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EV-115 / EV-110

External Sensors Setup Guide

EV-115 / EV-110 support external sensors.

You can set the projector to perform operations when the external sensors are triggered.

- You can connect up to two external sensors.
- You can use two external sensors at the same time. You can also set projector operations by combining the signals from each sensor.
- Prepare commercially available parts, such as connectors, for the external sensors and their connections.
- As well as sensors, you can also connect other external devices such as buttons and switches.

Example: Installing a motion sensor in an entranceway to project specific content when a customer passes by.

Follow the steps below to connect and configure the external sensors.

1 **Install the projector** (See the Installation Guide for the mount you are using for detailed instructions on installing the projector)
2 **Connect and wire the external sensors to the projector**
3 **Setup the projector**
4 **Prepare the content you want to project** (for instructions on how to prepare the content, see the projector's *User's Guide*)

Safety Instructions

⚠ Caution

Connecting external sensors is an important process for post-connection safety. To prevent accidents during connection or use, hire a professional to carry out the connection.
Incorrect connection could cause the projector or external sensors to malfunction.

Make sure that the external sensors are installed so that they do not exceed the maximum rating.

See the user's guide supplied with the external sensors for details on handling the external sensors.
Seiko Epson Corporation cannot be held liable for any accidents caused by the malfunction or misuse of external sensors.

When using external sensors, make sure you follow the instructions in this guide.
Seiko Epson Corporation cannot be held liable for any accidents caused by not following the instructions in this guide.

Connecting External Sensors

Connect external sensors to the projector's DC Out (2.0A) / GPI In port (see the illustration on the right).

Before connecting, you need to modify the end that connects to the DC Out (2.0A) / GPI In port so that it is a USB-A shape.
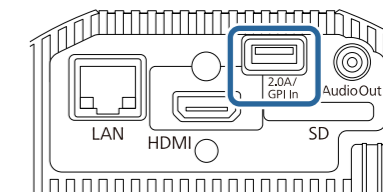
DC Out (2.0A) / GPI In port specifications

When connecting an external sensor, make sure you check the user's guide supplied with the external sensor as well as the following port specifications.

Port configuration
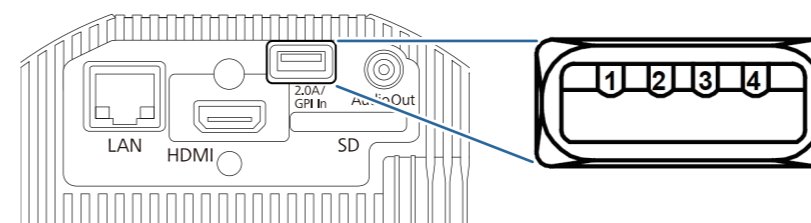
Pin Number	Signal Name
1 *	DC Out (5 V/2 A)
2	GPI-1
3	GPI-2
4	GND

* Do not apply external voltage, otherwise malfunctions may occur.

GPI-1/GPI-2 specifications

Item		Specifications
Maximum rating	AC voltage	-0.5 V to 13 V
Electrical characteristics	High input*	2.0 V or more
	Low input	0.8 V or less
	Input current (5 V during input)	1.0 to 2.0 mA
Equivalent circuit		GPI-1/GPI-2
Operation execution timing due to signal change		300 ms after the last operation was executed

* When using a sensor with an open-drain output or an open-collector output, the input may not be High if there is a large Pull-UP resistance.
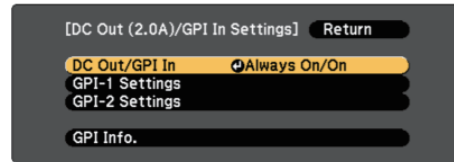
Setting Up the Projector

When wiring is complete, set the projector operations according to your environment.

1 Turn on the projector.

2 Press the [Menu] button on the remote control, and then select [Extended] - [DC Out (2.0A)/GPI In Settings].
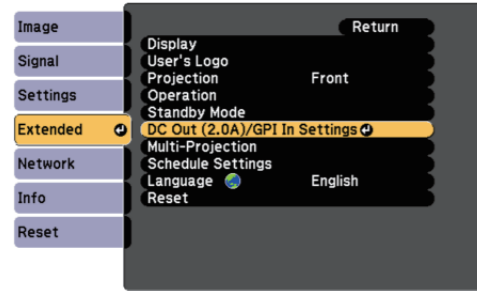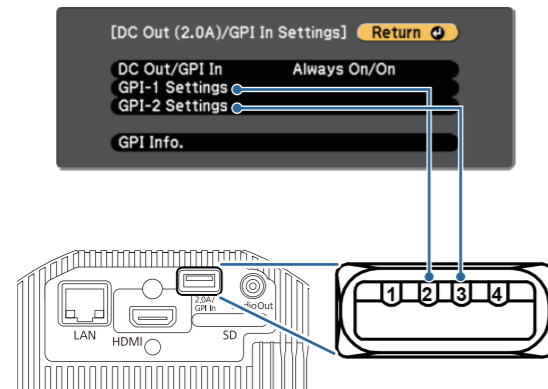

3 Set [DC Out/GPI In] to [Always On/On].

When this is set to [On While Project/Off], the external sensor is disabled.

4 Select [GPI-1 Settings] or [GPI-2 Settings].

- [GPI-1 Settings]: Sets the operation for the sensor connected to pin No.2.
- [GPI-2 Settings]: Sets the operation for the sensor connected to pin No.3.
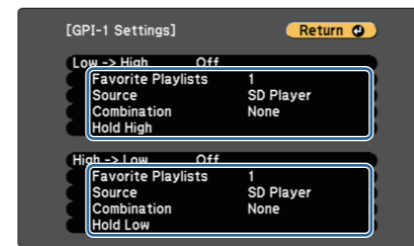

5 Set the operation according to the signal input for the external sensor.

- [Low -> High]: Sets the operation performed when a High level signal is input.
- [High -> Low]: Sets the operation performed when a Low level signal is input.

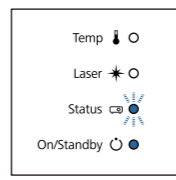| Item	Description
Power On Power Off	Turns the projector on or off.
Execute A/V Mute Release A/V Mute	Executes or releases A/V Mute. The content continues to play while A/V Mute is enabled.
Start Playlist Stop Playlist	Plays or stops the playlist set in [Favorite Playlists].
Source Select	Switches the image source.
Light Source Mode: Normal Light Source Mode: Quiet	Switches the Light Source Mode setting.

6 Set more detailed operations.

Item	Description
Favorite Playlists	Set the playlist you want to play when [Low -> High]/[High -> Low] are set to [Start Playlist]. Select the number of the numeric button on the remote control that is assigned to Favorite Playlists.
Source	Set the source you want to switch to when [Low -> High]/[High -> Low] are set to [Source Select].
Combination	When two external sensors are connected, you can set the status of the other external sensor as the condition for executing an operation. For example, if [Combination] in [GPI-1 Settings] is set to [GPI-2 Low], the operation set in [GPI-1 Settings] is executed when the GPI-2 signal becomes Low.
Hold High Hold Low	When the external sensor signal is maintained continuously for the set time (mm:ss), the selected operation is executed.

7 When you have finished making settings, press the [Menu] button to finish.

You can check the status for the GPI-1 and GPI-2 signals in [GPI Info.] from [DC Out (2.0A)/GPI In Settings].

Solving Problems

Try the following solutions if you are having trouble connecting or configuring the external sensors.

Status	Remedy

The set operation is not executed even when a signal is input from an external sensor.	• Check the status of the projector. In the following situations, the signal input from the external sensor is disabled.
	  • When the menu screen is displayed
	  • When the projector's indicator is in one of the following conditions:
	    Warming up, shutting down, or cooling down
	
	  • On/Standby: On
	  • Status: Flashing
	• Depending on the operation you have set, it may take some time to execute.

Content starts playing from the middle.	Check the content of [GPI-1 Settings]/[GPI-2 Settings]. If you set a combination of [Start Playlist] and [Execute A/V Mute], the content may not be played correctly. Select [Stop Playlist] instead of [Execute A/V Mute].
You cannot make accurate signal retention time settings using the external sensor's functions.	We recommend that you use the [Hold High]/[Hold Low] settings on the projector. Follow the steps below to make settings. **1** Use the functions for the external sensor to minimize the amount of time it retains the signal. **2** Set the time to retain the external sensor's signal in [Hold High] or [Hold Low] in [GPI-1 Settings]/[GPI-2 Settings].
The set playlist does not play.	Check the settings for [GPI-1 Settings]/[GPI-2 Settings] - [Favorite Playlists]. Set the number of the numeric button on the remote control that is assigned to the playlist you want to play.