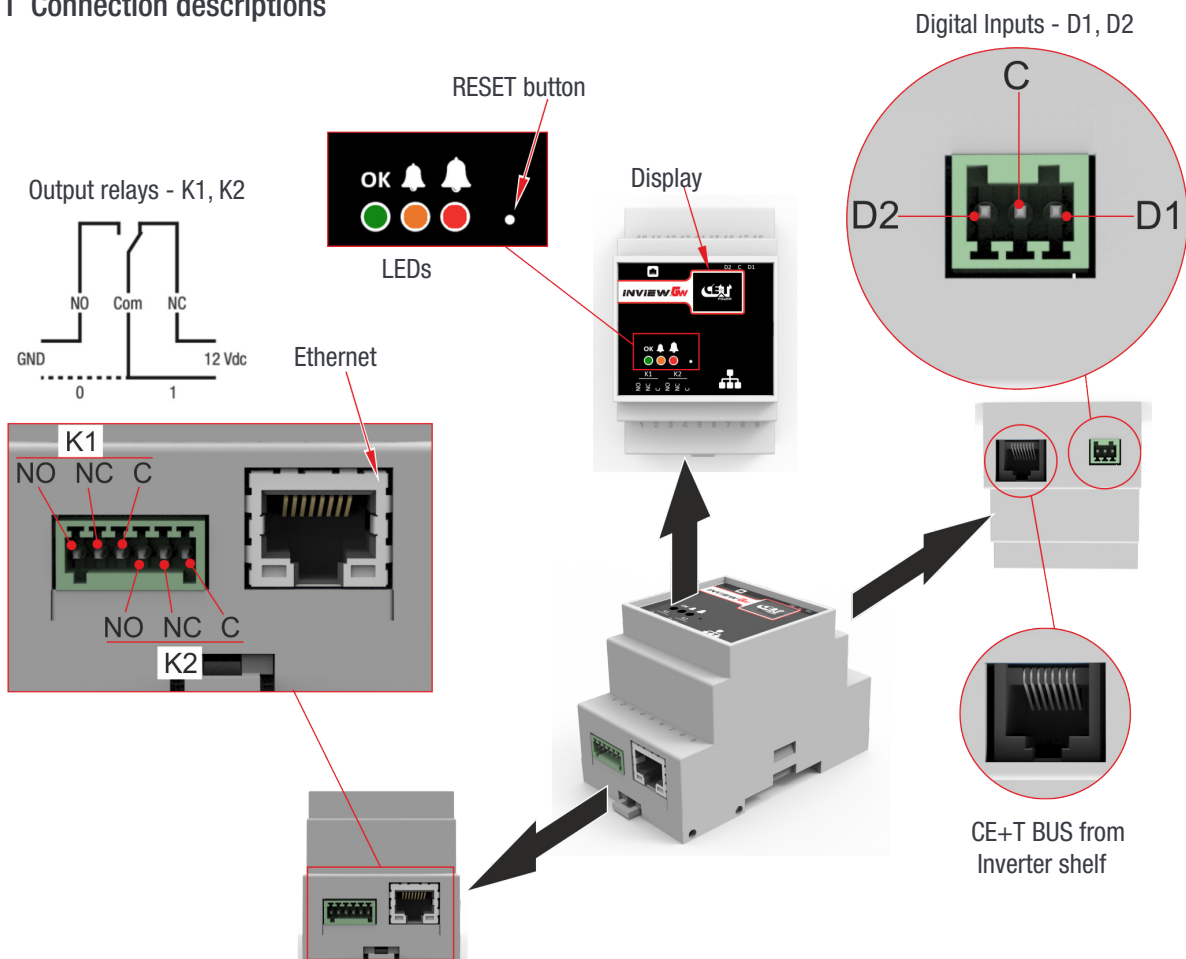
- A CE+T bus RJ45 on top provides easy and direct connection to CE+T shelfs.
- On bottom, an Ethernet RJ45 is available. See "6.4 Network connectivity", page 15 for features available on this port.
- In digital input terminal, the external voltage should not be applied, and it is mandatory to connect only switches alike (0-5V). A single common connection for both DI is available on the terminal.
- Each output relay terminal should be connected as shown in the diagram. A possible way of connecting the Ground and 12 Vdc in order to get a "0" or a "1" is based on the relay state. Relays are max 60VDC and 0.5 Amps. A six-pole terminal provides all three contacts (NO-C-NC) for both relays.

- The RESET button can be used for following purposes.
    - Short Press to restart the application.
    - Long press (10 seconds - LEDs go off and amber LED turns on) to force the reset in bootloader mode.

5.1.2 Display and synoptics

The display is a 0.66" monochrome screen.

The following table provides the meaning of every LED states and their combination.

Normal operation meaning	
LED color / state	Description
Green LED ON	System ON and running.
Orange LED ON	At least a minor alarm ongoing in the system.
Red LED ON	At least a major alarm ongoing in the system.

5.1.3 Power supply

Connector: CET bus RJ45

Power consumption: 2 W

Power supply voltage: 12 V

Remark: the gateway is directly powered from any CE+T converter through its RJ45 CET bus connection. For safety reasons, it is mandatory to supply the unit only through this way. A single converter is required to supply the Inview GW.

5.1.4 Physical characteristics
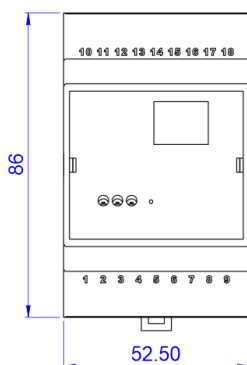
Width: 52 mm   Height: 85 mm   Depth: 58 mm   Weight: 105 g
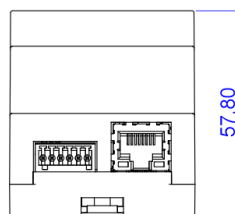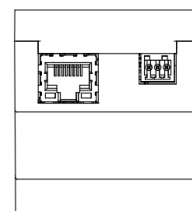
5.1.5 Mounting

The Inview GW is mounted on DIN rail. DIN fixation is molded in the unit housing.

5.2 Rack version

Important: The Inview GW rack version is fixed at rear side of the Bravo 10 or Sierra 10 shelf only.

5.2.1 Connection descriptions
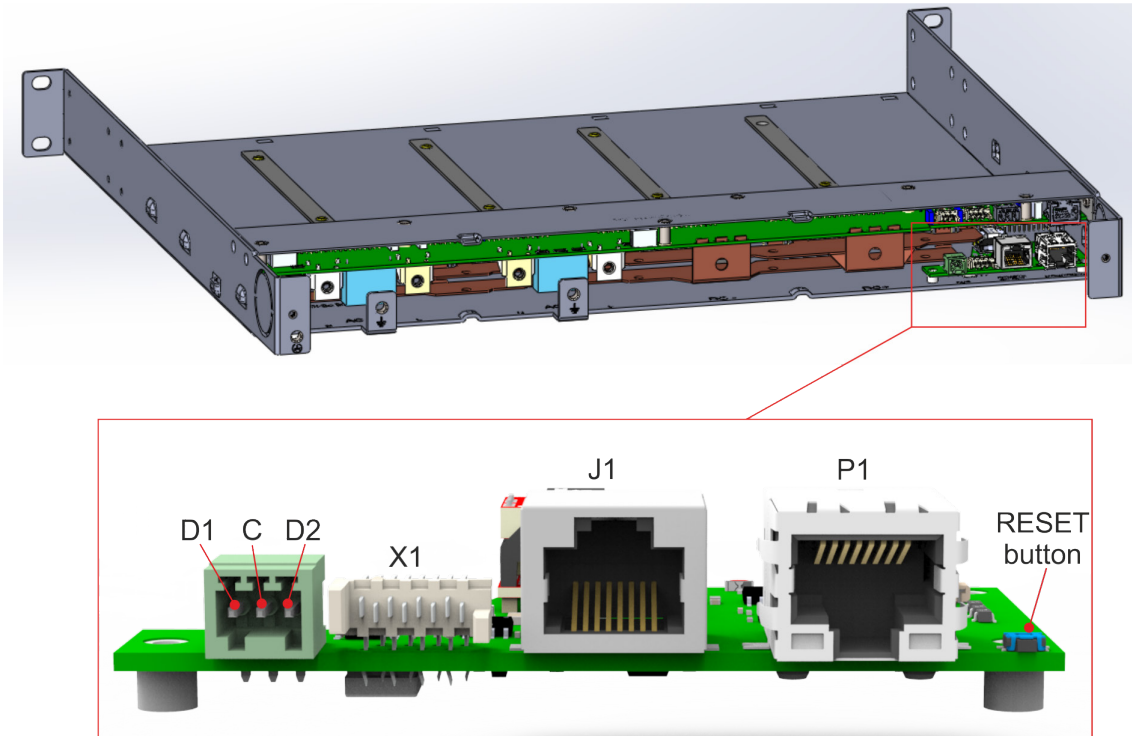
- The **X1** lumber terminal connector (**CE+T bus**) provides an easy and direct connection to CET shelfs.

Important: as power supply is also wired on this connector, be careful before plugging a cable into the device.

- The **P1 ethernet** RJ45 connector is available to access the systems parameters through **web interface** by using IP Address.

- The **J1** RJ45 connector is available for supporting **Modbus RS485** in **RTU** mode.
  The values can be changed in the configuration file.
  Serial communication baud rate ("9600"; "19200"; "38400"; "115200").
  481_baud_rate=19200;
  Serial communication parity check ("odd"; "even"; "none").
  482_parity=odd;
  Serial communication stop bits ("1"; "2").
  483_stop_bits=1;

  - Pin-5 is **A**(Rx),
  - pin-4 is **B**(Tx), and
  - Pin-8 is **Gnd**

- In digital input terminal, the external voltage should not be applied, and it is mandatory to connect only switches alike (0-5V). A single common connection for both DI is available on the terminal.

- The RESET button can be used for following purposes.

  - Short Press to restart the application.
  - Long press (10 seconds - LEDs go off and amber LED turns on) to force the reset in bootloader mode.

5.2.2 Power supply

Connector: CET bus lumber connecter from shelves

Power consumption: 2 W

Power supply voltage: 12 V

Remark: The gateway is directly powered from any CE+T converter through its RJ45 CET bus connection. For safety reasons, it is mandatory to supply the unit only through this way. A single converter is required to supply the Inview GW rack.

5.2.3 Physical characteristics

Width: 85 mm

Height: 20 mm

Depth: 47 mm

Weight: 35 g
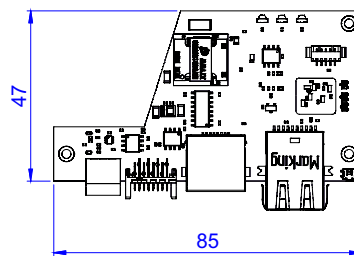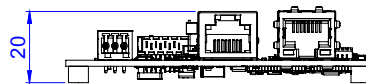
5.2.4 Mounting

The Inview GW Rack is mounted at rear side of shelves of Bravo10/sierra10.

The part numbers of the GW rack shelves are T614730001 / T714730001 .

5.2.5 3-phase system configuration

To configure a 3-phase system, the first shelf must have Inview GW Rack and other two shelves must be standard ones. These are connected with a CET-BUS cable with four connectors as shown in below figure.

BUS-B   BUS-A
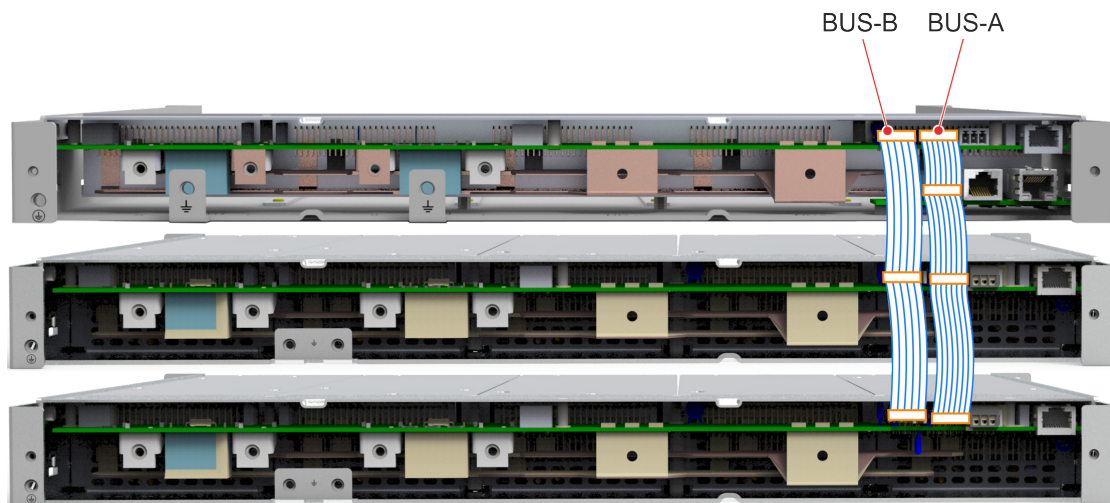
The BUS-A cable must be ordered with part number based on the equation below.

Number of terminals in the BUS-A (8 pin) cable = Number of shelves + 1.

6. Software

6.1 Introduction

The Inview GW has been designed, as its name stands for, as a gateway, i.e. a device passing the data from the CE+T bus to 3rd parties over ethernet. These third parties could be either a NOC, a multi-site management platform such as Inview Cloud, or any other 3rd party monitoring device.

As an user, it is still possible to monitor few things from the web user interface. 3rd party software must be used in order to get data in Modbus TCP (more on this software in each protocol section).

6.2 Topologies

The Inview GW is designed to support following topologies:

- Systems with only 1 DC group
- Systems with up to 3 output phases
- Systems with or without AC input (with number corresponding to output phases)
- Pure inverter systems: Bravo 10, Bravo 25
- DCDC systems: Iris modules
- Bidirectional converters: Sierra 10 and Sierra 25,
- Up to 32 modules on the CE+T communication bus

Remark: The Inview GW is able to monitor TUS modules, but only within 32 modules on its bus. For any other topology, please check Inview S, Inview S slot or Inview X solutions.

6.3 Display

The 0.66" display provides the current IP configuration of the device as a rolling textual information with IP address, Subnet Mask and Gateway (**IP – MK – GW0).**

When the link is down (for example, cable disconnected), CE+T Logo is displayed.

If the system is configured in DHCP, it will display "**DHCP DISCOVER…**" while acquiring a network configuration. For DHCP behavior, refer to the next section.

6.4 Network connectivity

The Inview GW ethernet connectivity supports both DHCP and static mode for IP configuration.

The default IP address is **10.250.250.1**.

The network parameters can be configured (IP, subnet mask and gateway).

The interface is compatible with 10/100 and supports IPv4.

When configured in DHCP, the system will acquire an IP address from the DHCP server. After a timeout of 60 seconds, the system will fall back on a static IP configuration which is:

- IP: **10.250.250.1**

- Subnet Mask: **255.255.255.0**
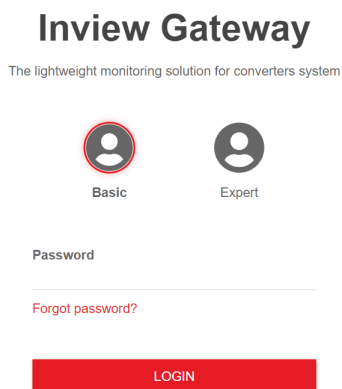
6.5 User web interface

6.5.1 Default IP

The web user interface could be reached on the configured IP address (refer to previous section or quick start guide for details) on port 80 (default, not configurable).

6.5.2 Access

The Inview GW provides a role-based access model. It means that two levels of credentials are available, Basic and Expert.

Inview Gateway

The lightweight monitoring solution for converters system

Basic   Expert

Password

Forgot password?
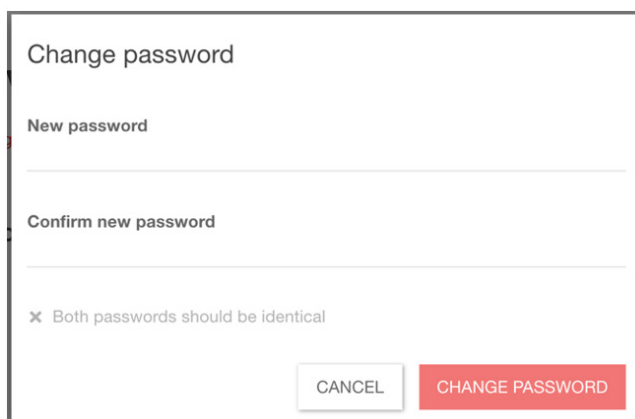
LOGIN

Serial number: 000000 · Version: 2.0.0

Default password for each of them are:

- Username: Basic, Password: **Basic**
- Username: Expert, Password: **Expert**

Name of the user accounts (Basic and Expert) cannot be changed. It is highly recommended to change the passwords on first connection. Password fields could remain empty, even if it is discouraged for obvious security reasons. Password edition is done through input text fields in the web interface.

Change password

New password

Confirm new password

✗ Both passwords should be identical

CANCEL   CHANGE PASSWORD

To log out of the user interface, the user should click on top, below the icon:
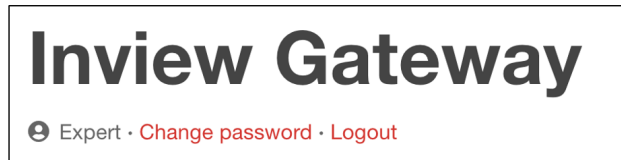
Only one Expert and one Basic can log in at the same time.

There is an auto-logout feature that works as follow: if set to 0, the auto-logout feature is disabled. When enabled with a value configured from 1 to 600 minutes, the user will be disconnected after being inactive for the time set.

It is possible to log out all users through Modbus TCP.

6.5.2.1   Lost password

In order to get a new password for "Expert" credential, the password reset code is needed. This code is displayed on login page, below login button.

Drop this code in a mail to customer.support@cet-power.com in order to get a new password.

Important remarks:

- The Password Reset Code is valid only once. When successfully used, a new one is displayed. It remains the same even after restart.

- Once logged with the new password generated by CE+T, it becomes the new Expert password. It is highly recommended to change it immediately.

- The generated password is linked to the unit references, it cannot be used on any other device even if the reset code is same (unlikely).

To reset the Basic access password, the Expert mode shall be used. It is not possible to get a reset password for the basic user.

6.5.3 System info

System info section appears at the beginning, when reaching and logging into the web user interface.

The below data are provided in this section:

- The firmware version of the unit under the format X.Y.Z
- The Serial Number of the unit
- The IP address currently used by the device
- The device MAC address
- System uptime

All that information is also available through protocols as well.

6.5.4 Configuration file management

Through the web user interface, it is possible to import and export a configuration file.
The format of the configuration file is .ini. More details about the configuration file itself is provided in the section 6.6.

- Importing a configuration file means sending a file from the computer to the device in order to change the configuration.
  - The configuration file is only applied when all parameters are correct. If one parameter is rejected, then the whole file is discarded.
  - The subset of the configuration file import, is supported but is subject to same constraint: all parameters have to be right.
- Exporting a configuration file means downloading the configuration file from the unit, in order to retrieve the configuration as it is currently used by the system. One should always export a fresh configuration file before doing a configuration change.

6.5.5 Converters

The **converters** section provides an inventory of the converters seen by the Inview GW. This is a table where each entry (row) corresponds to a converter. The columns are ID, State, Serial number, Version, DC and Phase:

6.5.5.1 ID

This is the converter ID defined by the customer. This ID could be changed from the converter list using the dropdown menu.

This ID can take a value in the range of 1 to 32. If the new ID selected already belongs to another converter, their ID's will be swapped.

6.5.5.2 State

The State field provides a simplified description of current module condition. It is mapping the detailed status available in other interfaces (Modbus for instance) into a set of 5 states.

Starting

The module is currently starting and not taken in account in system monitoring (usually takes up to 1 minute).

OK

The module is working normally, and all its converter are OK.

Warning

The module is still working but may not be able to meet all its specifications.

Remark: If only one of the internal converters has been switched off, module is in warning state.

Error

At least one converter of the module is not working.

Example: If DC input converter is in error (not working), but AC is present, the module is still able to contribute to AC output. Anyway, if AC disappears, module will not be able to fulfil its mission, that's why it is flagged as in error.

OFF

The module has been completely switched off through software or remote off switch.

Module state	DC port state	ACin port state	ACout port state
Missing	Missing	Missing	Missing
Start	Start	Start	Start
Running	Running	Running	Running
Warning	Warning	Warning	Warning
Overload	Overload	Overload	Overload
SourceFailure	SourceFailure	SourceFailure	SourceFailure
Failure	Failure	Failure	Failure
Off	Off	Off	Off

Remark: When corresponding state is Warning/Error, it will be either warning or error based on state definition provided above.

6.5.5.3 Serial number

The serial number of the power module.

6.5.5.4 Version

The version of the firmware embedded in the converter. This has a format X.Y.

6.5.5.5 DC

The DC group to which the converter belongs.

The Inview GW can only monitor systems where all the converters are on the same DC group. This means that the value of DC group will always be 1 (the first group).

6.5.5.6 Phase

A converter always belongs to the same input and output phase. The Inview GW can monitor system with 1 phase, 2 phases or 3 phases. The phase that the module belongs to, can be changed from the dropdown in this column.

Remark: a module should always be switched off before trying to allocate him another phase.

6.5.5.7 Blink – identify a module

By clicking the **BLINK** button, the corresponding module will start blinking (all LEDs) in the cabinet, helping the user to locate it.

6.5.5.8 Switch module off

A module can be switched off manually. It means that its AC output converter (and also DC output converter in case of Sierra modules) will be switched off. The module will still be powered through its main input and communicate on the bus and with the controller. Anyway, it will not be delivering any power.

Through another interface, it is possible to switch off DC output and AC output separately.

6.5.5.9 Reset fan counter

The module fan has an expected life provided by the manufacturer. Every module keeps track of fan use in days. This information can be read through protocols. When the expected life of the fan is passed, an event will be raised. It does not mean that the fan will stop working, but it should be replaced in the near future.

6.5.6 Log file

The Inview GW implements a log file that keeps up to 1000 events.

It is possible to Download the log file from the web interface, as well as clear it.

Logs

System events log file

[CLEAR]   [EXPORT]
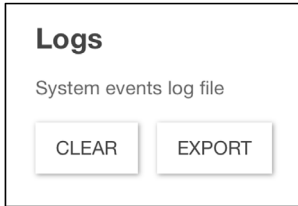
Anyway, when full, the device will erase the oldest events, working as a FIFO (First In, First Out) process.

The file format is raw csv as follows:

	SysUptime	State /Severity	Alarm Id	Description	
1	SysUptime	State /Severity	Alarm Id	Description	
2	0d00h06m22s;	; notification;	43;	configuration changed	;
3	0d00h02m54s;	; notification;	46;	expert user login	;
4	0d00h00m39s;	not_active; major	; 15;	redundancy lost	;
5	0d00h00m10s;	not_active; minor	; 20;	module missing	;
6	0d00h00m07s;	not_active; major	; 17;	com bus failure	;
7	0d00h00m00s;	active ; minor	; 20;	module missing	;
8	0d00h00m00s;	active ; major	; 17;	com bus failure	;
9	0d00h00m00s;	active ; major	; 15;	redundancy lost	;
10	0d00h00m00s;	; notification;	41;	gateway started	;

- **SysUptime**: given that RTC is not available and therefore relative time is used based on sysUptime in second

- **State**: "active" or "not_active"

- **Severity**: "Notification" or "minor" or "major"

- **Description**: the textual description of the alarm in English and not translatable. For digital inputs, the strings configured by the user are used.

6.6 Configuration file

6.6.1 Format and edition

The format of the configuration file is .ini. It can be opened with a simple text editor. It is allowed to edit the configuration file manually through a text editor and to import it back in the system. When editing the configuration file, only the right part could be modified.

Example: In below subset of the configuration file, the text in green can be modified.

```
[network]
400_IPv4_enable_DHCP=true
401_IPv4_address=10.250.250.1
402_IPv4_subnet=255.255.255.0
403_IPv4_gateway=10.250.250.254
404_IPv4_dns1=0.0.0.0
405_IPv4_dns2=0.0.0.0
```

The user must be careful:

- Any other text apart from the ones in green cannot be changed

6.6.2 File organization

There are two kinds of parameters:

- Module parameters

- Monitoring parameters

6.6.2.1 Module parameters

They are ranging from 0 to 255 and their value is integer only. Their default value can vary from one converter to another. They are listed with default value in each converter manual and the list of keys is available in "6.7.6.21 Configuration Power Parameter: Base Address 3730(0x0E92) + 1* (Parameter 0 – 255)", page 38

6.6.2.2 Monitoring parameters

From 4000, they can be string, integer, float etc.

The complete list of monitoring parameters with their range and default values is available in "6.7.6.22 Configuration Monitoring Parameter: Start Address 4000(0xFA0)", page 44.

6.7 Modbus TCP

6.7.1 Transmission Mode

Modbus communication is through TCP and can be accessed on port 502. This is the default and standard value, but it can be configured to another port in the range between 0 to 65535.

Default Unit ID is 0.

The number of words by frame should not exceed 26.

Modbus TCP is enabled by default for Read access while Write access must be enabled separately.

Important remark:

The Inview-GW-Rack has both RTU and TCP Mode of MODBUS features. The RTU mode settings are avialable in configuration file.
The Inview-GW-DIN does not support MODBUS Serial RTU. The Modbus protocol does not provide built-in security. Enabling the Modbus write is done under user responsibility. No password is required to make changes in the system once Modbus write is enabled.

The modbus table is same for both RTU and TCP.

6.7.2 Modbus Register Address

Modbus Registers are numbered in the range of 0 to 9999.

The user log file can be accessed through Read Input Register (function code 04) starting from address 3xxxx.

All other data (monitoring and configuration) can be accessed through Holding Register starting from address 4xxxx. Based on the definition (see below), they are either Read (R) or Read/Write (R/W). According to that, function codes 06 and 16 could be used or not while 03 shall be used to read).

6.7.3 Supported Functions

Modbus Function implemented in INVIEW GW are shown in the following table

Code	Status	Corresponding state
03	Read Holding Register	Read multiple register
04	Read Input Register	Read multiple register
06	Write Holding Register	Write single Register
16	Write Holding Register	Write multiple register

6.7.4 Exception Response

General Exceptions are:

1 – Illegal Function

2 – Illegal Data address

3 – Illegal Data value

10 – Device not reachable

6.7.5 Data Format

The different data formats used to collect and pass data between master application and device are:

Name	Description
INT16	Signed 16-bit integer
UINT16	Unsigned 16-bit integer
INT32	Signed 32-bit integer
UINT32	Unsigned 32-bit integer
ENUM	UINT16 value which maps to a defined list of states
ASCII	The printable ASCII subset from 0x20 - 0x7E.
BOOLEAN	a single bit, 0 or 1

- 16-bit registers are transmitted MSB first (i.e. big-endian)
- UINT16 and UINT32 are most-significant word in n+0, least significant word in n+1 (i.e. big-endian). Bit#0 is least significant bit.
- Signed numbers are twos-compliment
- For ASCII strings less than the maximum length, the unused characters are filled with nulls.
- Strings are two characters per register, first character in high-order byte, second character in low-order byte. Printable ASCII only.

Using coefficient as per below table allows to:

- Implement a .1 or .01 accuracy without using float

- Cover the required power range by lowering the accuracy to 100 W or 100 VA

Coefficient	Unit	Type	Meaning
10	W	INT16	Current power is given by returned value times 10 in Watts
10	VA	INT16	Current power is given by returned value times 10 in VA
0.01	NA	UINT16	Value is given by dividing returned value by 10
0.1	V	UINT16	Voltage is given by dividing returned value by 10, in Volts
0.1	A	INT16	Current value is given by dividing returned value by 10, in Amps
0.01	Hz	UINT16	Frequency is given by dividing returned value by 10, in Hertz

Rule: "returned value should always be multiplied by the coefficient".

Examples:

The range of Power in Watt that can be monitored is "-200; +200" x 10 W, i.e. -2 kW to 2 kW.

Here, the sign is used to picture the direction of the power flow.

The range of Frequency in Hertz that can be monitored is 65535 x 0.01, i.e. from 0 to 655.35 Hz.

6.7.6 Modbus Register Organization

Absolute Starting Register Address = 0 (the column heading used in the table) is equivalent to "Register 40001" in Modicon terminology, which is address zero when transmitted over the wire.

Important remark: Single register reads of reserved or undefined registers will return an error. Block reads which begin with a valid register will return zeros for undefined registers.

Besides log file, which is located in input registers, all data are accessible through holding registers. Anyway, not all of them are read-write. Refer to each section description or the Modbus data for details over the accessibility of every single register.

6.7.6.1 Holding register

The following sections describe the regions of the Holding register Modbus map.

- Overview
- Alarms
    - Alarms status
    - Alarms Description
- DC Table
    - DC Group 1
- Status
- AC Input Table (or DC in case of a DC/DC converter)
    - Miscellaneous
    - Phase [1-3]
- AC Output Table
    - Miscellaneous
    - Phase [1-3]

- Converters Table
  - Nominal values
  - Converters data [1-32]
- System Info Table
- Configuration
  - Power configuration in use
  - Monitoring configuration in use
  - Power configuration change
  - Monitoring configuration change
  - Configuration change related controls
- Actions
  - Actions related controls
  - Monitoring actions
  - Module Actions
- Setpoints

Important Note: In this entire document, under holding register, if the description is mentioned as "Reserved", then it is for CE+T future implementation.

6.7.6.2 Overview Status Registers

This register provided system overall status its either unknown, no alarms present, minor alarms present or major alarms present.

6.7.6.3 Overview Table: Base Address 0 (0x0000)

The table below represents the information that can be retrieved regarding the overview of Inview Gateway and the system.

Index	Register Length	Description	Coefficient	Unit	Data type	RO/RW	Configurable value
0	1	Overall status of the system	NA	NA	ENUM	RO	0: unknown 1: system healthy 2: at least one minor alarm (no major) 3: at least one major alarm (may be or not minor)
1	1	Number of events	NA	NA	UINT16	RO	
2	1	Number of notifications	NA	NA	UINT16	RO	
3	1	Number of minor alarms	NA	NA	UINT16	RO	
4	1	Number of major alarms	NA	NA	UINT16	RO	
5	5	*Reserved*					

6.7.6.4   Alarm Registers

Each alarm is dedicated to a 2-byte register. When the alarm is active the register value is 1 and when the alarm is inactive the register value is 0. The list of supported alarms is available in "9. Annex 2: List of events", page 72 along with default severity configuration.

In the alarm table, we have two registers for test alarms, that are Read-Write registers.

"Test Minor alarm" and "Test Major alarm" are the two test alarms.

Alarm status table is Read-Only.

6.7.6.5   Alarm Description Registers

Description string of each alarm can be read in ASCII from this register. Each Register is 16 bytes length, anyway the max length of the description is 31 because the last character is always the termination string '/0'. The descriptions are provided in English and cannot be translated.

Reading the digital input label will return the string configured by the user (default is "DigitalInput1IsActive" and "DigitalInput2IsActive").

6.7.6.6   Alarm Table: Base Address 10 (0x0010)

The table below, represents the information about all active alarms that can be retrieved from Inview Gateway and the system.

Index	Register Length	Description	Coefficient	Unit	Data type	RO/RW	Configurable value
		Miscellaneous					
10	1	TestMinor Alarm	NA	NA	BOOLEAN	RW	0 = Disabled 1 = Enabled
11	1	TestMajor Alarm	NA	NA	BOOLEAN	RW	0 = Disabled 1 = Enabled
12	6	*Reserved*					
		Alarm status					
18	1	DcSaturated	NA	NA	BOOLEAN	RO	
19	1	DcOverload	NA	NA	BOOLEAN	RO	
20	1	DcFailure	NA	NA	BOOLEAN	RO	
21	1	DcOutOff	NA	NA	BOOLEAN	RO	
22	1	AcInSaturated	NA	NA	BOOLEAN	RO	
23	1	AcInOverload	NA	NA	BOOLEAN	RO	
24	1	AcInFailure	NA	NA	BOOLEAN	RO	
25	1	*Reserved*	NA	NA	BOOLEAN	RO	
26	1	AcOutSaturated	NA	NA	BOOLEAN	RO	
27	1	AcOutOverload	NA	NA	BOOLEAN	RO	
28	1	AcOutFailure	NA	NA	BOOLEAN	RO	
29	1	AcOutOff	NA	NA	BOOLEAN	RO	
30	1	SystemOnByPass	NA	NA	BOOLEAN	RO	
31	1	SystemRemoteOff	NA	NA	BOOLEAN	RO	

32	1	RedundancyLost	NA	NA	BOOLEAN	RO	
33	1	BackfeedDetected	NA	NA	BOOLEAN	RO	
34	1	ComBusFailure	NA	NA	BOOLEAN	RO	
35	1	ModuleInWarning	NA	NA	BOOLEAN	RO	
36	1	ModuleInFailure	NA	NA	BOOLEAN	RO	
37	1	ModuleMissing	NA	NA	BOOLEAN	RO	
38	1	ModulePortOff	NA	NA	BOOLEAN	RO	
39	1	DigitalInput1IsActive	NA	NA	BOOLEAN	RO	
40	1	DigitalInput2IsActive	NA	NA	BOOLEAN	RO	
41	1	Reserved	NA	NA	BOOLEAN	RO	
42	1	GatewayError	NA	NA	BOOLEAN	RO	
43	1	GatewayPowerSupplyError	NA	NA	BOOLEAN	RO	
44	1	TestMajorAlarm	NA	NA	BOOLEAN	RO	
45	1	TestMinorAlarm	NA	NA	BOOLEAN	RO	
46	12	Reserved					
58	2						
		Alarms Description					
60	16	DcSaturated	NA	NA	ASCII	RO	
76	16	DcOverload	NA	NA	ASCII	RO	
92	16	DcFailure	NA	NA	ASCII	RO	
108	16	DcOutOff	NA	NA	ASCII	RO	
124	16	AcInSaturated	NA	NA	ASCII	RO	
140	16	AcInOverload	NA	NA	ASCII	RO	
156	16	AcInFailure	NA	NA	ASCII	RO	
172	16	Reserved	NA	NA	ASCII	RO	
188	16	AcOutSaturated	NA	NA	ASCII	RO	
204	16	AcOutOverload	NA	NA	ASCII	RO	
220	16	AcOutFailure	NA	NA	ASCII	RO	
236	16	AcOutOff	NA	NA	ASCII	RO	
252	16	SystemOnByPass	NA	NA	ASCII	RO	
268	16	SystemRemoteOff	NA	NA	ASCII	RO	
284	16	RedundancyLost	NA	NA	ASCII	RO	
300	16	BackfeedDetected	NA	NA	ASCII	RO	
316	16	ComBusFailure	NA	NA	ASCII	RO	
332	16	ModuleInWarning	NA	NA	ASCII	RO	
348	16	ModuleInFailure	NA	NA	ASCII	RO	
364	16	ModuleMissing	NA	NA	ASCII	RO	
380	16	ModulePortOff	NA	NA	ASCII	RO	
396	16	DigitalInput1IsActive	NA	NA	ASCII	RO	
412	16	DigitalInput2IsActive	NA	NA	ASCII	RO	
428	16	Reserved	NA	NA	ASCII	RO	

444	16	GatewayError	NA	NA	ASCII	RO	
460	16	GatewayPowerSupplyError	NA	NA	ASCII	RO	
476	16	TestMajorAlarm	NA	NA	ASCII	RO	
492	16	TestMinorAlarm	NA	NA	ASCII	RO	
508	192	*Reserved*					
700	16	GatewayStarted	NA	NA	ASCII	RO	
716	16	LogCleared	NA	NA	ASCII	RO	
732	16	ConfigurationChanged	NA	NA	ASCII	RO	
748	16	ConfigurationRejected	NA	NA	ASCII	RO	
764	16	ExpertPasswordChanged	NA	NA	ASCII	RO	
780	16	ExpertUserLogin	NA	NA	ASCII	RO	
796	16	ExpertUserLogout	NA	NA	ASCII	RO	
812	16	ExpertPasswordRecovery	NA	NA	ASCII	RO	
828	256	*Reserved*					
1084	36						

6.7.6.7   DC Table Registers

This table provides the DC measurement: voltage, current and power and DC status. In case of Sierra system, floating voltage and current limit can be access through the Module parameters section.

6.7.6.8   DC Table: Starting Address 1130 (0x046A)

The table below represents the information that can be retrieved regarding the DC group of the system. Inview Gateway supports only one DC Group.

Index	Register Length	Description	Coefficient	Unit	Data type	RO/RW	Configurable value
1120	10	*Reserved*					
		Group 1					
1130	1	isConfigured	NA	NA	BOOLEAN	RO	
1131	1	Voltage	0.1	Volts	UINT16	RO	
1132	1	Total current	0.1	Amps	INT16	RO	
1133	1	Power	10	W	INT16	RO	
1134	7	*Reserved*					
		Status					
1141	1	Saturated	NA	NA	BOOLEAN	RO	
1142	1	Overload	NA	NA	BOOLEAN	RO	
1143	1	SourceFailure	NA	NA	BOOLEAN	RO	
1144	1	Failure	NA	NA	BOOLEAN	RO	
1145	1	Off	NA	NA	BOOLEAN	RO	
1146	1	RedundancyLost (Iris)	NA	NA	BOOLEAN	RO	
1147	3	*Reserved*					
1150	120						

6.7.6.9 AC Input Table Registers

This table describes the input phase data. The number of phases configured is the same for AC input and AC output and is equal to the corresponding configuration parameter.

If a single-phase system is configured, the "isConfigured" of the first AC Input phase will return TRUE while others will return FALSE. System can be either single-phase, dual-phase or three phases.

In case of a regular system (where no AC input is connected and DC is the main and only source for the system), the "isConfigured" for AC phases return FALSE (0).

Failure state means that the system cannot take power from that source.

6.7.6.10 AC Input Miscellaneous Table: Starting Address 1270 (0x04F6)

This table has information about the miscellaneous parameters of AC Input Table.

Index	Register Length	Description	Coefficient	Unit	Data type	RO/RW	Configurable value
		Miscellaneous					
1270	1	NumberOfPhase	NA	NA	UINT16	RO	
1271	4	Reserved					

6.7.6.11 AC Input Table: Base Address 1275 (0x4FB) + 25 *(AC Input Phase -1)

This table describes the AC Input information that can be retrieved from One Phase. Maximum of 3 AC Input phase can be retrieved based on the system configuration. Information of Phase 2 and Phase 3 can be retrieved from the below starting Address. AC Input Phase 2 starting address is 1300 and AC Input Phase 3 starting address is 1325.

Index	Register Length	Description	Coefficient	Unit	Data type	RO/RW	Configurable value
		Phase 1					
1275	1	IsConfigured	NA	NA	BOOLEAN	RO	
1276	1	Voltage	0.1	Volts	UINT16	RO	
1277	1	Current	0.1	Amps	INT16	RO	
1278	1	Frequency	0.01	Hz	UINT16	RO	
1279	1	TrueInputPower	10	W	INT16	RO	
1280	1	ApparentInputPower	10	VA	INT16	RO	
1281	9	Reserved					
		Status					
1290	1	Saturated	NA	NA	BOOLEAN	RO	
1291	1	Overload	NA	NA	BOOLEAN	RO	
1292	1	SourceFailure	NA	NA	BOOLEAN	RO	
1293	1	Failure	NA	NA	BOOLEAN	RO	
1294	6	Reserved					
		Phase 2					
1300	1	IsConfigured	NA	NA	BOOLEAN	RO	
1301	1	Voltage	0.1	Volts	UINT16	RO	
1302	1	Current	0.1	Amps	INT16	RO	

Index	Register Length	Description	Coefficient	Unit	Data type	RO/RW	Configurable value
1303	1	Frequency	0.01	Hz	UINT16	RO	
1304	1	TrueInputPower	10	W	INT16	RO	
1305	1	ApparentInputPower	10	VA	INT16	RO	
1306	9	Reserved					
		Status					
1315	1	Saturated	NA	NA	BOOLEAN	RO	
1316	1	Overload	NA	NA	BOOLEAN	RO	
1317	1	SourceFailure	NA	NA	BOOLEAN	RO	
1318	1	Failure					
1319	6	Reserved					
		Phase 3					
1325	1	IsConfigured	NA	NA	BOOLEAN	RO	
1326	1	Voltage	0.1	Volts	UINT16	RO	
1327	1	Current	0.1	Amps	INT16	RO	
1328	1	Frequency	0.01	Hz	UINT16	RO	
1329	1	TrueInputPower	10	W	INT16	RO	
1330	1	ApparentInputPower	10	VA	INT16	RO	
1331	9	Reserved					
		Status					
1340	1	Saturated	NA	NA	BOOLEAN	RO	
1341	1	Overload	NA	NA	BOOLEAN	RO	
1342	1	SourceFailure	NA	NA	BOOLEAN	RO	
1343	1	Failure	NA	NA	BOOLEAN	RO	
1344	6	Reserved					
1350	200						

6.7.6.12 AC Output Table Registers

This table describes the information that can be retrieved regarding AC Output parameters per phases and for the system. Maximum of 3 Phases are supported. The number of phases configured is the same for AC input and AC output and is equal to the corresponding configuration parameter.

System Installed Power (in W and VA) and System Available Power (in W and VA) is the aggregation of all phases Installed and Available Power.

6.7.6.13 AC Output Miscellaneous Table: Base Address 1550 (0x60E)

This table has information about the miscellaneous parameters of AC output Table.

Index	Register Length	Description	Coefficient	Unit	Data type	RO/RW	Configurable value
		Miscellaneous					
1550	1	NumberOfPhases	NA	NA	UINT16	RO	
1551	1	SystemInstalledPower	10	VA	UINT16	RO	
1552	1	SystemInstalledPower	10	W	UINT16	RO	

1553	1	SystemAvailablePower	10	VA	UINT16	RO	
1554	1	SystemAvailalbePower	10	W	UINT16	RO	
1555	5	*Reserved*					

6.7.6.14 AC Output Table: Base Address 1560 (0x618) + 50 *(AC Output Phase -1)

The table below describes the AC Output information of the system that can be retrieved from One Phase. Maximum of 3 AC output phase can be retrieved based on the system configuration. Information of Phase 2 and Phase 3 can be retrieved from the below starting Address. AC output Phase 2 starting address is 1610 and AC output Phase 3 starting address is 1660.

Index	Register Length	Description	Co-efficient	Unit	Data type	RO/RW	Configurable value
		Phase 1					
1560	1	IsConfigured	NA	NA	BOOLEAN	RO	
1561	1	Voltage	0.1	Volts	UINT16	RO	
1562	1	Current	0.1	Amps	INT16	RO	
1563	1	Frequency	0.01	Hz	UINT16	RO	
1564	1	PowerFactor	0.01	NA	UINT16	RO	
1565	1	TrueOutputPower	10	W	INT16	RO	
1566	1	ApparentOutputPower	10	VA	INT16	RO	
1567	1	AvailablePower	10	W	UINT16	RO	
1568	1	AvailablePower	10	VA	UINT16	RO	
1569	1	InstalledPower	10	W	UINT16	RO	
1570	1	InstalledPower	10	VA	UINT16	RO	
1571	1	NbModulesConfigured	NA	NA	UINT16	RO	
1572	1	NbRedundantModuleConfigured	NA	NA	UINT16	RO	
1573	1	NbModulesSeen	NA	NA	UINT16	RO	
1574	1	NbModulesOk	NA	NA	UINT16	RO	
1575	1	NbModulesManuallyOff	NA	NA	UINT16	RO	
1576	1	NbModulesKONT	NA	NA	UINT16	RO	
1577	13	*Reserved*					
		Status					
1590	1	Saturated	NA	NA	BOOLEAN	RO	
1591	1	Overload	NA	NA	BOOLEAN	RO	
1592	1	Reserved	NA	NA	BOOLEAN	RO	
1593	1	Failure	NA	NA	BOOLEAN	RO	
1594	1	Off	NA	NA	BOOLEAN	RO	
1595	1	RedundancyLost (Sierra)	NA	NA	BOOLEAN	RO	
1596	14	*Reserved*					
		Phase 2					
1610	1	IsConfigured	NA	NA	BOOLEAN	RO	
1611	1	Voltage	0.1	Volts	UINT16	RO	
1612	1	Current	0.1	Amps	INT16	RO	

1613	1	Frequency	0.01	Hz	UINT16	RO	
1614	1	PowerFactor	0.01	NA	UINT16	RO	
1615	1	TrueOutputPower	10	W	INT16	RO	
1616	1	ApparentOutputPower	10	VA	INT16	RO	
1617	1	AvailablePower	10	W	UINT16	RO	
1618	1	AvailablePower	10	VA	UINT16	RO	
1619	1	InstalledPower	10	W	UINT16	RO	
1620	1	InstalledPower	10	VA	UINT16	RO	
1621	1	NbModulesConfigured	NA	NA	UINT16	RO	
1622	1	NbRedundantModuleConfigured	NA	NA	UINT16	RO	
1623	1	NbModulesSeen	NA	NA	UINT16	RO	
1624	1	NbModulesOk	NA	NA	UINT16	RO	
1625	1	NbModulesManuallyOff	NA	NA	UINT16	RO	
1626	1	NbModulesKONT	NA	NA	UINT16	RO	
1627	13	*Reserved*					
		Status					
1640	1	Saturated	NA	NA	BOOLEAN	RO	
1641	1	Overload	NA	NA	BOOLEAN	RO	
1642	1	Reserved	NA	NA	BOOLEAN	RO	
1643	1	Failure	NA	NA	BOOLEAN	RO	
1644	1	Off	NA	NA	BOOLEAN	RO	
1645	1	RedundancyLost (Sierra)	NA	NA	BOOLEAN	RO	
1646	14	*Reserved*					
		Phase 3					
1660	1	IsConfigured	NA	NA	BOOLEAN	RO	
1661	1	Voltage	0.1	Volts	UINT16	RO	
1662	1	Current	0.1	Amps	INT16	RO	
1663	1	Frequency	0.01	Hz	UINT16	RO	
1664	1	PowerFactor	0.01	NA	UINT16	RO	
1665	1	TrueOutputPower	10	W	INT16	RO	
1666	1	ApparentOutputPower	10	VA	INT16	RO	
1667	1	AvailablePower	10	W	UINT16	RO	
1668	1	AvailablePower	10	VA	UINT16	RO	
1669	1	InstalledPower	10	W	UINT16	RO	
1670	1	InstalledPower	10	VA	UINT16	RO	
1671	1	NbModulesConfigured	NA	NA	UINT16	RO	
1672	1	NbRedundantModuleConfigured	NA	NA	UINT16	RO	
1673	1	NbModulesSeen	NA	NA	UINT16	RO	
1674	1	NbModulesOk	NA	NA	UINT16	RO	
1675	1	NbModulesManuallyOff	NA	NA	UINT16	RO	
1676	1	NbModulesKONT	NA	NA	UINT16	RO	
1677	13	*Reserved*					

		Status					
1690	1	Saturated	NA	NA	BOOLEAN	RO	
1691	1	Overload	NA	NA	BOOLEAN	RO	
1692	1	Reserved	NA	NA	BOOLEAN	RO	
1693	1	Failure	NA	NA	BOOLEAN	RO	
1694	1	Off	NA	NA	BOOLEAN	RO	
1695	1	RedundancyLost (Sierra)	NA	NA	BOOLEAN	RO	
1696	14	Reserved					
1710	250						

6.7.6.15 Converters Table Registers

This table provides all data and status related to every single converter on the bus whatever its status is.

Maximum of 32 converters are supported as per monitoring device definition.

The converters can be accessed based on their customer ID (set by the user). If the ID of a module is changed, its location in the table will change accordingly (few seconds of refresh time are required). The customer ID can also be accessed through the register "identifier" of every single converter.

When a module is in No Transmission (missing, not available on the bus), it is still monitored till the "refresh module list" control is used. In this case, after one 30 seconds, every measurement from the module will be reset to 0. Static information such as firmware or serial number are still accessible with the right content while only the KONT register will be set in status section.

6.7.6.16 Converter Nominal Value Table: Base Address 1960 (0x07A8)

The table below represents the information that can be retrieved regarding the nominal value of Inview Gateway and the system.

Index	Register Length	Description	Coefficient	Unit	Data type	RO/RW	Configurable value
		Nominal values					
1960	1	NominalAcVoltage (Sierra/Bravo) / ExtDcVoltage (Iris)	0.1	Volts	UINT16	RO	
1961	1	NominalFrequency	0.01	Hz	UINT16	RO	
1962	1	NominalTruePower	10	W	UINT16	RO	
1963	1	NominalApparentPower	10	VA	UINT16	RO	
1964	1	NominalDcVoltage	0.1	Volts	UINT16	RO	
1965	5	Reserved					

6.7.6.17 Converter Table: Base Address 1970 (0x07B2) + 50* (Module Address – 1)

The table below represents the information that can be retrieved regarding one converter (power module) of the system. Maximum converter supported is 32. Each of them is identified by an address ranging from 1 to 32. Information about the second converter can be retrieved from address 1970 + 50 = 2020, While 1970 is the staring address of the table and 50 is the length of all the parameters of one converter.

Index	Register Length	Description	Co-efficient	Unit	Data type	RO/RW	Configurable value
		Converter1					
1970	1	IsInUse	NA	NA	BOOLEAN	RO	
1971	1	Identifier	NA	NA	UINT16	RO	
1972	1	ModuleType	NA	NA	ENUM	RO	0 = No module bound 1 = Other 2 = Sierra 3 = Bravo 4 = Iris 5 = TUS
1973	1	SerialNumber	NA	NA	UINT16	RO	
1974	1	ModuleState	NA	NA	ENUM	RO	0 = Missing 1 = Start 2 = Running 3 = Warning 4 = Overload 5 = SourceFailure 6 = Failure 7 = Off
1975	1	DCPortState	NA	NA	ENUM	RO	0 = Missing 1 = Start 2 = Running 3 = Warning 4 = Overload 5 = SourceFailure 6 = Failure 7 = Off
1976	1	ACInPortState	NA	NA	ENUM	RO	0 = Missing 1 = Start 2 = Running 3 = Warning 4 = Overload 5 = SourceFailure 6 = Failure 7 = Off
1977	1	ACOutPortState	NA	NA	ENUM	RO	0 = Missing 1 = Start 2 = Running 3 = Warning 4 = Overload 5 = SourceFailure 6 = Failure 7 = Off
1978	1	FirmwareVersion	NA	NA	UINT16	RO	
1979	1	Reserved	NA	NA	UINT16	RO	
1980	1	DcCurrent	0.1	Amps	INT16	RO	
1981	1	DcVoltage	0.1	Volts	UINT16	RO	

1982	1	DcPower	10	W	INT16	RO	
1983	1	Phase	NA	NA	UINT16	RO	[1;3]
1984	1	AcInputVoltage	0.1	Volts	UINT16	RO	
1985	1	AcInputCurrent	0.1	Amps	INT16	RO	
1986	1	AcInputFrequency	0.01	Hz	UINT16	RO	
1987	1	AcInputTruePower	10	W	INT16	RO	
1988	1	AcInputApparentPower	10	VA	INT16	RO	
1989	1	AcOutputVoltage	0.1	Volts	UINT16	RO	
1990	1	AcOutputCurrent	0.1	Amps	INT16	RO	
1991	1	AcOutputFrequency	0.01	Hz	UINT16	RO	
1992	1	AcOutputTruePower	10	W	INT16	RO	
1993	1	AcOutputApparentPower	10	VA	INT16	RO	
1994	1	TimeBeforeFanEndOfLife	NA	NA	UINT16	RO	
1995	1	Temperature	0.1	C	UINT16	RO	
1996	10	Reserved					
		Status					
2006	1	ConfigError	NA	NA	BOOLEAN	RO	
2007	1	RemoteOff	NA	NA	BOOLEAN	RO	
2008	1	BackfeedError	NA	NA	BOOLEAN	RO	
2009	11	Reserved					
2020	1550	For converter 2 to 32					

6.7.6.18 System Info Table Registers

All information related to INVEW GW is list under info table. This has information of GW firmware, Manufacturing details, Model, Serial number, MAC etc.

6.7.6.19 System Info Table: Base Address 3570 (0x0DF2)

The table below represents the system information retrieved from Inview Gateway and the system.

Index	Register Length	Description	Co-efficient	Unit	Data type	RO/RW	Configurable value
3570	16	inviewManufacturerName	NA	NA	ASCII	RO	"CE+T Group"
3586	16	inviewDeviceModel	NA	NA	ASCII	RO	"Inview GW DIN" "Inview GW Rack"
3602	16	inviewDeviceSerialNumber	NA	NA	ASCII	RO	
3618	1	inviewSoftwareVersionMajor	NA	NA	UINT16	RO	
3619	1	inviewSoftwareVersionMinor	NA	NA	UINT16	RO	
3620	16	System Description	NA	NA	ASCII	RO	"InviewGW Pwr system controller"
3636	2	System UpTime	NA	NA	UINT32	RO	
3638	16	System Contact	NA	NA	ASCII	RO	
3654	16	System Name	NA	NA	ASCII	RO	

3670	16	System Location	NA	NA	ASCII	RO	
3686	6	System MAC address	NA	NA	ASCII	RO	
3692	38	*Reserved*					

6.7.6.20 Configuration Table Registers

Sets of parameters

The system is split into two kind of parameters:

- Monitoring parameters

- Power parameters

It is possible to edit both sets at the same time, anyway, power parameters configuration could take more time as parameter validation is done by the power converters.

Important remark: There is room for up to 255 Power parameters. Anyway, the number of power parameters can vary from one model to another, or from one firmware version to another. Any parameter not used will return the value 0x8000.

Use of power parameters is incremental: if one parameter is not used (returns **0x8000**), then all remaining ID's are not used till 255 (and will return **0x8000** is read).

Principle

Parameter tables are duplicated.

One is in Read-only; this is where the currently used configuration can be retrieved. This table is updated only when configuration change has succeeded and that the new set is used. This read-only table hold both sets of parameters (Modules at address XXX and monitoring at address XXX).

The second one is the Read-Write table and is used to modify the configuration. It is highly recommended to do a clear temporary parameters action before modifying the configuration. This command is available in Configuration change related controls table located at address XXX. In order to know when the clear has been executed, user should read back that value. When it is back to zero, it means that the action is completed. User can also compare Read-Only and Read-Write tables.

Once all values are modified, user should apply the configuration using the action ApplyParameterChange available in Configuration change related controls table located at address XXX. Once done, the status register from the same table must be used, ParameterChangeStatus. User should poll this register till result become 4 or 5 (see below).

Value	Name	Comments
0	No action	
1	Action in progress	
2	Last action success	
3	Action failure: not supported by the module	
4	Action failure: module shall be off	
5	Action failure: other	

If configuration change has failed (returned the status "4"), then the user should query the following Configuration change detail register. Converter parameters are from 1 to 255, refer to table for parameters name and details.

Monitoring parameters has information on phase configuration, Redundancy configuration, Status, Digital inputs, Name, Location and IP details etc.

6.7.6.21 Configuration Power Parameter: Base Address 3730(0x0E92) + 1* (Parameter 0 – 255)

The table below retrieves all the information related to power modules. Maximum parameters supported are 255. Recorded values of each parameter can be read from each register. The number of power parameters can vary from one model to another, or from one firmware version to another. Any parameter not used will return the value **0x8000**. Use of power parameters is incremental: if one parameter is not used (returns **0x8000**), then all remaining ID's are not used till 255 and will return 0x8000 if read.

Index	Register Length	Description	Co-efficient	Unit	Data type	RO/ RW	Configurable value
		Module configuration in use					
3730	1	ModuleParameter 0	NA	NA	INT16	RO	
3731	1	ModuleParameter 1	NA	NA	INT16	RO	
3732	1	ModuleParameter 2	NA	NA	INT16	RO	
3733	1	ModuleParameter 3	NA	NA	INT16	RO	
3734	1	ModuleParameter 4	NA	NA	INT16	RO	
3735	1	ModuleParameter 5	NA	NA	INT16	RO	
3736	1	ModuleParameter 6	NA	NA	INT16	RO	
3737	1	ModuleParameter 7	NA	NA	INT16	RO	
3738	1	ModuleParameter 8	NA	NA	INT16	RO	
3739	1	ModuleParameter 9	NA	NA	INT16	RO	
3740	1	ModuleParameter 10	NA	NA	INT16	RO	
3741	1	ModuleParameter 11	NA	NA	INT16	RO	
3742	1	ModuleParameter 12	NA	NA	INT16	RO	
3743	1	ModuleParameter 13	NA	NA	INT16	RO	
3744	1	ModuleParameter 14	NA	NA	INT16	RO	
3745	1	ModuleParameter 15	NA	NA	INT16	RO	
3746	1	ModuleParameter 16	NA	NA	INT16	RO	
3747	1	ModuleParameter 17	NA	NA	INT16	RO	
3748	1	ModuleParameter 18	NA	NA	INT16	RO	
3749	1	ModuleParameter 19	NA	NA	INT16	RO	
3750	1	ModuleParameter 20	NA	NA	INT16	RO	
3751	1	ModuleParameter 21	NA	NA	INT16	RO	
3752	1	ModuleParameter 22	NA	NA	INT16	RO	
3753	1	ModuleParameter 23	NA	NA	INT16	RO	
3754	1	ModuleParameter 24	NA	NA	INT16	RO	
3755	1	ModuleParameter 25	NA	NA	INT16	RO	
3756	1	ModuleParameter 26	NA	NA	INT16	RO	
3757	1	ModuleParameter 27	NA	NA	INT16	RO	
3758	1	ModuleParameter 28	NA	NA	INT16	RO	
3759	1	ModuleParameter 29	NA	NA	INT16	RO	
3760	1	ModuleParameter 30	NA	NA	INT16	RO	
3761	1	ModuleParameter 31	NA	NA	INT16	RO	
3762	1	ModuleParameter 32	NA	NA	INT16	RO	
3763	1	ModuleParameter 33	NA	NA	INT16	RO	
3764	1	ModuleParameter 34	NA	NA	INT16	RO	

3765	1	ModuleParameter 35	NA	NA	INT16	RO	
3766	1	ModuleParameter 36	NA	NA	INT16	RO	
3767	1	ModuleParameter 37	NA	NA	INT16	RO	
3768	1	ModuleParameter 38	NA	NA	INT16	RO	
3769	1	ModuleParameter 39	NA	NA	INT16	RO	
3770	1	ModuleParameter 40	NA	NA	INT16	RO	
3771	1	ModuleParameter 41	NA	NA	INT16	RO	
3772	1	ModuleParameter 42	NA	NA	INT16	RO	
3773	1	ModuleParameter 43	NA	NA	INT16	RO	
3774	1	ModuleParameter 44	NA	NA	INT16	RO	
3775	1	ModuleParameter 45	NA	NA	INT16	RO	
3776	1	ModuleParameter 46	NA	NA	INT16	RO	
3777	1	ModuleParameter 47	NA	NA	INT16	RO	
3778	1	ModuleParameter 48	NA	NA	INT16	RO	
3779	1	ModuleParameter 49	NA	NA	INT16	RO	
3780	1	ModuleParameter 50	NA	NA	INT16	RO	
3781	1	ModuleParameter 51	NA	NA	INT16	RO	
3782	1	ModuleParameter 52	NA	NA	INT16	RO	
3783	1	ModuleParameter 53	NA	NA	INT16	RO	
3784	1	ModuleParameter 54	NA	NA	INT16	RO	
3785	1	ModuleParameter 55	NA	NA	INT16	RO	
3786	1	ModuleParameter 56	NA	NA	INT16	RO	
3787	1	ModuleParameter 57	NA	NA	INT16	RO	
3788	1	ModuleParameter 58	NA	NA	INT16	RO	
3789	1	ModuleParameter 59	NA	NA	INT16	RO	
3790	1	ModuleParameter 60	NA	NA	INT16	RO	
3791	1	ModuleParameter 61	NA	NA	INT16	RO	
3792	1	ModuleParameter 62	NA	NA	INT16	RO	
3793	1	ModuleParameter 63	NA	NA	INT16	RO	
3794	1	ModuleParameter 64	NA	NA	INT16	RO	
3795	1	ModuleParameter 65	NA	NA	INT16	RO	
3796	1	ModuleParameter 66	NA	NA	UINT16	RO	
3797	1	ModuleParameter 67	NA	NA	INT16	RO	
3798	1	ModuleParameter 68	NA	NA	INT16	RO	
3799	1	ModuleParameter 69	NA	NA	INT16	RO	
3800	1	ModuleParameter 70	NA	NA	INT16	RO	
3801	1	ModuleParameter 71	NA	NA	INT16	RO	
3802	1	ModuleParameter 72	NA	NA	INT16	RO	
3803	1	ModuleParameter 73	NA	NA	INT16	RO	
3804	1	ModuleParameter 74	NA	NA	INT16	RO	
3805	1	ModuleParameter 75	NA	NA	INT16	RO	
3806	1	ModuleParameter 76	NA	NA	INT16	RO	
3807	1	ModuleParameter 77	NA	NA	INT16	RO	
3808	1	ModuleParameter 78	NA	NA	INT16	RO	
3809	1	ModuleParameter 79	NA	NA	INT16	RO	

3810	1	ModuleParameter 80	NA	NA	INT16	RO	
3811	1	ModuleParameter 81	NA	NA	INT16	RO	
3812	1	ModuleParameter 82	NA	NA	INT16	RO	
3813	1	ModuleParameter 83	NA	NA	INT16	RO	
3814	1	ModuleParameter 84	NA	NA	INT16	RO	
3815	1	ModuleParameter 85	NA	NA	INT16	RO	
3816	1	ModuleParameter 86	NA	NA	INT16	RO	
3817	1	ModuleParameter 87	NA	NA	INT16	RO	
3818	1	ModuleParameter 88	NA	NA	INT16	RO	
3819	1	ModuleParameter 89	NA	NA	INT16	RO	
3820	1	ModuleParameter 90	NA	NA	INT16	RO	
3821	1	ModuleParameter 91	NA	NA	INT16	RO	
3822	1	ModuleParameter 92	NA	NA	INT16	RO	
3823	1	ModuleParameter 93	NA	NA	INT16	RO	
3824	1	ModuleParameter 94	NA	NA	INT16	RO	
3825	1	ModuleParameter 95	NA	NA	INT16	RO	
3826	1	ModuleParameter 96	NA	NA	INT16	RO	
3827	1	ModuleParameter 97	NA	NA	INT16	RO	
3828	1	ModuleParameter 98	NA	NA	INT16	RO	
3829	1	ModuleParameter 99	NA	NA	INT16	RO	
3830	1	ModuleParameter 100	NA	NA	INT16	RO	
3831	1	ModuleParameter 101	NA	NA	INT16	RO	
3832	1	ModuleParameter 102	NA	NA	INT16	RO	
3833	1	ModuleParameter 103	NA	NA	INT16	RO	
3834	1	ModuleParameter 104	NA	NA	INT16	RO	
3835	1	ModuleParameter 105	NA	NA	INT16	RO	
3836	1	ModuleParameter 106	NA	NA	INT16	RO	
3837	1	ModuleParameter 107	NA	NA	INT16	RO	
3838	1	ModuleParameter 108	NA	NA	INT16	RO	
3839	1	ModuleParameter 109	NA	NA	INT16	RO	
3840	1	ModuleParameter 110	NA	NA	INT16	RO	
3841	1	ModuleParameter 111	NA	NA	INT16	RO	
3842	1	ModuleParameter 112	NA	NA	INT16	RO	
3843	1	ModuleParameter 113	NA	NA	INT16	RO	
3844	1	ModuleParameter 114	NA	NA	INT16	RO	
3845	1	ModuleParameter 115	NA	NA	INT16	RO	
3846	1	ModuleParameter 116	NA	NA	INT16	RO	
3847	1	ModuleParameter 117	NA	NA	INT16	RO	
3848	1	ModuleParameter 118	NA	NA	INT16	RO	
3849	1	ModuleParameter 119	NA	NA	INT16	RO	
3850	1	ModuleParameter 120	NA	NA	INT16	RO	
3851	1	ModuleParameter 121	NA	NA	INT16	RO	
3852	1	ModuleParameter 122	NA	NA	INT16	RO	
3853	1	ModuleParameter 123	NA	NA	INT16	RO	
3854	1	ModuleParameter 124	NA	NA	INT16	RO	

3855	1	ModuleParameter 125	NA	NA	INT16	RO	
3856	1	ModuleParameter 126	NA	NA	INT16	RO	
3857	1	ModuleParameter 127	NA	NA	INT16	RO	
3858	1	ModuleParameter 128	NA	NA	INT16	RO	
3859	1	ModuleParameter 129	NA	NA	INT16	RO	
3860	1	ModuleParameter 130	NA	NA	INT16	RO	
3861	1	ModuleParameter 131	NA	NA	INT16	RO	
3862	1	ModuleParameter 132	NA	NA	INT16	RO	
3863	1	ModuleParameter 133	NA	NA	INT16	RO	
3864	1	ModuleParameter 134	NA	NA	INT16	RO	
3865	1	ModuleParameter 135	NA	NA	INT16	RO	
3866	1	ModuleParameter 136	NA	NA	INT16	RO	
3867	1	ModuleParameter 137	NA	NA	INT16	RO	
3868	1	ModuleParameter 138	NA	NA	INT16	RO	
3869	1	ModuleParameter 139	NA	NA	INT16	RO	
3870	1	ModuleParameter 140	NA	NA	INT16	RO	
3871	1	ModuleParameter 141	NA	NA	INT16	RO	
3872	1	ModuleParameter 142	NA	NA	INT16	RO	
3873	1	ModuleParameter 143	NA	NA	INT16	RO	
3874	1	ModuleParameter 144	NA	NA	INT16	RO	
3875	1	ModuleParameter 145	NA	NA	INT16	RO	
3876	1	ModuleParameter 146	NA	NA	INT16	RO	
3877	1	ModuleParameter 147	NA	NA	INT16	RO	
3878	1	ModuleParameter 148	NA	NA	INT16	RO	
3879	1	ModuleParameter 149	NA	NA	INT16	RO	
3880	1	ModuleParameter 150	NA	NA	INT16	RO	
3881	1	ModuleParameter 151	NA	NA	INT16	RO	
3882	1	ModuleParameter 152	NA	NA	INT16	RO	
3883	1	ModuleParameter 153	NA	NA	INT16	RO	
3884	1	ModuleParameter 154	NA	NA	INT16	RO	
3885	1	ModuleParameter 155	NA	NA	INT16	RO	
3886	1	ModuleParameter 156	NA	NA	INT16	RO	
3887	1	ModuleParameter 157	NA	NA	INT16	RO	
3888	1	ModuleParameter 158	NA	NA	INT16	RO	
3889	1	ModuleParameter 159	NA	NA	INT16	RO	
3890	1	ModuleParameter 160	NA	NA	INT16	RO	
3891	1	ModuleParameter 161	NA	NA	INT16	RO	
3892	1	ModuleParameter 162	NA	NA	INT16	RO	
3893	1	ModuleParameter 163	NA	NA	INT16	RO	
3894	1	ModuleParameter 164	NA	NA	INT16	RO	
3895	1	ModuleParameter 165	NA	NA	INT16	RO	
3896	1	ModuleParameter 166	NA	NA	INT16	RO	
3897	1	ModuleParameter 167	NA	NA	INT16	RO	
3898	1	ModuleParameter 168	NA	NA	INT16	RO	
3899	1	ModuleParameter 169	NA	NA	INT16	RO	

3900	1	ModuleParameter 170	NA	NA	INT16	RO	
3901	1	ModuleParameter 171	NA	NA	INT16	RO	
3902	1	ModuleParameter 172	NA	NA	INT16	RO	
3903	1	ModuleParameter 173	NA	NA	INT16	RO	
3904	1	ModuleParameter 174	NA	NA	INT16	RO	
3905	1	ModuleParameter 175	NA	NA	INT16	RO	
3906	1	ModuleParameter 176	NA	NA	INT16	RO	
3907	1	ModuleParameter 177	NA	NA	INT16	RO	
3908	1	ModuleParameter 178	NA	NA	INT16	RO	
3909	1	ModuleParameter 179	NA	NA	INT16	RO	
3910	1	ModuleParameter 180	NA	NA	INT16	RO	
3911	1	ModuleParameter 181	NA	NA	INT16	RO	
3912	1	ModuleParameter 182	NA	NA	INT16	RO	
3913	1	ModuleParameter 183	NA	NA	INT16	RO	
3914	1	ModuleParameter 184	NA	NA	INT16	RO	
3915	1	ModuleParameter 185	NA	NA	INT16	RO	
3916	1	ModuleParameter 186	NA	NA	INT16	RO	
3917	1	ModuleParameter 187	NA	NA	INT16	RO	
3918	1	ModuleParameter 188	NA	NA	INT16	RO	
3919	1	ModuleParameter 189	NA	NA	INT16	RO	
3920	1	ModuleParameter 190	NA	NA	INT16	RO	
3921	1	ModuleParameter 191	NA	NA	INT16	RO	
3922	1	ModuleParameter 192	NA	NA	INT16	RO	
3923	1	ModuleParameter 193	NA	NA	INT16	RO	
3924	1	ModuleParameter 194	NA	NA	INT16	RO	
3925	1	ModuleParameter 195	NA	NA	INT16	RO	
3926	1	ModuleParameter 196	NA	NA	INT16	RO	
3927	1	ModuleParameter 197	NA	NA	INT16	RO	
3928	1	ModuleParameter 198	NA	NA	INT16	RO	
3929	1	ModuleParameter 199	NA	NA	INT16	RO	
3930	1	ModuleParameter 200	NA	NA	INT16	RO	
3931	1	ModuleParameter 201	NA	NA	INT16	RO	
3932	1	ModuleParameter 202	NA	NA	INT16	RO	
3933	1	ModuleParameter 203	NA	NA	INT16	RO	
3934	1	ModuleParameter 204	NA	NA	INT16	RO	
3935	1	ModuleParameter 205	NA	NA	INT16	RO	
3936	1	ModuleParameter 206	NA	NA	INT16	RO	
3937	1	ModuleParameter 207	NA	NA	INT16	RO	
3938	1	ModuleParameter 208	NA	NA	INT16	RO	
3939	1	ModuleParameter 209	NA	NA	INT16	RO	
3940	1	ModuleParameter 210	NA	NA	INT16	RO	
3941	1	ModuleParameter 211	NA	NA	INT16	RO	
3942	1	ModuleParameter 212	NA	NA	INT16	RO	
3943	1	ModuleParameter 213	NA	NA	INT16	RO	
3944	1	ModuleParameter 214	NA	NA	INT16	RO	

3945	1	ModuleParameter 215	NA	NA	INT16	RO	
3946	1	ModuleParameter 216	NA	NA	INT16	RO	
3947	1	ModuleParameter 217	NA	NA	INT16	RO	
3948	1	ModuleParameter 218	NA	NA	INT16	RO	
3949	1	ModuleParameter 219	NA	NA	INT16	RO	
3950	1	ModuleParameter 220	NA	NA	INT16	RO	
3951	1	ModuleParameter 221	NA	NA	INT16	RO	
3952	1	ModuleParameter 222	NA	NA	INT16	RO	
3953	1	ModuleParameter 223	NA	NA	INT16	RO	
3954	1	ModuleParameter 224	NA	NA	INT16	RO	
3955	1	ModuleParameter 225	NA	NA	INT16	RO	
3956	1	ModuleParameter 226	NA	NA	INT16	RO	
3957	1	ModuleParameter 227	NA	NA	INT16	RO	
3958	1	ModuleParameter 228	NA	NA	INT16	RO	
3959	1	ModuleParameter 229	NA	NA	INT16	RO	
3960	1	ModuleParameter 230	NA	NA	INT16	RO	
3961	1	ModuleParameter 231	NA	NA	INT16	RO	
3962	1	ModuleParameter 232	NA	NA	INT16	RO	
3963	1	ModuleParameter 233	NA	NA	INT16	RO	
3964	1	ModuleParameter 234	NA	NA	INT16	RO	
3965	1	ModuleParameter 235	NA	NA	INT16	RO	
3966	1	ModuleParameter 236	NA	NA	INT16	RO	
3967	1	ModuleParameter 237	NA	NA	INT16	RO	
3968	1	ModuleParameter 238	NA	NA	INT16	RO	
3969	1	ModuleParameter 239	NA	NA	INT16	RO	
3970	1	ModuleParameter 240	NA	NA	INT16	RO	
3971	1	ModuleParameter 241	NA	NA	INT16	RO	
3972	1	ModuleParameter 242	NA	NA	INT16	RO	
3973	1	ModuleParameter 243	NA	NA	INT16	RO	
3974	1	ModuleParameter 244	NA	NA	INT16	RO	
3975	1	ModuleParameter 245	NA	NA	INT16	RO	
3976	1	ModuleParameter 246	NA	NA	INT16	RO	
3977	1	ModuleParameter 247	NA	NA	INT16	RO	
3978	1	ModuleParameter 248	NA	NA	INT16	RO	
3979	1	ModuleParameter 249	NA	NA	INT16	RO	
3980	1	ModuleParameter 250	NA	NA	INT16	RO	
3981	1	ModuleParameter 251	NA	NA	INT16	RO	
3982	1	ModuleParameter 252	NA	NA	INT16	RO	
3983	1	ModuleParameter 253	NA	NA	INT16	RO	
3984	1	ModuleParameter 254	NA	NA	INT16	RO	
3985	1	ModuleParameter 255	NA	NA	INT16	RO	
3986	14	*Reserved*					

6.7.6.22 Configuration Monitoring Parameter: Start Address 4000(0xFA0)

The table below retrieves all the information related to Inview Gateway monitoring and system.

Index	Register Length	Description	Co-efficient	Unit	Data type	RO/RW	Configurable value
		Monitoring Parameters in use					
4000	1	No of Module in phase1	NA	NA	UINT16	RO	[0 - 32]
4001	1	No of Module in phase2	NA	NA	UINT16	RO	[0 - 32]
4002	1	No of Module in phase3	NA	NA	UINT16	RO	[0 - 32]
4003	5	Reserved	NA	NA	UINT16	RO	
4008	1	Amount of Redundancy in phase1	NA	NA	UINT16	RO	[0 - 32]
4009	1	Amount of Redundancy in phase2	NA	NA	UINT16	RO	[0 - 32]
4010	1	Amount of Redundancy in phase3	NA	NA	UINT16	RO	[0 - 32]
4011	5	Reserved	NA	NA	UINT16	RO	
4016	1	DcSaturated	NA	NA	ENUM	RO	0 = Disabled 1 = Notification 2 = Minor 3 = Major
4017	1	DcOverload	NA	NA	ENUM	RO	0 = Disabled 1 = Notification 2 = Minor 3 = Major
4018	1	DcFailure	NA	NA	ENUM	RO	0 = Disabled 1 = Notification 2 = Minor 3 = Major
4019	1	DcOutOff	NA	NA	ENUM	RO	0 = Disabled 1 = Notification 2 = Minor 3 = Major
4020	1	AcInSaturated	NA	NA	ENUM	RO	0 = Disabled 1 = Notification 2 = Minor 3 = Major
4021	1	AcInOverload	NA	NA	ENUM	RO	0 = Disabled 1 = Notification 2 = Minor 3 = Major
4022	1	AcInFailure	NA	NA	ENUM	RO	0 = Disabled 1 = Notification 2 = Minor 3 = Major

4023	1	Reserved	NA	NA	ENUM	RO	0 = Disabled 1 = Notification 2 = Minor 3 = Major
4024	1	AcOutSaturated	NA	NA	ENUM	RO	0 = Disabled 1 = Notification 2 = Minor 3 = Major
4025	1	AcOutOverload	NA	NA	ENUM	RO	0 = Disabled 1 = Notification 2 = Minor 3 = Major
4026	1	AcOutFailure	NA	NA	ENUM	RO	0 = Disabled 1 = Notification 2 = Minor 3 = Major
4027	1	AcOutOff	NA	NA	ENUM	RO	0 = Disabled 1 = Notification 2 = Minor 3 = Major
4028	1	SystemOnByPass	NA	NA	ENUM	RO	0 = Disabled 1 = Notification 2 = Minor 3 = Major
4029	1	SystemRemoteOff	NA	NA	ENUM	RO	0 = Disabled 1 = Notification 2 = Minor 3 = Major
4030	1	RedundancyLost	NA	NA	ENUM	RO	0 = Disabled 1 = Notification 2 = Minor 3 = Major
4031	1	BackfeedDetected	NA	NA	ENUM	RO	0 = Disabled 1 = Notification 2 = Minor 3 = Major
4032	1	ComBusFailure	NA	NA	ENUM	RO	0 = Disabled 1 = Notification 2 = Minor 3 = Major
4033	1	ModuleInWarning	NA	NA	ENUM	RO	0 = Disabled 1 = Notification 2 = Minor 3 = Major
4034	1	ModuleInFailure	NA	NA	ENUM	RO	0 = Disabled 1 = Notification 2 = Minor 3 = Major

4035	1	ModuleMissing	NA	NA	ENUM	RO	0 = Disabled 1 = Notification 2 = Minor 3 = Major
4036	1	ModulePortOff	NA	NA	ENUM	RO	0 = Disabled 1 = Notification 2 = Minor 3 = Major
4037	1	DigitalInput1IsActive	NA	NA	ENUM	RO	0 = Disabled 1 = Notification 2 = Minor 3 = Major
4038	1	DigitalInput2IsActive	NA	NA	ENUM	RO	0 = Disabled 1 = Notification 2 = Minor 3 = Major
4039	1	Reserved	NA	NA	ENUM	RO	0 = Disabled 1 = Notification 2 = Minor 3 = Major
4040	1	GatewayError	NA	NA	ENUM	RO	0 = Disabled 1 = Notification 2 = Minor 3 = Major
4041	1	GatewayPowerSupplyError	NA	NA	ENUM	RO	0 = Disabled 1 = Notification 2 = Minor 3 = Major
4042	1	TestMajorAlarm	NA	NA	ENUM	RO	0 = Disabled 1 = Notification 2 = Minor 3 = Major
4043	1	TestMinorAlarm	NA	NA	ENUM	RO	0 = Disabled 1 = Notification 2 = Minor 3 = Major
4044	1	Notification temporization	NA	NA	UINT16	RO	[2 - 120] Seconds
4045	1	Minor Alarm temporization	NA	NA	UINT16	RO	[2 - 120] Seconds
4046	1	Major Alarm temporization	NA	NA	UINT16	RO	[2 - 120] Seconds
4047	1	Digital Input 1 Active Level	NA	NA	ENUM	RO	0 = ShortCircuit 1 = Open
4048	1	Digital Input 2 Active Level	NA	NA	ENUM	RO	0 = ShortCircuit 1 = Open
4049	1	*Digital Input 3 Active Level (Reserved)*	NA	NA	ENUM	RO	0 = ShortCircuit 1 = Open
4050	16	Digital Input Label 1	NA	NA	ASCII	RO	Maximum 31 Characters
4066	16	Digital Input Label 2	NA	NA	ASCII	RO	Maximum 31 Characters

4082	16	*Digital Input Label 3 (Reserved)*	NA	NA	ASCII	RO	Maximum 31 Characters
4098	1	Digital Input 1 Function	NA	NA	BOOLEAN	RO	0 = Regular 1 = MBP
4099	1	*Digital Input 2 Function (Reserved)*	NA	NA	BOOLEAN	RO	
4100	1	*Digital Input 3 Function (Reserved)*	NA	NA	BOOLEAN	RO	
4101	1	AcInSaturation	NA	NA	UINT16	RO	[10 - 100]
4102	1	DCOutSaturation	NA	NA	UINT16	RO	[10 - 100]
4103	1	ACOutSaturation	NA	NA	UINT16	RO	[10 - 100]
4104	16	sysContact	NA	NA	ASCII	RO	Maximum 31 Characters
4120	16	sysName	NA	NA	ASCII	RO	Maximum 31 Characters
4136	16	sysLocation	NA	NA	ASCII	RO	Maximum 31 Characters
4152	1	Use DHCP	NA	NA	BOOLEAN	RO	FALSE = Disabled TRUE = Enabled
4153	2	IPv4 address	NA	NA	UINT32	RO	[0.0.0.0 - 255.255.255.255]
4155	2	IPv4 subnet	NA	NA	UINT32	RO	[0.0.0.0 - 255.255.255.255]
4157	2	IPv4 gateway	NA	NA	UINT32	RO	[0.0.0.0 - 255.255.255.255]
4159	1	"Enable Modbus TCP "	NA	NA	BOOLEAN	RO	FALSE = Disabled TRUE = Enabled
4160	1	"Enable Modbus TCP write "	NA	NA	BOOLEAN	RO	FALSE = Disabled TRUE = Enabled
4161	1	Unit Id	NA	NA	UINT16	RO	0XFF
4162	1	Port	NA	NA	UINT16	RO	[0-65535]
4163	1	Autologout	NA	NA	UINT16	RO	[0-600] minutes
4164	1024	*Reserved*					
5188	12						

6.7.6.23 Configuration Power Parameter: Base Address 5200 (0x1450) + 1* (Parameter 0 – 255)

The table below retrieves all the information related to power Modules that can be configured. These values can be written from here to modify the configuration. Not all entries are valid. Writing to an invalid entry is without effect. It is important to note that writing to those fields do not change current configuration but only alter temporary register. To write register follow configuration change table.

Index	Register Length	Description	Co-efficient	Unit	Data type	RO/RW	Configurable value
		Module configuration change					
5200	1	ModuleParameter 0	NA	NA	INT16	RW	
5201	1	ModuleParameter 1	NA	NA	INT16	RW	
5202	1	ModuleParameter 2	NA	NA	INT16	RW	
5203	1	ModuleParameter 3	NA	NA	INT16	RW	
5204	1	ModuleParameter 4	NA	NA	INT16	RW	
5205	1	ModuleParameter 5	NA	NA	INT16	RW	
5206	1	ModuleParameter 6	NA	NA	INT16	RW	
5207	1	ModuleParameter 7	NA	NA	INT16	RW	
5208	1	ModuleParameter 8	NA	NA	INT16	RW	
5209	1	ModuleParameter 9	NA	NA	INT16	RW	
5210	1	ModuleParameter 10	NA	NA	INT16	RW	
5211	1	ModuleParameter 11	NA	NA	INT16	RW	
5212	1	ModuleParameter 12	NA	NA	INT16	RW	
5213	1	ModuleParameter 13	NA	NA	INT16	RW	
5214	1	ModuleParameter 14	NA	NA	INT16	RW	
5215	1	ModuleParameter 15	NA	NA	INT16	RW	
5216	1	ModuleParameter 16	NA	NA	INT16	RW	
5217	1	ModuleParameter 17	NA	NA	INT16	RW	
5218	1	ModuleParameter 18	NA	NA	INT16	RW	
5219	1	ModuleParameter 19	NA	NA	INT16	RW	
5220	1	ModuleParameter 20	NA	NA	INT16	RW	
5221	1	ModuleParameter 21	NA	NA	INT16	RW	
5222	1	ModuleParameter 22	NA	NA	INT16	RW	
5223	1	ModuleParameter 23	NA	NA	INT16	RW	
5224	1	ModuleParameter 24	NA	NA	INT16	RW	
5225	1	ModuleParameter 25	NA	NA	INT16	RW	
5226	1	ModuleParameter 26	NA	NA	INT16	RW	
5227	1	ModuleParameter 27	NA	NA	INT16	RW	
5228	1	ModuleParameter 28	NA	NA	INT16	RW	
5229	1	ModuleParameter 29	NA	NA	INT16	RW	
5230	1	ModuleParameter 30	NA	NA	INT16	RW	
5231	1	ModuleParameter 31	NA	NA	INT16	RW	
5232	1	ModuleParameter 32	NA	NA	INT16	RW	
5233	1	ModuleParameter 33	NA	NA	INT16	RW	
5234	1	ModuleParameter 34	NA	NA	INT16	RW	
5235	1	ModuleParameter 35	NA	NA	INT16	RW	

5236	1	ModuleParameter 36	NA	NA	INT16	RW	
5237	1	ModuleParameter 37	NA	NA	INT16	RW	
5238	1	ModuleParameter 38	NA	NA	INT16	RW	
5239	1	ModuleParameter 39	NA	NA	INT16	RW	
5240	1	ModuleParameter 40	NA	NA	INT16	RW	
5241	1	ModuleParameter 41	NA	NA	INT16	RW	
5242	1	ModuleParameter 42	NA	NA	INT16	RW	
5243	1	ModuleParameter 43	NA	NA	INT16	RW	
5244	1	ModuleParameter 44	NA	NA	INT16	RW	
5245	1	ModuleParameter 45	NA	NA	INT16	RW	
5246	1	ModuleParameter 46	NA	NA	INT16	RW	
5247	1	ModuleParameter 47	NA	NA	INT16	RW	
5248	1	ModuleParameter 48	NA	NA	INT16	RW	
5249	1	ModuleParameter 49	NA	NA	INT16	RW	
5250	1	ModuleParameter 50	NA	NA	INT16	RW	
5251	1	ModuleParameter 51	NA	NA	INT16	RW	
5252	1	ModuleParameter 52	NA	NA	INT16	RW	
5253	1	ModuleParameter 53	NA	NA	INT16	RW	
5254	1	ModuleParameter 54	NA	NA	INT16	RW	
5255	1	ModuleParameter 55	NA	NA	INT16	RW	
5256	1	ModuleParameter 56	NA	NA	INT16	RW	
5257	1	ModuleParameter 57	NA	NA	INT16	RW	
5258	1	ModuleParameter 58	NA	NA	INT16	RW	
5259	1	ModuleParameter 59	NA	NA	INT16	RW	
5260	1	ModuleParameter 60	NA	NA	INT16	RW	
5261	1	ModuleParameter 61	NA	NA	INT16	RW	
5262	1	ModuleParameter 62	NA	NA	INT16	RW	
5263	1	ModuleParameter 63	NA	NA	INT16	RW	
5264	1	ModuleParameter 64	NA	NA	INT16	RW	
5265	1	ModuleParameter 65	NA	NA	INT16	RW	
5266	1	ModuleParameter 66	NA	NA	UINT16	RW	
5267	1	ModuleParameter 67	NA	NA	INT16	RW	
5268	1	ModuleParameter 68	NA	NA	INT16	RW	
5269	1	ModuleParameter 69	NA	NA	INT16	RW	
5270	1	ModuleParameter 70	NA	NA	INT16	RW	
5271	1	ModuleParameter 71	NA	NA	INT16	RW	
5272	1	ModuleParameter 72	NA	NA	INT16	RW	
5273	1	ModuleParameter 73	NA	NA	INT16	RW	
5274	1	ModuleParameter 74	NA	NA	INT16	RW	
5275	1	ModuleParameter 75	NA	NA	INT16	RW	
5276	1	ModuleParameter 76	NA	NA	INT16	RW	
5277	1	ModuleParameter 77	NA	NA	INT16	RW	
5278	1	ModuleParameter 78	NA	NA	INT16	RW	
5279	1	ModuleParameter 79	NA	NA	INT16	RW	
5280	1	ModuleParameter 80	NA	NA	INT16	RW	

5281	1	ModuleParameter 81	NA	NA	INT16	RW	
5282	1	ModuleParameter 82	NA	NA	INT16	RW	
5283	1	ModuleParameter 83	NA	NA	INT16	RW	
5284	1	ModuleParameter 84	NA	NA	INT16	RW	
5285	1	ModuleParameter 85	NA	NA	INT16	RW	
5286	1	ModuleParameter 86	NA	NA	INT16	RW	
5287	1	ModuleParameter 87	NA	NA	INT16	RW	
5288	1	ModuleParameter 88	NA	NA	INT16	RW	
5289	1	ModuleParameter 89	NA	NA	INT16	RW	
5290	1	ModuleParameter 90	NA	NA	INT16	RW	
5291	1	ModuleParameter 91	NA	NA	INT16	RW	
5292	1	ModuleParameter 92	NA	NA	INT16	RW	
5293	1	ModuleParameter 93	NA	NA	INT16	RW	
5294	1	ModuleParameter 94	NA	NA	INT16	RW	
5295	1	ModuleParameter 95	NA	NA	INT16	RW	
5296	1	ModuleParameter 96	NA	NA	INT16	RW	
5297	1	ModuleParameter 97	NA	NA	INT16	RW	
5298	1	ModuleParameter 98	NA	NA	INT16	RW	
5299	1	ModuleParameter 99	NA	NA	INT16	RW	
5300	1	ModuleParameter 100	NA	NA	INT16	RW	
5301	1	ModuleParameter 101	NA	NA	INT16	RW	
5302	1	ModuleParameter 102	NA	NA	INT16	RW	
5303	1	ModuleParameter 103	NA	NA	INT16	RW	
5304	1	ModuleParameter 104	NA	NA	INT16	RW	
5305	1	ModuleParameter 105	NA	NA	INT16	RW	
5306	1	ModuleParameter 106	NA	NA	INT16	RW	
5307	1	ModuleParameter 107	NA	NA	INT16	RW	
5308	1	ModuleParameter 108	NA	NA	INT16	RW	
5309	1	ModuleParameter 109	NA	NA	INT16	RW	
5310	1	ModuleParameter 110	NA	NA	INT16	RW	
5311	1	ModuleParameter 111	NA	NA	INT16	RW	
5312	1	ModuleParameter 112	NA	NA	INT16	RW	
5313	1	ModuleParameter 113	NA	NA	INT16	RW	
5314	1	ModuleParameter 114	NA	NA	INT16	RW	
5315	1	ModuleParameter 115	NA	NA	INT16	RW	
5316	1	ModuleParameter 116	NA	NA	INT16	RW	
5317	1	ModuleParameter 117	NA	NA	INT16	RW	
5318	1	ModuleParameter 118	NA	NA	INT16	RW	
5319	1	ModuleParameter 119	NA	NA	INT16	RW	
5320	1	ModuleParameter 120	NA	NA	INT16	RW	
5321	1	ModuleParameter 121	NA	NA	INT16	RW	
5322	1	ModuleParameter 122	NA	NA	INT16	RW	
5323	1	ModuleParameter 123	NA	NA	INT16	RW	
5324	1	ModuleParameter 124	NA	NA	INT16	RW	
5325	1	ModuleParameter 125	NA	NA	INT16	RW	

5326	1	ModuleParameter 126	NA	NA	INT16	RW	
5327	1	ModuleParameter 127	NA	NA	INT16	RW	
5328	1	ModuleParameter 128	NA	NA	INT16	RW	
5329	1	ModuleParameter 129	NA	NA	INT16	RW	
5330	1	ModuleParameter 130	NA	NA	INT16	RW	
5331	1	ModuleParameter 131	NA	NA	INT16	RW	
5332	1	ModuleParameter 132	NA	NA	INT16	RW	
5333	1	ModuleParameter 133	NA	NA	INT16	RW	
5334	1	ModuleParameter 134	NA	NA	INT16	RW	
5335	1	ModuleParameter 135	NA	NA	INT16	RW	
5336	1	ModuleParameter 136	NA	NA	INT16	RW	
5337	1	ModuleParameter 137	NA	NA	INT16	RW	
5338	1	ModuleParameter 138	NA	NA	INT16	RW	
5339	1	ModuleParameter 139	NA	NA	INT16	RW	
5340	1	ModuleParameter 140	NA	NA	INT16	RW	
5341	1	ModuleParameter 141	NA	NA	INT16	RW	
5342	1	ModuleParameter 142	NA	NA	INT16	RW	
5343	1	ModuleParameter 143	NA	NA	INT16	RW	
5344	1	ModuleParameter 144	NA	NA	INT16	RW	
5345	1	ModuleParameter 145	NA	NA	INT16	RW	
5346	1	ModuleParameter 146	NA	NA	INT16	RW	
5347	1	ModuleParameter 147	NA	NA	INT16	RW	
5348	1	ModuleParameter 148	NA	NA	INT16	RW	
5349	1	ModuleParameter 149	NA	NA	INT16	RW	
5350	1	ModuleParameter 150	NA	NA	INT16	RW	
5351	1	ModuleParameter 151	NA	NA	INT16	RW	
5352	1	ModuleParameter 152	NA	NA	INT16	RW	
5353	1	ModuleParameter 153	NA	NA	INT16	RW	
5354	1	ModuleParameter 154	NA	NA	INT16	RW	
5355	1	ModuleParameter 155	NA	NA	INT16	RW	
5356	1	ModuleParameter 156	NA	NA	INT16	RW	
5357	1	ModuleParameter 157	NA	NA	INT16	RW	
5358	1	ModuleParameter 158	NA	NA	INT16	RW	
5359	1	ModuleParameter 159	NA	NA	INT16	RW	
5360	1	ModuleParameter 160	NA	NA	INT16	RW	
5361	1	ModuleParameter 161	NA	NA	INT16	RW	
5362	1	ModuleParameter 162	NA	NA	INT16	RW	
5363	1	ModuleParameter 163	NA	NA	INT16	RW	
5364	1	ModuleParameter 164	NA	NA	INT16	RW	
5365	1	ModuleParameter 165	NA	NA	INT16	RW	
5366	1	ModuleParameter 166	NA	NA	INT16	RW	
5367	1	ModuleParameter 167	NA	NA	INT16	RW	
5368	1	ModuleParameter 168	NA	NA	INT16	RW	
5369	1	ModuleParameter 169	NA	NA	INT16	RW	
5370	1	ModuleParameter 170	NA	NA	INT16	RW	

5371	1	ModuleParameter 171	NA	NA	INT16	RW	
5372	1	ModuleParameter 172	NA	NA	INT16	RW	
5373	1	ModuleParameter 173	NA	NA	INT16	RW	
5374	1	ModuleParameter 174	NA	NA	INT16	RW	
5375	1	ModuleParameter 175	NA	NA	INT16	RW	
5376	1	ModuleParameter 176	NA	NA	INT16	RW	
5377	1	ModuleParameter 177	NA	NA	INT16	RW	
5378	1	ModuleParameter 178	NA	NA	INT16	RW	
5379	1	ModuleParameter 179	NA	NA	INT16	RW	
5380	1	ModuleParameter 180	NA	NA	INT16	RW	
5381	1	ModuleParameter 181	NA	NA	INT16	RW	
5382	1	ModuleParameter 182	NA	NA	INT16	RW	
5383	1	ModuleParameter 183	NA	NA	INT16	RW	
5384	1	ModuleParameter 184	NA	NA	INT16	RW	
5385	1	ModuleParameter 185	NA	NA	INT16	RW	
5386	1	ModuleParameter 186	NA	NA	INT16	RW	
5387	1	ModuleParameter 187	NA	NA	INT16	RW	
5388	1	ModuleParameter 188	NA	NA	INT16	RW	
5389	1	ModuleParameter 189	NA	NA	INT16	RW	
5390	1	ModuleParameter 190	NA	NA	INT16	RW	
5391	1	ModuleParameter 191	NA	NA	INT16	RW	
5392	1	ModuleParameter 192	NA	NA	INT16	RW	
5393	1	ModuleParameter 193	NA	NA	INT16	RW	
5394	1	ModuleParameter 194	NA	NA	INT16	RW	
5395	1	ModuleParameter 195	NA	NA	INT16	RW	
5396	1	ModuleParameter 196	NA	NA	INT16	RW	
5397	1	ModuleParameter 197	NA	NA	INT16	RW	
5398	1	ModuleParameter 198	NA	NA	INT16	RW	
5399	1	ModuleParameter 199	NA	NA	INT16	RW	
5400	1	ModuleParameter 200	NA	NA	INT16	RW	
5401	1	ModuleParameter 201	NA	NA	INT16	RW	
5402	1	ModuleParameter 202	NA	NA	INT16	RW	
5403	1	ModuleParameter 203	NA	NA	INT16	RW	
5404	1	ModuleParameter 204	NA	NA	INT16	RW	
5405	1	ModuleParameter 205	NA	NA	INT16	RW	
5406	1	ModuleParameter 206	NA	NA	INT16	RW	
5407	1	ModuleParameter 207	NA	NA	INT16	RW	
5408	1	ModuleParameter 208	NA	NA	INT16	RW	
5409	1	ModuleParameter 209	NA	NA	INT16	RW	
5410	1	ModuleParameter 210	NA	NA	INT16	RW	
5411	1	ModuleParameter 211	NA	NA	INT16	RW	
5412	1	ModuleParameter 212	NA	NA	INT16	RW	
5413	1	ModuleParameter 213	NA	NA	INT16	RW	
5414	1	ModuleParameter 214	NA	NA	INT16	RW	
5415	1	ModuleParameter 215	NA	NA	INT16	RW	

5416	1	ModuleParameter 216	NA	NA	INT16	RW	
5417	1	ModuleParameter 217	NA	NA	INT16	RW	
5418	1	ModuleParameter 218	NA	NA	INT16	RW	
5419	1	ModuleParameter 219	NA	NA	INT16	RW	
5420	1	ModuleParameter 220	NA	NA	INT16	RW	
5421	1	ModuleParameter 221	NA	NA	INT16	RW	
5422	1	ModuleParameter 222	NA	NA	INT16	RW	
5423	1	ModuleParameter 223	NA	NA	INT16	RW	
5424	1	ModuleParameter 224	NA	NA	INT16	RW	
5425	1	ModuleParameter 225	NA	NA	INT16	RW	
5426	1	ModuleParameter 226	NA	NA	INT16	RW	
5427	1	ModuleParameter 227	NA	NA	INT16	RW	
5428	1	ModuleParameter 228	NA	NA	INT16	RW	
5429	1	ModuleParameter 229	NA	NA	INT16	RW	
5430	1	ModuleParameter 230	NA	NA	INT16	RW	
5431	1	ModuleParameter 231	NA	NA	INT16	RW	
5432	1	ModuleParameter 232	NA	NA	INT16	RW	
5433	1	ModuleParameter 233	NA	NA	INT16	RW	
5434	1	ModuleParameter 234	NA	NA	INT16	RW	
5435	1	ModuleParameter 235	NA	NA	INT16	RW	
5436	1	ModuleParameter 236	NA	NA	INT16	RW	
5437	1	ModuleParameter 237	NA	NA	INT16	RW	
5438	1	ModuleParameter 238	NA	NA	INT16	RW	
5439	1	ModuleParameter 239	NA	NA	INT16	RW	
5440	1	ModuleParameter 240	NA	NA	INT16	RW	
5441	1	ModuleParameter 241	NA	NA	INT16	RW	
5442	1	ModuleParameter 242	NA	NA	INT16	RW	
5443	1	ModuleParameter 243	NA	NA	INT16	RW	
5444	1	ModuleParameter 244	NA	NA	INT16	RW	
5445	1	ModuleParameter 245	NA	NA	INT16	RW	
5446	1	ModuleParameter 246	NA	NA	INT16	RW	
5447	1	ModuleParameter 247	NA	NA	INT16	RW	
5448	1	ModuleParameter 248	NA	NA	INT16	RW	
5449	1	ModuleParameter 249	NA	NA	INT16	RW	
5450	1	ModuleParameter 250	NA	NA	INT16	RW	
5451	1	ModuleParameter 251	NA	NA	INT16	RW	
5452	1	ModuleParameter 252	NA	NA	INT16	RW	
5453	1	ModuleParameter 253	NA	NA	INT16	RW	
5454	1	ModuleParameter 254	NA	NA	INT16	RW	
5455	1	ModuleParameter 255	NA	NA	INT16	RW	
5456	14	*Reserved*					

6.7.6.24 Configuration Monitoring Parameter: Base Address 5470(0x155E)

The table below retrieves all the information related to Inview gateway and system that can be configured. These values can be written from her to modify the configuration. Not all entries are valid. Writing to an invalid entry is without effect. It is important to note that writing to those fields do not change current configuration but only alter temporary register. To write register follow configuration change table.

Index	Register Length	Description	Co-efficient	Unit	Data type	RO/RW	Configurable value
		Monitoring configuration change					
5470	1	No of Module in phase1	NA	NA	UINT16	RW	[0 - 32]
5471	1	No of Module in phase2	NA	NA	UINT16	RW	[0 - 32]
5472	1	No of Module in phase3	NA	NA	UINT16	RW	[0 - 32]
5473	5	Reserved					
5478	1	Amount of Redundancy in phase1	NA	NA	UINT16	RW	[0 - 32]
5479	1	Amount of Redundancy in phase2	NA	NA	UINT16	RW	[0 - 32]
5480	1	Amount of Redundancy in phase3	NA	NA	UINT16	RW	[0 - 32]
5481	5	Reserved					
5486	1	DcSaturated	NA	NA	ENUM	RW	0 = Disabled 1 = Notification 2 = Minor 3 = Major
5487	1	DcOverload	NA	NA	ENUM	RW	0 = Disabled 1 = Notification 2 = Minor 3 = Major
5488	1	DcFailure	NA	NA	ENUM	RW	0 = Disabled 1 = Notification 2 = Minor 3 = Major
5489	1	DcOutOff	NA	NA	ENUM	RW	0 = Disabled 1 = Notification 2 = Minor 3 = Major
5490	1	AcInSaturated	NA	NA	ENUM	RW	0 = Disabled 1 = Notification 2 = Minor 3 = Major
5491	1	AcInOverload	NA	NA	ENUM	RW	0 = Disabled 1 = Notification 2 = Minor 3 = Major

5492	1	AcInFailure	NA	NA	ENUM	RW	0 = Disabled 1 = Notification 2 = Minor 3 = Major
5493	1	Reserved	NA	NA	ENUM	RW	0 = Disabled 1 = Notification 2 = Minor 3 = Major
5494	1	AcOutSaturated	NA	NA	ENUM	RW	0 = Disabled 1 = Notification 2 = Minor 3 = Major
5495	1	AcOutOverload	NA	NA	ENUM	RW	0 = Disabled 1 = Notification 2 = Minor 3 = Major
5496	1	AcOutFailure	NA	NA	ENUM	RW	0 = Disabled 1 = Notification 2 = Minor 3 = Major
5497	1	AcOutOff	NA	NA	ENUM	RW	0 = Disabled 1 = Notification 2 = Minor 3 = Major
5498	1	SystemOnByPass	NA	NA	ENUM	RW	0 = Disabled 1 = Notification 2 = Minor 3 = Major
5499	1	SystemRemoteOff	NA	NA	ENUM	RW	0 = Disabled 1 = Notification 2 = Minor 3 = Major
5500	1	RedundancyLost	NA	NA	ENUM	RW	0 = Disabled 1 = Notification 2 = Minor 3 = Major
5501	1	BackfeedDetected	NA	NA	ENUM	RW	0 = Disabled 1 = Notification 2 = Minor 3 = Major
5502	1	ComBusFailure	NA	NA	ENUM	RW	0 = Disabled 1 = Notification 2 = Minor 3 = Major
5503	1	ModuleInWarning	NA	NA	ENUM	RW	0 = Disabled 1 = Notification 2 = Minor 3 = Major

5504	1	ModuleInFailure	NA	NA	ENUM	RW	0 = Disabled 1 = Notification 2 = Minor 3 = Major
5505	1	ModuleMissing	NA	NA	ENUM	RW	0 = Disabled 1 = Notification 2 = Minor 3 = Major
5506	1	ModulePortOff	NA	NA	ENUM	RW	0 = Disabled 1 = Notification 2 = Minor 3 = Major
5507	1	DigitalInput1IsActive	NA	NA	ENUM	RW	0 = Disabled 1 = Notification 2 = Minor 3 = Major
5508	1	DigitalInput2IsActive	NA	NA	ENUM	RW	0 = Disabled 1 = Notification 2 = Minor 3 = Major
5509	1	*Reserved*	NA	NA	ENUM	RW	0 = Disabled 1 = Notification 2 = Minor 3 = Major
5510	1	GatewayError	NA	NA	ENUM	RW	0 = Disabled 1 = Notification 2 = Minor 3 = Major
5511	1	GatewayPowerSupplyError	NA	NA	ENUM	RW	0 = Disabled 1 = Notification 2 = Minor 3 = Major
5512	1	TestMajorAlarm	NA	NA	ENUM	RW	0 = Disabled 1 = Notification 2 = Minor 3 = Major
5513	1	TestMinorAlarm	NA	NA	ENUM	RW	0 = Disabled 1 = Notification 2 = Minor 3 = Major
5514	1	Notification temporization	NA	NA	UINT16	RW	[2- 120] Seconds
5515	1	Minor Alarm temporization	NA	NA	UINT16	RW	[2- 120] Seconds
5516	1	Major Alarm temporization	NA	NA	UINT16	RW	[2- 120] Seconds
5517	1	Digital Input 1 Active Level	NA	NA	ENUM	RW	0 = ShortCircuit 1 = Open
5518	1	Digital Input 2 Active Level	NA	NA	ENUM	RW	0 = ShortCircuit 1 = Open
5519	1	*Digital Input 3 Active Level (Reserved)*	NA	NA	ENUM	RW	0 = ShortCircuit 1 = Open

5520	16	Digital Input Label 1	NA	NA	ASCII	RW	Maximum 31 Characters
5536	16	Digital Input Label 2	NA	NA	ASCII	RW	Maximum 31 Characters
5552	16	Digital Input Label 3 (Reserved)	NA	NA	ASCII	RW	Maximum 31 Characters
5568	1	Digital Input 1 Function	NA	NA	BOOLEAN	RW	0 = Regular 1 = MBP
5569	1	Digital Input 2 Function (Reserved)	NA	NA	BOOLEAN	RW	
5570	1	Digital Input 3 Function (Reserved)	NA	NA	BOOLEAN	RW	
5571	1	AcInSaturation	NA	NA	UINT16	RW	[10 - 100]
5572	1	DCOutSaturation	NA	NA	UINT16	RW	[10 - 100]
5573	1	ACOutSaturation	NA	NA	UINT16	RW	[10 - 100]
5574	16	sysContact	NA	NA	ASCII	RW	Maximum 31 Characters
5590	16	sysName	NA	NA	ASCII	RW	Maximum 31 Characters
5606	16	sysLocation	NA	NA	ASCII	RW	Maximum 31 Characters
5622	1	Use DHCP	NA	NA	BOOLEAN	RW	FALSE = Disabled TRUE = Enabled
5623	2	IPv4 address	NA	NA	UINT32	RW	[0.0.0.0 - 255.255.255.255]
5625	2	IPv4 subnet	NA	NA	UINT32	RW	[0.0.0.0 - 255.255.255.255]
5627	2	IPv4 gateway	NA	NA	UINT32	RW	[0.0.0.0 - 255.255.255.255]
5629	1	"Enable Modbus TCP "	NA	NA	BOOLEAN	RW	FALSE = Disabled TRUE = Enabled
5630	1	"Enable Modbus TCP write "	NA	NA	BOOLEAN	RW	FALSE = Disabled TRUE = Enabled
5631	1	Unit Id	NA	NA	UINT16	RW	[1-255]
5632	1	Port	NA	NA	UINT16	RW	[0-65535]
5633	1	Autologout	NA	NA	UINT16	RW	[0-600] minutes
5634	1024	Reserved					
6658	12						

6.7.6.25 Configuration Change Table: Base Address 6670 (0x1A0E)

The table below support write for configuration changes and retrieves information related to configuration changes. All parameters related to power modules, system and Monitoring which support configuration can be written from her to modify the configuration. Not all entries are valid. Writing to an invalid entry is without effect. It is important to note that writing to those fields do not change current configuration but only alter temporary register.

Index	Register Length	Description	Co-efficient	Unit	Data type	RO/RW	Configurable value
		Configuration change related controls					
6670	1	ApplyParameterChange	NA	NA	BOOLEAN	RW	0 = No action 1 = Trig configuration change process
6671	1	ParameterChangeStatus	NA	NA	ENUM	RO	0 = No configuration change in progress 1 = Your configuration setting in progress 2 = Your Configuration apply in progress 3 = Other Configuration in progress 4 = Configuration Applied 5 = Your Configuration Failed"
6672	1	Configuration change details	NA	NA	ENUM	RO	0 = Parameter ok 1 = Parameter too low 2 = Hysteresis too low 3 = Parameter too high 4 = Converter must be off 5 = Bad value 6 = Converter mismatch
6673	1	Wrong parameter ID	NA	NA	UINT16	RO	
6674	1	Clear temporary parameters	NA	NA	ENUM	RW	0 = No action 1 = Clear temporary parameters"
6675	32	*Reserved*					
6707	3						

6.7.6.26 Action table registers

Actions can be performed on the system through the Modbus. These actions can either address modules or the monitoring device itself.

Before triggering any new action, it is recommended to read the register **Action status** to prevent collision with any ongoing action.

Monitoring related actions provide the ability to clear log file, log out all users currently connected on the WebUI, or to remove missing modules just like the web UI itself. It is also possible to trig a software reset of the controller.

Important remark: Nothing can happen to the system from a functional point of view by doing so.

Any module action can be performed from this section as well. The different Module action supported from Modbus are Switch ON/OFF Module AC, Switch ON/OFF Module DC, Switch ON/OFF Module, Blink Module, Change Module Phase, Module Fan Replaced and Change Module ID.

Changing module Phase would require switching that module off first.

6.7.6.27 Control Action Table: Base Address 6710 (0x1A36)

The table below describes the actions that can be performed on the system through the Modbus. These actions can either address modules or the monitoring device itself. Before triggering any new action, it is recommended to read the register "action status" to prevent collision with any ongoing action.

For module 1 to module 32,

- Address 6710 to 6723 are direct registers for specific action.
- Address 6760 to 6791 is from Module switch ON/OFF action.
- Address 6792 to 6823 is for Blink Module action from.
- Address 6824 to 6855 is for Change Module phase action **(All module outputs must be in OFF condition to change the Phase of the modlue)**.
- Address 6856 to 6887 is to set module Fan replaced.
- Address 6888 to 6919 is to set module ID.

Index	Register Length	Description	Co-efficient	Unit	Data type	RO/ RW	Configurable value
		Action related controls					
6710	1	Action status	NA	NA	ENUM	RO	0 = No action 1 = Action in progress 2 = Last action success 3 = Action failure: not supported by the module 4 = Action failure: module shall be off 5 = Action failure: other
6711	9	*Reserved*					
		Monitoring actions					
6720	1	clearLogFile	NA	NA	BOOLEAN	RW	

6721	1	removeMissingModules	NA	NA	BOOLEAN	RW	
6722	1	logOutUser	NA	NA	BOOLEAN	RW	
6723	1	Inview GW software reset	NA	NA	BOOLEAN	RW	
6724	32	*Reserved*					
6756	4						
		Switch On Off modules					
6760	1	SwitchOnOffModule1	NA	NA	ENUM	RW	0 = No action 1 = MODULE ON 2 = MODULE OFF 3 = AC ON 4 = AC OFF 5 = DC ON 6 = DC OFF
6761	1	SwitchOnOffModule2	NA	NA	ENUM	RW	
6762	1	SwitchOnOffModule3	NA	NA	ENUM	RW	
6763	1	SwitchOnOffModule4	NA	NA	ENUM	RW	
6764	1	SwitchOnOffModule5	NA	NA	ENUM	RW	
6765	1	SwitchOnOffModule6	NA	NA	ENUM	RW	
6766	1	SwitchOnOffModule7	NA	NA	ENUM	RW	
6767	1	SwitchOnOffModule8	NA	NA	ENUM	RW	
6768	1	SwitchOnOffModule9	NA	NA	ENUM	RW	
6769	1	SwitchOnOffModule10	NA	NA	ENUM	RW	
6770	1	SwitchOnOffModule11	NA	NA	ENUM	RW	
6771	1	SwitchOnOffModule12	NA	NA	ENUM	RW	
6772	1	SwitchOnOffModule13	NA	NA	ENUM	RW	
6773	1	SwitchOnOffModule14	NA	NA	ENUM	RW	
6774	1	SwitchOnOffModule15	NA	NA	ENUM	RW	
6775	1	SwitchOnOffModule16	NA	NA	ENUM	RW	
6776	1	SwitchOnOffModule17	NA	NA	ENUM	RW	
6777	1	SwitchOnOffModule18	NA	NA	ENUM	RW	
6778	1	SwitchOnOffModule19	NA	NA	ENUM	RW	
6779	1	SwitchOnOffModule20	NA	NA	ENUM	RW	
6780	1	SwitchOnOffModule21	NA	NA	ENUM	RW	
6781	1	SwitchOnOffModule22	NA	NA	ENUM	RW	
6782	1	SwitchOnOffModule23	NA	NA	ENUM	RW	
6783	1	SwitchOnOffModule24	NA	NA	ENUM	RW	
6784	1	SwitchOnOffModule25	NA	NA	ENUM	RW	
6785	1	SwitchOnOffModule26	NA	NA	ENUM	RW	
6786	1	SwitchOnOffModule27	NA	NA	ENUM	RW	
6787	1	SwitchOnOffModule28	NA	NA	ENUM	RW	
6788	1	SwitchOnOffModule29	NA	NA	ENUM	RW	
6789	1	SwitchOnOffModule30	NA	NA	ENUM	RW	
6790	1	SwitchOnOffModule31	NA	NA	ENUM	RW	
6791	1	SwitchOnOffModule32	NA	NA	ENUM	RW	
		Blink modules					

6792	1	BlinkModule1	NA	NA	BOOLEAN	RW	0 = No action 1 = Blink Module
6793	1	BlinkModule2	NA	NA	BOOLEAN	RW	
6794	1	BlinkModule3	NA	NA	BOOLEAN	RW	
6795	1	BlinkModule4	NA	NA	BOOLEAN	RW	
6796	1	BlinkModule5	NA	NA	BOOLEAN	RW	
6797	1	BlinkModule6	NA	NA	BOOLEAN	RW	
6798	1	BlinkModule7	NA	NA	BOOLEAN	RW	
6799	1	BlinkModule8	NA	NA	BOOLEAN	RW	
6800	1	BlinkModule9	NA	NA	BOOLEAN	RW	
6801	1	BlinkModule10	NA	NA	BOOLEAN	RW	
6802	1	BlinkModule11	NA	NA	BOOLEAN	RW	
6803	1	BlinkModule12	NA	NA	BOOLEAN	RW	
6804	1	BlinkModule13	NA	NA	BOOLEAN	RW	
6805	1	BlinkModule14	NA	NA	BOOLEAN	RW	
6806	1	BlinkModule15	NA	NA	BOOLEAN	RW	
6807	1	BlinkModule16	NA	NA	BOOLEAN	RW	
6808	1	BlinkModule17	NA	NA	BOOLEAN	RW	
6809	1	BlinkModule18	NA	NA	BOOLEAN	RW	
6810	1	BlinkModule19	NA	NA	BOOLEAN	RW	
6811	1	BlinkModule20	NA	NA	BOOLEAN	RW	
6812	1	BlinkModule21	NA	NA	BOOLEAN	RW	
6813	1	BlinkModule22	NA	NA	BOOLEAN	RW	
6814	1	BlinkModule23	NA	NA	BOOLEAN	RW	
6815	1	BlinkModule24	NA	NA	BOOLEAN	RW	
6816	1	BlinkModule25	NA	NA	BOOLEAN	RW	
6817	1	BlinkModule26	NA	NA	BOOLEAN	RW	
6818	1	BlinkModule27	NA	NA	BOOLEAN	RW	
6819	1	BlinkModule28	NA	NA	BOOLEAN	RW	
6820	1	BlinkModule29	NA	NA	BOOLEAN	RW	
6821	1	BlinkModule30	NA	NA	BOOLEAN	RW	
6822	1	BlinkModule31	NA	NA	BOOLEAN	RW	
6823	1	BlinkModule32	NA	NA	BOOLEAN	RW	
		Change module phase					
6824	1	ChangeModule1Phase	NA	NA	ENUM	RW	0 = No action 1 = Phase 1 2 = Phase 2 3 = Phase 3
6825	1	ChangeModule2Phase	NA	NA	ENUM	RW	
6826	1	ChangeModule3Phase	NA	NA	ENUM	RW	
6827	1	ChangeModule4Phase	NA	NA	ENUM	RW	
6828	1	ChangeModule5Phase	NA	NA	ENUM	RW	
6829	1	ChangeModule6Phase	NA	NA	ENUM	RW	
6830	1	ChangeModule7Phase	NA	NA	ENUM	RW	
6831	1	ChangeModule8Phase	NA	NA	ENUM	RW	

6832	1	ChangeModule9Phase	NA	NA	ENUM	RW	
6833	1	ChangeModule10Phase	NA	NA	ENUM	RW	
6834	1	ChangeModule11Phase	NA	NA	ENUM	RW	
6835	1	ChangeModule12Phase	NA	NA	ENUM	RW	
6836	1	ChangeModule13Phase	NA	NA	ENUM	RW	
6837	1	ChangeModule14Phase	NA	NA	ENUM	RW	
6838	1	ChangeModule15Phase	NA	NA	ENUM	RW	
6839	1	ChangeModule16Phase	NA	NA	ENUM	RW	
6840	1	ChangeModule17Phase	NA	NA	ENUM	RW	
6841	1	ChangeModule18Phase	NA	NA	ENUM	RW	
6842	1	ChangeModule19Phase	NA	NA	ENUM	RW	
6843	1	ChangeModule20Phase	NA	NA	ENUM	RW	
6844	1	ChangeModule21Phase	NA	NA	ENUM	RW	
6845	1	ChangeModule22Phase	NA	NA	ENUM	RW	
6846	1	ChangeModule23Phase	NA	NA	ENUM	RW	
6847	1	ChangeModule24Phase	NA	NA	ENUM	RW	
6848	1	ChangeModule25Phase	NA	NA	ENUM	RW	
6849	1	ChangeModule26Phase	NA	NA	ENUM	RW	
6850	1	ChangeModule27Phase	NA	NA	ENUM	RW	
6851	1	ChangeModule28Phase	NA	NA	ENUM	RW	
6852	1	ChangeModule29Phase	NA	NA	ENUM	RW	
6853	1	ChangeModule30Phase	NA	NA	ENUM	RW	
6854	1	ChangeModule31Phase	NA	NA	ENUM	RW	
6855	1	ChangeModule32Phase	NA	NA	ENUM	RW	
		Set module fan replaced					
6856	1	SetModule1FanReplaced	NA	NA	BOOLEAN	RW	0 = NO ACTION 1 = SET FAN REPLACED
6857	1	SetModule2FanReplaced	NA	NA	BOOLEAN	RW	
6858	1	SetModule3FanReplaced	NA	NA	BOOLEAN	RW	
6859	1	SetModule4FanReplaced	NA	NA	BOOLEAN	RW	
6860	1	SetModule5FanReplaced	NA	NA	BOOLEAN	RW	
6861	1	SetModule6FanReplaced	NA	NA	BOOLEAN	RW	
6862	1	SetModule7FanReplaced	NA	NA	BOOLEAN	RW	
6863	1	SetModule8FanReplaced	NA	NA	BOOLEAN	RW	
6864	1	SetModule9FanReplaced	NA	NA	BOOLEAN	RW	
6865	1	SetModule10FanReplaced	NA	NA	BOOLEAN	RW	
6866	1	SetModule11FanReplaced	NA	NA	BOOLEAN	RW	
6867	1	SetModule12FanReplaced	NA	NA	BOOLEAN	RW	
6868	1	SetModule13FanReplaced	NA	NA	BOOLEAN	RW	
6869	1	SetModule14FanReplaced	NA	NA	BOOLEAN	RW	
6870	1	SetModule15FanReplaced	NA	NA	BOOLEAN	RW	
6871	1	SetModule16FanReplaced	NA	NA	BOOLEAN	RW	
6872	1	SetModule17FanReplaced	NA	NA	BOOLEAN	RW	
6873	1	SetModule18FanReplaced	NA	NA	BOOLEAN	RW	

6874	1	SetModule19FanReplaced	NA	NA	BOOLEAN	RW	
6875	1	SetModule20FanReplaced	NA	NA	BOOLEAN	RW	
6876	1	SetModule21FanReplaced	NA	NA	BOOLEAN	RW	
6877	1	SetModule22FanReplaced	NA	NA	BOOLEAN	RW	
6878	1	SetModule23FanReplaced	NA	NA	BOOLEAN	RW	
6879	1	SetModule24FanReplaced	NA	NA	BOOLEAN	RW	
6880	1	SetModule25FanReplaced	NA	NA	BOOLEAN	RW	
6881	1	SetModule26FanReplaced	NA	NA	BOOLEAN	RW	
6882	1	SetModule27FanReplaced	NA	NA	BOOLEAN	RW	
6883	1	SetModule28FanReplaced	NA	NA	BOOLEAN	RW	
6884	1	SetModule29FanReplaced	NA	NA	BOOLEAN	RW	
6885	1	SetModule30FanReplaced	NA	NA	BOOLEAN	RW	
6886	1	SetModule31FanReplaced	NA	NA	BOOLEAN	RW	
6887	1	SetModule32FanReplaced	NA	NA	BOOLEAN	RW	
		Set module ID					
6888	1	SetModule1ID	NA	NA	UINT16	RW	[1-32]
6889	1	SetModule2ID	NA	NA	UINT16	RW	[1-32]
6890	1	SetModule3ID	NA	NA	UINT16	RW	[1-32]
6891	1	SetModule4ID	NA	NA	UINT16	RW	[1-32]
6892	1	SetModule5ID	NA	NA	UINT16	RW	[1-32]
6893	1	SetModule6ID	NA	NA	UINT16	RW	[1-32]
6894	1	SetModule7ID	NA	NA	UINT16	RW	[1-32]
6895	1	SetModule8ID	NA	NA	UINT16	RW	[1-32]
6896	1	SetModule9ID	NA	NA	UINT16	RW	[1-32]
6897	1	SetModule10ID	NA	NA	UINT16	RW	[1-32]
6898	1	SetModule11ID	NA	NA	UINT16	RW	[1-32]
6899	1	SetModule12ID	NA	NA	UINT16	RW	[1-32]
6900	1	SetModule13ID	NA	NA	UINT16	RW	[1-32]
6901	1	SetModule14ID	NA	NA	UINT16	RW	[1-32]
6902	1	SetModule15ID	NA	NA	UINT16	RW	[1-32]
6903	1	SetModule16ID	NA	NA	UINT16	RW	[1-32]
6904	1	SetModule17ID	NA	NA	UINT16	RW	[1-32]
6905	1	SetModule18ID	NA	NA	UINT16	RW	[1-32]
6906	1	SetModule19ID	NA	NA	UINT16	RW	[1-32]
6907	1	SetModule20ID	NA	NA	UINT16	RW	[1-32]
6908	1	SetModule21ID	NA	NA	UINT16	RW	[1-32]
6909	1	SetModule22ID	NA	NA	UINT16	RW	[1-32]
6910	1	SetModule23ID	NA	NA	UINT16	RW	[1-32]
6911	1	SetModule24ID	NA	NA	UINT16	RW	[1-32]
6912	1	SetModule25ID	NA	NA	UINT16	RW	[1-32]
6913	1	SetModule26ID	NA	NA	UINT16	RW	[1-32]
6914	1	SetModule27ID	NA	NA	UINT16	RW	[1-32]
6915	1	SetModule28ID	NA	NA	UINT16	RW	[1-32]
6916	1	SetModule29ID	NA	NA	UINT16	RW	[1-32]
6917	1	SetModule30ID	NA	NA	UINT16	RW	[1-32]

6918	1	SetModule31ID	NA	NA	UINT16	RW	[1-32]
6919	1	SetModule32ID	NA	NA	UINT16	RW	[1-32]
6920	512	Reserved					
7432	8						

6.7.6.28 Configuration Set Points Table Registers

This table is used to control the system through setpoint values. Supported controls are DC voltage set point, DC power set point and Dc Group Modules Power Capping set point.

The Inview GW performs a validity check before transmitting set points over the bus to the modules. If the value is out of range, it is not sent to the modules. It is possible to read back the **last valid value** send to the modules by reading the registers. After startup, these registers are filled by 0.

The GW sends a setpoint only once, when it is written in Modbus and valid. GW doesn't keep refreshing setpoints by himself. Fallback is implemented at module level as explained below.

Important remark: If setpoints are not refresh within 2 minutes, modules will fall back to a default configured value. Refer to modules' user manual for more details.

6.7.6.29 Set Point Table: Base Address 7440(0x1D10)

The table below describes the actions to configure setpoints that can be performed on the system through the Modbus. Set points are only configurable for DC parameters. These values can be written from her to modify the configuration. Not all entries are valid. Writing to an invalid entry is without effect. It is important to note that writing to those fields do not change current configuration but only alter temporary register. To write register, follow configuration change table.

Index	Register Length	Description	Co-efficient	Unit	Data type	RO/ RW	Configurable value
		SetPoints					
7440	1	DcGroup1VoltageSetPoint	0.1	Volts	UINT16	RW	
7441	1	DcGroup1PowerSetPoint	10	Watts	INT16	RW	
7442	1	DcGroup1ModulesPowerCapping SetPoint	10	Watts	INT16	RW	
All remaining addresses	Reserved						

6.7.6.30 Input registers

Log Table Registers Address 0 (0x0000) + 10*(Address 30000 to 39980 for 1000 Logs)

Log Table is implemented separately in Input Register. Register address starts from 0.

Format of an entry (Read-Only):

Register Address	Register Length	Description	Data type	RO/ RW	Definition
Entry 0 (Oldest)					
0	2	Timestamp	UINT32	RO	The sysUptime timestamp when the condition has been matched
2	1	State	ENUM	RO	1 = Active 2 = Inactive

3	1	Severity	ENUM	**RO**	0 = Disabled 1 = Notification 2 = Minor 3 = Major
4	1	ID	UINT16	**RO**	The ID of the alarm
5	1	Description	UINT16	**RO**	The modbus register address where the ASCII description can be retrieved
6	4	*Reserved*	UINT16	RO	
Entry 1					
10	2	Timestamp	UINT32	RO	
12	1	State	ENUM	RO	
13	1	Severity	ENUM	RO	
14	1	ID	UINT16	RO	
15	1	Description	UINT16	RO	
16	4	*Reserved*	UINT16	RO	

A maximum of 1000 entries (alarms) are captured in Log table as per the log file and the Oldest one is written at address 0.

6.8 HTTPS API

Available in next release.

6.9 Controller firmware upgrade

It is possible to remotely* perform a firmware upgrade of the Inview GW device using a tool provided by CE+T.

* **remotely** means through ethernet connection. If system is connected to a LAN, then, anyone on the same LAN can access the unit. If direct connection from laptop to the device through ethernet is done, then it is a local update. Remote aspect is handled by the IT infrastructure of the user.

To upgrade the system, user has to download the latest version of the upgrade tool provided by CE+T.

Running that tool, the user has to configure IP address of the unit alongside Expert mode password. Once connected, the tool will gather information such as Serial Number, current firmware version etc.

By clicking update, the tool will perform the update of the target using the latest firmware available (depends on the tool version). Once done, the unit will restart, and the connection will drop. The user can then access the web UI within a few minutes.

Remark:Using this tool allows CE+T to provide a highly secured update package that prevent any malicious third party to use the target to deploy any malicious code. Firmware updates are signed and verified.

7. FAQ

Has the Inview GW a Real-time clock?

No, the Inview GW has no real-time clock embedded. The system uptime in seconds is available (time elapsed since last power cycle) but it is not possible to configure time nor sync with NTP.

Where can I find the live data in the web user interface?

There is no live data monitoring through web user interface. The Inview GW makes all system data available through Machine-to-Machine (M2M) protocols such as Modbus TCP. In order to monitor data through web interface, you should consider using another Inview from the series: Inview S, Inview S slot or even Inview X.

How can I get the web user interface in my language?

There is no translation capability for the Inview GW. Shall you need such feature, you should consider using another Inview from the series: Inview S, Inview S slot or even Inview X.

If I plug one more module in the system, is it monitored?

If the count of module is then more than the configured number of modules, then the number of module parameter for the corresponding phase must be updated manually. Module level alarm will be sent out as for any other module. Anyway, event such as saturation will only be based on the configured number of modules.

What happen if I disconnect the Inview GW from the converter system?

Nothing! It is important to understand that CE+T systems are resilient to monitoring device loss (or removal). The system will continue to secure the AC output power. In case of Sierra, current limitation and floating voltage remains applied.

How many modules can I monitor with my Inview GW?

The Inview GW can monitor up to 32 modules on the same communication bus. For bigger system, enquiry about "Large systems", "A+B systems" or "2N systems" based on Inview X.

Unit ID in Modbus TCP?

On the TCP/IP, the Modbus server in addressed using its IP address, therefore the unit ID is useless. The value 0xFF must be used. When addressing a Modbus server connected directly to a TCP/IP network it is recommended not using a significant Modbus slave address in the unit identifier field. The value 0 is also accepted to communicate directly to the Modbus TCP device.

8. Annex 1: Software update procedure

8.1 Requirements

To update the software of Inview GW device, you need the following:

- Inview GW firmware update utility application.
- Ethernet connection to the unit(s) to be updated.
- Target firmware file (.zip format).

8.2 Setup

1. Connect the AC/DC source to the shelf and power it ON.
2. Insert the inverters and wait for Inview GW to turn ON.
3. Connect the shelf with the Inview GW (CE+T BUS) using an ethernet cable.
4. Connect the computer with the Inview GW (Network port) using an ethernet cable.
5. Configure the computer IP at the same network address of Inview GW.

8.3 Procedure

1. Open the Inview GW firmware update utility application.
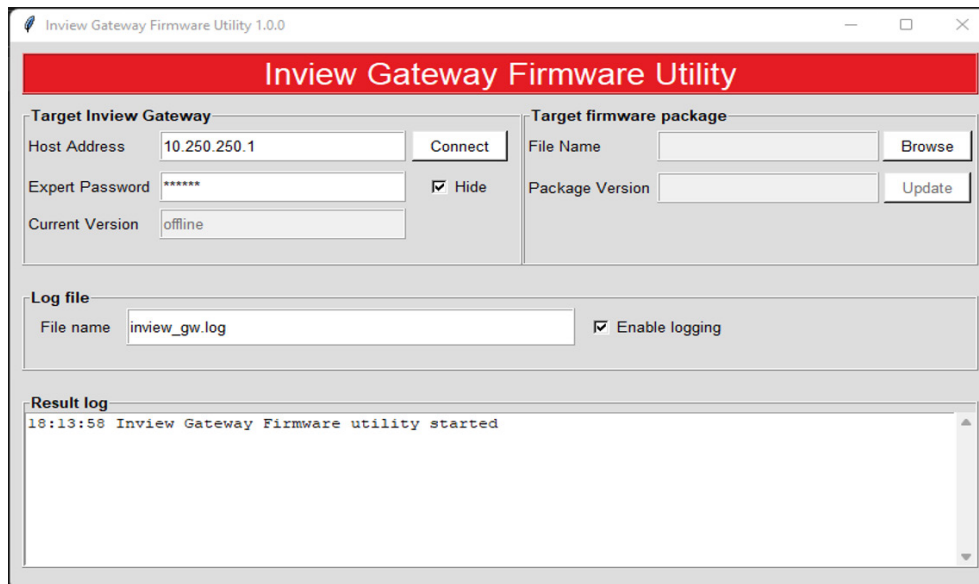
2. Enter the Host Address (Inview GW IP address) and password (default: Expert) and click on 'Connect'.
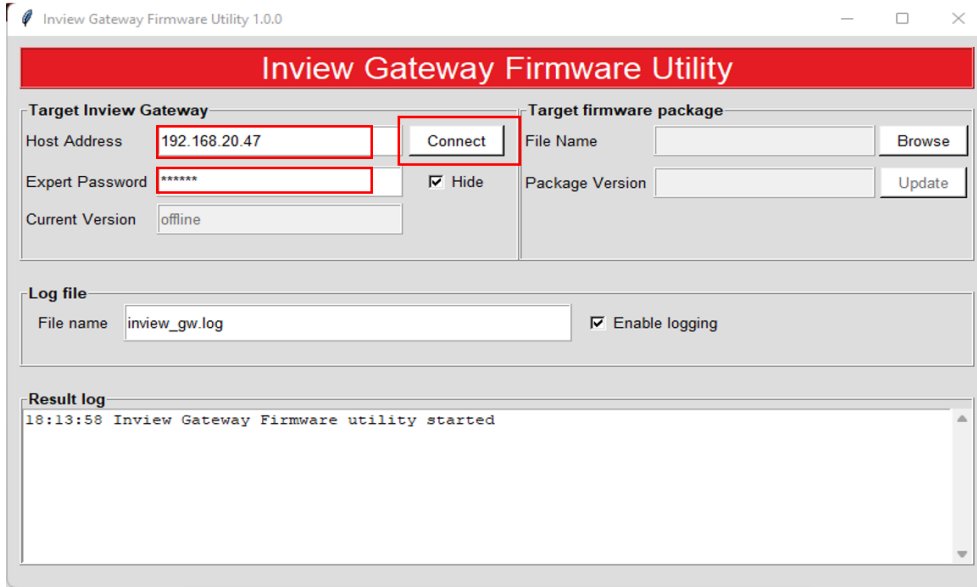
- The result log displays that the IP is connected.
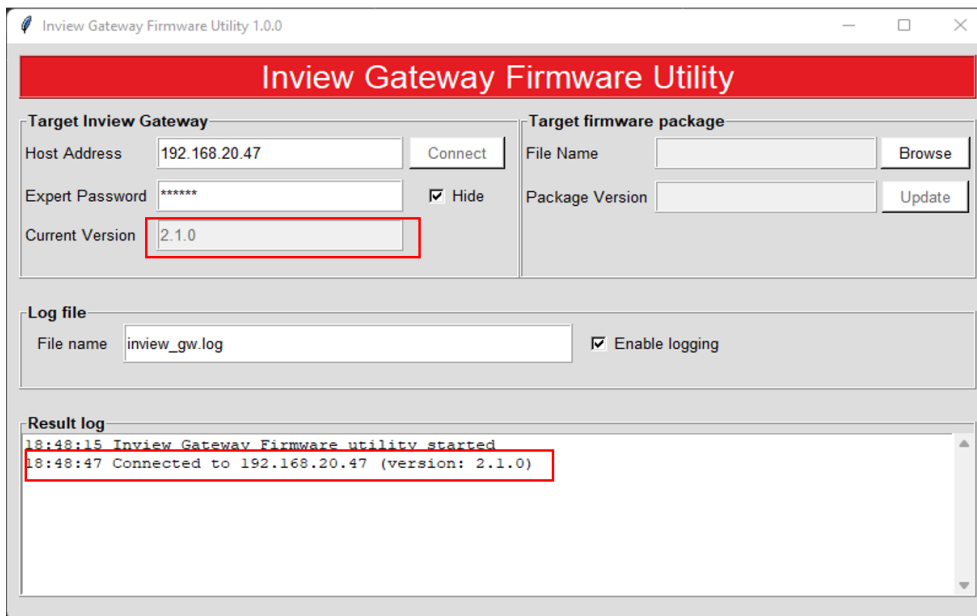
3. Click on 'Browse' button and navigate to software file storage directory, choose the correct file and click on the 'Open' button.

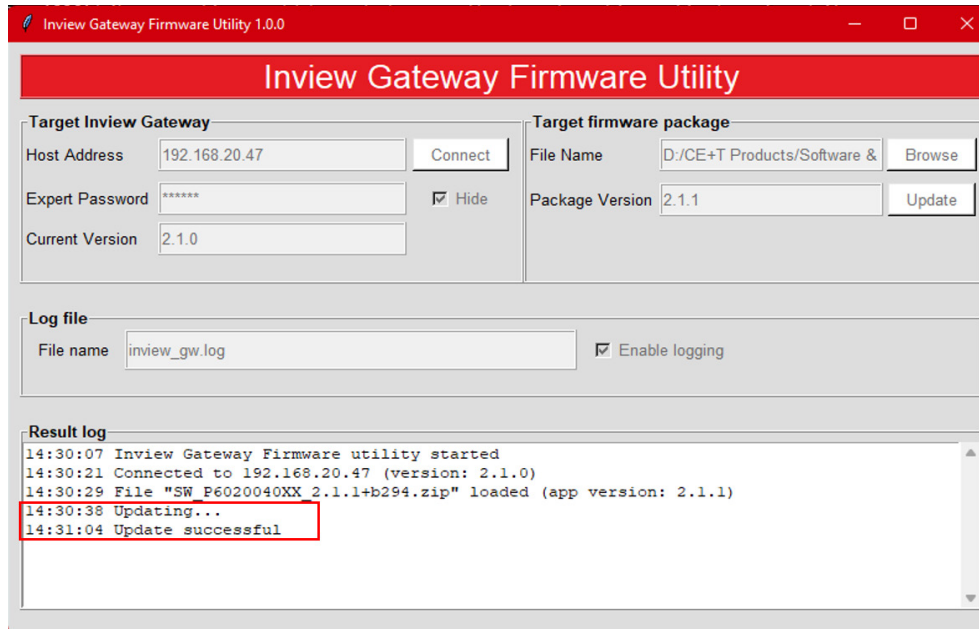   *Note: Make sure that the file extension is '.zip'*
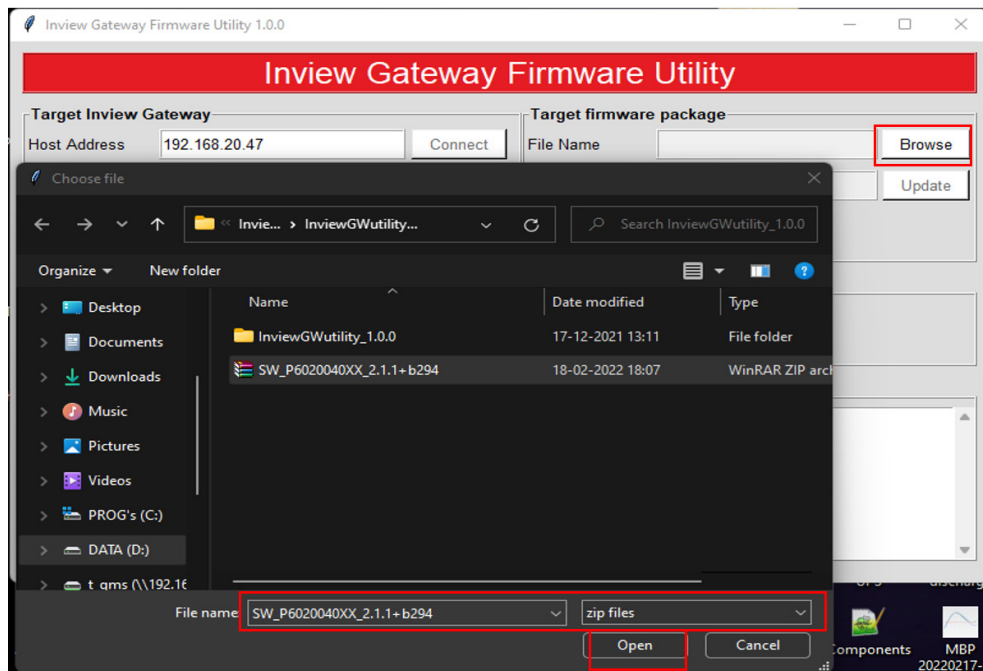
- The 'Result log' will show that the file is loaded and the software version will get displayed in 'Package Version' field.
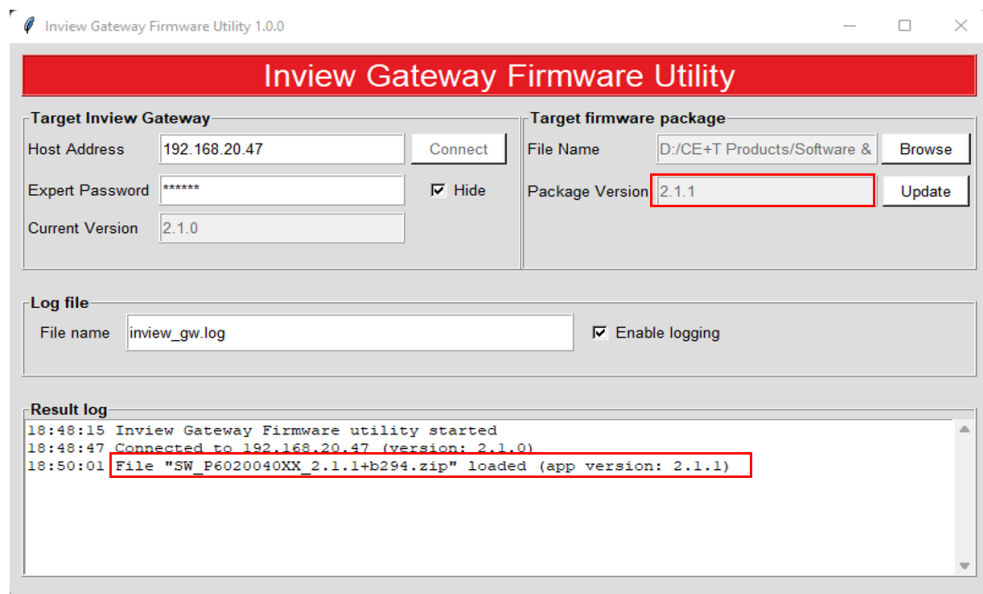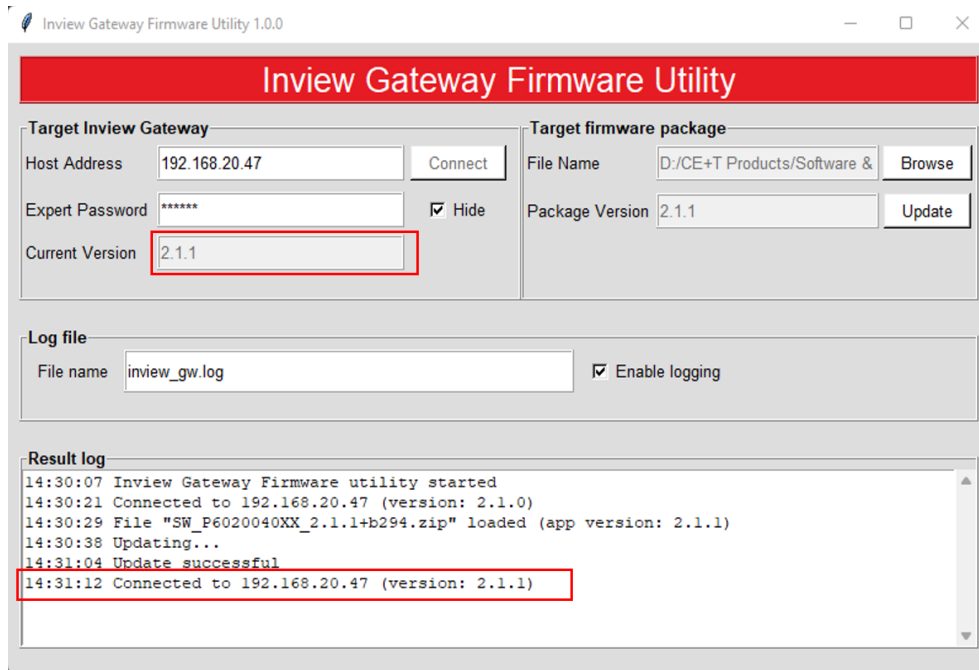
4. Click on 'Update' button to begin the software update.
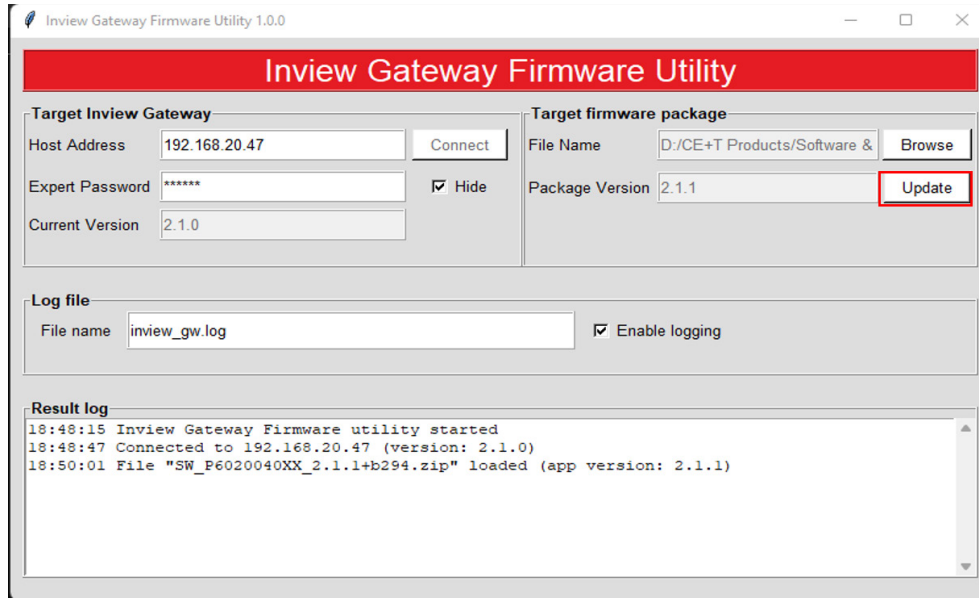
- The Inview GW will restart during update.

- Once the update is completed, the'Result log' will display 'Update successful'.

- After successful restart, the utility tool will automatically login to the Inview GW and display the updated software version.

The software update is now completed. The Inview GW can now be accessed through web interface.

9. Annex 2: List of events

The following is the full list of events available from the device with:

- ID: the alarm unique ID which is used to refer to the alarm in log (file, Modbus…)
- Name of the alarm and description (description is the string retrieved from any interface and used in the log file)
- Default severity configuration (can be configured, even disabledssssssssssss)
- Details/help on how to clear the event. Their severity, including disabling the event itself.

ID	Name	Label	Default severity	Condition
1	DcSaturated	dc saturated	Minor	Any DC group has "Saturated" status.
2	DcOverload	dc overload	Minor	Any DC group has "Overload" status.
3	DcFailure	dc failure	Major	Any DC group has "SourceFailure" or "Failure" status.
4	DcOutOff	dc out off	Notification	Any DC group has "Off" status.
5	AcInSaturated	ac in saturated	Minor	Any ACin phase has "Saturated" status.
6	AcInOverload	ac in overload	Minor	Any ACin phase has "Overload" status.
7	AcInFailure	ac in failure	Minor	Any ACin phase has "SourceFailure" or "Failure" status.
8	Reserved			
9	AcOutSaturated	ac out saturated	Minor	Any ACout phase has "Saturated" status.
10	AcOutOverload	ac out overload	Major	Any ACout phase has "Overload" status.
11	AcOutFailure	ac out failure	Major	Any ACout phase has "SourceFailure" or "Failure" status.
12	AcOutOff	ac out off	Notification	Any ACout phase has "Off" status.
13	SystemOnByPass	system on bypass	Notification	Gateway internal status.
14	SystemRemoteOff	system remote off	Notification	All modules have "RemoteOff" status.
15	RedundancyLost	redundancy lost	Major	Any ACout phase or DC group has "RedundancyLost" status.
16	BackfeedDetected	backfeed detected	Major	Any module has "Backfeed" status.
17	ComBusFailure	com bus failure	Major	Gateway internal status.
18	ModuleInWarning	module in warning	Notification	Any module has "Warning" or "Overload" state.
19	ModuleInFailure	module in failure	Minor	Any module has "Failure" state or any "Module failure in group" flag is true.
20	ModuleMissing	module missing	Minor	Any module has "Missing" state.
21	ModulePortOff	module port off	Notification	Any module has "Off" state.
22	DigitalInput1IsActive	digital input 1	Notification	Gateway internal status.
23	DigitalInput2IsActive	digital input 2	Notification	Gateway internal status.
24	Reserved			

EventId	Event name	Label		
25	GatewayError	gateway error	Major	Gateway internal status.
26	GatewayPowerSupplyError	gateway power supply error	Minor	Gateway internal status.
27	TestMajorAlarm	test major alarm	Major	Gateway internal status.
28	TestMinorAlarm	test minor alarm	Minor	Gateway internal status.
29-40	Reserved			
EventId	**Event name**	**Label**		
41	GatewayStarted	gateway started	Notification	Gateway event.
42	LogCleared	log cleared	Notification	Gateway event.
43	ConfigurationChanged	configuration changed	Notification	Gateway event.
44	ConfigurationRejected	configuration rejected	Notification	Gateway event.
45	ExpertPasswordChanged	expert password changed	Notification	Gateway event.
46	ExpertUserLogin	expert user login	Notification	Gateway event.
47	ExpertUserLogout	expert user logout	Notification	Gateway event.
48	ExpertPasswordRecovery	expert password recovery	Notification	Gateway event.

10. Annex 3: Inview GW2 - Module Paramters list

Parameter	Description	Min	Default	Max	Unit
V DC in low start - dV (000)	Specifies the minimum required DC Voltage to start the DC/AC converter. If the DC input voltage is below this limit the converter will not start.	31	44	63.5	V
V DC in low transfer - dV (001)	If AC input is present, this parameter specifies the lower limit of DC Voltage, if the DC input voltage falls below this limit the load is supplied by AC input source instead of the DC input source. Below this voltage peak-shaving is relaxed and battery discharge test is stopped.	31	39	63.5	V
V DC in low stop - dV (002)	If AC input is absent, this parameter specifies the lower limit of DC voltage below which the DC/AC converter stops.	31	39	63.5	V
V DC in high start - dV (003)	Specifies the maximum permitted DC Voltage to start the DC/AC converter. If the DC input voltage exceeds this limit the converter will not start.	31	58	63.5	V
V DC in high transfer - dV (004)	If AC input is present, this parameter specifies the maximum DC Voltage, if the DC input voltage is above this limit the load is supplied by AC input source instead of the DC input source.	31	61	63.5	V
V DC in high stop - dV (005)	If AC input is absent, this parameter specifies the maximum DC voltage above this value the DC/AC converter stops.	31	61	63.5	V
V AC in low start - dV (006)	Specifies the minimum required AC input Voltage to start the AC/AC converter	100	191	295	V
V AC in low transfer - dV (007)	If DC input is present, this parameter specifies the lower limit of AC input Voltage, if the AC input voltage falls below this limit the load is supplied by DC input source instead of the AC input source.	100	181	295	V
V AC in low stop - dV (008)	If DC input is absent, this parameter specifies the lower limit of AC input voltage below which the AC/AC converter stops. If the parameter is set to 150 Vac, the AC/DC converter will run at a lower power. The DC/AC converter supplies the rest (ONLY if DC input source is available, if not, the output is derated.)	100	181	295	V
V AC in high start - dV (009)	Specifies the maximum permitted AC input Voltage to start the AC/AC converter.	100	258	295	V
V AC in high transfer - dV (010)	If DC input is present, this parameter specifies the maximum AC Voltage, if the AC input voltage is above this limit the load is supplied by DC input source instead of the AC input source.	100	268	295	V

V AC in high stop - dV (011)	If DCin is absent, this parameter specifies the high ACin voltage above this value the AC/AC converter stops.	100	268	295	V
F AC in low start - cHz (012)	If the ACin Frequency higher than this parameter the output of the inverters is synchronized with ACin	45	47.3	63	Hz
F AC in low stop - cHz (013)	If the ACin Frequency is lower than this parameter the output of the inverters is not synchronized with Acin and the load is supplied by the DC input source if present else the load is shut down.	45	47	63	Hz
F AC in high start - cHz (014)	If the ACin Frequency is lower than this parameter the output of the inverters is synchronized with ACin	47	52.7	63	Hz
F AC in high stop - cHz (015)	If the ACin Frequency is higher than this parameter the output of the inverters is not synchronized with Acin and the load is supplied by the DC input source if present else the load is shut down.	47	53	63	Hz
Free running frequency - cHz (016)	Set the converters system frequency. This frequency is used when the system is not synchronized on AC input. Special value is "0" which specifies the utilization of the feature "Frequency auto-configuration". Refers to the document of "Frequency auto-configuration" for usage details.	47	0	63	Hz
No. of Phases - AC Out (017)	To set the AC output parameter.	1	1	3	-
Out 1 phase shift - deg (018)	The angle of phase shift (Out 1)	0	0	240	Deg
Out 2 phase shift - deg (019)	The angle of phase shift (Out 2)	0	120	240	Deg
Out 3 phase shift - deg (020)	The angle of phase shift (Out 3)	0	240	240	Deg
Out 4 phase shift - deg (021)	Not Applicable	0	0	0	Deg
Out 5 phase shift - deg (022)		0	0	0	Deg
Out 6 phase shift - deg (023)		0	0	0	Deg
Out 7 phase shift - deg (024)		0	0	0	Deg
Out 8 phase shift - deg (025)		0	0	0	Deg
Out 1 nominal voltage - dV (026)	Set output voltage for each phase.	2000	2300	2450	dV
Out 2 nominal voltage - dV (027)	The nominal voltage at AC output of phase 1.	200	230	277	V
Out 3 nominal voltage - dV (028)	The nominal voltage at AC output of phase 2.	200	230	277	V
Out 4 nominal voltage - dV (029)	The nominal voltage at AC output of phase 3.	200	230	277	V

Out 5 nominal voltage - dV (030)	Not Applicable	0	0	0	dV
Out 6 nominal voltage - dV (031)		0	0	0	dV
Out 7 nominal voltage - dV (032)		0	0	0	dV
Out 8 nominal voltage - dV (033)		0	0	0	dV
Short circuit voltage threshold - V (034)	If the AC output voltage stays below the threshold Voltage during the duration of the hold time, the module considers itself in short-circuit, stops its output and generates 'overload too long error'.	20	150	240	V
Short circuit hold time (035)		1	10	600	s
Input source - % (036)	Defines the priority source 0 - Feeding from AC IN has priority (converter AC/AC - EPC mode) default value. 100 - Feeding from DC has priority (converter DC/AC - On Line mode) Must be 0 in Sierra mode	0	0	100	%
Synchronisation tracking speed (037)	The speed at which the module tries to synchronize the ACout with ACin. Lower the value faster the synchronization. The lowest negative value corresponds to the fastest synchronization speed. Approximative values: -4 : 8 Hz/s -3 : 4 Hz/s -2 : 2 Hz/s -1 : 1 Hz/s 0 : 0.5 Hz/s 1 : 0.25 Hz/s 2 : 0.125 Hz/s When value is < -2, the restarting process after desynchronization is accelerated	-4	0	2	-
Max power - % (038)	Maximum current in percentage that module is able to feed at AC output, eg. in case of a short circuit	30	150	150	%
Max current - % (039)	Maximum power in percentage that module is able to feed at AC output, eg. in case of a overload.	30	150	150	%
Max overload duration - s (040)	Maximum Time Duration when converter can run with overload.	0	15	15	s
AC in mode (041)	Allows to open the AC IN inlet relay 0 - normal running in EPC mode 1 - AC IN inlet relay is open and so the system is insulated from the Mains. This parameter can be set to 1 only if repartition is on DC (parameter CF1036 should be 100) Must be 0 in Sierra mode	0	0	1	-

Booster 10x I in (042)	Allow to inhibit the Booster option which generates a current of 10 In for 20ms in case of short-circuit (9 In for Nova inverter). Since, in Bravo 10 triac is absent, this parameter is not used. The 10 Iin is reached only if output voltage is below 25Vrms.	0	1	1	-
Remote off disable AC in power (043)	This parameter change the attribution of the remote ON/OFF input. If parameter is 1, then, when system is in remote OFF position, output is not stopped and AC input is stopped instead.	0	0	1	-
Reinjection allowed (044)	If this parameter is 1, the module is able to inject power on the grid through its AC input port. The energy will flow from AC output in case of generative load or from DC in case of battery discharge test. If this parameter is 2, grid interactive mode is activated.	0	1	2	-
External clock (045)	This parameter can be used only in TUS mode. It defines the behaviour of the system when the system has no synchro source : if TUS is OK, the system is synchronized by the TUS ; if TUS is not working but AC input is OK, the system is synchronized by the grid ; if there is no TUS and no grid, the system will not be synchronized with other systems. In this last case, the system behaves according to the parameter : - If param is 0, the system does not stop, even if it is not synchronized. This mode is useful if the synchronisation is not needed. - If param is 1, the system stops after 1 min. During this minute, there can be a drift of some degrees with the rest of the system. 1 minute is a time long enough for the TUS to restart in case of a ponctual failure. Typically, this mode is useful if the synchronisation is done between systems which are on different phases. Ex : 3 systems with TUS, each supplying a phase of a 3-phase load. It is not a problem if the phase shift is 122° instead of 120° during 1 min. - If param is 2, the system stops immediately. This mode is useful when the synchronisation needs to be precise all the time. This is the case if several systems run in //.	0	0	2	-
Walk in mode - das (046)	The Walk-in mode allows the inverter to come back progressively on the AC priority source after an outage. Ramping up of genset maximum loading leading to start it without torque step.	0	0	60	-

Triangle mode (047)	This parameter allows the use of delta load on AC output. When this parameter is active, if 1 output phase stops, other phases will stop simultaneously. This parameter is used only if phase number CF017 > 1.	0	0	1	-
Airco mode (048)	When this mode is activated, the overload capabilities are moved from default value to 330% overload in current and power for maximum 900 ms. Note: Applicable only for Bravo TSI modules.	0	0	1	-
Start without supervision (049)	0 - No power port start without supervisor 1 - The module is able to start without a supervisor. 2 - Module starts ACin & DC to provide ""V DC in low transfer"" value with the goal to provide power to the supervision. The ACout does not start.	0	2	2	-
P DC max - W (050)	This feature allow to limit or reduce the INRUSH DC current when the system work on battery. To limit the current this configuration line should limit the inrush DC current. To allow for the high capability this inverter is build with extra capacitor running on 400VDC to provide the requested energy.	0	0	1	-
AC 1 stop power (051)	0 - Normal Mode / 1 - ACin power stage in converter is de-activated. Allows to deactivate the ACin power in order to use this input only as a reference for synchronization. This parameter is used on the modules in the corresponding ACin group	0	0	1	-
AC 2 stop power (052)					
AC 3 stop power (053)					
AC 4 stop power (054)					
St module number (055)	NA	0	0	0	-
St module redundancy (056)	NA	0	0	0	-
Tus (057)	Mode TUS activation. This is required when several systems need to be synchronized together and share an output in single, dual & triphase configuration.	0	0	1	-
Tus modules number (058)	Number of TUS modules in the system (typically 2) -> number of tus modules monitored by local supervision.	0	0	32	-
Tus sub sub system address (059)	address of the system on TUS bus -> address of local supervision which need to be different from other local supervisions.	0	1	32	-
Tus sub sub system output phase (060)	Output phase in TUS mode.	0	1	7	-
Tus sub system index (061)	System index in TUS mode (for example, if we have a A+B redundancy, this parameter is 1 for A systems, 2 for B systems)	1	1	7	-
Number of tus sub sub system (062)	Number of systems connected on TUS bus.	0	0	32	-

Tus supply x supervision mode (063)	X TUS supply source.	0	3	3	-
Tus supply y supervision mode (064)	Y TUS supply source.	0	3	3	-
Tus sub sub system dc group (065)	In tus mode, rule to decide which cabinet is on which DC group according to dip-switch If this param is 1, all cabinets are on DC group 1. If this param is 2, cabinets with an even dip-swith address are on dc group 1 ; cabinets with a odd dip-switch address are on dc group 2	0	0	7	-
V DC charger safe mode - cV (066)	DC voltage set point in SIERRA mode	32	53.5	62	V
P DC charger safe mode - W (067)	DC power setpoint in sierra mode: * Value > 0 - mode discharge battery (if the discharge setpoint is > than the asked output power, remaining DC power is injected into the AC input port, provided it is allowed by param 044) * Value < 0 - mode charge battery * Value = 0 - charger disabled (might still provide power if parameter 049 = 2) Note: For more power setting refer the Parameter 083	-30000	-	30000	W
P AC peak shaving safe mode - W (068)	Global system peak-shaving: Value = -1 - no peak-shaving Value >= 0 - Maximum limit on the AC output power of the whole system Note - Among parameter 068 and 069 the smaller value is taken into account	-1	-1	30000	-
P AC max per phase safe mode - W (069)	Peak-shaving for each individual phase output: Value = -1 - no peak-shaving Value >= 0 - Maximum limit on the AC output power per phase Note - Among parameter 068 and 069 the smaller value is taken into account	0	-1	30000	-
Phase compensation (070)	Phase balancing	0	1	1	-
Sierra mode (071)	Activate (1) or deactivate (0) the battery charger mode.	0	1	1	-
V DC low stop charger - cV (072)	Dc voltage under which charger is stopped.	0	0	63.5	V
Lvd mode (073)	If this mode is ON, converter goes in low consumption mode 1 minute after it stops by Vdc LowStop.	0	0	1	-
Max V DC increment safe mode - cV (074)	If the supervision is not present, this parameter defines the rise rate of Vdc in cV / min (if the battery charger mode is activated). 0 - this mode is not activated	0	2	100	-