Hitachi Irrigation IOT Basic Manual

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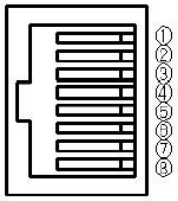
Installing the SIM card into the CPTrans

The SIM card is pre-installed in the Micro card slot at the factory. However, the SIM card can be accessed if necessary. The Micro card slot is protected by the cover and can be removed by removing the screw holding the cover. The SIM card must be programmed to work with the CPTrans. Hitachi typically handles this programming, but customers can also program if needed.

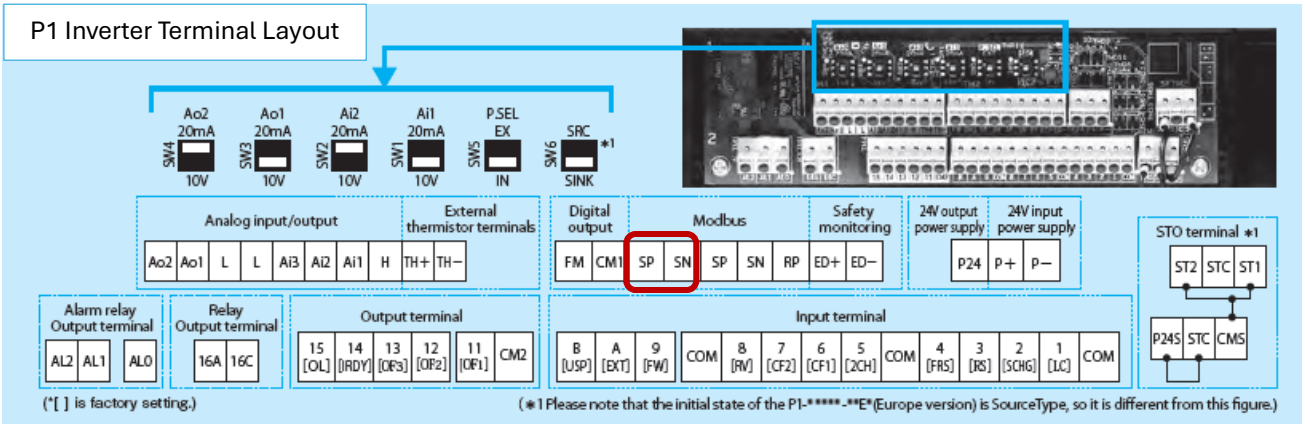
Terminating the Modbus Communication between the CPTrans and P1 Inverter

The CPTrans uses serial Modbus for communication with the Hitachi P1 Inverter. Please connect the RJ45 port on the CPTrans, labeled “Serial” to the Hitachi P1 Inverter on the SP and SN terminals. The P1 terminal layout is located below. The CPTrans KIT includes an 18-inch Modbus cable. The cable has an RJ45 connector on one end, to connect the CPTrans. The other end has flying leads to connect to the P1 Inverter. Please use the T568B cable and connect the Green/White wire to SP and the Orange wire to SN.

Item	Pin	Signal	Note
 (RJ−45)	(1)	SG	Ground for signal
	(2)	485-	485(-) signal
	(3)	485+	485(+) signal
	(4)	NC	Not used
	(5)	232SD	Data sending
	(6)	232RD	Data receiving
	(7)	485-	Terminating
	(8)	RT	Termination resistor

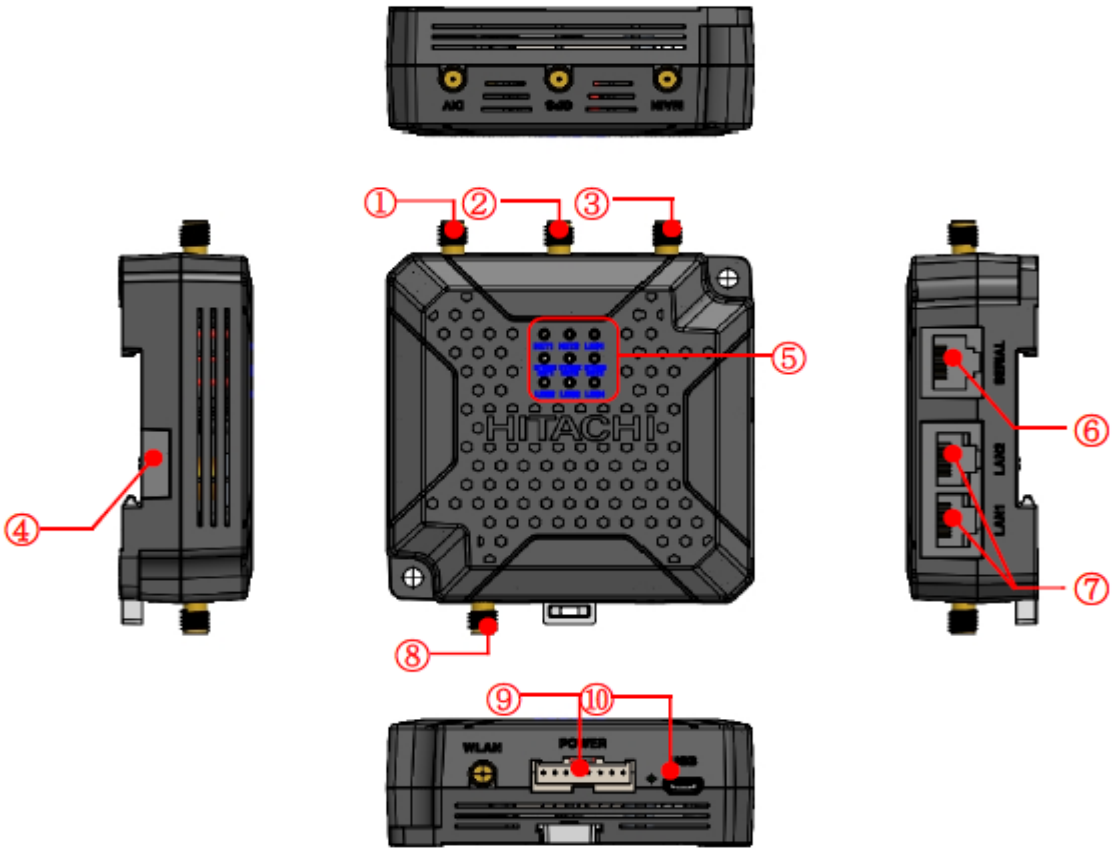
Note: If a termination resistor is necessary, please use the internal resistor connection by shorting pin 7 (485-) to pin 8 (RT).

Hitachi has the 8-pin connector with 18 inch leads available, please use part number: CPTransModbusCable



Connecting the Antennas to the CPTrans

The CPTrans KIT includes three separate antennas that must be connected. First, the hockey puck style GPS antenna should be connected to the GPS connection post with the with the blue-labeled wire. The yellow-labeled wired should connect to the WLAN connection post, as shown below. The stick style antennas should connect to the MAIN (LTE), and the DIV connection posts.

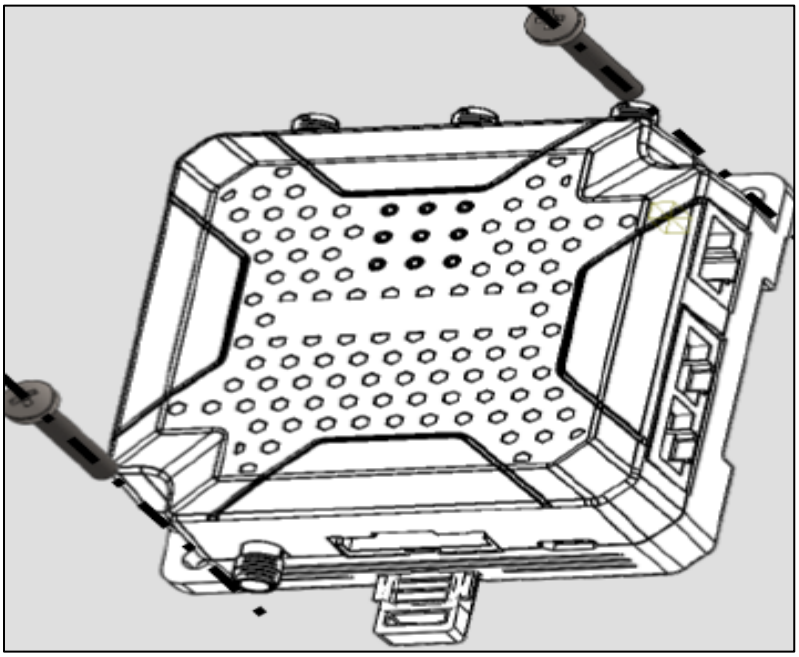


No.	Item	Detail
(1)	DIV(LTE)	Sub connection for LTE antenna.
(2)	GPS	Connection for GPS antenna.
(3)	MAIN(LTE)	Main connection for LTE antenna.
(4)	Micro SIM / SD Card slot	Insert Micro SIM／SD card by taking off its protection cover.
(5)	LED	Show LED status of this CPTrans-MGW
(6)	SERIAL	Serial connector for RS232C and RS485
(7)	LAN1, LAN2	Connection for Ethernet cable
(8)	WLAN	Connection for wireless LAN antenna
(9)	POWER	DC power will be collected from this 8Pin socket.
(10)	USB	Not supported

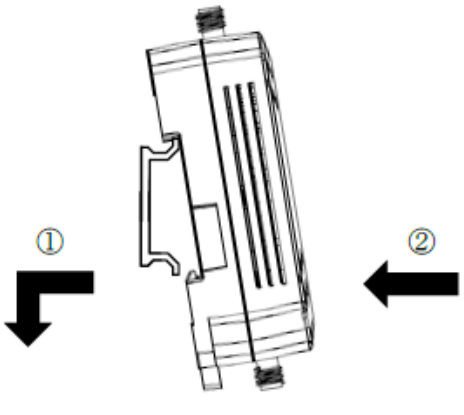
*1 : In case of connecting LTE, please attach both MAIN & DIV antenna

Mounting the CPTrans

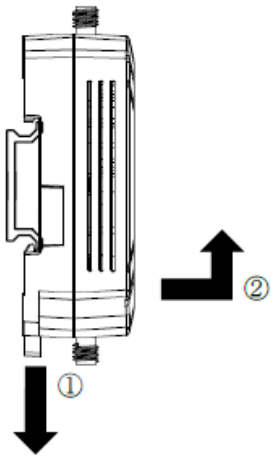
The CPTrans has multiple mounting options; there are mounting holes on two of the corners for easy installation on a wall or mounting plate.



The CPTrans can also be attached to din rail, using the spring-loaded din mount on the back of the CPTrans device.



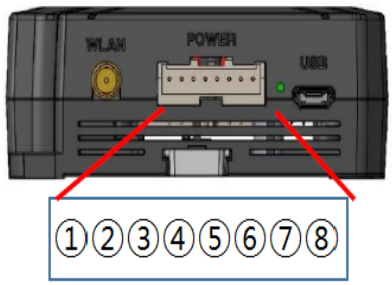
Mounting to the DIN rail



Removing from the DIN rail

Powering the CPTrans

The CPTrans is powered using 24V DC. The 24V DC power is wired into the 8-pin connector on pins 7 and 8. The other terminals are all marked for future use. Please use the CPTransPowerCable, that is included with the kit, to connect power to the CPTrans.

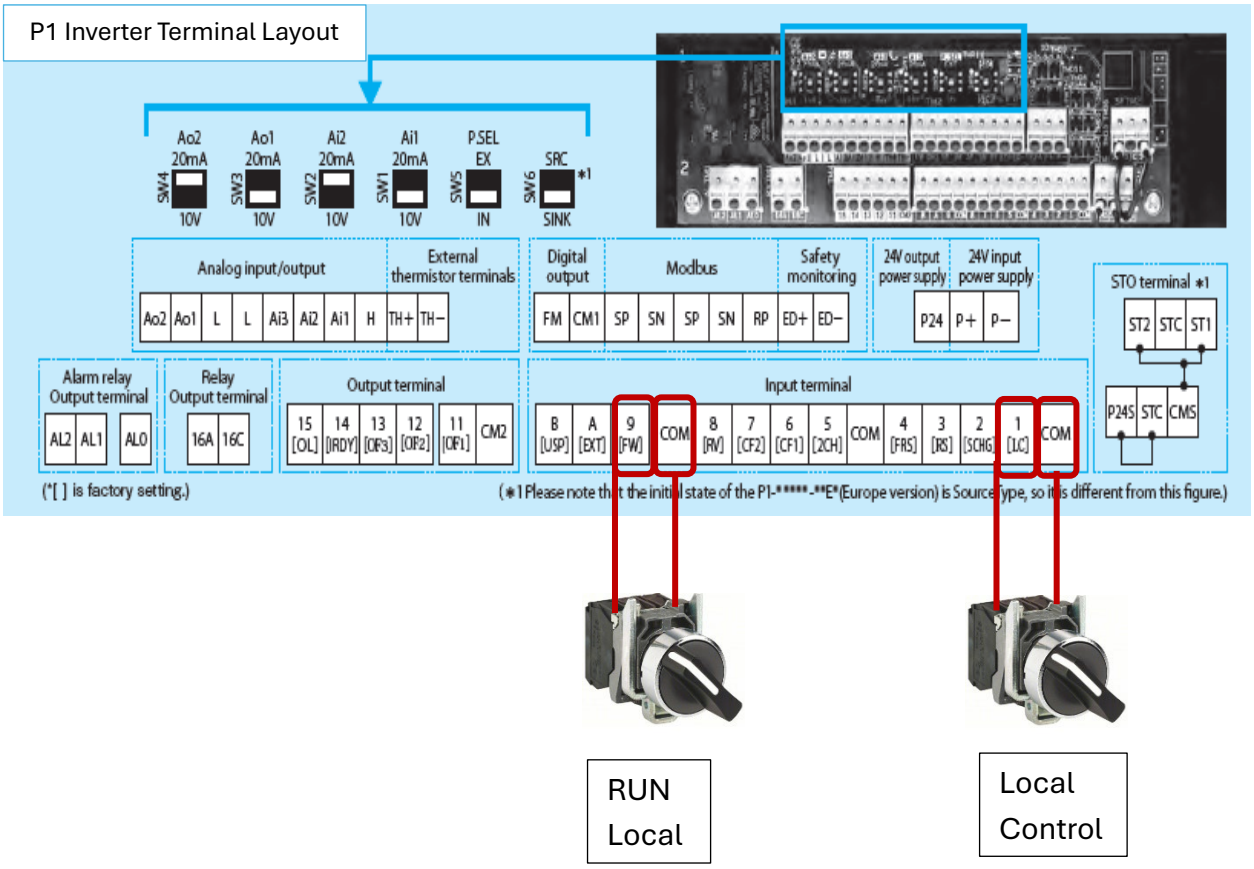
Item		Details
S08B-XASK-1(JST)	Pin No.	8-pin、2.5mm pitch
	(1)	NC
	(2)	NC
	(3)	NC
	(4)	GND
	(5)	NC
	(6)	NC
	(7)	GND
	(8)	VCC (5 to 24 VDC wide range)
Input Voltage		5 to 24 VDC (In current loading condition)

***Caution* Do not connect pins 1 through 7 to positive DC voltage.**

Hitachi has the 8-pin connector with 18 inch leads available, please use part number:
CPTransPowerCable

Connecting the Digital Inputs to the P1 Inverter

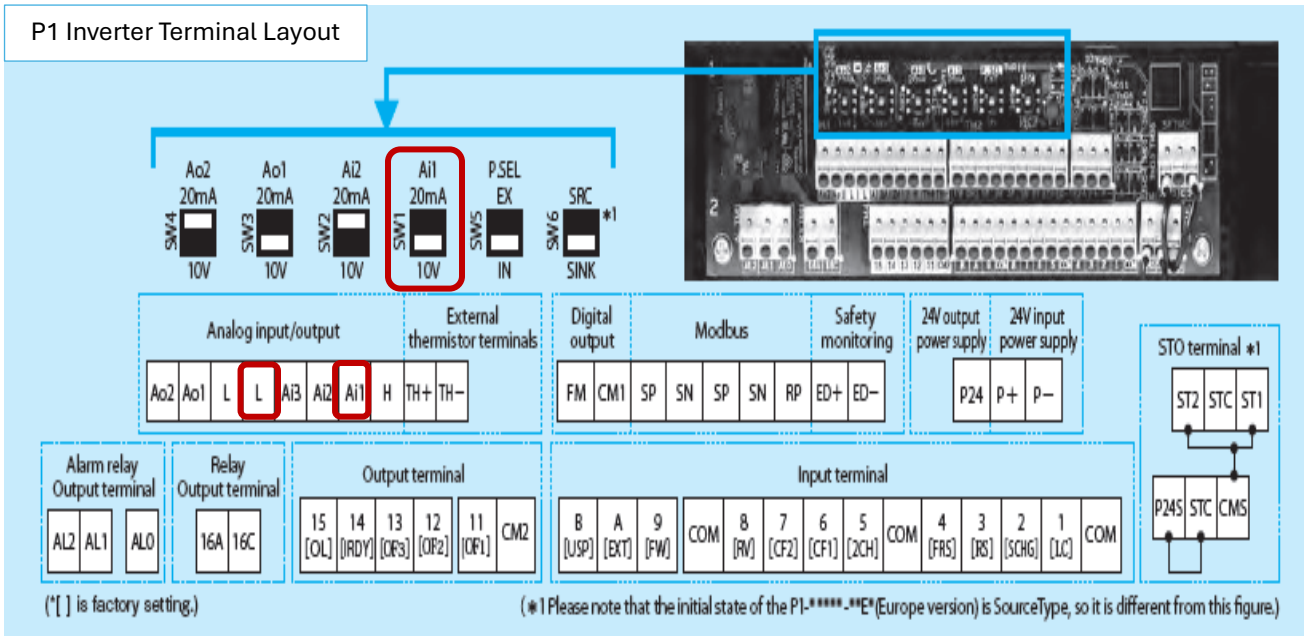
Using an industrial selector switch, the drive can be taken out of remote control and set to run locally from the input terminals and at a preset pressure setpoint. This requires the P1 Inverter to have two digital inputs connected. One that activates local control and one for the run command. Please wire an industrial style selector switch to the COM and Input #1 terminals, as shown below. This input is used by the P1 Inverter's program to change the inverter to local control. Please wire the COM terminal to an industrial style selector switch then back from the switch to the Input #9 terminal for forward Run.



Connecting the Pressure Feedback to the P1 Inverter

The pressure feedback is used by the inverter to regulate the pressure in the system by adjusting the speed of the pump. The pressure feedback will be an externally powered device with an output in the form of an analog signal that will be wired into the drive. This analog signal can be either 0-10V DC or 4-20mA; the dip switch SW1 can be used to change the configuration from voltage to current. The pressure feedback should be connected to the Ai1 and L terminals. If the pressure feedback is to be 4-20mA, please move the SW1 dip switch and set parameter Cb-05 to 20%.

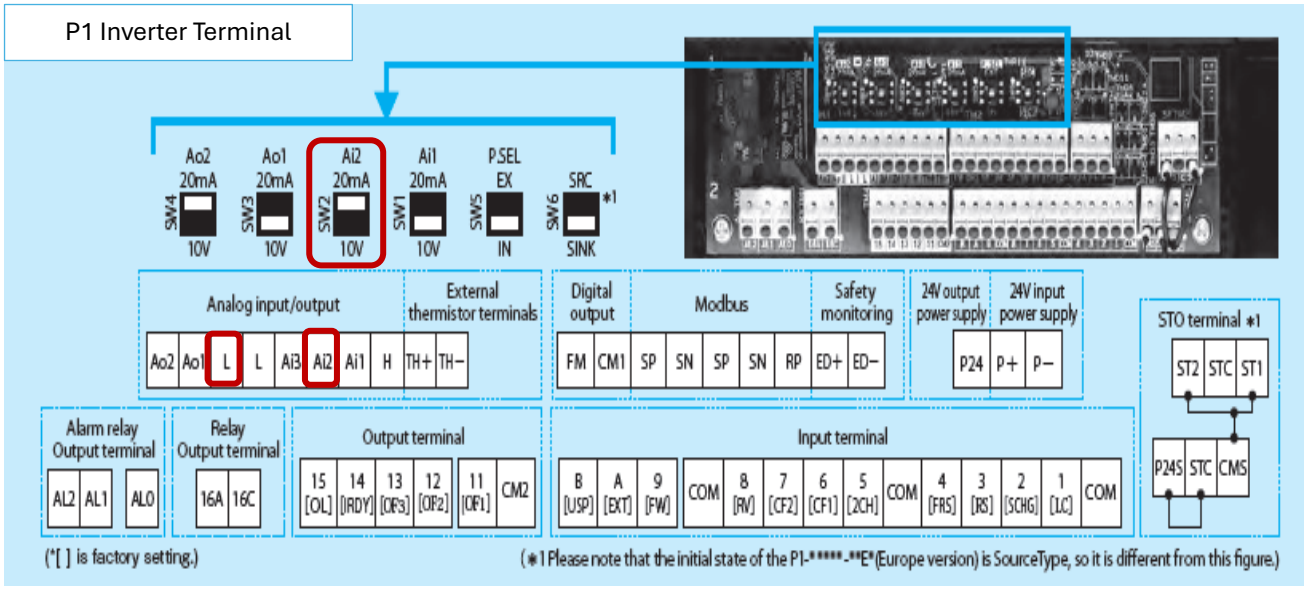
***Caution* Do not move the SW1 dip switch until power is completely removed from the inverter.**



Connecting the 1st Moisture Sensor to the P1 Inverter

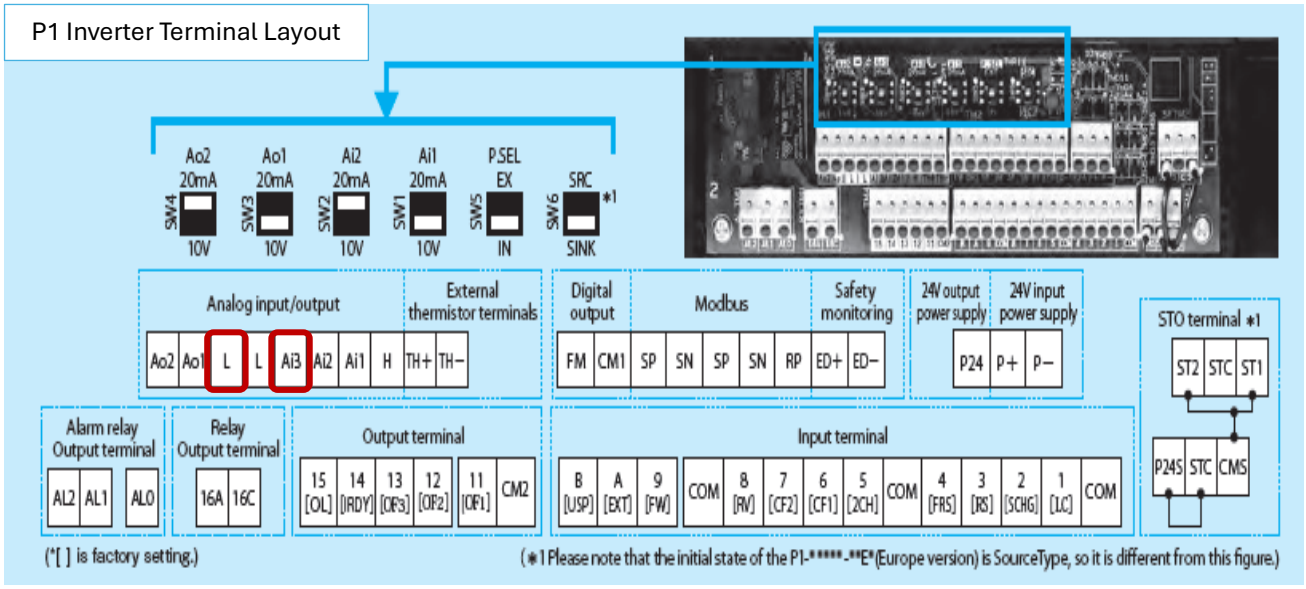
The moisture sensor will be an externally powered device, that when wired into the P1 Inverter, will be used to display the moisture on the Irrigation GUI webpage. This moisture sensor will be used for the moisture charting feature available on the Irrigation IOT GUI webpage; please see below for more information on the moisture charting feature. The moisture sensor device will be an analog sensor with either a 0-10V DC or 4-20mA output signal; the dip switch SW2 can be used to change the configuration. The sensor should be connected to the Ai2 and L terminals. If the moisture feedback is to be 0-10V DC, please move the SW2 dip switch and set parameter Cb-15 to 0%.

***Caution* Do not move the SW2 dip switch until power is completely removed from the inverter.**



Connecting the Humidity Sensor to the P1 Inverter

The Humidity sensor will be an externally powered device, that when wired into the P1 Inverter, will be used to display the humidity on the Irrigation GUI webpage. The humidity sensor device will be an analog sensor that can output either a -10V DC to +10V DC or 0 to 10V DC. The sensor should be connected to the Ai3 and L terminals.



Instructions for the expanded kit that includes the P1-AG analog input card which allows the addition of multiple sensors.

With the optional P1-AG analog input card, the system can be configured to have a temperature sensor, a 2nd moisture sensor, and a Soil pH sensor. Please see the Irrigation IOT User Manual for detailed instructions on installing and wiring the P1-AG option card with the P1 Inverter.

Connecting the Temperature Measuring Device to the P1 Inverter

The temperature measuring device will be used to accurately display the temperature on the Irrigation GUI webpage. The temperature measuring device will be mounted separately of the inverter and wired directly into the P1-AG option card that is installed in the P1 Inverter. For detailed instructions on connecting the temperature measuring device, please see the Irrigation IOT User Manual.

Connecting the 2nd Moisture Sensor to the P1 Inverter

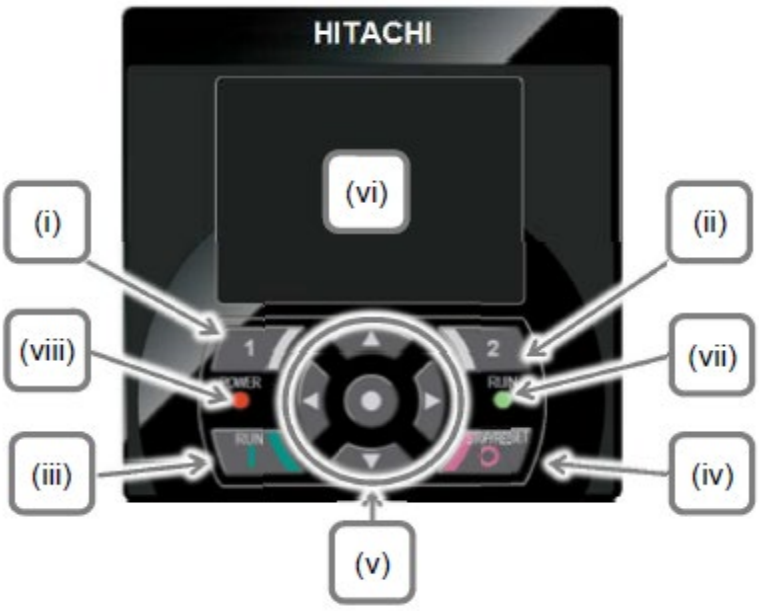
The 2nd moisture sensor will be an externally powered device, that when wired into the P1 Inverter, will be used to display the moisture on the Irrigation GUI webpage. The moisture sensor device will be an analog sensor with either a 0-10V DC or 4-20mA output signal. The 2nd moisture sensor should be wired to the P1-AG analog expansion card that is installed in the P1 Inverter. For detailed instructions on connecting the 2nd moisture sensor, please see the Irrigation IOT User Manual.

Connecting the Soil pH Sensor to the P1 Inverter

The Soil pH sensor will be an externally powered device, that when wired into the P1 Inverter, will be used to display the moisture on the Irrigation GUI webpage. The Soil pH sensor will be an analog sensor with either a -10 to +10V DC or 0 to 10V DC output signal. The Soil pH sensor should be wired to the P1-AG analog expansion card that is installed in the P1 Inverter. For detailed instructions on connecting the Soil pH sensor, please see the Irrigation IOT User Manual.

P1 Inverter Programming

The P1 Inverter will come programmed from the factory for submersible pump control, however, the settings can still be changed with the inverter's keypad.



No.	Name	Setting
(i)	F1 key	Displays functions such as navigation to the home screen and cancellation at the bottom left of the screen.
(ii)	F2 key	Displays functions such as data storage at the bottom right of the screen.
(iii)	RUN key	The device runs when this key is enabled.
(iv)	STOP/RESET key	Performs deceleration stop and trip reset.
(v)	Arrow keys & SEL key (center)	Select data on the screen using arrow keys, and confirm by pressing the O key in the center.
(vi)	Display screen	Displays parameters and data.
(vii)	RUN lamp	Turns on when an operation command is sent.
(viii)	POWER lamp	Turns on when the operator keypad is ON. Turns on when R0 and T0 on the main circuit or P+ and P- on the terminal block are ON.

To access the parameters, press the number 1 Function key (Menu). Now, several options appear on the screen. Scroll mode can be used to display the parameter file groups. The P1 Inverter parameters are broken down into file groups that contain similar parameters. The file groups of parameters are:

D file group: This file group displays parameters used to show information about the drive such as the motor output speed, amperage, voltage, etc.

F file group: This is the reference and monitor parameters. Change important features quickly with this file group and the parameter acts as the monitor for that parameter.

A file group: The standard function parameters are used to set the inverter's control, such as the run command and speed command source. The PID function parameters are stored in the A file group. The multispeed settings are also located in the A file group.

B file group: The fine-tuning functions are stored in the B file group. This includes the upper and lower frequency limits, overload restriction parameters, automatic restart functions, carrier frequency, and the torque limit functions.

C file group: The C file group contains parameters for the digital and analog input / output functions. The RS 485 communication parameters and the EzCom parameters are stored in the C file group.

H file group: The H file group contains the motor parameters that need to be set to properly protect the motor.

O file group: The O file group stores parameters for the options that can be inserted into the P1 Inverter's 3 slots.

P file group: The P file group contains parameters for emergency force functions and simulation mode parameters.

U file group: The initialization, trace function, EzSq parameters, and the load setting parameters are stored in the U file group.

From the main menu, the motor menu can be accessed, here you will quickly find parameters to set the motor specifications. Keypad display options can also be accessed to configure your display to your specifications. There will also be options for user group parameters and a section to read/write parameter sets to the inverter from the keypad. Please see the next section that explains the preset parameters that pertain to the IOT Irrigation P1 Inverter.

A - File Group (Standard parameters)

Speed Command Source – (parameter AA101) In normal pumping applications, this will be set to PID control. This allows the user to set a setpoint and the inverter will react by adjusting the speed of the pump based on feedback from the system. The parameter has been preset to option 15 (PID).

Run Command Source – (parameter AA111) For the pumping application to be controlled remotely, this parameter must be set to option 03 (RS485). Activating digital input #1, assigned to the Hand/Auto switch, can change the run command

to a locally terminated run command switch, input #9. The preset value stored in the parameter is option 03 (RS485).

Acceleration Time 1 – (parameter AC120) This parameter has been preset to 2 seconds for the submersible pump application, however it can be adjusted based on the specific needs of the application. This parameter can be changed from the keypad or the IOT Irrigation webpage.

Deceleration Time 1 – (parameter AC122) The deceleration time has been preset to 2 seconds for the submersible pump application, however it can also be adjusted based on the specific needs of the application. This parameter can be changed from the keypad or the IOT Irrigation webpage.

Acceleration Time 2 – (parameter AC124) The 2nd acceleration time becomes active after the pump motor reaches the assigned motor speed. This parameter has been preset to 15 seconds. This parameter can be changed from the keypad or the IOT Irrigation webpage.

Deceleration Time 2 – (parameter AC126) The 2nd deceleration time becomes active after the pump motor reaches the assigned motor speed. This parameter has been preset to 15 seconds. The parameter can be changed from the keypad or the IOT Irrigation webpage.

Acceleration 1 to Acceleration 2 Transition frequency – (parameter AC116) This parameter will set the transition frequency that will change the acceleration time from Acceleration Time 1 to Acceleration Time 2. This is especially useful in submersible pump applications to allow water to start flowing quickly. After this transition, the pump motor can ramp up more slowly and adapt to the changing pressure in the system. This parameter can be changed from the keypad or the IOT Irrigation webpage.

Deceleration 1 to Deceleration 2 Transition frequency – (parameter AC117) This parameter will set the transition frequency that will change the deceleration time from Deceleration Time 1 to Deceleration Time 2. This parameter can be changed from the keypad or the IOT Irrigation webpage.

PID Enable – (parameter AH-01) This parameter activates the PID control which allows the P1 Inverter to control the pressure of the pumping system. The parameter will be preset to 01: PID Enabled.

PID Engineering Units – (parameter AH-03) The PID engineering units can be set based on the type of application the P1 Inverter is installed. The parameter will be preset to option 57: PSI.

Input source selection of PID Setpoint – (parameter AH-07) This parameter sets the source of the setpoint for PID control. The parameter will be preset to 08: RS485 Modbus. When input #1 is active, this parameter will be changed to option 07: Keypad (parameter AH-10).

PID Setpoint – (Parameter AH-10) This parameter sets the pressure setpoint for the system when the P1 Inverter is placed in local control.

Input source selection of PID Feedback – (parameter AH-51) The parameter sets the source of the feedback for PID control. The parameter will be preset to option 01: Analog Input #1.

PID Soft Start Function Enable – (parameter AH-75) The soft start function allows the system to ramp up slowly and linearly and build up pressure before switching to PID control. This feature prevents water hammer on the system.

PID Soft Start Target Level – (parameter AH-76) This parameter sets the level at which the PID function will take control. The parameter will be preset to 50%, which allows the PID control to take over at 30Hz.

Acceleration time for PID soft start control – (Parameter AH-78) This parameter sets the acceleration time for PID soft start. The parameter will be preset to 2 seconds.

PID Soft Start – (Parameter AH-80) The overall soft start operation time is set with this parameter. The parameter will be preset to 15 seconds.

C - File Group (Input/Output and Communication Parameters)

Input terminal 1 function – (parameter CA-01*)* Input 1 is used by the EzSq program for local control. This input parameter will be set to option 086: (MI1: General purpose input).

Input terminal 3 function – (parameter CA-03*)* Input 3 is programmed to be the reset function. This parameter will be set to option 028: (RS: Reset).

Input terminal 9 function – (parameter CA-09) Input 9 is the run forward function for local control. This parameter is set to option 001: (FW: Forward Run).

RS485 communication baud rate – (parameter CF-01) This parameter must be set to option 05 (9600bps) for the inverter to operate remotely.

RS485 communication node address – (parameter CF-02) This parameter must be set to 1 for the inverter to operate remotely.

RS485 communication parity selection – (parameter CF-03) This parameter must be set to option 00 (no parity) for the inverter to operate remotely.

RS485 communication stop bit selection – (parameter CF-04) This parameter must be set to option 01 (1 bit) for the inverter to operate remotely.

RS485 communication mode selection – (parameter CF-08) This parameter must be set to option 01 (Modbus-RTU) for the inverter to operate remotely.

H - File Group (Motor Information Parameters)

Motor capacity – (parameter Hb102) Please set the motor capacity in kilowatts.

Motor poles – (parameter Hb103) Please set the motor poles. If this information cannot be found on the motor's data information tag, use the following equation to find the poles.

(Max Motor speed (Hz) * 120) / motor synchronous speed

Motor base speed – (parameter Hb104) Set to the motor base frequency.

Motor maximum frequency – (parameter Hb105) Please set to the motor maximum frequency.

Motor rated voltage – (parameter Hb106) Set to the motor's rated voltage.

Motor rated current – (parameter Hb108) Set to the motor's rated current.

U File Group (Initialization (Factory Reset), EzSq parameters)

Initialization mode selection – (parameter Ub-01) Use this parameter to set the information to be reset. For a simple reset of the parameters, please choose option 02 (Data Initialization). *Only set this parameter if you intend to reset the drive back to factory parameter settings. If the P1 Inverter is reset to factory settings, the parameters will need to be reprogrammed for the inverter to work in the Irrigation IOT application. *

Enable Initialization – (parameter Ub-05) This is the trigger for the initialization. Please set to option 01 (Execute initialization) to reset the drive back to factory settings. *Only set this parameter if you intend to reset the drive back to factory parameter settings. If the P1 Inverter is reset to factory settings, the parameters will need to be reprogrammed for the inverter to work in the Irrigation IOT application. *

EzSq enable setting – (parameter UE-02) This parameter starts the EzSq function, it has been preset to 02 (Always enabled). *Disabling this function will cause other features to stop functioning properly. *

Troubleshooting and Error Codes

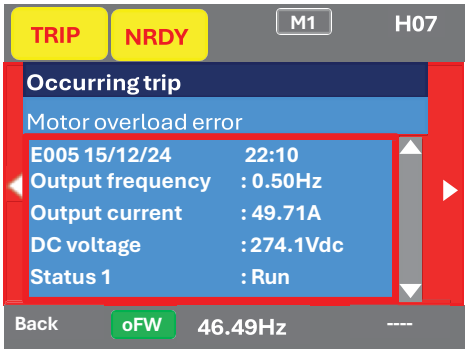
If the P1 Inverter has faulted, an error code will be displayed on the IOT Webpage and on the front keypad. Up to 10 previous faults will be stored in the inverter's fault history. The latest fault will be displayed in trip 1 monitor. The following data is stored on each fault that has occurred:

- The fault error code
- Output frequency at trip
- Output current at trip
- Main Circuit DC voltage at trip
- Operation state at trip
- Cumulative inverter operating time (hours) before trip
- Cumulative inverter power-on time (hours) before trip

Please keep in mind the following points about the P1 Inverter fault codes:

- The information of the moment of error occurrence may not be fetched properly if the inverter is forcibly turned OFF by its hardware.
- Values of respective data items may be reset to 0 when an error occurred, and the inverter entered the trip condition.
- For a ground fault or a momentary overcurrent event, the current may be recorded in a value lower than the actual value.
- The trip monitor and the trip count monitor can be cleared by initialization of the trip history.

■ Display of occurring trip

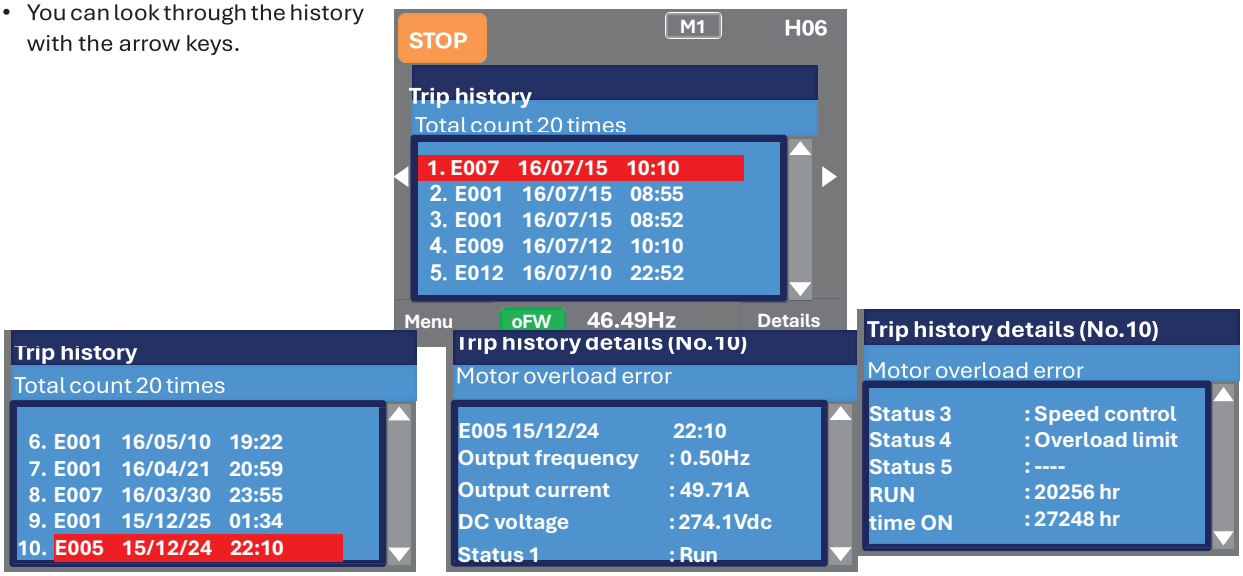


■ Parameter

Item	Parameter	Data	Description
Trip monitor 1 to 10	Detailed monitor	See above data items.	On the parameter monitor, you can view data items 1) to 7) in sequence by UP/DOWN keys.
Trip count monitor	Detailed monitor	0 - 65535 (Counts)	Trip count data is stored in the inverter.

■ “Detailed monitor” for checking the history

- You can look through the history with the arrow keys.



Protection-function Related Errors

Refer to the explanation pages of the User’s manual.

Error No.	Error Name	Explanation Page
E001	Overcurrent error	18-7
E005	Motor overload error *2)	18-8
E006	Braking resistor overload error	18-9
E007	Overvoltage error	18-10
E008	Memory error	18-11
E009	Undervoltage error	18-12
E010	Current detector error *1)	18-13
E011	CPU error *1)	18-13
E012	External trip error	18-14
E013	USP error	18-14
E014	Ground fault error *1)	18-15
E015	Incoming overvoltage error	18-15
E016	Instantaneous power failure error	18-16
E019	Temperature detector error *1)	18-16
E020	Cooling fan rotation speed reduction temperature error *1)	18-17
E021	Temperature error	18-17
E024	Input open-phase error	18-18
E030	IGBT error	18-18
E034	Output open-phase error	18-19

Error No.	Error Name	Explanation Page
E035	Thermistor error	18-19
E036	Brake error	18-20
E038	Low-speed range overload error	18-20
E039	Controller overload error *2)	18-21
E040	Operator keypad disconnection error	18-22
E041	RS485 communication error	18-22
E042	RTC error	18-23
E043	EzSQ illegal instruction error	18-23
E044	EzSQ nest count error	18-24
E045	Executive instruction error	18-24
E050	EzSQ user-assigned error 0	18-25
E051	EzSQ user-assigned error 1	18-25
E052	EzSQ user-assigned error 2	18-25
E053	EzSQ user-assigned error 3	18-25
E054	EzSQ user-assigned error 4	18-25
E055	EzSQ user-assigned error 5	18-25
E056	EzSQ user-assigned error 6	18-25
E057	EzSQ user-assigned error 7	18-25
E058	EzSQ user-assigned error 8	18-25
E059	EzSQ user-assigned error 9	18-25

*1) When a serious fault has occurred, it cannot be released by a reset operation.

Error No.	Error Name	Explanation Page
E060	Option 1 error 0	18-25
E061	Option 1 error 1	18-25
E062	Option 1 error 2	18-25
E063	Option 1 error 3	18-25
E064	Option 1 error 4	18-25
E065	Option 1 error 5	18-25
E066	Option 1 error 6	18-25
E067	Option 1 error 7	18-25
E068	Option 1 error 8	18-25
E069	Option 1 error 9	18-25
E070	Option 2 error 0	18-26
E071	Option 2 error 1	18-26
E072	Option 2 error 2	18-26
E073	Option 2 error 3	18-26
E074	Option 2 error 4	18-26
E075	Option 2 error 5	18-26
E076	Option 2 error 6	18-26
E077	Option 2 error 7	18-26
E078	Option 2 error 8	18-26
E079	Option 2 error 9	18-26
E080	Option 3 error 0	18-26
E081	Option 3 error 1	18-26
E082	Option 3 error 2	18-26
E083	Option 3 error 3	18-26
E084	Option 3 error 4	18-26
E085	Option 3 error 5	18-26
E086	Option 3 error 6	18-26
E087	Option 3 error 7	18-26
E088	Option 3 error 8	18-26
E089	Option 3 error 9	18-26

*2) When a controller overload fault has occurred, or a motor overload error fault has occurred in the condition that [bC112] had been set to 00, the inverter does not accept a reset input for 10 s. Wait for a while before performing a reset operation.

Error No.	Error Name	Explanation Page
E090	STO shutoff error	18-27
E091	STO internal error	18-27
E092	STO path 1 error	18-27
E093	STO path 2 error	18-27
E094	FS option internal error	18-27
E095	FS option path 1 error	18-27
E096	FS option path 2 error	18-27
E097	FS option connection error	18-27
E100	Encoder disconnection error	18-27
E104	Position control range error	18-27
E105	Speed deviation error	18-27
E106	Position deviation error	18-27
E107	Over-speed error	18-27
E110	Contactor error	18-27
E112	FB option connection error	18-27

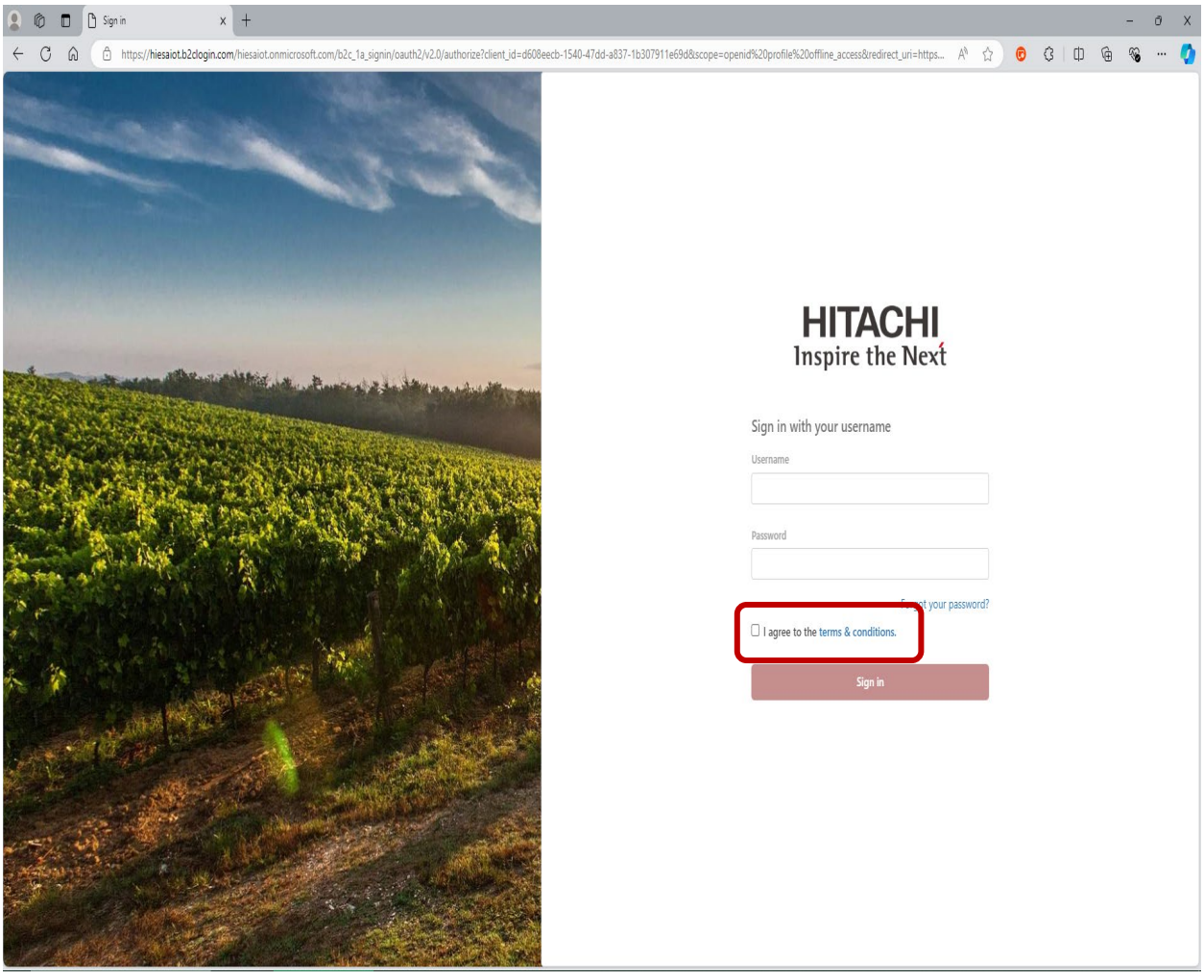
For more information on the error codes and how to troubleshoot them, please consult the Irrigation IOT User Manual, and the P1 Inverter User Manual.

Using the IOT GUI WEB Portal to control the pump

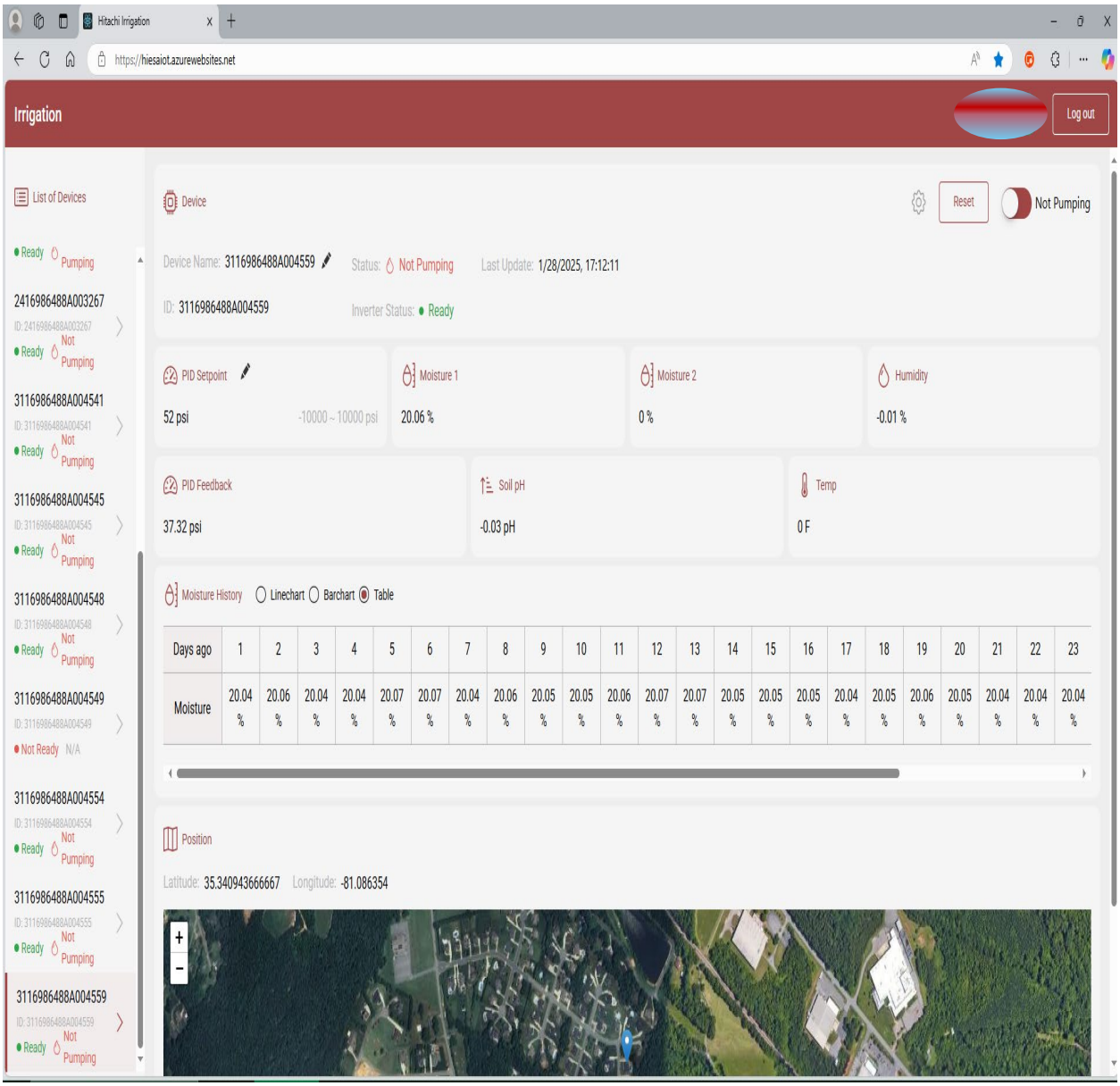
Please log into the Hitachi Irrigation GUI (Graphic User Interface) webpage using either a computer connected to the internet, tablet, or phone with internet access.

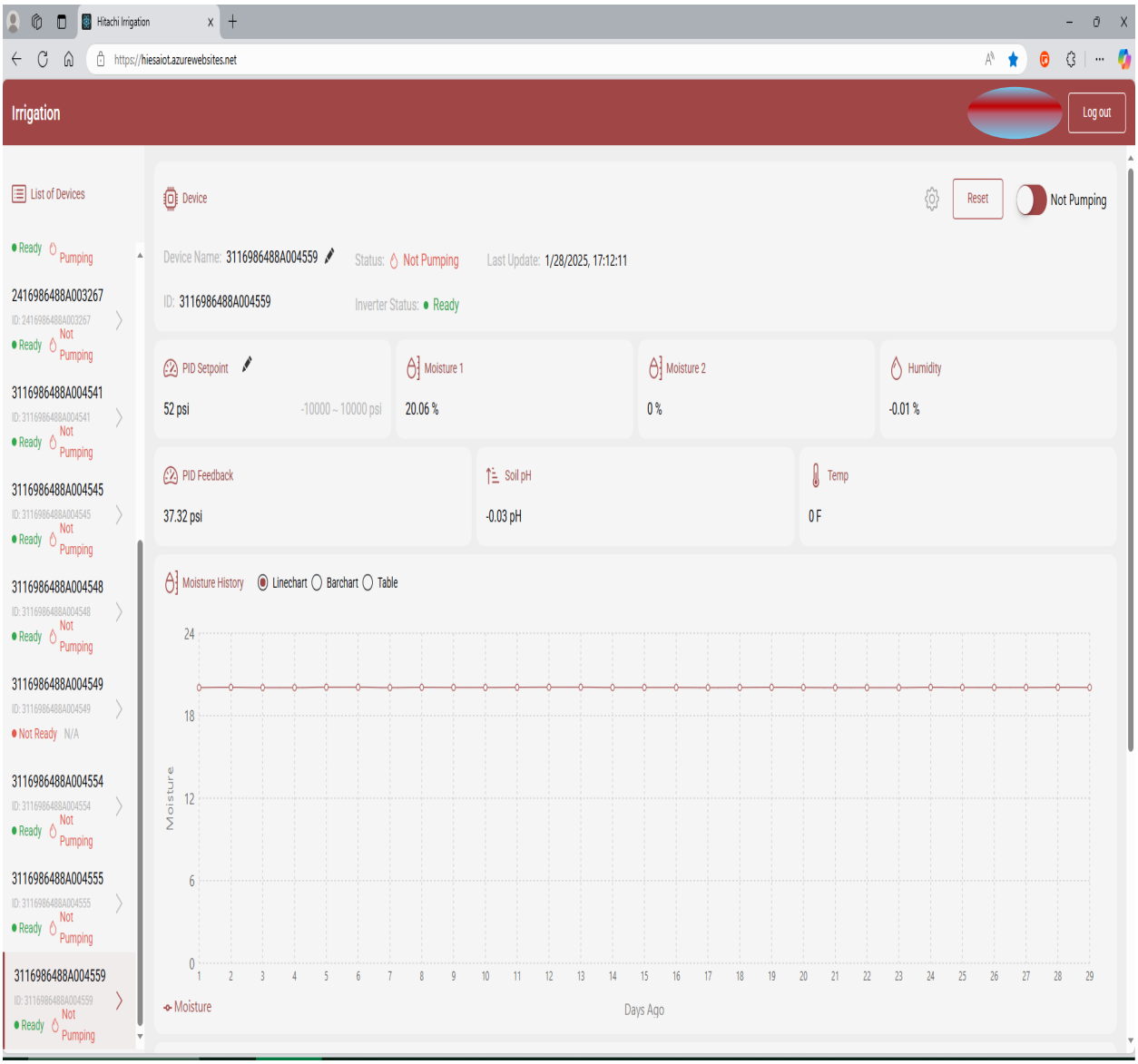
The Hitachi Irrigation GUI webpage is located at:
https://hiesaiot.azurewebsites.net

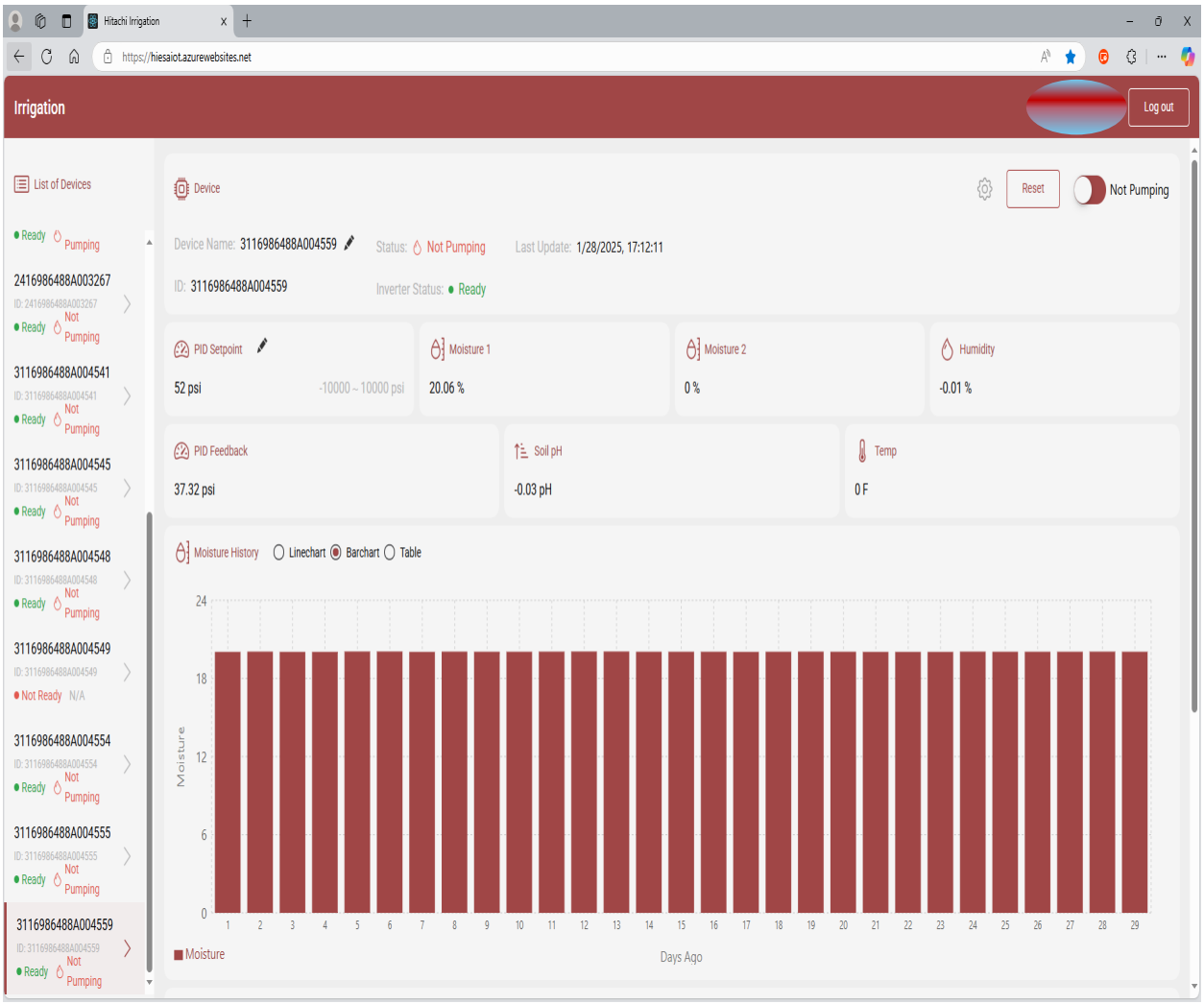
Please enter the username and password assigned to the user. (This must be done in advance of accessing the IOT webpage. Please contact Hitachi directly to setup a username and password.) You are also required to accept the end user license agreement by checking the box below the user sign in.



After logging into the Irrigation GUI webpage, the Irrigation Dashboard will be displayed (please see below). From here, a list of assigned devices populates on the left side of the page. Once a device is selected, information from that device will be displayed. The Device Name field allows the user to set an identifier that is relevant to the application, such as “Field 1 Pump” or “Corn Field West Side”. The device’s serial number will be automatically populated in the ID field. The status indicator displays a “Not Pumping” or “Pumping” icon based on the output of the inverter. The inverter status indicator informs the user if the drive is “Ready” or “Not Ready/Faulted”. If faulted, the inverter should be inspected for the root cause of the fault. Then the inverter can be reset using the Reset button on the Irrigation page or the physical Reset button on the inverter. If the drive is faulted, a fault code will be generated and displayed on the Irrigation webpage. The fault code will also be displayed on the inverter and stored in the inverter’s fault history. The date and time will be stored in the Last Update field. From the Irrigation dashboard, the user will be able to view or change the PID setpoint, by clicking on the pencil icon by the PID Setpoint field name. The Moisture 1, Moisture 2, Humidity, Soil pH, and Temperature fields can be observed from this dashboard as well. The Moisture sensor data will be displayed as a 29-day historical table that can be viewed as a line or bar chart. The bottom of the page contains the CPTrans device’s GPS coordinates. The GPS coordinates will automatically be populated when using the GPS antenna. The coordinates can also be manually entered by clicking the pencil icon by the Position field name.

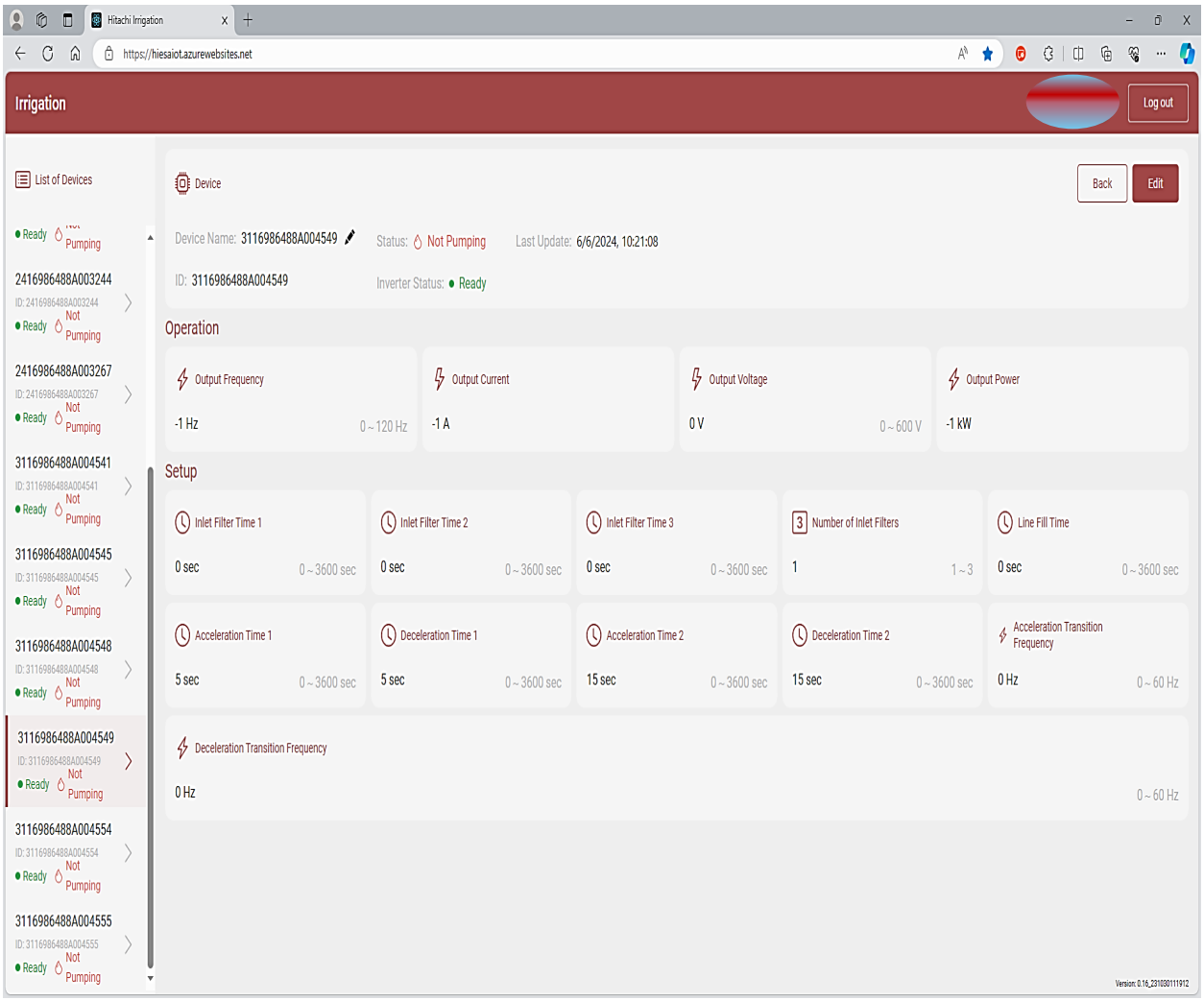

Hitachi Irrigation
https://hiesaiot.azurewebsites.net
Irrigation
Log out
List of Devices
Ready Pumping
24169864888A003267
Ready Not Pumping
3116986488A004541
Ready Not Pumping
3116986488A004545
Ready Not Pumping
3116986488A004548
Ready Not Pumping
3116986488A004549
Not Ready N/A
3116986488A004554
Ready Not Pumping
3116986488A004555
Ready Not Pumping
3116986488A004559
Ready Not Pumping
Device
Reset
Not Pumping
Device Name: 3116986488A004559
Status: Not Pumping
Last Update: 1/28/2025, 17:12:11
ID: 3116986488A004559
Inverter Status: Ready
PID Setpoint
52 psi
-10000 ~ 10000 psi
Moisture 1
20.06 %
Moisture 2
0 %
Humidity
-0.01 %
PID Feedback
37.32 psi
Soil pH
-0.03 pH
Temp
0 F
Moisture History
Linechart
Barchart
Table
Days ago 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23
Moisture 20.04 % 20.06 % 20.04 % 20.04 % 20.07 % 20.07 % 20.04 % 20.06 % 20.05 % 20.05 % 20.06 % 20.07 % 20.07 % 20.05 % 20.05 % 20.05 % 20.04 % 20.05 % 20.06 % 20.05 % 20.04 % 20.04 % 20.04 %
Position
Latitude: 35.340943666667
Longitude: -81.086354

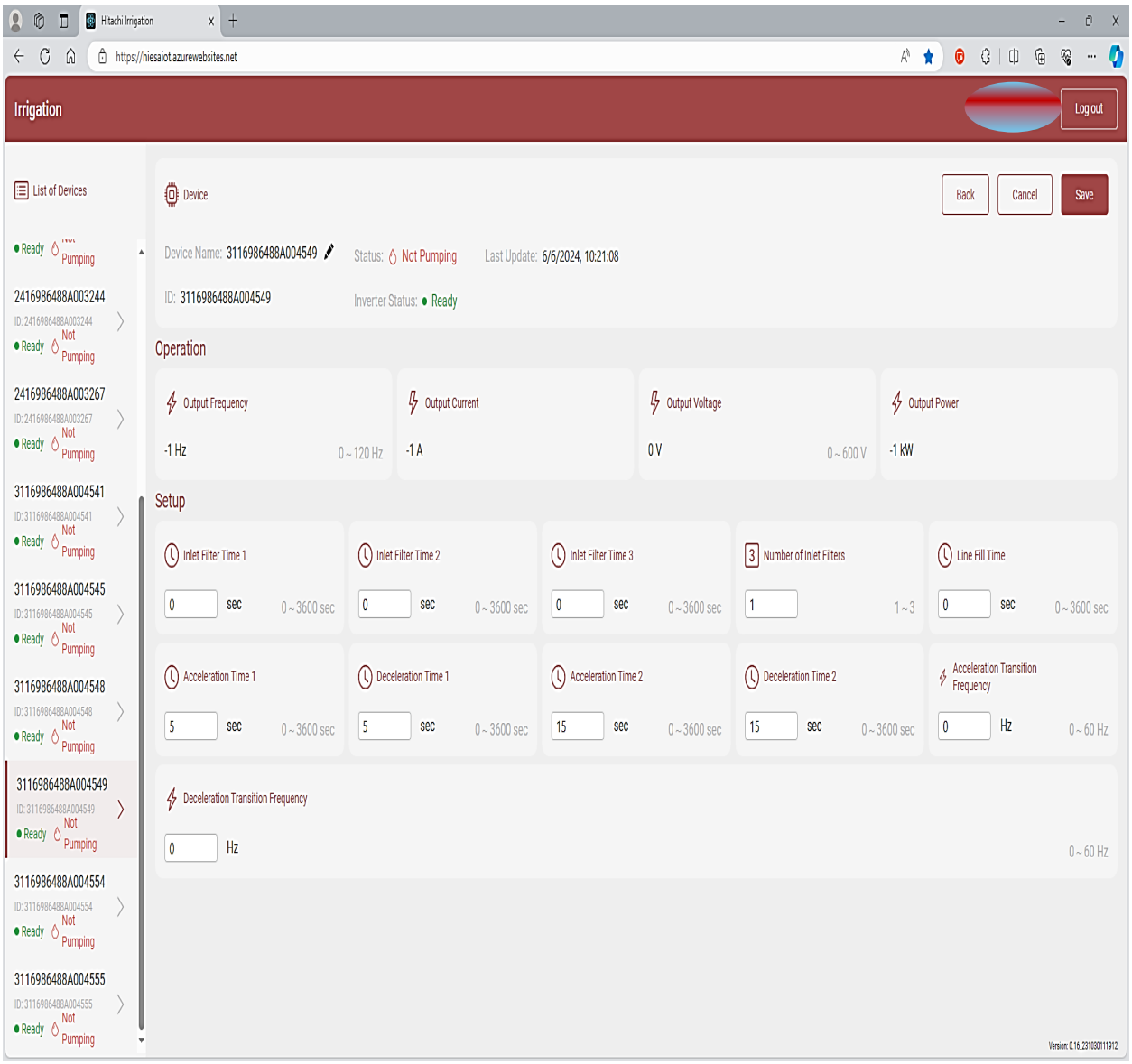

Hitachi Irrigation
https://hiesaiot.azurewebsites.net
Irrigation
Log out
List of Devices
Ready Pumping
2416986488A003267
ID: 2416986488A003267
Ready Not Pumping
3116986488A004541
ID: 3116986488A004541
Ready Not Pumping
3116986488A004545
ID: 3116986488A004545
Ready Not Pumping
3116986488A004548
ID: 3116986488A004548
Ready Not Pumping
3116986488A004549
ID: 3116986488A004549
Not Ready N/A
3116986488A004554
ID: 3116986488A004554
Ready Not Pumping
3116986488A004555
ID: 3116986488A004555
Ready Not Pumping
3116986488A004559
ID: 3116986488A004559
Ready Not Pumping
Device
Reset
Not Pumping
Device Name: 3116986488A004559
Status: Not Pumping
Last Update: 1/28/2025, 17:12:11
ID: 3116986488A004559
Inverter Status: Ready
PID Setpoint
52 psi
-10000 ~ 10000 psi
Moisture 1
20.06 %
Moisture 2
0 %
Humidity
-0.01 %
PID Feedback
37.32 psi
Soil pH
-0.03 pH
Temp
0 F
Moisture History
Linechart
Barchart
Table
Moisture
Days Ago



Clicking on the gear icon, from the dashboard, will bring up the P1 Inverter's operation tiles and the setup fields that can be edited by the user. The operation tiles display the P1 Inverter's Output Frequency, Output Current, Output Voltage, and Output Power. These information blocks are display only and cannot be changed. The next section of the webpage, "Setup", can be used to set values in the P1 Inverter. To edit these fields, click the Edit button in the top right. If using the filter sequence function, the "Number of Filters" field must be set, up to 3 filters can be used with the P1 Inverter outputs. If the filter sequence function is not going to be used, the "Number of Filters" field must be set to 0. The

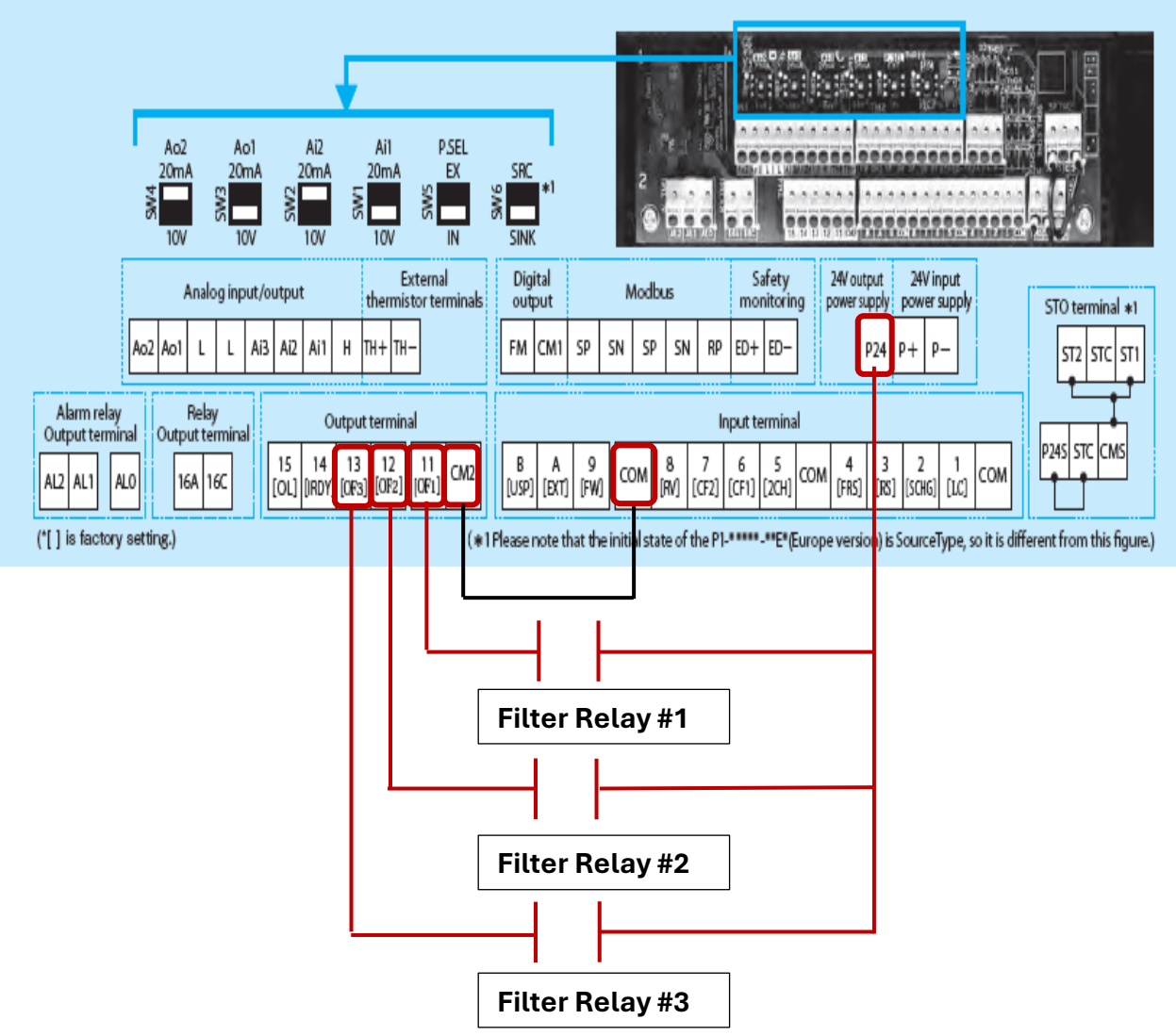
“Inlet Filter Time 1, 2, and 3” fields allow the user to set some time for the filters to rotate between them. The “Line Fill Time” field allows the user to set some time for line fill to avoid water hammer on the pipes. The user can also set the Acceleration and Deceleration times. These parameters have been preset to 2 seconds. The user also has the option to set a second Acceleration and Deceleration time. These parameters have been preset to 15 seconds. This allows the drive to power the pump up quickly then change to a slower rate at the Acceleration Transition Frequency. After all changes have been made, please click the Save button to write all the values to the P1 Inverter.


Hitachi Irrigation
https://hiesaiot.azurewebsites.net
Irrigation
Log out
List of Devices
Device
Back
Edit
Device Name: 3116986488A004549
Status: Not Pumping
Last Update: 6/6/2024, 10:21:08
ID: 3116986488A004549
Inverter Status: Ready
Operation
Output Frequency
-1 Hz
0 ~ 120 Hz
Output Current
-1 A
Output Voltage
0 V
0 ~ 600 V
Output Power
-1 kW
Setup
Inlet Filter Time 1
0 sec
0 ~ 3600 sec
Inlet Filter Time 2
0 sec
0 ~ 3600 sec
Inlet Filter Time 3
0 sec
0 ~ 3600 sec
Number of Inlet Filters
1
1 ~ 3
Line Fill Time
0 sec
0 ~ 3600 sec
Acceleration Time 1
5 sec
0 ~ 3600 sec
Deceleration Time 1
5 sec
0 ~ 3600 sec
Acceleration Time 2
15 sec
0 ~ 3600 sec
Deceleration Time 2
15 sec
0 ~ 3600 sec
Acceleration Transition Frequency
0 Hz
0 ~ 60 Hz
Deceleration Transition Frequency
0 Hz
0 ~ 60 Hz
Ready
Not Pumping
2416986488A003244
2416986488A003267
3116986488A004541
3116986488A004545
3116986488A004548
3116986488A004549
3116986488A004554
3116986488A004555

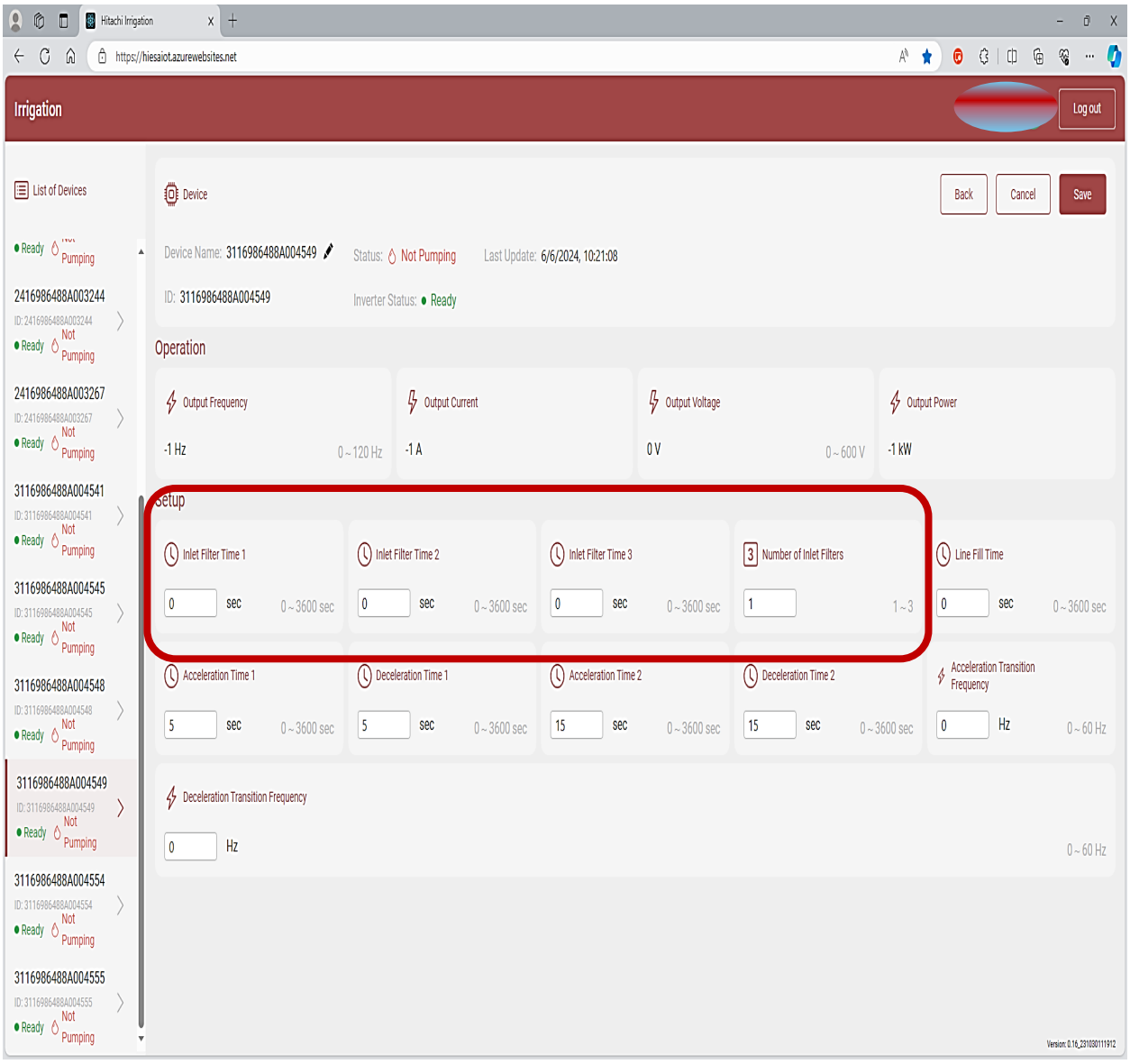

Hitachi Irrigation
https://hiesaiot.azurewebsites.net
Irrigation
Log out
List of Devices
Device
Back
Cancel
Save
Device Name: 3116986488A004549
Status: Not Pumping
Last Update: 6/6/2024, 10:21:08
ID: 3116986488A004549
Inverter Status: Ready
Operation
Output Frequency
-1 Hz
0 ~ 120 Hz
Output Current
-1 A
Output Voltage
0 V
0 ~ 600 V
Output Power
-1 kW
Setup
Inlet Filter Time 1
Inlet Filter Time 2
Inlet Filter Time 3
Number of Inlet Filters
Line Fill Time
Acceleration Time 1
Deceleration Time 1
Acceleration Time 2
Deceleration Time 2
Acceleration Transition Frequency
Deceleration Transition Frequency
0 ~ 3600 sec
1 ~ 3
0 ~ 60 Hz
Version: 0.16_23103011912

Filter Sequence Function

The filter sequence function rotates up to three outputs that will be wired to the filters for a configured amount of time. The outputs of the P1 Inverter will turn on and off based on the input settings from the GUI webpage. Outputs 11, 12, and 13 are programmed as general-purpose outputs and used by the EzSq program for the filter sequence function. These are 24V DC outputs and should be wired to relays to activate the filters if using 120V or some other different voltage. Please see the output wiring below.



To activate the filter sequence function; first, set the “Number of Filters” field using the GUI webpage. Setting this field to 0 disables the filter sequence function. After setting the number of filters, please set the “Inlet Filter Times 1, 2, and 3” fields to the desired filtering time in seconds. Please see the Irrigation IOT User manual for more information on the filter function and the filter sequence function program flow diagram.



For a complete list of parameters and functions of the P1 Inverter, please see the Irrigation IOT User Manual, P1 Inverter manuals, guides, application notes, and videos found at Hitachi Industrial Equipment and Solutions of America Website www.hitachi-iesa.com**.**

Please contact Hitachi Industrial Equipment & Solutions America, LLC for questions or concerns.

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