

NEW

High Power Compact/CVCC Low-profile Programmable DC power supply

6V to 650V/1.2A to 600A/750W to 15kW

PVCE series

Standard equipment

LAN(Ethernet)
USB(TMC)
RS-485



(*Within a range of
750 to 810 W)



High Power, Compact CVCC
 Programmable, Variable DC Power Supply

PVCEseries



750 W to 800 W models

750 W to 2.5 kW models

3.2 kW to 5.5 kW models

Exclusively focusing on “A broad range of lineups”, “Best reliability”, and “Cost efficiency”, PVCE series is a highly sophisticated, powerful, programmable DC power supply.

Achieving high efficiency of noise reduction with our unique low-noise switching method, the PVCE is suitable for high-density rack mounting.

Furthermore, the series offers the most frequently used functions only which are strictly selected to achieve the drastic cost reduction.

With a wide variety of applications, we assure that the PVCE series is perfect for fully supporting your research and development. (All models with CE marking including some models with UL marking)

Compact and high power
Max 15 kW

Ideal for research and development with **low noise switching method**.

PFC circuit and universal input would not select the place of operation.

Various operations by connecting multiple power supplies, such as **master / slave**, is possible.

VOL adopt **large 4-digit monitor display** for both voltage and current, which contributes to precise monitoring with better recognition.

Operability and safety are improved with new features of key-lock function and acceleration rotary encoder, that increment will vary by speed of rotation.

Lineup

* PVCEJ series is applied to a half-sized rack, and PVCE series goes with a 19-inch rack.

Model with UL marking

Voltage(V)	Max output		MODEL	Ripple		Dim. (⇒P.8,9)
	Current(A)	Power		(mVrms)*1	(mA rms)*1*2	
6	0 to 130	780 W	PVCEJ6-130	10	260	A
	0 to 130	780 W	PVCE6-130	10	260	D
	0 to 220	1.3 kW	PVCE6-220	10	320	G
	0 to 310	1.8 kW	PVCE6-310	10	1500	G
	0 to 530	3.2 kW	PVCE6-530	10	900	J
8	0 to 100	800 W	PVCEJ8-100	20	220	A
	0 to 100	800 W	PVCE8-100	20	220	D
	0 to 180	1.4 kW	PVCE8-180	20	250	G
	0 to 300	2.4 kW	PVCE8-300	20	1500	G
	0 to 400	3.2 kW	PVCE8-400	20	2000	J
	0 to 600	4.8 kW	PVCE8-600	20	2500	J
10	0 to 80	800 W	PVCEJ10-80	10	160	A
	0 to 80	800 W	PVCE10-80	10	160	D
	0 to 150	1.5 kW	PVCE10-150	10	300	G
	0 to 240	2.4 kW	PVCE10-240	10	500	G
	0 to 340	3.4 kW	PVCE10-340	10	900	J
	0 to 510	5.1 kW	PVCE10-510	10	2000	J
	12.5	0 to 64	800 W	PVCEJ12.5-64	20	200
0 to 64		800 W	PVCE12.5-64	20	200	D
0 to 120		1.5 kW	PVCE12.5-120	20	200	G
0 to 190		2.4 kW	PVCE12.5-190	20	1500	G

Voltage(V)	Max output		MODEL	Ripple		Dim. (⇒P.8,9)
	Current(A)	Power		(mVrms)*1	(mA rms)*1*2	
15	0 to 54	810 W	★ PVCEJ15-54	10	110	A
	0 to 54	810 W	★ PVCE15-54	10	110	D
	0 to 100	1.5 kW	PVCE15-100	8	150	G
	0 to 160	2.4 kW	PVCE15-160	8	300	G
	0 to 227	3.4 kW	PVCE15-227	10	500	J
	0 to 340	5.1 kW	PVCE15-340	15	600	J
16	0 to 50	800 W	★ PVCEJ16-50	10	110	A
	0 to 50	800 W	★ PVCE16-50	10	110	D
	0 to 95	1.5 kW	PVCE16-95	10	150	G
	0 to 150	2.4 kW	PVCE16-150	10	300	G
	0 to 220	3.5 kW	PVCE16-220	10	500	J
	0 to 320	5.1 kW	PVCE16-320	15	600	J
20	0 to 40	810 W	★ PVCEJ20-40	10	80	B
	0 to 40	810 W	★ PVCE20-40	10	80	E
	0 to 80	1.6 kW	PVCE20-80	10	160	G
	0 to 125	2.5 kW	PVCE20-125	12	250	G
	0 to 170	3.4 kW	PVCE20-170	15	300	J
	0 to 260	5.2 kW	PVCE20-260	15	400	J
30	0 to 27	810 W	★ PVCEJ30-27	10	60	B
	0 to 27	810 W	★ PVCE30-27	10	60	E
	0 to 53	1.6 kW	PVCE30-53	20	100	G
	0 to 84	2.5 kW	PVCE30-84	20	160	G
	0 to 115	3.5 kW	PVCE30-115	20	200	I
	0 to 180	5.4 kW	PVCE30-180	20	260	I
35	0 to 45	1.6 kW	PVCE35-45	20	90	G
	0 to 72	2.5 kW	PVCE35-72	30	150	G
40	0 to 20	810 W	★ PVCEJ40-20	15	60	B
	0 to 20	810 W	★ PVCE40-20	15	60	E
	0 to 40	1.6 kW	PVCE40-40	20	70	G
	0 to 62	2.4 kW	PVCE40-62	20	100	G
	0 to 85	3.4 kW	PVCE40-85	20	130	I
	0 to 130	5.2 kW	PVCE40-130	20	180	I
Coming soon	0 to 250	10 kW	PVCE40-250	35	500	L
45	0 to 18	810 W	★ PVCEJ45-18	15	60	B
	0 to 18	810 W	★ PVCE45-18	15	60	E
	0 to 35	1.5 kW	PVCE45-35	20	70	G
	0 to 55	2.4 kW	PVCE45-55	30	100	G
	0 to 78	3.5 kW	PVCE45-78	30	130	I
	0 to 120	5.4 kW	PVCE45-120	30	180	I
50	0 to 31	1.5 kW	PVCE50-31	20	70	G
60	0 to 13.5	810 W	★ PVCEJ60-13.5	12	45	B
	0 to 13.5	810 W	★ PVCE60-13.5	12	45	E
	0 to 26	1.5 kW	PVCE60-26	20	50	G
	0 to 42	2.5 kW	PVCE60-42	20	80	G
	0 to 60	3.6 kW	PVCE60-60	20	100	I
	0 to 90	5.4 kW	PVCE60-90	20	135	I
80	0 to 10	800 W	★ PVCEJ80-10	25	20	B
	0 to 10	800 W	★ PVCE80-10	25	20	E
	0 to 20	1.6 kW	PVCE80-20	25	40	G
	0 to 31	2.4 kW	PVCE80-31	25	60	G
	0 to 45	3.6 kW	PVCE80-45	25	80	I
	0 to 68	5.4 kW	PVCE80-68	25	100	I
100	0 to 8	800 W	★ PVCEJ100-8	20	20	B
	0 to 8	800 W	★ PVCE100-8	20	20	E
	0 to 16	1.6 kW	PVCE100-16	20	25	H
	0 to 25	2.5 kW	PVCE100-25	25	50	H
	0 to 36	3.6 kW	PVCE100-36	25	60	K
	0 to 55	5.5 kW	PVCE100-55	25	80	K

Voltage(V)	Max output		MODEL	Ripple		Dim. (⇒P.8,9)	
	Current(A)	Power		(mVrms)*1	(mA rms)*1*2		
120	0 to 6.6	790 W	★ PVCEJ120-6.6	30	20	B	
	0 to 6.6	790 W	★ PVCE120-6.6	30	20	E	
150	0 to 5	750 W	★ PVCEJ150-5	25	10	B	
	0 to 5	750 W	★ PVCE150-5	25	10	E	
	0 to 10	1.5 kW	PVCE150-10	25	20	H	
	0 to 16.6	2.5 kW	PVCE150-16.6	25	35	H	
	0 to 24	3.6 kW	PVCE150-24	25	40	K	
	0 to 36	5.4 kW	PVCE150-36	25	55	K	
160	0 to 5	800 W	★ PVCEJ160-5	30	10	B	
	0 to 5	800 W	★ PVCE160-5	30	10	E	
200	0 to 4	800 W	★ PVCEJ200-4	35	15	B	
	0 to 4	800 W	★ PVCE200-4	35	15	E	
	0 to 8	1.6 kW	PVCE200-8	35	15	H	
	0 to 12.5	2.5 kW	PVCE200-12.5	35	25	H	
	0 to 18	3.6 kW	PVCE200-18	35	30	K	
	0 to 27	5.4 kW	PVCE200-27	35	40	K	
	250	0 to 3.2	800 W	★ PVCEJ250-3.2	50	10	B
		0 to 3.2	800 W	★ PVCE250-3.2	50	10	E
300	0 to 2.5	750 W	★ PVCEJ300-2.5	50	10	C	
	0 to 2.5	750 W	★ PVCE300-2.5	50	10	F	
	0 to 5.3	1.6 kW	PVCE300-5.3	50	18	H	
	0 to 8.3	2.5 kW	PVCE300-8.3	50	18	H	
	0 to 12	3.6 kW	PVCE300-12	50	20	K	
	0 to 18	5.4 kW	PVCE300-18	60	30	K	
350	0 to 2.2	770 W	★ PVCEJ350-2.2	50	10	C	
	0 to 2.2	770 W	★ PVCE350-2.2	50	10	F	
400	0 to 13	5.2 kW	PVCE400-13	60	10	K	
500	0 to 1.6	800 W	★ PVCEJ500-1.6	60	5	C	
	0 to 1.6	800 W	★ PVCE500-1.6	60	5	F	
	0 to 3.2	1.5 kW	PVCE500-3.2	60	5	H	
	0 to 5	2.5 kW	PVCE500-5	60	12	H	
	0 to 7	3.5 kW	PVCE500-7	60	15	K	
	0 to 11	5.5 kW	PVCE500-11	60	20	K	
600	0 to 1.3	780 W	★ PVCEJ600-1.3	60	5	C	
	0 to 1.3	780 W	★ PVCE600-1.3	60	5	F	
	0 to 2.7	1.6 kW	PVCE600-2.7	60	5	H	
	0 to 4.1	2.4 kW	PVCE600-4.1	60	10	H	
	0 to 6	3.6 kW	PVCE600-6	60	15	K	
	0 to 9	5.4 kW	PVCE600-9	60	15	K	
650	0 to 1.2	780 W	★ PVCEJ650-1.2	150	5	C	
	0 to 1.2	780 W	★ PVCE650-1.2	150	5	F	
	0 to 2.5	1.6 kW	PVCE650-2.5	150	10	H	
	0 to 3.8	2.5 kW	PVCE650-3.8	150	10	H	
	0 to 5.5	3.6 kW	PVCE650-5.5	150	15	K	
	0 to 8.5	5.5 kW	PVCE650-8.5	150	15	K	
	Coming soon	0 to 23	15 kW	PVCE650-23	300	100	M

* Unless specifically indicated, the specifications show the values at the rated output after two hours of warm up.

*1 The value is applied in the usage range of rated output from 10% to 100%.

*2 The value is for connecting the resistance load. As for values in connecting the nonlinear load(including semiconductor laser diode), contact our sales representatives.

Standard Functions

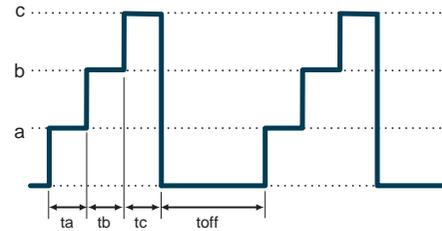
Pulse or Ramp Sequence, Master Following

The series meets a wider range of applications through the following output control functions.

A. Pulse Sequence

According to the combination with multiple setting, the sequence operation is available by using the voltage and current settings stored respectively in Memory a, b, and c.

Also, setting the number of operations is provided, let alone continuous operation. As the set time of Memory a, b, c or off is set to 0.0, the output control has a great variety of operations such as continuous operation in both of Memory a and b or among Memory b, c, and off. Thus, the function is ideal especially for product evaluation tests.



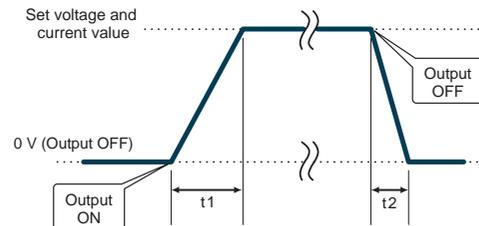
ta, tb, tc, and toff can be set respectively with the range of 0.0 second, 1.0 seconds to 9999 hours 59 minutes 59.9 seconds.

B. Ramp Sequence

In this function, the ramp operation is available within the voltage and current settings (or up to 0 V / 0 A starting the said values).

It is excellent for increasing or decreasing the voltage and current values gradually. The function can also effectively reduce the load damage caused by overshooting.

*The ramp operation can be set with a range among "both settings of voltage and current value", "voltage setting only", and "current setting only".

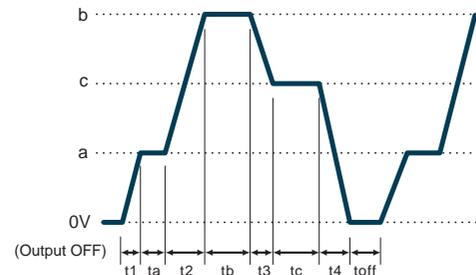


t1 and t2 can respectively be set with the range of 0.0 second, 1.0 seconds to 9999 hours 59 minutes 59.9 seconds.

C. Combination of Pulse Sequence and Ramp

Features of pulse sequence operation and ramp operation can be combined for more convenient operation. In combination with multiple setting, the sequence operation is available by using the voltage and current settings stored respectively in Memory a, b, and c.

Besides setting continuous operation, a specific number of settings is provided. This function allows the voltage or current value to use repeatedly by increasing or decreasing gradually to three different settings, which is really useful for various purposes.

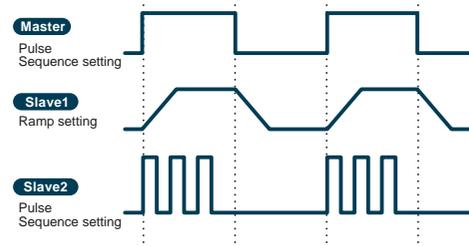


From t1 to t4, from ta to tc, and toff can be set with the range of 0.0s, 1.0 seconds to 9999 hours 59 minutes 59.9 seconds.

D. Master Following

During the pulse sequence and ramp operations in master / slave control, the output signal will be sent to the slave machine.

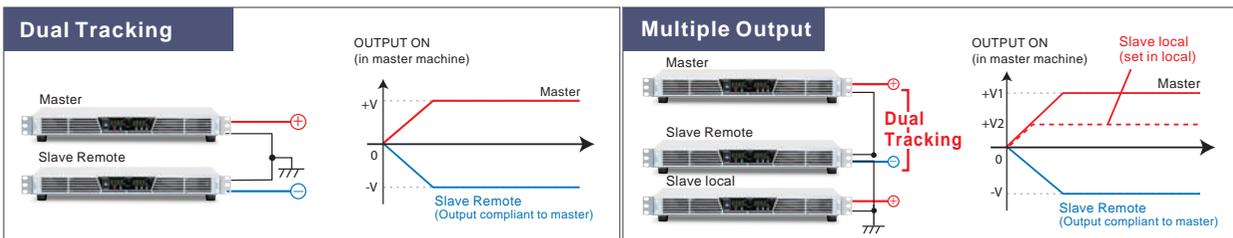
As the result, the slave machine can have different output status to the master machine.



Dual Tracking, Multi Output

The dual tracking controlling is available by connecting the power to generate the positive and negative outputs in master / slave control. In addition, using the slave local mode, the dual tracking operation can consist of multiple outputs. The positive and negative output voltages (+V and -V) in dual output will output in synchronization with turning on the power of the master machine.

*Concerning the connection, please refer to page 7 for "Operation example"

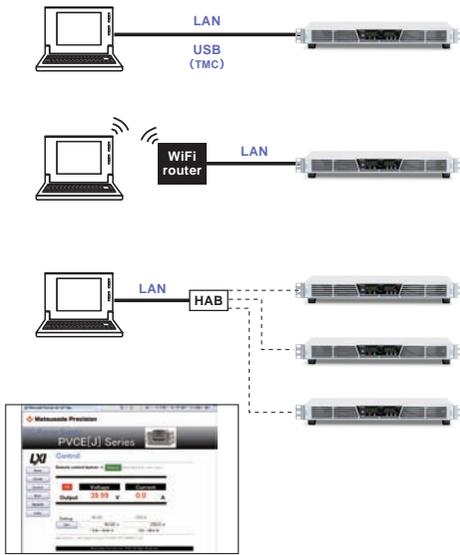


Multiple Digital Interface*

Equipped with standard LAN, USB(TMC) and RS-485, the function is widely available in various communication systems. Additionally, you can download IVI driver compatible with SCPI command from our website, which is more convenient for the development of control program in programming languages such as LabView, VisualBasic and C#.

* You are not allowed to use the multiple ports together

Connection example With the following connections, you can readily set up systems like ATE(Auto Test Equipment)



Key Locking

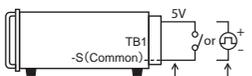
The operation on the front panel can be locked to ensure no operational errors. (Emergency stop operation using the POWER ON/OFF switch is possible in either mode.)



As all the switches are to be locked except LOCK release, it is highly effective in preventing erroneous stop at remote control

Remote Controlling

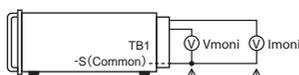
Remote / Local Switching



Mode	External relay	TTL
Remote	Short	LOW
Local	Open	HIGH

The mode switching of the voltage or current is available by using relay or TTL signal

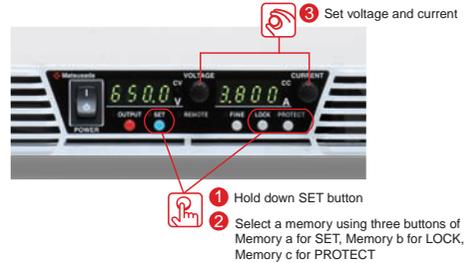
Output Monitor



Output	0 to 10V / 0 to 5V	0 to 10V / 0 to 5V
0 to MAX	Output imp.1 kΩ	Output imp.1 kΩ

Multiple Setting

The series has a function to memorize both voltage and current values along with the usual presetting, which is available for total of three. So, you do not have to adjust multiple set values each time, which is effective especially for taking experimental data many times in experiments or performing manufacturing process in product inspections.

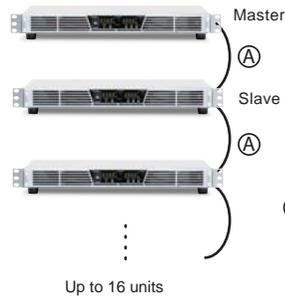


Memory a: SET, Memory b: LOCK, Memory c: PROTECT



Master / Slave Control

The collective control function is available for connecting up to 15 slave units to a master unit.



Ⓐ GP-M cable

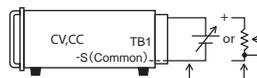
A two-meter cable is provided in each unit. If you need a longer cable, please consult with our sales staff.

Up to 16 units

Please note that each of the power supplies connected in parallel has no function for equally keeping the current output of the power supply. If you need a power supply with equal current output, please consult with our sales representatives.

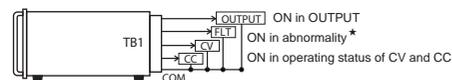
In master / slave control, the connection will be made between the same series as well as between the same models.

Output control



Vout · Iout	Control Voltage	R
0 to MAX	0 to 10V / 0 to 5V Input imp.500 kΩ	0 to approx. 10 kΩ or 0 to approx. 5 kΩ

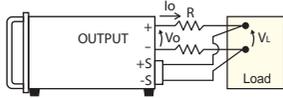
Status Output



★ON in OVP, OCP, UVP, MCP, OTP, ACF, reverse connection of sensing or Interlock (LD) status.

The status output is provided by open collector. It has a floating common terminal which is used for each status output. Use withstand voltage 30 V with less than SINK current 5 mA

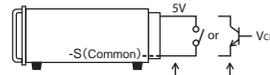
Remote Sensing



The function ensures the prevention of stability deterioration which could be caused by the voltage drop ($V_o - V_L$) due to resistance (R) of the output wire or contact resistance.

Output voltage (V)	Voltage drop (V MAX)
≤ 20	0.5
$20 < \leq 60$	1
$60 <$	2

Remote Switch ON / OFF



Output	Relay	Open collector
ON	Short	$V_{CE} 0.4 \text{ V or less}$
OFF	Open	$V_{CE} 2 \text{ V or more}$

· Sink current 1 mA
· The reverse logic of OUTPUT is also available.

General Specifications

Input

Rated output power band	Rated input voltage range (50/60Hz)	Rated input voltage (50/60Hz)	Input current*1	Input current protection	Option
750 to 800 W models	85 to 264 Vac*2	100 to 240 V in single phase	11 A @ 100 V	Fuse 16 A	standard
1.3 to 1.6 kW models	85 to 264 Vac*2	100 to 240 V in single phase	20 A @ 100 V	Fuse 30 A	standard
1.8 to 2.5 kW models	180 to 264 Vac*3	200 to 240 V in single phase	16 A @ 200 V	Fuse 30 A	standard
	180 to 264 Vac*3	200 to 240 V in three phases	10 A @ 200 V	Fuse 16 A	-L(3P)
3.2 to 3.6 kW models	180 to 264 Vac*3	200 to 240 V in single phase	26 A @ 200 V	Fuse 30 A	-L(1P)
	180 to 264 Vac*3	200 to 240 V in three phases	15 A @ 200 V	Fuse 30 A	standard
4.8 to 5.5 kW models	180 to 264 Vac*3	200 to 240 V in three phases	22 A @ 200 V	Fuse 30 A	standard
10 kW models	180 to 253 Vac*4	200 to 230 V in three phases	45 A @ 200 V	Fuse 75 A	standard
15 kW models	180 to 253 Vac*4	200 to 230 V in three phases	60 A @ 200V	Fuse 100 A	standard

*1: At the maximum power

*2: The range of rated input voltage for CE marking application is from 100 to 240 Vac (50/60 Hz)

*3: The range of rated input voltage for CE marking application is from 200 to 240 Vac (50/60 Hz)

*4: The range of rated input voltage for CE marking application is from 200 to 230 Vac (50/60 Hz)

Power factor: 750 W to 5.5 kW models 0.99 typ. in single phase, 0.95 typ. in three phases
10 W to 15 kW models 0.88 typ.

Output control

Local: Constant voltage Front panel rotary encoder
Constant current Front panel rotary encoder

Remote: Constant voltage : external control voltage 0 to 5 Vdc / 10 Vdc or external variable resistance approximately 0 Ω to 5 k Ω / 10 k Ω
Constant current : external control voltage 0 to 5 Vdc / 10 Vdc or external variable resistance approximately 0 Ω to 5 k Ω / 10 k Ω

Voltage regulation*5

Line: 0.05% of maximum output for $\pm 10\%$ AC regulation / Load: 0.1% of maximum output

Current regulation*5

Line: 0.05% of maximum output for $\pm 10\%$ AC regulation / Load: 0.1% of maximum output

Stability*5

0.05% / 8hours of maximum output voltage

Temperature coefficient*5

0.01% / $^{\circ}\text{C}$ maximum output voltage, 0.04% / $^{\circ}\text{C}$ of maximum output current

Output display*5

Output voltage: 4-digit digital meter ($\pm 0.5\%$ FS ± 1 digit, at $23^{\circ}\text{C} \pm 5^{\circ}\text{C}$)
Output current: 4-digit digital meter ($\pm 0.5\%$ FS ± 1 digit, at $23^{\circ}\text{C} \pm 5^{\circ}\text{C}$)

Monitor output

Output voltage monitor: 5 or 10 V for maximum output voltage
Output current monitor: 5 or 10 V for maximum output current

Protections

Overvoltage protection (OVP): Cuts off output at set value
Overcurrent protection (OCP): Cuts off output at set value
Undervoltage protection (UVP): Cuts off output at set value
Operating range: Approx. 5 to 110% or 102.5% of rating
Setting Method: Front panel rotary encoder
Reset: Manual recovery by OUTPUT switch or remote switch
Overtemperature protection (OTP): Cuts off output at the time of internal anomalous heating
Reset (after decreasing to normal temperature or recovery from blackout): Manual recovery by OUTPUT switch or remote switch
Input voltage abnormality (ACF) and power failure protection
Cuts off output with input voltage abnormality
Reset (at normal voltage value or after recovery from power failure)
: At the time of power failure protection (re-output protection function), manual recovery by OUTPUT switch or remote switch
: Automatic recovery when power failure protection is canceled
Operation mode change protection, reverse connection of remote sensing, and Interlock (LD)

Other functions

Keylock to avoid malfunction and Digital master slave operation
(Up to 16 units are available for parallel and series. The combination of parallel with series is not accepted.) (The total output is up to 250 V as for series operation.)
Last setting memory, Noise-efficient control for forced air cooling, Remote sensing
Remote switch ON/OFF (TTL or external relay), Status signal output (CV, CC, FLT, and OUTPUT)

Transient response time

1 ms required for recovery (until returning to within 10% of set voltage for 70 to 100% of load during the constant voltage operation)

Operation temperature

0 to $+50^{\circ}\text{C}$

Storage temperature

-20 to $+70^{\circ}\text{C}$

Save Humidity

20 to 80% RH (no condensation)

Withstand voltage

Between input power supply and output terminal: AC 2,000 V for a minute, Between input power supply and chassis: AC 2,000 V for a minute
Between output terminal and chassis: DC 1,000 V for a minute

Accessories

· Basic Instruction Manual (1) · Remote connector cover (1 set) · Male connector for D-sub 25-pin (1) · CO-M cable (1) · AC input cable 2.5 m(1)*
· Output terminal cover (1 set)* (*applied for 750 W to 800 W models only) · RS-485 connector (1) (except LGOB, LIs or LRcp options)

* Unless specifically indicated, the specifications show the values at the rated output after two hours of warm up.

* Avoid the continuous operation under a short circuit condition in the rated output voltage less than 10%, which could activate the protection.

*5 The value is applied in the usage range of rated output from 10% to 100%.

Functions

Front Panel

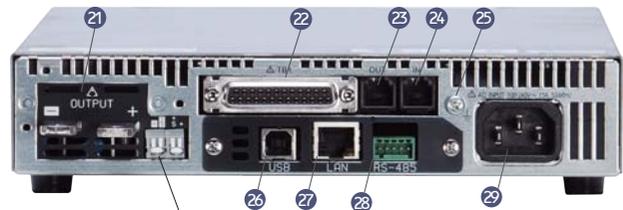
*The displays and lights are all shown for explanation purpose.



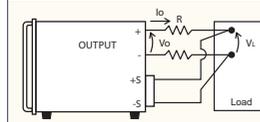
- 1 Air inlet
- 2 POWER switch
This has priority over all operations for safety reason.
- 3 Voltmeter
- 4 CV indicator
- 5 VOLTAGE dial
- 6 Ammeter
- 7 CC indicator
- 8 CURRENT dial
- 9 OUTPUT indicator
Light is on with the output ON.
- 10 OUTPUT switch
Used to turn output ON/OFF at local mode as well as to reset the protection functions

- 11 SET indicator
- 12 SET switch
- 13 REMOTE indicator
Light is on with voltage or current remote control.
- 14 LAN indicator
Green: Normally working
Red: No LAN setting or Communication error
- 15 FINE indicator
- 16 FINE switch
- 17 LOCK indicator
- 18 LOCK switch
- 19 PROTECT indicator
- 20 PROTECT switch

Rear Panel



Remote sensing



The function ensures the prevention of stability deterioration which could be caused by the voltage drop ($V_o - V_L$) due to resistance (R) of the output wire or by contact resistance.

Output voltage (V)	Voltage drop (V MAX)
≤ 20	0.5
$20 < \leq 60$	1
$60 <$	2

- 21 Output terminal
(Differing based on the model. Please see page 8 and 9 for reference)
- 22 Connector for remote interface (TB1)
- 23 Connector for CO-M cable (OUT)
- 24 Connector for CO-M cable (IN)
- 25 Ground terminal
- 26 USB (TMC) Interface
- 27 LAN Interface
- 28 RS-485 Interface
- 29 AC input connector

Digital Control

The minimum value of each model is the same as the smallest digit display on the front panel

Digital Controlling

Setting of the output ON/OFF

Status display

(Output status, operating status, OVP, OCP, UVP, MCP, OTP, ACF, reversible sense connection, Interlock (LD))

Digital control up to 16 units (or 32 units between -LGlob optional models), Collective control for connecting multiple units

Writing

Output voltage setting or Output current setting Percent mode, voltage or current value mode

OVP, OCP or UVP setting Percent mode, voltage or current value mode

Output voltage measurement or Output current measurement Percent mode, voltage or current value mode

Reading

Output voltage setting or Output current setting Percent mode, voltage or current value mode

OVP, OCP or UVP setting Percent mode, voltage or current value mode

Operation example

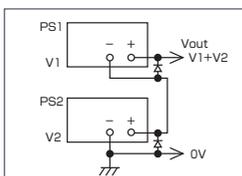
In PVCE series, the output voltage and current can be increased by connecting the same models in series or parallel operation.

As to the control, the use of local control or digital master / slave control is recommended.

External I/O control connector (TB1) is connected to the negative output, so do not share the common with more than two units.

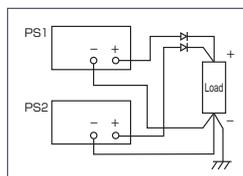
Series operation

The total output voltage can be up to 250 V. Series operation is not available for the total output voltage exceeding 250 V. In that case, the output current comes to the one of the smallest power supply.



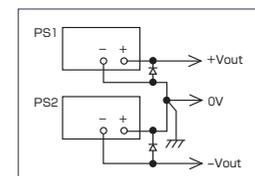
Parallel operation

Please use the same voltage setting for parallel operation. The output current comes to the sum of each current. In order to prevent damages, please ensure to have the maximum level of OVP of the power supply.



Split operation

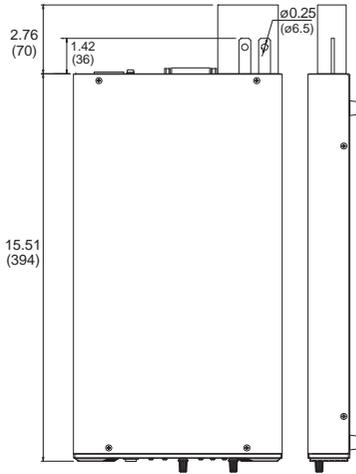
Positive and negative outputs are available respectively.



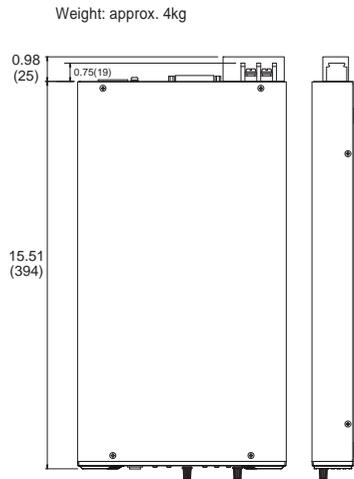
Dimensions inch(mm)

All the models have intake ports for forced-air cooling on the rear panel.
If not more than 30 cm is available for mounting on a cabinet, such countermeasures like forced-air cooling must be taken.

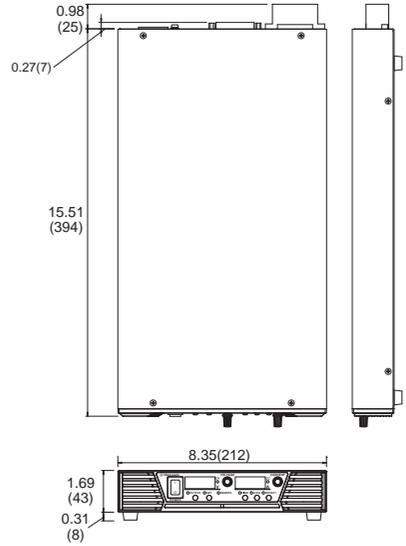
A Output terminal: Bus bar Weight: approx. 4kg



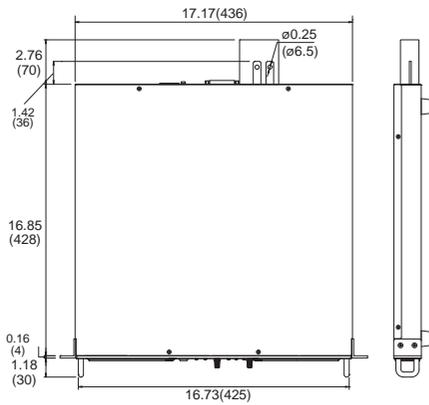
B Output terminal: Terminal board Weight: approx. 4kg



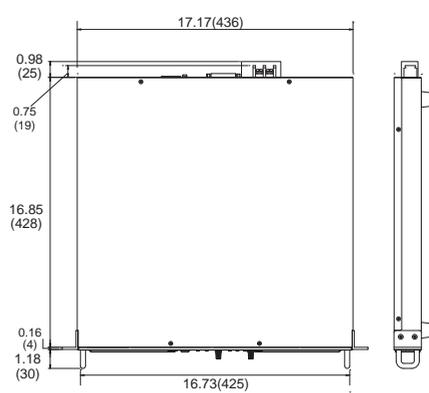
C Output terminal: Connector Weight: approx. 4kg



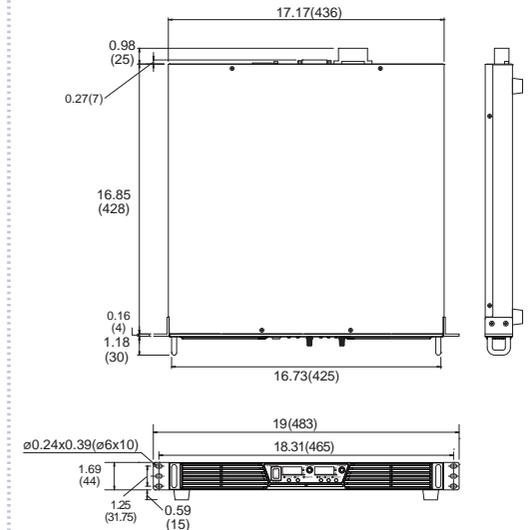
D Output terminal: Bus bar Weight: approx. 6kg



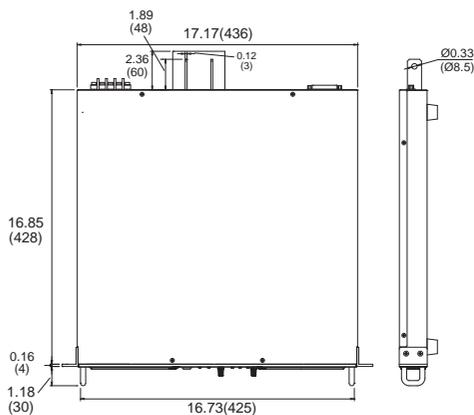
E Output terminal: Terminal board Weight: approx. 6kg



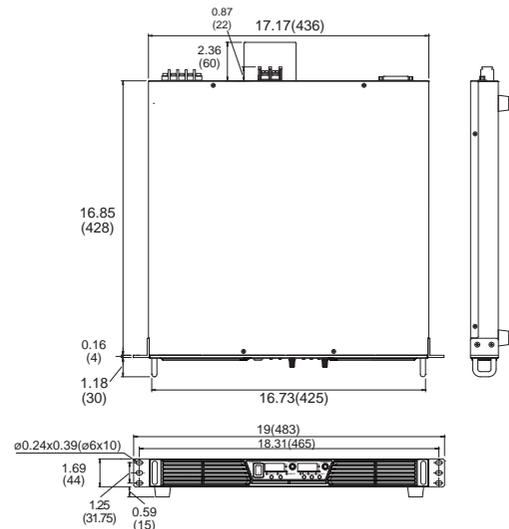
F Output terminal: Connector Weight: approx. 6kg



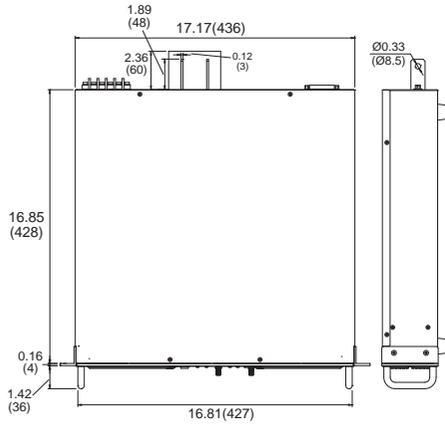
G Output terminal: Bus bar Weight: approx. 8kg



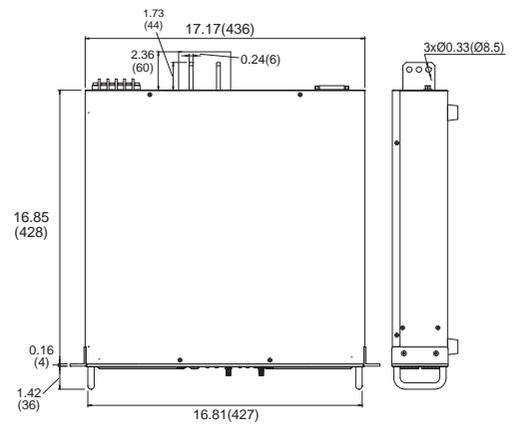
H Output terminal: Terminal board Weight: approx. 8kg



I Output terminal: Bus bar (small) Weight: approx. 14kg

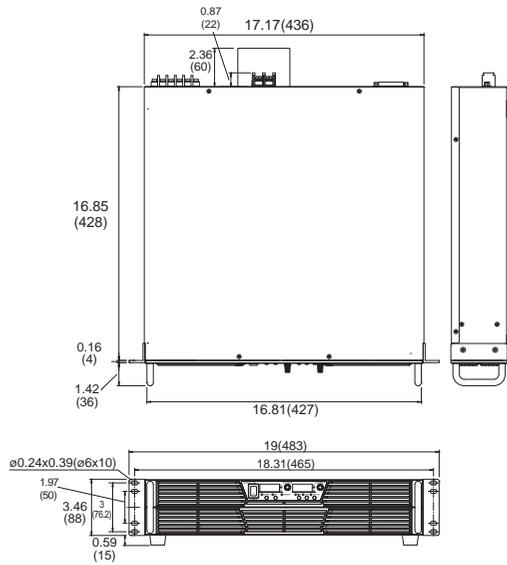


J Output terminal: Bus bar (large) Weight: approx. 14kg



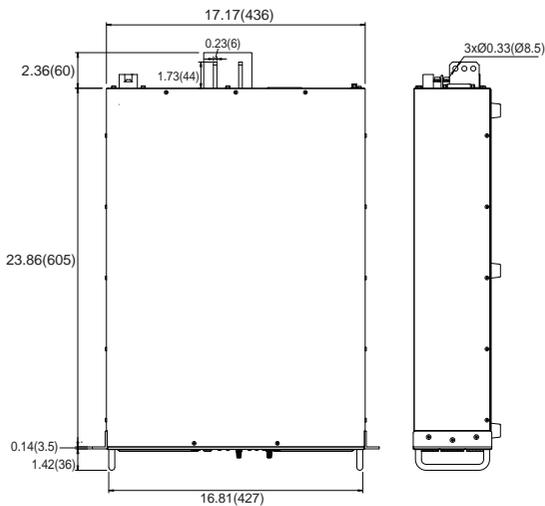
K Output terminal: Terminal board

Weight: approx. 14kg

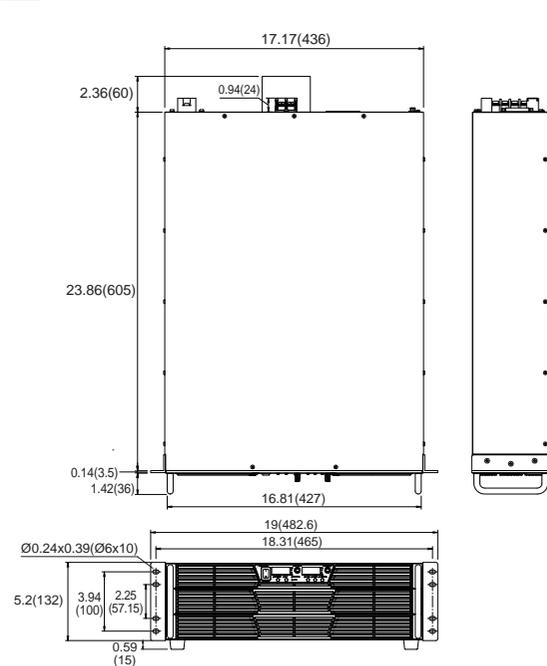


L Output terminal: Bus bar (small) Weight: approx. 30kg

Weight: approx. 30kg



M Output terminal: Terminal board Weight: approx. 30kg



Options

-LGob : Optical interface board ^{*1 *2}

- LGob Optical interface board + optical cable 2 m
- LGob(Fc5) Optical interface board + optical cable 5 m
- LGob(Fc10) Optical interface board + optical cable 10 m
- LGob(Fc20) Optical interface board + optical cable 20 m
- LGob(Fc40) Optical interface board + optical cable 40 m

With optical communication, the unit is remotely controlled while it is isolated. As complete isolation is performed by means of optical fiber, this enables advance prevention of erroneous operation involved with transient phenomenon caused by surges, inductive lightning, external noise, etc. Please purchase a control-side optical communications adapter separately.

Example: USB-optical converter adapter
Model Name: USB-OPT

In case the power supply is used under the following conditions, please select the -LGob option .

- Noisy environment including factories.
- (Ex. Motors or coils are used near power supplies.)
- Use with high voltage floating (more than 250 V)
- The installation distance between power supply produced by Matsusada Precision and controller (PC or PLC) is more than two meters.

*1: These options cannot be selected simultaneously.
Only a single option can be selected.
*2: When selecting these options, Multiple Digital Interface function (see page 5) is not available.

-L(Mc0.5), -L(Mc0.15): Change of communications cable

The CO-M cable length can be selected from 0.5 or 0.15 m.
(Please choose one of the two cables described above.)

-L (3P), -L (1P): Change of phase number in AC input

Please see page 06 for details.

How to order

To order, please add the above option codes to the model number.

<Example> PVCE6-310-LGob (Fc40)(3P)
PVCE10-80-LIs (Mc0.5) / PVCEJ350-2.2-LRcp (Mc0.15)
(In Alphanumeric order)

-LIs: Isolated remote control with voltage ^{*1 *2}

As the output control signal is isolated from the common (in negative polarity output), no control signal floating is required during the negative polarity output as well as series operation.

(Voltage regulation from the negative polarity output is 650 V at maximum.)

The signals and the switches described below are isolated from the common (in negative polarity output) apart from the output control signal.

- Output control** Constant voltage: External control voltage 0 to 5 or 0 to 10 V
Constant current: External control voltage 0 to 5 or 0 to 10 V
- Monitor output** Constant voltage: 0 to 5 or 0 to 10 V
Constant current : 0 to 5 or 0 to 10 V
- Other functions** Remote Switch ON/OFF
Interlock(LD) ON/OFF
Voltage mode switching of Local / Remote
Current mode switching of Local / Remote

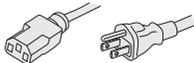
-LRcp: Isolated remote control ^{*1 *2}

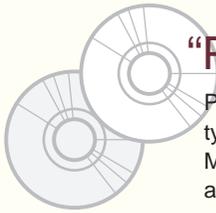
In this option, the current control is adopted instead of -LIs option which uses the voltage control. Rather than -LIs option, -LRcp option has a stronger feature against noise involving to the control signals.

- Output control** Constant voltage: External control current 4 to 20 mA
Constant current: External control current 4 to 20 mA
- Monitor output** Constant voltage: 4 to 20 mA
Constant current: 4 to 20 mA
- Other functions** Remote Switch ON/OFF
Interlock(LD) ON/OFF
Voltage mode switching of Local / Remote
Current mode switching of Local / Remote

AC input cable

Select an appropriate AC input cable according to your operating environment and region.
If you use PVCE series in Europe, please be sure to contact our sales representatives.

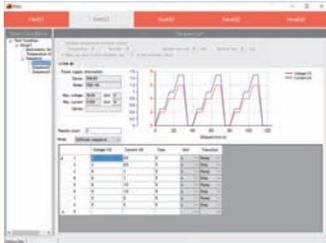
CABLE TYPE 8 (750 to 810 W models as standard)	CABLE TYPE 3 (sold separately) (750 to 810 W models on available)	CABLE TYPE 5 (sold separately) (1.3 to 2.5kW models on available)	CABLE TYPE 6 (sold separately) (2.5 to 5.5 kW models on available)
Rated voltage: 125 V / Maximum current: 15 A	Rated voltage: 125 V / Maximum current: 10 A	Rated voltage: 250 V / Maximum current: 25 A	Rated voltage: 250 V / Maximum current: 25 A
			



“PSS2en”, sequence software for our power supplies

PSS2en is a dedicated software that allows for sequential operation with simple settings as of various types of power supplies, electronic loads, and power supply digital controllers manufactured by Matsusada Precision. It is ideal for durability testing of electronic parts, electrical equipment, and automotive electrical equipment, and for all types of simulation testing.

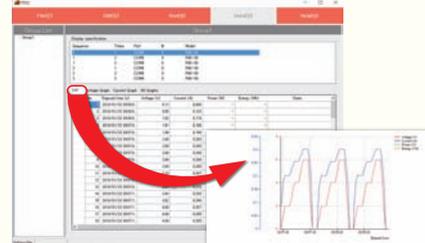
Set-up test condition



Execution of Test



Confirmation of Measured Data



TECHNICAL NOTE

Connection · Operation

■ Connection of load

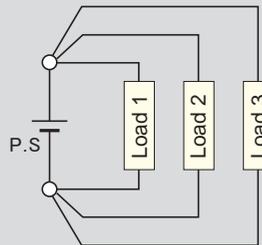
- Please use a short lead wire that is sufficiently thick for the connection.
- Please use PVC electric cable (105 °C) that can fully tolerate the voltage used. It is necessary to consider current capacity, length limit of output wire by sensing (0.5 V/lead) and so on for wiring with load. Please refer to the following diagram to determine the thickness of cable.

AWG	mm ²	Max current(A)
18	1.1	2
16	1.3	7
14	2.1	11
12	3.3	18
10	5.3	23
8	8.4	39
6	13	67
4	21	106
2	33	170
1	42	209
1 / 0	53	270
2 / 0	67	330
3 / 0	85	350

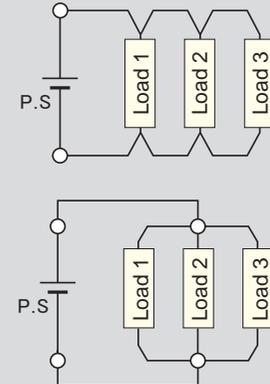
Use several cables or copper bar for model over 350A.

■ Parallel connection of load

○ Good example



✗ Bad example



When selecting DC power supply

▶ Important Notice

Products on this catalog have been manufactured with consideration of safety as DC power supply, however please follow instruction manual for operation and make sure to ground the ground terminal for your safety.

Products on this catalog have been manufactured on the precondition that they are used in ground electric potential or within the range of the above series operation. Please contact our sales staff when using the product for floating of high electric potential, etc.

Products on this catalog are manufactured with consideration for protection against load discharge. However for specific experiment or continuous discharges such as sputtering, product may need discharge resistance between power supply and load or could not be used at all. Please consult with our sales staff in advance.

We recommend that you contact our sales staff with your requirement before choosing a product so that you can get the best product and the safety as high-voltage equipment is assured.

Contact us for various kinds of Power supplies

As a pioneer of power supply manufacturing,
Matsusada Precision offers solutions to meet various
needs with its expertise through direct sales.
Please visit our website and contact us for more information.

Contact Us www.matsusada.com

Contact with phone or fax



USA	Other country or region
North Carolina office TEL(704)496-2644 FAX(704)496-2643	International office in Japan TEL+81-6-6150-5088 FAX+81-6-6150-5089

Manufacturer warranty

We warrant the specification, unless otherwise specified, at max. rated output after warm up, and scope of application is between 10% and 100% of max. rated output. We warrant that products contained in this catalog (hereinafter, the "Products") are free from defects in material and workmanship under normal use for a period of one (1) year from the date of shipment thereof. However, the warranty period for X-ray detectors and X-ray source shall be either one (1) year from the date of shipment or 1,000 hours, whichever shorter. The above warranty shall not apply to any Product which, at our sole judgment, has been: i) Repaired or altered by persons unauthorized by us; or ii) Connected, installed, adjusted or used otherwise than in accordance with the instructions furnished by us (including being used in an inappropriate installation environment, such as in corrosive gas, high temperature and humidity). We are not liable for any loss, damage or failure of the Products after the shipment thereof caused by external factors such as disasters. We will not inspect, adjust or repair any of our power supply products in the field or at any customer site. If you suspect that there has been a power supply failure in the field, please inspect your whole unit by yourself in an effort to determine that the problem is, in fact, arising out of our power supply products. If it is found that the problem is arising out of such power supply product after inspection, please contact your local sales office for additional troubleshooting. A "Return Merchandise Authorization" is required in case the power supply must be sent back to the factory in Japan for inspection and repair. We, at our sole discretion repair or replace such defective products at no cost to the purchaser. We assume no liability to the purchaser or any third party for special, incidental, consequential, or other damages resulting from a breach of the foregoing warranty. This warranty excludes any and all other warranties not set forth herein, express or implied, including without limitation the implied warranties of merchantability or fitness for a particular purpose. The Products are not designed and produced for such applications as requiring extremely high reliability and safety, or involving human lives (such as nuclear power, aerospace, social infrastructure facility, medical equipment, etc.). The use under such environment is not covered by this warranty and may require additional design and manufacturing processes. No modification or supplement of this warranty shall be binding unless in writing and signed by a duly authorized officer of Matsusada. Matsusada reserves the right to make any changes in the contents of catalogs or specifications at any time without advance notice. Due to compelling reason such as unavailability of components used, products might be unavailable or unable to repair. The products specified in catalogs or specifications are designed for use by the person who has enough expertise or under the control of such person, and not for general consumers. Schematics of products shall not be submitted to users. Test result or test data for the products shall be available upon request with charge.

Make sure you read the specification in the latest catalog before you order. Contact nearby sales office for the latest catalog.

PLEASE SEE THE LINK BELOW FOR THE COMPLETE WARRANTY TERMS

https://www.matsusada.com/support/manufacturer_warranty.html

Copyright © 2019 Matsusada Precision Inc. All rights reserved.