Quality detection system for video surveillance

OPTEX

REDWALL®
Unrivalled performance

PoE IP Encoder

PIE-1

INSTALLATION INSTRUCTIONS
(for SIP series and RLS series)

Detailed Version

CE

REDWALL MODEL PIE-1
OPTEX CO., LTD.
MADE IN CHINA

FEATURES

▪ PIE-1 changes analog relay output signals (N.C.) to original ASCII code.

▪ PIE-1 can supply power to detector using a PoE hub or switch.

SAFETY PRECAUTION

▪ Follow all cautions and instructions in this manual before installation.

▪ Keep this manual after installation so that you can read when necessary.

▪ Remember the meanings of "Warning" and "Caution" below to use the product safely.

⚠ Warning	If you ignore a warning, the user or other people may be injured or dead.
⚠ Caution	If you ignore a caution, the user or other people may be injured or the product or something around it may be damaged.

⚠ Warning

▪ Do not repair, dismantle or modify the product yourself.

▪ Do not touch the product with a wet hand.

▪ Be careful not to damage other interior wiring when installing or wiring the product.

▪ Power off the product immediately if smoke, odor or strange sound emits from the product.

▪ Do not install the product in an extremely moist place such as a bathroom or a place where the product may be wet.

⚠ Caution

▪ Insert the connectors securely when wiring.

CE Statement

Warning: This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures. (EN55022)

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① PREPARATIONS

Before using PIE-1, set the IP addresses of PIE-1 and the computer in the following procedure.

The default settings of PIE-1 are as follows.	
IP Address:	192.168.0.126
Subnet Mask:	255.255.255.0
Default Gateway:	0.0.0.0

(1) Set the local area connection.

An example of IP address settings	
IP Address	: 192.168.0.1
Subnet Mask	: 255.255.255.0

(2) Using Internet Explorer, access the site below. (http://192.168.0.126/)

(3) Enter the user ID and the password below.
   User ID: PIE-1
   Password: OPTEX

(4) Change the IP address if necessary.

(5) Select the detector you have connected.
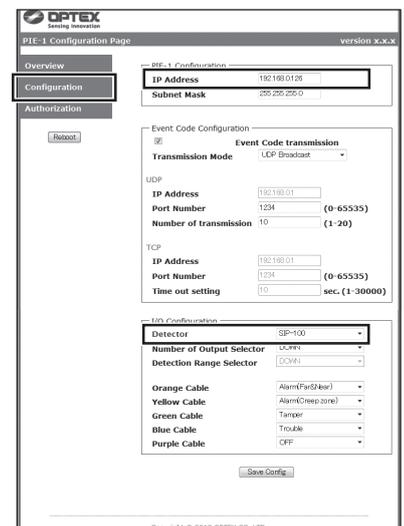
(6) After changing settings. Click "Save Config" button.

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2 SETTINGS ON THE WEB

You can confirm the information below by accessing PIE-1 with Internet Explorer 8 or 9.

- ▪ Confirming the status of input terminals of PIE-1
- ▪ Confirming the transmitted data of REDWALL Event Code (R.E.C.)
- ▪ Confirming the software version
- ▪ Managing the network settings
- ▪ Managing the transmission settings of R.E.C.
- ▪ Managing the settings of alarm input
- ▪ Changing the user ID or password
- ▪ Restarting PIE-1

To access the Web screen of PIE-1, enter the URL below in the browser.

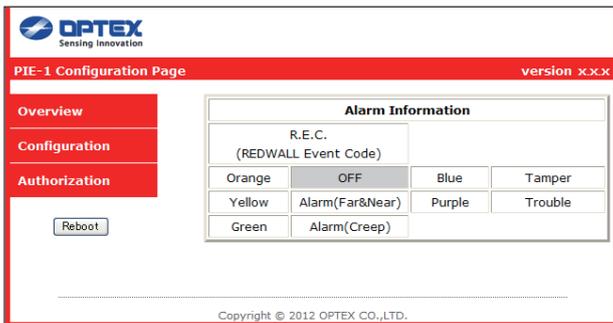http://192.168.0.126/index.htm

When the identification screen appears, enter the user ID and the password below.

User ID: PIE-1

Password: OPTEX

The Web screen of PIE-1 consists of three sub-screens: Overview, Configuration and Authorization.

Step 1

In the Overview screen, you can confirm the information below:

- ▪ Status of input terminals of PIE-1
- ▪ Transmitted data of REDWALL Event Code (R.E.C.)
- ▪ Software version

The status of each input terminal is indicated by a color such as Orange, Yellow, Green, Blue or Purple in the Alarm Information, according to the alarms specified in the Configuration screen. When a terminal has an input, the background becomes yellow. When the alarm is OFF, the background is gray. The R.E.C. transmission data is displayed in the R.E.C. (REDWALL Event Code) box of the Alarm Information.

Step 2
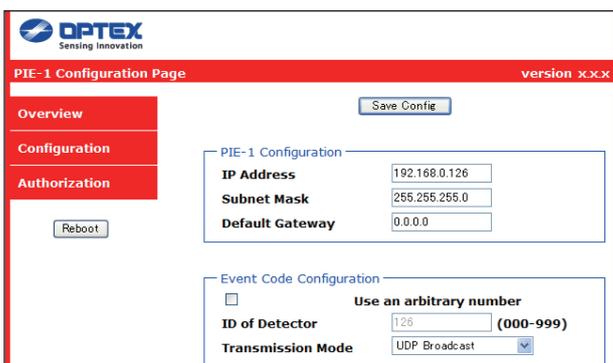
In the Configuration screen, you can change the settings below:

- ▪ Network settings of PIE-1
- ▪ Transmission settings of R.E.C.
- ▪ Settings of alarm input

After changing the settings, click the [Save Config] button at the top and bottom of the screen to save the settings in PIE-1.

Note>>

■ **PIE-1 Configuration: to change the network settings of PIE-1.**
- ▪ IP Address: to change the IP address of PIE-1
- ▪ Subnet Mask: to change the subnet mask of PIE-1
- ▪ Default Gateway: to change the default gateway of PIE-1

■ **Event Code Configuration: to change the transmission settings of R.E.C.**
  ▪ Use an arbitrary number: to define how to set the ID of Detector.
    When this item is unchecked, the value of the ID of Detector is automatically set as the right-end part of the IP Address.
  ▪ ID of Detector: to change the number of R.E.C. You can specify the number ranging from 0 to 999.
  ▪ Transmission Mode: to change the transmission mode of R.E.C.
  [UDP]
    ▪ IP Address: to change the IP address to which an R.E.C. (UDP) is transmitted.
    ▪ Port Number: to change the port number to which an R.E.C. (UDP) is transmitted.
    ▪ Number of transmission: to change the number of transmission of R.E.C. (UDP). You can specify the number within the range from 1 to 20.
  [TCP]
    ▪ IP Address: to change the IP address to which an R.E.C. (TCP) is transmitted.
    ▪ Port Number: to change the port number to which an R.E.C. (TCP) is transmitted.
    ▪ Time out setting: to change the duration of re-transmission of R.E.C. (TCP). You can specify the duration within the range from 1 to 30,000 seconds.
  ▪ Set continuous alarm of TA/TR available: to specify the transmission method of TR/TA of R.E.C. When this item is unchecked, TR/TA is transmitted only once. When this item is checked, TR/TA is transmitted at intervals you set in the "Transmission interval" area.
  ▪ Transmission interval: to change the transmission interval of TR/TA of R.E.C.
  ▪ Delay time of CL transmission: to change the delay time from the point when the relay output of object detection is cleared to the point when the CL of R.E.C. is transmitted.

■ **I/O Configuration: to change the alarm settings of input terminals**
  ▪ Detector: to select a detector connected to PIE-1
  ▪ Number of Output Selector: to select the switch status of the current Number of Output Selector (when SIP-100 is selected).
  ▪ Detection Range Selector: to select the switch status of the current Detection Range Selector (when SIP-3020, SIP-3020/5, SIP-404, SIP-404/5, SIP-4010 or SIP-4010/5 is selected).
  ▪ Orange / Yellow / Green / Blue / Purple: to change the alarm color of each input terminal.

In the I/O Configuration, you can select one of nine alarm types according to the sensor connected. R.E.C. are transmitted according to the alarm types you have selected here. When an input terminal is set to OFF in the I/O Configuration, PIE-1 does not transmit an R.E.C. if the terminal has an input.

R.E.C. to be transmitted according to the I/O Configuration are as follows:

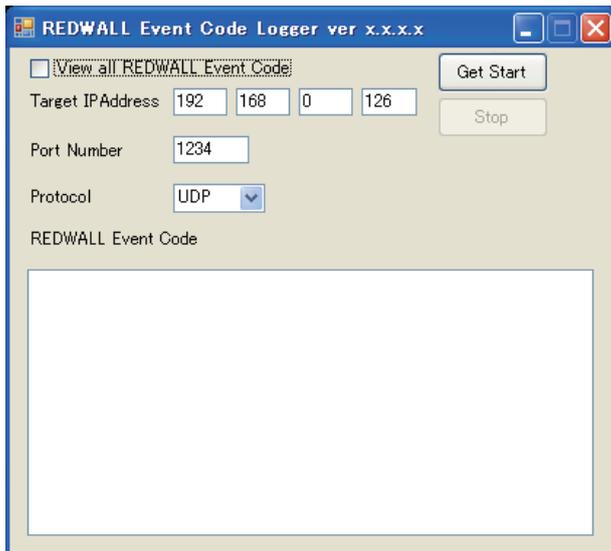| Alarm	R.E.C.	Alarm	R.E.C.
Alarm (Far)	FR	Alarm (Far&Near)	FN
Alarm (Near)	NR	Trouble	TR
Alarm (Creep)	CR	Tamper	TA

Step 3

In the Authorization screen, you can change the user ID and password when accessing the web screen. After changing the settings, click the [Save Config] button at the bottom of the screen to save the settings in PIE-1.

\<Purpose\>

PIE-1 generates event codes which can be used by an NVR or VMS software to control PTZ cameras and other devices.

\<Communication methods\>

REDWALL EVENT CODE can be sent to the assigned port using UDP or TCP protocol. The default port number is "1234".

When you connect PIE-1 to REDSCAN, REDWALL EVENT CODE is generated from REDSCAN. Please refer to the manual for REDSCAN when you use it.

\<Code format\>

ID number of the PIE-1 unit consist 6 bytes as follows.

PIE + 3 bytes number   (Default number is the last group of the host IP address.)

Position	Command	Description
Y1	MO/CL	Master alarm triggered / Master alarm cleared "CL" code is generated 10 seconds after master alarm was cleared. This value can be changed by setting software.
Y2	FR/NR/CR/FN	In case of SIP : Last alarm. Far(FR)/Near(NR)/Creep(CR)/Far and Near(FN)
	-	In case of Tamper/Trouble : Not available
Y3	XY/YZ/XZ	In case of SIP : Multiple alarm. (Combination) CR & NR →XY, NR & FR→YZ, CR & FR or FN →XZ
	-	In case of Tamper/Trouble : Not available
Y4	CC	In case of SIP : Multiple alarm. (either combination)
	-	In case of Tamper/Trouble : Not available
Y5-7	-	Not available
Y8	TR	Trouble
Y9	-	Not available
Y10	TA	Tamper

Double-click the REDWALL Event Code Logger.exe.

Logger is a program to display REDWALL Event Codes (R.E.C.) sent from a device on the network and to save the information as a text in a file.

Using this program, you can check the reception of R.E.C.

This program is working on a computer which is installed with .NET Framework 3.5 or higher. Before using this program, obtain .NET Framework 3.5 on the Microsoft website and install it on your computer.

■ Screen layout

・ View all REDWALL Event Code:
  To select how to display or save R.E.C. which has been received. When this item is checked, the program displays and saves R.E.C. transmitted from all devices. When unchecked, the program displays and saves an R.E.C. transmitted from the Target IP Address only.

▪ Target IP Address:
  The IP address of a device which transmits an R.E.C. The program displays and saves an R.E.C. transmitted from a device whose IP address you have specified here.

▪ Port Number:
  The port number to which a device transmits an R.E.C.

・ Protocol:
  The protocol through which a device transmits an R.E.C.

▪ Get Start:
  To begin to display and save an R.E.C. which has been received.

▪ Stop:
  To stop to display and save an R.E.C. which has been received.

▪ REDWALL Event Code:
  The list of all R.E.C. which have been received.

■ Operation

You can display and save an R.E.C. in the procedure below.

(1) Enter the IP address of the device which transmits an R.E.C. in the boxes of Target IP Address.

(2) Enter the port number of R.E.C. transmission to which a device transmits an R.E.C. in the box of Port Number.

(3) Select a transmission protocol of R.E.C. through which a device transmits an R.E.C.

(4) Click the [Get Start] button.

(5) When the "Save as" screen appears, define the folder where you want to save the transmitted R.E.C. and the filename.

(6) Click the [Save] button.

■ Note

"Can't find Target Machine" appears when no device in LAN has the IP address you have specified as the Target IP Address or when the device whose IP address you have specified as the Target IP Address is not turned on. Please check if you have entered the IP address correctly or if the device is turned on.

No.	Problems	Connection Detector	Check	Solution
(1)	PIE-1 does not turn on. (The LED does not turn on.)	SIP, REDSCAN	Is the LAN connector firmly plugged to PIE-1? Is the LAN connector plugged into the right port?	Plug the LAN connector into the right port.
		SIP, REDSCAN	Is your Hub or Switch compliant to PoE? Is PoE of your Hub or Switch powered on?	Use a PoE-compliant Hub or Switch correctly.
		SIP, REDSCAN	Is the LAN connector firmly plugged to PoE-compliant Hub or Switch? Is the LAN connector plugged into a PoE-compliant port?	Plug the LAN connector into the PoE-compliant port.
		SIP, REDSCAN	Is the LAN cable Category 5 or higher?	Use a Category 5 or higher LAN cable.
(2)	A detector does not turn on.	SIP, REDSCAN	Is the PIE-1 powered on?	Refer to Q&A (1).
		SIP, REDSCAN	Is your Hub or Switch compliant to PoE+ (IEEE802.3at)? (when using SIP+Heater or REDSCAN)	Use a Hub or Switch compliant to PoE+ (IEEE802.3at).
		SIP, REDSCAN	Did you select the correct output port, namely 24v or 12v? (refer to the manual (2) and (5) provided with the product)	Use the correct power output.
		SIP, REDSCAN	Is the power cable connected firmly? (Please check the connections of PIE-1, the relay connector and the detector.)	Connect the power cable firmly.
(3)	The setting screen of PIE-1 does not appear.	SIP	Is PIE-1 powered on?	Refer to Q&A (1).
		SIP	Are the local area settings in the computer correct?	Set the local area correctly, referring to the manual (3) provided with the product.
		SIP	Is the URL correct?	Enter the correct URL, referring to the manual (3) provided with the product. If you forget the IP address or password, reset them, referring to the manual (4) (the values are reset to 192.168.0.126).
		SIP	Is your browser Internet Explorer?	Use Internet Explorer.
		SIP	Are more than one IP address conflicting?	Connect one PIE-1 to one PC. To solve the IP address confliction, change an IP address.
		SIP	Is the selector switch correct?	Set the selector switch correctly.
(4)	The setting is not renewed.	SIP	Did you click the "Save Config" button after setting?	Be sure to click the "Save Config" button after change the settings.
(5)	I have forgotten the password.	SIP		Reset the User ID and Password to the default values, referring to the manual (4) provided with the product.
(6)	I have forgotten the IP address.	SIP		Reset the IP address to the default values, referring to the manual (4) provided with the product.
(7)	REDSCAN MANAGER cannot access REDSCAN	REDSCAN	Is PIE-1 powered on?	Refer to Q&A (1).
		REDSCAN	Is REDSCAN working?	Refer to Q&A (2).
		REDSCAN	Are the local area settings in the computer correct?	Set the local area correctly, referring to the manual of REDSCAN.
		REDSCAN	Are more than one IP address conflicting?	Connect one PIE-1 to one PC. To solve the IP address confliction, change an IP address.
		REDSCAN	Is the selector switch correct?	Set the selector switch correctly.
(8)	The event code is not output in the walk test.	SIP, REDSCAN	Is PIE-1 powered on?	Refer to Q&A (1).
		SIP, REDSCAN	Is the detector powered on?	Refer to Q&A (2).
		SIP	Can you access the web screen of PIE-1?	Refer to Q&A (3).
		SIP	Are the settings of connection detector correct?	Select the correct connection detector.
		SIP	Is the alarm displayed on the web screen as you have done in the walk test?	Connect the alarm cable firmly.
		SIP	Can you receive the event code with REDWALL Event Code Logger.exe?	Set the protocol or destination of the event code correctly on the web screen of PIE-1.
		SIP	If you can receive the event code with REDWALL Event Code Logger.exe, the settings of VMS/NVR may be incorrect.	Set VMS/NVR correctly.
		REDSCAN	Can you access REDSCAN with REDSCAN MANAGER?	Refer to Q&A (7).
		REDSCAN	Can you receive the event code with REDWALL Event Code Logger.exe?	Set the protocol or destination of the Event Code correctly with REDSCAN MANAGER.
		REDSCAN	If you can receive the event code with REDWALL Event Code Logger.exe, the settings of VMS/NVR may be incorrect.	Set VMS/NVR correctly.
(9)	The output event code is different.	SIP	Did you set the connection detector correctly on the web screen of PIE-1?	Select the correct connection detector.
		SIP	Does the alarm appear on the web screen of PIE-1 as you have done in the walk test?	Change the settings of alarm input so that the alarm in the walk test and the alarm on the web screen are identical.