Matsusada Precision

High-Capacity DC Power Supply
REM Series

NEW

High-Capacity DC Power Supply

Optimal for evaluating power conditioners as dummy solar cells!

Extendable up to 360kW

Max.output 120kW

REM series

www.matsusada.com

REM series is the high-capacity DC power supply that ensures to safely output power as high as 120kW. Extendable up to 360kW, the device is suitable for cases requiring larger output. The device that is also dividable for use is efficient for various different applications.
Further, it is equipped with the LCD display that indicates the sum of output current and full protective circuits as standard functions, and strongly supports your R&D activities.

Lineup

*1 : Operation is checked only with each power supply device. No rated output operation is check after the device is assembled.
*2 : Predictive value

Max. output voltage (V)	Max. output current (A)	Max. output power (kW) *1	Model	Ripple *2		No. of power supply devices mounted (pcs)
				mVrms	Arms	
10	2000	20	REM10-2000	50	16	2
	3000	30	REM10-3000	60	24	3
	4000	40	REM10-4000	70	32	4
	5000	50	REM10-5000	80	40	5
	6000	60	REM10-6000	100	48	6
15	1400	21	REM15-1400	50	0.7	2
	2100	31.5	REM15-2100	70	1.05	3
	2800	42	REM15-2800	100	14	4
	3500	52.5	REM15-3500	100	17.5	5
	4200	63	REM15-4200	150	21	6
	4900	73.5	REM15-4900	150	24.5	7
	5600	84	REM15-5600	150	28	8
20	1200	24	REM20-1200	50	8.4	2
	1800	36	REM20-1800	70	1.26	3
	2400	48	REM20-2400	100	16.8	4
	3000	60	REM20-3000	150	21	5
	3600	72	REM20-3600	200	25.2	6
	4200	84	REM20-4200	200	29.4	7
	4800	96	REM20-4800	200	33.6	8
30	800	24	REM30-800	50	4	2
	1200	36	REM30-1200	70	6	3
	1600	48	REM30-1600	100	8	4
	2000	60	REM30-2000	150	10	5
	2400	72	REM30-2400	200	12	6
	2800	84	REM30-2800	250	14	7
	3200	96	REM30-3200	250	16	8
35	680	24	REM35-680	50	4.8	2
	1020	36	REM35-1020	70	7.2	3
	1360	48	REM35-1360	100	9.6	4
	1700	59.5	REM35-1700	150	12	5
	2040	71	REM35-2040	200	14.4	6
	2380	84	REM35-2380	250	16.8	7
	2720	96	REM35-2720	250	19.2	8
45	520	23	REM45-520	70	2.6	2
	780	35	REM45-780	100	3.9	3
	1040	47	REM45-1040	150	5.2	4
	1300	58.5	REM45-1300	200	6.5	5
	1560	70	REM45-1560	200	7.8	6
	1820	82	REM45-1820	250	9.1	7
	2080	94	REM45-2080	250	10.4	8
60	400	24	REM60-400	50	2	2
	600	36	REM60-600	70	3	3
	800	48	REM60-800	80	4	4
	1000	60	REM60-1000	90	5	5
	1200	72	REM60-1200	100	6	6
	1400	84	REM60-1400	150	7	7
	1600	96	REM60-1600	150	8	8
100	300	30	REM100-300	120	2	2
	450	45	REM100-450	150	3	3
	600	60	REM100-600	180	4	4
	750	75	REM100-750	200	5	5
	900	90	REM100-900	250	6	6
	1050	105	REM100-1050	250	7	7
	1200	120	REM100-1200	250	8	8

Max. output voltage (V)	Max. output current (A)	Max. output power (kW) *1	Model	Ripple *2		No. of power supply devices mounted (pcs)
				mVrms	Arms	
150	200	30	REM150-200	150	0.8	2
	300	45	REM150-300	200	1.2	3
	400	60	REM150-400	250	1.6	4
	500	75	REM150-500	300	2	5
	600	90	REM150-600	350	2.4	6
	700	105	REM150-700	400	2.8	7
	800	120	REM150-800	450	3.2	8
200	150	30	REM200-150	250	1.06	2
	225	45	REM200-225	300	1.59	3
	300	60	REM200-300	350	2.12	4
	375	75	REM200-375	400	2.65	5
	450	90	REM200-450	450	3.18	6
	525	105	REM200-525	500	3.71	7
	600	120	REM200-600	550	4.24	8
300	100	30	REM300-100	200	0.4	2
	150	45	REM300-150	300	0.6	3
	200	60	REM300-200	350	0.8	4
	250	75	REM300-250	400	1	5
	300	90	REM300-300	500	1.2	6
	350	105	REM300-350	550	1.4	7
	400	120	REM300-400	600	1.6	8
350	84	29	REM350-84	200	0.4	2
	126	44	REM350-126	300	0.6	3
	168	59	REM350-168	350	0.8	4
	210	73.5	REM350-210	400	1	5
	252	88	REM350-252	450	1.2	6
	294	103	REM350-294	500	1.4	7
	336	118	REM350-336	550	1.6	8
500	60	30	REM500-60	250	0.2	2
	90	45	REM500-90	300	0.3	3
	120	60	REM500-120	350	0.4	4
	150	75	REM500-150	400	0.5	5
	180	90	REM500-180	450	0.6	6
	210	105	REM500-210	500	0.7	7
	240	120	REM500-240	550	0.8	8
600	50	30	REM600-50	200	0.1	2
	75	45	REM600-75	250	0.15	3
	100	60	REM600-100	300	0.2	4
	125	75	REM600-125	350	0.25	5
	150	90	REM600-150	400	0.3	6
	175	105	REM600-175	450	0.35	7
	200	120	REM600-200	500	0.4	8
650	46	30	REM650-46	350	0.2	2
	69	45	REM650-69	400	0.3	3
	92	60	REM650-92	450	0.4	4
	115	75	REM650-115	500	0.5	5
	138	90	REM650-138	550	0.6	6
	161	105	REM650-161	600	0.7	7
	184	120	REM650-184	650	0.8	8
1000	30	30	REM1000*-30	500	0.6	2
	45	45	REM1000*-45	600	0.9	3
	60	60	REM1000*-60	800	1.2	4
	75	75	REM1000*-75	1000	1.5	5
	90	90	REM1000*-90	1100	1.8	6
	105	105	REM1000*-105	1200	2.1	7
	120	120	REM1000*-120	1300	2.4	8

* P : Positive output * N : Negative output

All models in the lineup are to be housed in a single dedicated 19-inch rack. (See page 4-5 for dimensions and other information.) Extendable up to 360 kW, the device is suitable for cases requiring larger power. However, note the following points for extension :

- Extension is allowed only with the same model.
- You must be responsible for wiring or other operations for extension.
- You might have to allocate space for mounting additional racks. Prior to extension, please check the total number of racks with our sales staff.
- Both input and output is made for each rack regardless of the number of racks used. A breaker is mounted on each rack when the –LBr option is selected. Breakers cannot be integrated.

Input current (at 220VAC input and max. rated output)

Models with the -LPfc option

* When the –LBr option (protection breaker) is selected, the values in the thick frame are excluded as the maximum number of power supply devices mounted is 6 in such case.

Model \ No. of power supply devices mounted	2	3	4	5	6	7	8
10 and 15V models	72A	108A	144A	180A	216A	252A	288A
20 to 60V models	80A	120A	160A	200A	240A	280A	320A
100 to 1000V models	100A	150A	200A	250A	300A	350A	400A
Screws at input part	Input current of 240A or less : M10			250 to 385A : M12		400A or higher : M16	

Models without the -LPfc option

* When the -LBr option (protection breaker) is selected, the values in the thick frame are excluded as the maximum number of power supply devices mounted is 6 or 5 in such case.

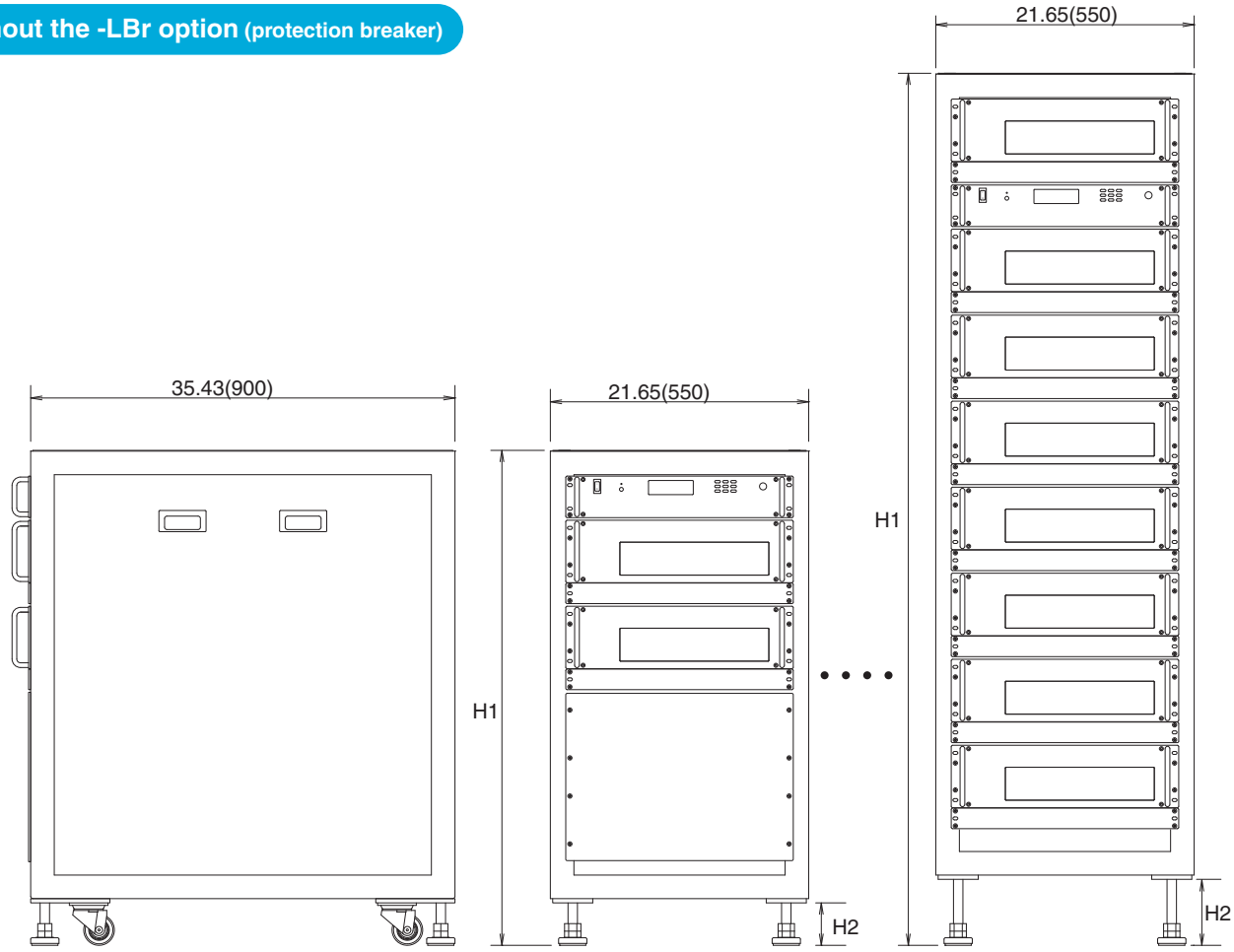
Model \ No. of power supply devices mounted	2	3	4	5	6	7	8
10 and 15V models	100A	145A	190A	235A	280A	325A	370A
20 to 60V models	108A	162A	216A	270A	324A	378A	432A
100 to 1000V models	136A	204A	272A	340A	408A	476A	544A
Screws at input part	Input current of 240A or less : M10			250 to 385A : M12		400A or higher : M16	

Dimensions inch(mm)

* The width might vary by models. Contact our sales staff for details.

- Both types are forcedly air-cooled. Make sure to allocate space of 30 cm or wider in front and at the back of the system rack.
- The screws at the output part of both types vary by specifications. Contact our sales staff for details.

Without the -LBr option (protection breaker)



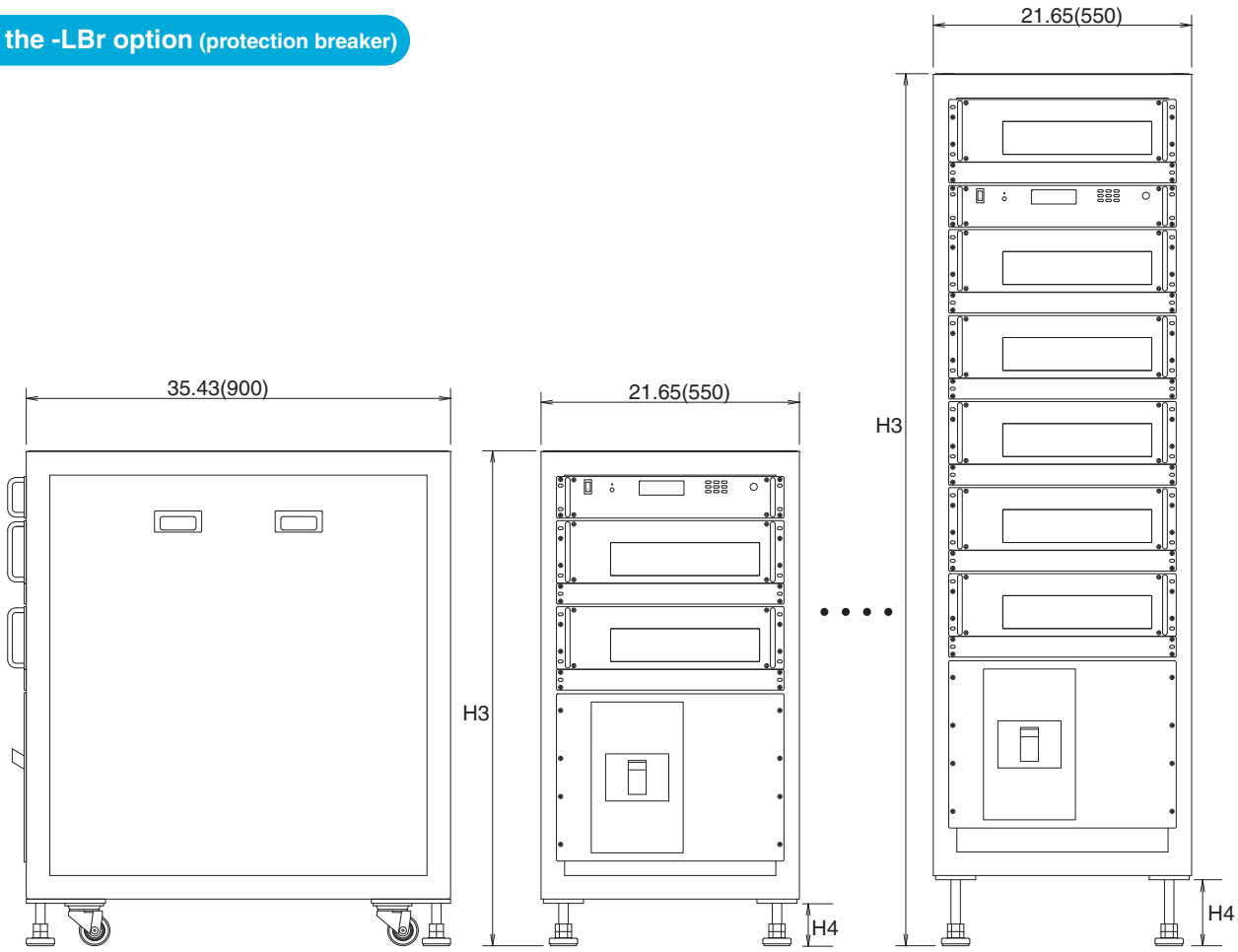
When 2 units (= min. number) are mounted

When 8 units (= max. number) are mounted

No. of power supply devices mounted	H1 inch (mm)	H2 inch (mm)	Weight (kg approx.)	
			10 to 20V models	30 to 1000V models
2	41.34 (1050)	3.54 (90)	190	180
3	41.34 (1050)	3.54 (90)	220	210
4	41.34 (1050)	3.54 (90)	250	230
5	49.21 (1250)	3.54 (90)	300	270
6	57.09 (1450)	3.54 (90)	340	310
7	64.96 (1650)	5.51 (140)	380	340
8	72.83 (1850)	5.51 (140)	430	380

For the models without the -LBr option, the power supply unit section stands by for output at the time when power is fed from the AC line and starts output in response to the output control signal from the controller section. The controller section is not activated only by power feeding from the AC line but stands by after the POWER switch on the front panel is pressed.

With the -LBr option (protection breaker)



When 2 units
(= min. number)
are mounted

When 6 units
(= max. number)
are mounted

No. of power supply devices mounted	H3 inch (mm)	H4 inch (mm)	Weight (kg approx.)	
			10 to 20V models	30 to 1000V models
2	41.34 (1050)	3.54 (90)	190	180
3	49.21 (1250)	3.54 (90)	230	220
4	57.09 (1450)	3.54 (90)	280	260
5	64.96 (1650)	5.51 (140)	320	290
6	72.83 (1850)	5.51 (140)	370	330

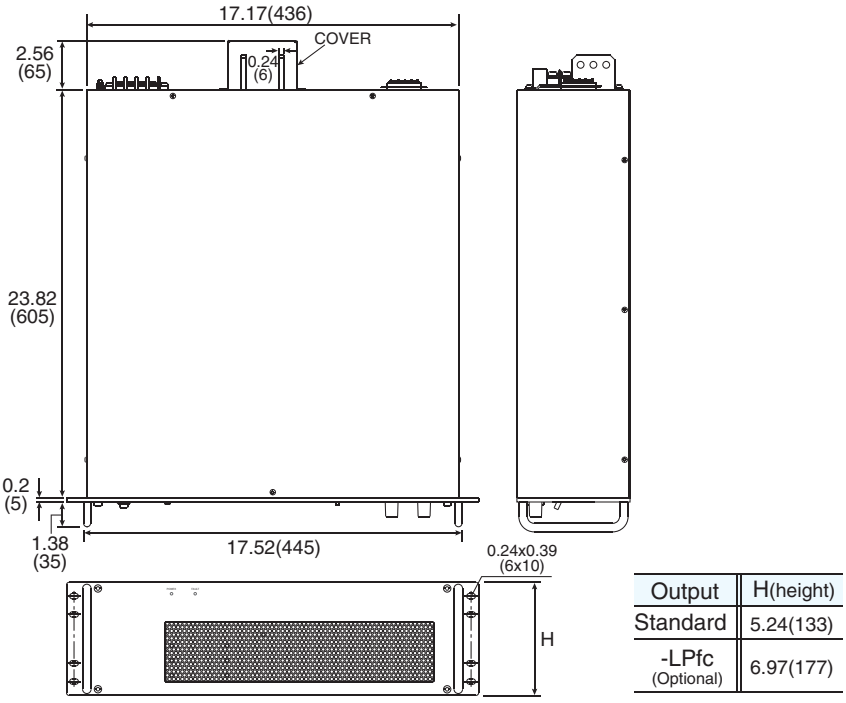
System Specifications

Input voltage	220VAC ±10%, 50/60 Hz, three phase
Operating temperature	0 to +40 °C
Storage temperature	−20 to +70 °C
Storage humidity	0 to 80%RH (with no dew condensation)
Accessory	Instruction manual

Power Supply Unit Specifications

Voltage fluctuation ratio	To input : 0.1% of max. output (against fluctuation by AC ±10%) To load : 0.2% of max. output (against load fluctuation by 0 to 100%)
Current fluctuation ratio	To input : 0.1% of max. output (against fluctuation by AC ±10%) To load : 0.2% of max. output (against load fluctuation by 0 to 100%)
Stability	0.05% per 8 hours of max. output voltage
Temperature coefficient	200 ppm/°C of max. output voltage 300 ppm/°C of max. output current
Withstand voltage	Between input power source and output terminal and between input power source and chassis 1500 VAC for a minute

Dimension [Power supply unit] inch(mm)



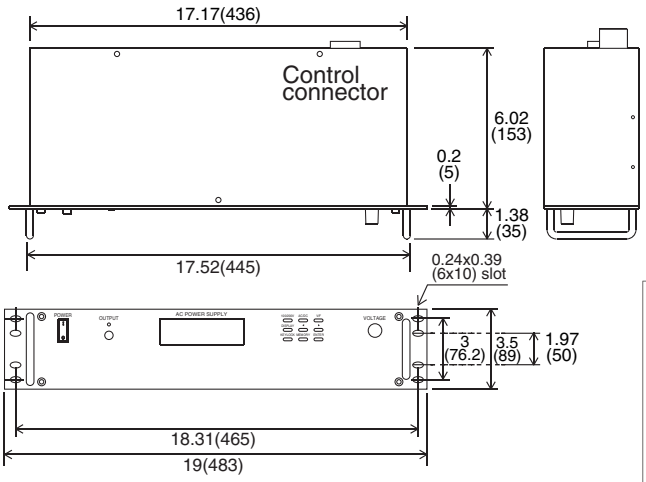
Output	H(height)
Standard	5.24(133)
-LPfc (Optional)	6.97(177)

Power Supply Controller Specifications

Output control	Output voltage : Setting with front rotary encoder (with preset functions) Output current : Setting with front rotary encoder (with preset functions) *
Output display	Output voltage : 4-digit digital meter(accuracy: 1%FS ± 1 dgt) Output current : 4-digit digital meter(accuracy: 1%FS ± 1 dgt) *
Protections	Overvoltage protection(OVP) Cut off at the set value Setting range : 5 to 110% of output voltage Setting with front rotary encoder Over temperature protection(OTP) Cut off output at the time of internal anomalous heating Reset (after decreasing to the normal temperature) : Automatic recovery or manual recovery with the POWER switch (switchable) Input voltage drop(ACF) and blackout protection Cut off output when input voltage drops by 20% or more Reset (at normal voltage or after recovery from blackout) : Manual recovery with the OUTPUT switch at the time of blackout protection (re-output protecting function) : Automatic recovery when blackout protection is cancelled
Other functions	Output : ON / OFF Memory function (10 memories) Front panel lock function

* Sum of the current from the power supply units connected

Dimensions [Power supply controller] inch(mm)



Analog remote control is included as the standard equipment

Remote switch ON/OFF
Turns ON/OFF output by the external relay or TTL

Output voltage/current control
External control output of 0 to 10 Vdc / max. output, or External variable resistance of 0 to 10 kΩ / max. output
* The max. response time from control voltage input to the actual output is 2 seconds.

Output voltage/current monitor
0 to 10 Vdc / max. output

Options

* 1 : The whole unit weight will change. Contact our sales staff for details.
* 2 : The interface is mounted on the rear panel of the power supply controller. Note that only one of the following options may be selected.

-LPfc Power factor corrector *1 : When this option is selected, the power supply device will be 177mm high.

-LEb Eyebolt *1 : The total 4 eyebolts are mounted on the top surface that allow the unit to be transferred by a crane or other means,

-LBr Protection breaker*1 : A breaker is mounted on each rack. When this option is selected, up to 6 power supply devices may be mounted on a rack.

-LGob Optical interface board*2

-LEt LAN(Ethernet) interface board*2

-LUs1 USB interface board*2

-LGb GPIB interface board*2

-L(208V) Input voltage 208VAC ± 10%
(The input current value is approx. 90% of the value stated in page 3)

-L(400V) Input voltage 400VAC ± 10%
(available soon)

How to place an order Add any of the abovementioned optional symbols after the model name for order placement.
<e.g.> REM10-2000-LBrEbEtPfc (220V), in order of alphabets and numbers

FAX

USA/canada : +1-888-652-8651

other countries : +81-6-6150-5089

Customer Inquiry Sheet (REM series)

Please copy this page and above fax number after filling out form below.

■ I would like

☐ A quotation ☐ An explanation of product ☐ A demonstration ☐ To purchase

☐ Other ( )

■ Give us your requirement / comment

■ Please fill in below.

Address:	
Company:	
Dept.:	Title:
Name:	
Tel:	Fax:
E-mail:	

Warranty

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.If any Product is showed to be defective as satisfactory to us, 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. Regarding RoHS compliance, Matsusada Precision Inc. does not intentionally use objectionable substances in the products listed within this catalog. Matsusada Precision Inc. manufactures products using components which, according to our suppliers, are “RoHS compliant parts”. However, Matsusada Precision does not analyze each and every unit to confirm. Therefore, there may be some customized products which do not comply to RoHS. Please contact your nearby sales office for confirmation.

Matsusada Precision Inc.

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