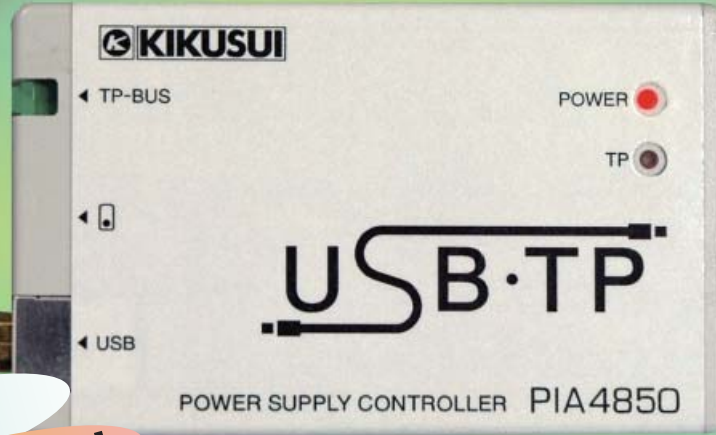


# Digital control of DC power by USB!!

● Actual size



**NEW**

Simple!  
Easy to use!

## Power Supply Controller PIA4850

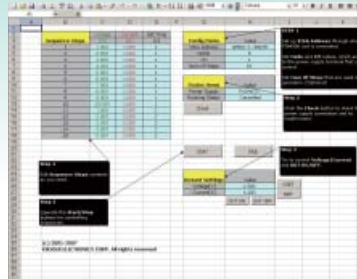
**Sequence control & data logging!**

### With Wavy ...

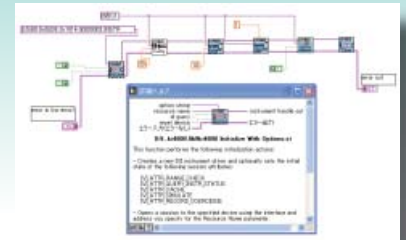


WAVY Sequence Creation Software  
Sequence can be created and edited by drawing with the mouse or by inputting with a spreadsheet.  
A trial version available at our Kikusui website!!

### With Excel ... (Visual Basic)



### With LabVIEW ...



The PIA4850 is a power supply controller with USB interface to control Kikusui DC power supply with TP-BUS.

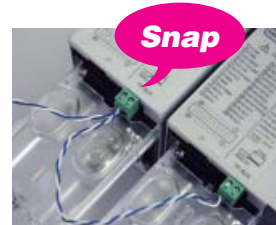
PAS Series, PWR Series or other models that equips TP-BUS can be digitally controlled by PC, as well as for read-back of output values and status monitoring. It operates using bus power and with its simple system and compact structure, you can use whenever you need with easy setup.

- USB 2.0 compatible
- Can be used with Windows Vista/XP/2000.
- Operates using bus power. Requires no AC adapter.
- Bus power operation. No AC adapter required.
- Allows read-back of output values and status monitoring.
- Can control up to 32<sup>\*1</sup> DC power supplies that equip TP-BUS<sup>\*2</sup>. (Different power supply models can be combined.)  
TP-BUS connection can be extended up to 200 m. Ideal for remote monitoring!



**Click**

Includes a magnet sheet to hold the device in place. Can be attached directly to the power supply.



**Snap**

The TP-BUS utilizes a daisy-chain connection. This makes adding power supplies easy and keeps cables neatly together.

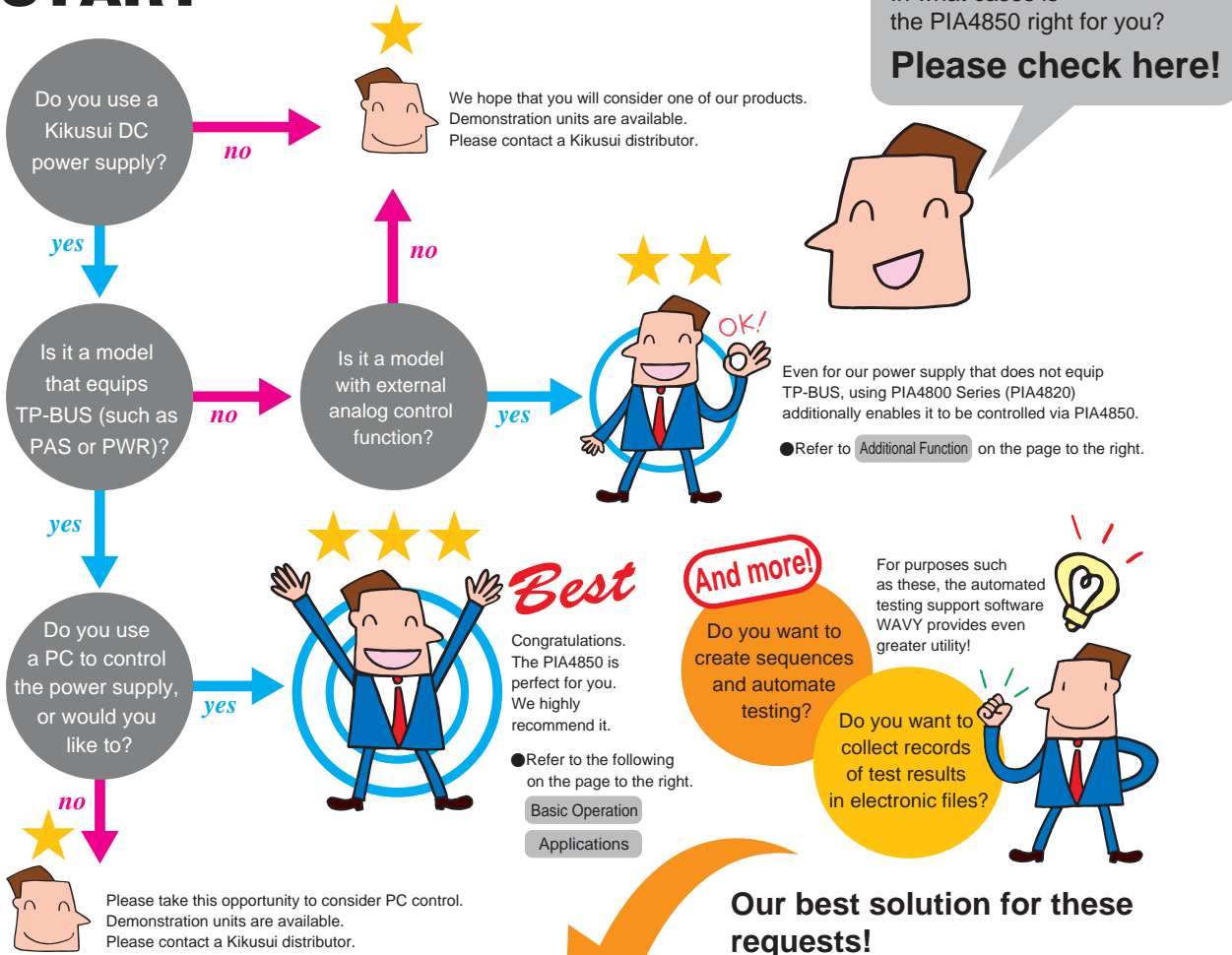
step

1

# How does the PIA4850 fit for my application? How many ★ do you get?

PIA4850 recommendation chart by the DC power supply type and its application

## START



Compatible with the PAS Series and PWR Series!

## Sequence Creation Software Wavy

### Wavy for PAS&PWR

This software supports to create and execute sequences of DC power supply. Sequences can be created and edited by drawing with the mouse or by inputting in a spreadsheet.

- Easily create and edit the test conditions data for sequence operation.
- Easily manage test conditions template using the function for saving test condition data files.
- The *execution graph* function displays the execution status as a cursor on the settings graph, and can be used to verify the progress of the execution sequence.
- Easy to monitor the actual output using the *monitor graph* function that plots the monitored output values during test execution.
- The acquired monitor data can be saved as the test results.

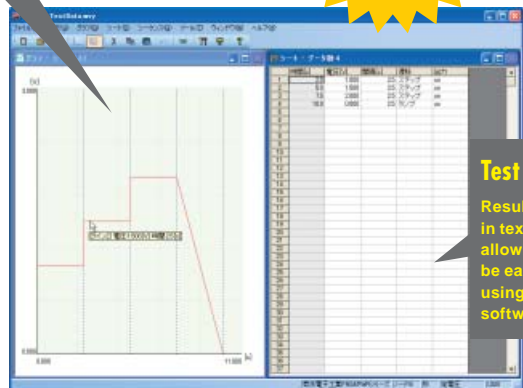
Operating environment: Windows Vista/XP/2000

\*Refer to the Kikusui products catalog and website for detail of Wavy.

### Creating sequence conditions

The sequence can be created in one of two ways: either by using the mouse or by numerical input!!

Coming soon!



### Test results

Results are saved in text format, allowing them to be easily viewed using spreadsheet software.

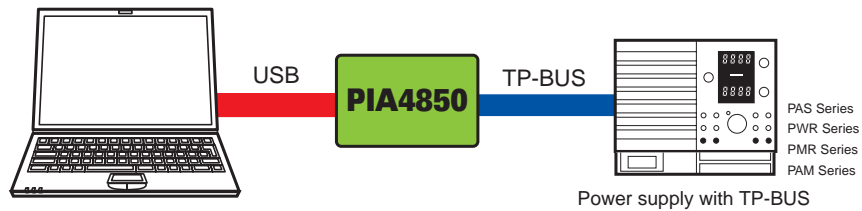
step  
2

# The convenience of USB and the expandability of TP-BUS give a tremendous boost to the potential of DC power supplies.

Proposed set-ups of the PIA4850 <Basic Operation / Applications / Additional Function>

## Basic Operation

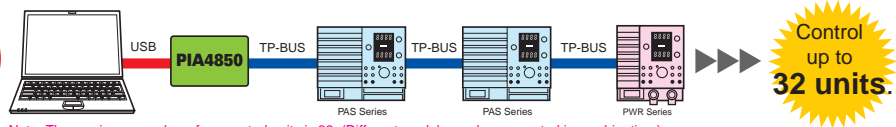
Simple is best! For simple and straightforward operation.



\* TP-BUS (Twist-Pair BUS) is an original Kikusui interface.

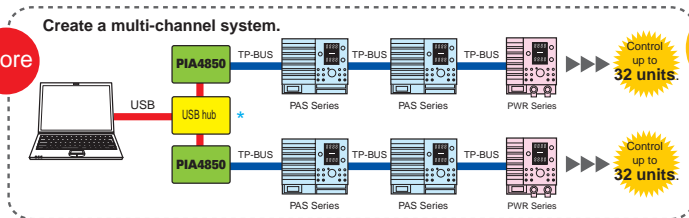
## Applications

For controlling multiple power supplies (even different models) together.



Note: The maximum number of connected units is 32. (Different models can be connected in combination.)  
However, the maximum is 31 units if the connections include PAM Series or PMR Series units.  
The TP-BUS can be extended to a maximum of 200 m.

And  
More



Different models can be connected together in the same system.



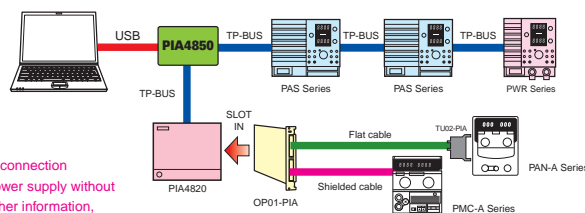
\* Use a self-powered USB hub.

## Additional Function

For connecting an external analog control-type power supply (without TP-BUS).



Even for our power supply that does not equip TP-BUS, using PIA4800 Series (PIA4820) additionally enables it to be controlled via PIA4850.



\* For information concerning the connection of the PIA4800 Series and a power supply without TP-BUS, control details, and other information, refer to the PIA4800 Series catalog or contact Kikusui.

## ● Control Description ○ : Controllable × : Incontrollable

DC Power Supply Series	PAS	PWR	PAM	PMR
Output voltage setting	○	○	○	○
Output current setting	○	○	○	○
Query for output voltage setting value	○	○	×	×
Query for output current setting value	○	○	×	×
Output voltage value read-back	○	○	○	○
Output current value read-back	○	○	○	○
Designation/Query of output channel number	×	×	×	○
Designation of output channel number to display	×	×	×	○
Overvoltage protection activation point setting	○	○	×	×
Query for overvoltage protection activation point	○	○	×	×
Overcurrent protection activation point setting	○	○	×	×
Query for overcurrent protection activation point	○	○	×	×
Output ON/OFF	○	○	○	○
Power switch shutoff	○	○	×	×
Panel lock ON/OFF	○	○	○	○

Note: For power supply with analog control function, refer to the PIA4800 Series catalog or contact Kikusui.

## ● PIA4850 Specifications

Item	Details
TP-BUS	Connections The connections given below are possible using the provided TP-BUS connector Expansion unit PIA4820: 4 units can be connected (Extension length: Maximum 200 m, Twist count: 1 time/cm or more)
	Number of controlled units* PAS Series: Maximum 32 units PWR Series: Maximum 32 units PAM Series: Maximum 31 units PMR Series: Maximum 31 units
	Polarity None
	Conforming power wiring Twisted wire: 0.32 mm <sup>2</sup> (AWG22) Extended length: Maximum 200 m 0.20 mm <sup>2</sup> (AWG24) Extended length: Maximum 20 m
USB	Conforms to USB 2.0 specifications, and to USBTMC-USB488 device class specifications. Communications speed: 12 Mbps (full speed) (High power device (power consumption: 200 m))
OS	Windows2000 Professional (SP4 or later) Windows XP Professional (SP2 or later, 32-bit versions) Vista Home Premium, Business, Ultimate (32-bit versions)
VISA specifications	Ver. 3.0 or higher
Operating ambient temperature/Humidity range	0°C to 40°C, 10% rh – 90% rh (No condensation.)
Storage ambient temperature/Humidity range	-20°C to 70°C, 10% rh – 90% rh (No condensation.)
Installation location	Indoors, maximum height 2000 m
Safety	Conforms to Low-Voltage Directive 73/23/EEC, EN61010-1 Class III, Pollution Degree 2.
Dimensions/Weight	95W x 58D x 18H mm / Approximately 100 g
Accessories	USB cable (1 m) TP-BUS connector, TP-BUS cable (1 m) Magnet sheet for fastening the base CD (instruction manual, driver files, sample programs, etc.)

\*The maximum controllable units are 31 when the connections include PAM series or PMR series unit.

## ● PIA4850 Q&A

Question	Answer
Are there restrictions on the power supplies that can be connected?	If the power supplies equip the Kikusui digital interface (TP-BUS), then up to 32 units may be connected. (The maximum is 31 for PMR and PAM units.)
Is it possible to control power supplies that do not equip TP-BUS?	For power supplies that do not equip TP-BUS, control from the control board (OP01-PIA or OP02-PIA) is possible by connecting the expansion unit (PIA4820).
Are there restrictions on the PC that is connected?	A PC with a USB interface and running one of the following OS is required. • Win2k Professional (SP4 or later) • WinXP Professional (SP2 or later, 32-bit versions) • Vista Home Premium, Business, or Ultimate (32-bit versions)
What else is required besides the power supply (with TP-BUS) and PIA4850?	None. Everything is supplied.
Are there restrictions on the locations where the PIA4850 can be installed?	The unit must be installed within the range of the USB cable. The TP-BUS cable that is connected to the power supply(ies) can be extended to a maximum length of 200 m.
For digital control, is it necessary to perform calibration for the combination with the connected power supply(ies), or to make environment settings?	If the power supply equips TP-BUS, only the node address (identifying number) must be specified. No calibration for the combination is required.
What kinds of commands are used to perform power control?	The commands vary depending on the power supply that is being controlled. The commands are listed in the instruction manual that was provided with the power supply unit. The instruction manuals can also be viewed at the Kikusui website.
What is the communications speed? (How much time is required for one command?)	The control time varies depending on the power supply that is being controlled, and also on the number of controlled power supplies and the PC performance. As an example, when controlling one PWR series unit, approximately 100 ms are required in order to send the command and start operation of the device.
Is it possible to operate devices other than Kikusui VISA?	The PIA4850 conforms to USBTMC specifications. VISA from other companies that include compatible drivers can also be operated. * USBTMC stands for USB Test & Measurement Class.

## ● Required Drivers and Components

		WAVY application software	VB, VBA, VC++ LabVIEW
VISA (including USB-TMC driver)		Required	Required
PIA4800 instrument driver	IVI-COM/C	Not required	Required in some cases
	IVI Shared Components		

● The latest drivers available at the Kikusui website.



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