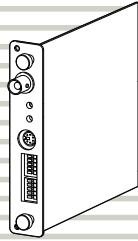


Setup Guide

PCR-LE/ PCR-LE2 series
Analog Signal Interface

EX05-PCR-LE

EX06-PCR-LE



Thank you for purchasing the PCR-LE/ PCR-LE2 Series analog signal interface.

This option is used to control PCR-LE/ PCR-LE2 Series AC power supply output with analog signals.

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The specifications of this product and the contents of this manual are subject to change without prior notice.

- EX05-PCR-LE

This board simply amplifies the waveforms that it receives and outputs the result.

- EX06-PCR-LE

This board varies the voltage of the output AC waveform (sine wave) on the basis of DC signals that it receives.

Features

Using this product with external signals, you can achieve the following:

- Use as a power amplifier (EX05-PCR-LE only)
- Vary the voltage of output AC waveforms (EX06-PCR-LE only)
- Control through external contacts
You can turn the output on and off, execute and stop sequences, clear alarms, and shut down the output.
- Monitor the PCR-LE/ PCR-LE2 Series operation status
You can monitor the output status, alarm status, busy status, current peak limit status, and overload status.

WEBSITE

<http://www.kikusui.co.jp/en>

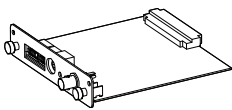
The newest version of the operation manual can be downloaded from Download service of Kikusui website.

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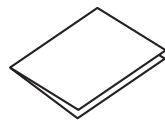


Check at Unpacking

Upon reception of the product, confirm that the package contains the necessary accessories and that the device and accessories have not been damaged during transportation. If the device is damaged or any accessory is missing, notify Kikusui distributor/agent.



EX05-PCR-LE or EX06-PCR-LE (1 pc.)



Setup guide
(This guide, 1 pc.)

Combination with Other Options

This product cannot be used simultaneously with the following PCR-LE/ PCR-LE2 Series options.

LIN40MA-PCR-L Line Impedance Network

IT01-PCR-L Immunity Tester

The EX05-PCR-LE and EX06-PCR-LE cannot be used at the same time.

Firmware version of PCR-LE/ PCR-LE2

When using the EX05-PCR-LE/ EX06-PCR-LE, the PCR-LE/ PCR-LE2 must be required with the firmware version of 3.00 or later. If the firmware version of the PCR-LE/ PCR-LE2 is 2.99 or previous version, the PCR-LE/ PCR-LE2 is required for the firmware update.

To check the firmware version of the PCR-LE/ PCR-LE2, refer to the operation manual of the PCR-LE/ PCR-LE2 series. In case, the PCR-LE/ PCR-LE2 needs update, contact your Kikusui agent or distributor.

Handling Precautions

■ Handling of the Board

- Ground yourself by touching a grounded metal object before touching the board.
- Avoid handling the interface board in an environment subject to strong static electricity.
- For storage, provide electrostatic protection measures such as the anti-static bag accompanying the interface board.
- Do not drop a board or subject it to other impact.
- Do not install or uninstall the interface board with the power ON of the PCR-LE/ PCR-LE2 Series.

Functional Restrictions during Analog signal control

Functional limitations when the EX05-PCR-LE is installed

When you install the EX05-PCR-LE into the PCR-LE/ PCR-LE2 Series, you will be able to select which signal source to use. Depending on the signal source that you select, the PCR-LE/ PCR-LE2 Series functional limitations will vary.

■ Internal signal source (INT)

The EX05-PCR-LE outputs the PCR-LE/ PCR-LE2 Series signal source. External signal sources are not used.

There are no functional limitations placed on the PCR-LE/ PCR-LE2 Series.

■ External signal source (EXT)

The EX05-PCR-LE amplifies the waveform signal that it receives and outputs the result.

The following functions are not available when the board is installed in the power supplies.

- Setting the output voltage and voltage limit
- Setting the frequency and frequency limit
- Measurement of the line voltage
- Action to perform when the current limit is exceeded: DISABLE (do not turn the output off)
- Synchronization Function
- Output on/off phase control
- Using memory
- Generating special waveforms
- Harmonic current analysis function
- Internal Vcc: AUTO (it is not fixed)
- Voltage compensation function: Soft sensing or Regulation adjustment
- Soft starts
- Power line abnormality simulations
- Sequence function
- Phase difference (Single-phase three-wire output or three-phase output (optional) only)

■ Internal and External signal source (INT+EXT)

Output the sum of the PCR-LE/ PCR-LE2 Series signal source and an external signal source.

The following functions are not available when the board is installed in the power supplies.

- Measurement of the line voltage
- Action to perform when the current limit is exceeded: DISABLE (do not turn the output off)
- Harmonic current analysisfunction
- Internal Vcc: AUTO (it is not fixed)
- Voltage compensation function: Soft sensing or Regulation adjustment

Functional limitations when the EX06-PCR-LE is installed

When you install the EX06-PCR-LE into the PCR-LE/ PCR-LE2 Series to control the AC voltage with external DC signals, you will not be able to use the following PCR-LE/ PCR-LE2 Series features.

- Setting the AC voltage
- Soft starts
- Power line abnormality simulations
- Sequence function

Installing the board on the PCR-LE/ PCR-LE2

Insert the board in SLOT 3 on the rear panel.

- PCR-LE/ PCR-LE2 Series

Depending on the output condition or the item to control with the EX05-PCR-LE/ EX06-PCR-LE, the PCR-LE/ PCR-LE2 that the EX05-PCR-LE/ EX06-PCR-LE must be installed in changes. Refer to the table below, and install in the appropriate PCR-LE/ PCR-LE2.

	PCR-LE/ PCR-LE2 series to install in		External contact control	Status monitoring
	Control using external signal EX05-PCR-LE	EX06-PCR-LE		
Single-phase	PCR-LE/ PCR-LE2 series to use			
Single-phase three-wire	U-phase, V-phase	U-phase		U-phase ^{*1}
Three-phase	Each phase			
parallel operation	Master unit			

*1. If you want apply current peak limit and use overload monitoring (OOR STATUS) on each phase, you must install the EX05-PCR-LE/ EX06-PCR-LE for the U and V phases during single-phase three-wire output or for all phases during three-phase output.

- PCR6000LE2/ PCR9000LE2

When controlled with external signals through the EX05-PCR-LE, only single-phase output is valid.

	Control using external signal		External contact control	Status monitoring ^{*1}
	EX05-PCR-LE	EX06-PCR-LE		
Single-phase	PCR-LE/ PCR-LE2 series to use			
Single-phase three-wire	—	PCR-LE/ PCR-LE2 series to use		
Three-phase	—			

*1. Current peak limit and overload monitoring (OOR STATUS) are valid only for the entire system.

- PCR12000LE2/ PCR18000LE2/ PCR27000LE2

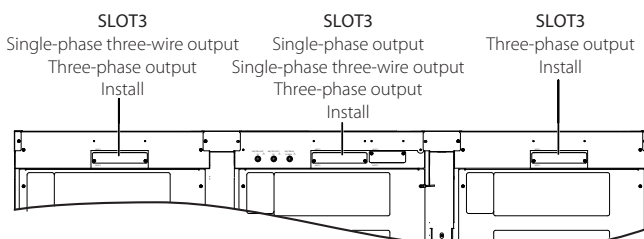
To control with external signals using the EX05-PCR-LE, the number of boards that must be installed varies depending on the output condition. Install the boards by referring to the table below.

	Control using external signal		External contact control	Status monitoring
	EX05-PCR-LE	EX06-PCR-LE		
Single-phase	1 pc.			
Single-phase three-wire	2 pcs.	1 pc.		1 pc ^{*1}
Three-phase	3 pcs.			

*1. If you want apply current peak limit and use overload monitoring (OOR STATUS) on each phase, you must install two boards for single-phase three-wire output or three boards for three-phase output.

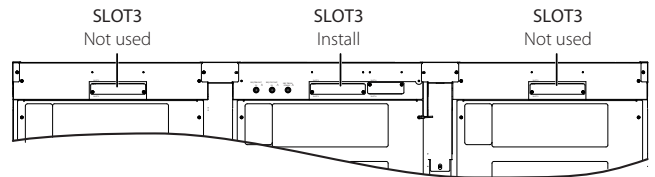
To control with external signals using the EX05-PCR-LE

To apply peak limit and use overload monitoring on each phase



To control with external signals using the EX06-PCR-LE

To use external contact control and status monitoring (excluding peak limit and overload monitoring on each phase)



- 1 Check that the POWER switch of PCR-LE/ PCR-LE2 is off.
- 2 Touch a grounded metal object (for example, the metal parts of the PCR-LE/ PCR-LE2 rear panel) to discharge any static electricity from your body.
- 3 Remove the screws that are holding the SLOT 3 cover in place on the rear panel, and remove the cover from the panel.
- 4 Hold the panel parts of the board so that the printed circuit board side is facing down.
- 5 Insert the board into the slot so that the printed circuit board's connector is inserted into the connector at the back of the slot.
- 6 Insert the board all the way into the slot.
- 7 Use the screws that you removed in step 3 to fix the board in place in the panel.
This completes installation of the phase board.

Controlling the Output Using External Analog Signals

For details on how to controlling the output using external analog signals, see the operation manual included with the PCR-LE/ PCR-LE2 series.

The screen captures used in the PCR-LE/ PCR-LE2 series operation manual are examples. They may differ from the screens that are displayed when you are controlling the output using external analog signals.



环境保护使用期限
Environment-friendly Use Period

该标记为适用于在中华人民共和国销售的电子信息产品的环境保护使用期限。只要遵守有关该产品的安全及使用注意事项，从制造年月起计算，在该年度内，就不会对环境污染、人身、财产产生重大的影响。

产品的废弃请遵守有关规定。产品的制造年月可以在以下网址中确认。

<http://www.kikusui.co.jp/pi/>

毒有害物质或元素名称及含有标示

Name of hazardous materials and symbol of element in the equipment and quantity

有毒有害物质或元素					
铅 Pb	汞 Hg	镉 Cd	六价铬 Cr(VI)	多溴联苯 PBB	多溴二苯醚 PBDE
×	○	○	○	○	○

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