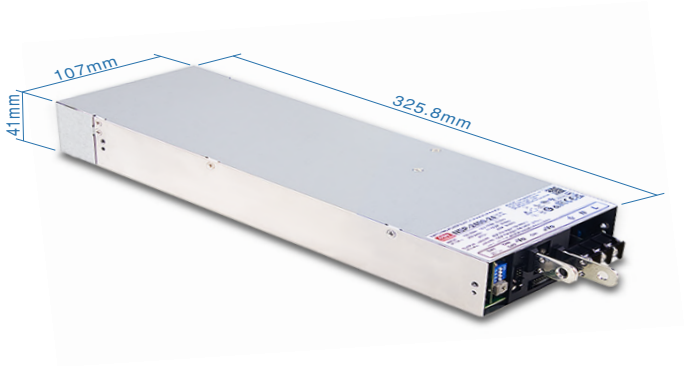
Über die gesetzliche Gewährleistung hinausgehende Garantieangaben sind Herstellergarantien.

2400W AC/DC High Reliable Multi-Industries Enclosed Type Power Supply NSP-2400 series



Front



Back



User's Manual
Click Me

IEC62368-1
IEC61558-1/-2-16
IEC61010-1/-2-201
IEC60601-1
IEC60335-1
IEC62477-1

BS EN/EN62368-1
BS EN/EN61558-1/-2-16
BS EN/EN61010-1/-2-201
BS EN/EN60601-1
BS EN/EN60335-1
BS EN/EN62477-1

UL62368-1
UL61010-1-2-201
ANSI/AAMI ES60601-1

UL61010-1

(Note.11) GB4943.1 CNS15598-1 KC62368-1 (By request) IS13252 (By request Note.13) TPTC004

ECO Automate Industrial Security Network
Telecom Household Medical 2xMOPP BF rated

Features

- 85~305Vac input with PFC(277Vac available)
- Global certificates in multi-fields (ITE 62368-1, Medical 60601-1, Household 60335-1,Industrial 61558-1/2-16/61010-1/-2-201, Energy converter 62477-1), SEMI F47 at 200Vac
- 200% peak power capability
- High efficiency up to 93%
- Output voltage 0~120% and output current 0~100% programmable
- Current sharing up to 9600W(3+1) for parallel use
- Built in ORing MOS By request, Order NO. : NSP-2400-xxOR/MODOR
- CANBus(Built in) or MODBus protocol (By request)
- -40~85℃ wide range operation temperature(> +60℃ derating)
- Extremely low leakage current<500uA, 2 x MOPP, suitable for BF medical applications
- Built-in constant current limiting circuit
- Protections: Short circuit / Overload / Over voltage / Over temperature
- Built-in remote ON/OFF control/Remote Sense/ DC OK signal
- Auxiliary 5Vdc and 12Vdc
- Over voltage category III (OVC III)
- Operating altitude up to 5000 meters
- Built-in intelligent fan speed control, low noise <46dB
- Conformal coating
- 5 years warranty

Applications

- Industrial automation machinery/ control system
- Security system
- Mechanical and electrical equipment
- Electronic instruments, equipments or apparatus
- Network equipment
- Telecom devices
- Power sourcing equipment of PoE
- Home automation
- Medical devices
- Supercapacitor

GTIN CODE

MW Search: https://www.meanwell.com/serviceGTIN.aspx

Description

The NSP-2400 series is a 2400W AC/DC power supply with PFC function, designed for high reliability and suitable for multiple industries. Key features include: compact size (325.8*107*41mm) for better space utilization in system installations, ultra-wide input range of 85~305Vac for global compatibility, up to 93% efficiency , programmable output voltage (0~120%) and current (0~100%), constant current design with 200% peak power capability, parallel output capacity up to 9600W, built-in CANBus communication interface, wide operating temperature range from -40 to +85℃(+60℃at full load), compliance with OVCIII, built-in Remote Control /Remote Sense/DC OK signal/auxiliary power, internal PCB coating, complete protections, certifications for multiple safety standards including 62368-1, 60601-1, 61558-1, 60335-1, 62477-1, and 61010-1, as well as 2 X MOPP compliance and extremely low leakage current (<500μA). It is suitable for BF-rated medical equipment and comes with a 5-years warranty, making it a highly cost-effective solution for industrial power supply needs.

Model Encoding

NSP - 2400 - 48 MOD

- MOD: Communication protocol option
- 48: Output voltage (12V/15V/24V/27V/36V/48V/60V)
- 2400: Rated wattage
- NSP: Series name

Type	Communication Protocol	Note
Blank	CANBus protocol	In Stock
MOD	MODBus protocol	By request

Über die gesetzliche Gewährleistung hinausgehende Garantieangaben sind Herstellergarantien.

SPECIFICATION			NSP-2400-12□	NSP-2400-15□	NSP-2400-24□	NSP-2400-27□	NSP-2400-36□	NSP-2400-48□	NSP-2400-60□
			□ =Blank (standard model in stock), MOD (By request model)						
OUTPUT									
DC VOLTAGE			12V	15V	24V	27V	36V	48V	60V
CURRENT			183.3A	146.7A	100A	88.8A	66.6A	50A	40A
CURRENT RANGE			0 ~ 183.3A	0 ~ 146.7A	0 ~ 100A	0 ~ 88.8A	0 ~ 66.6A	0 ~ 50A	0 ~ 40A
RATED POWER			2200W	2200W	2400W	2397W	2397W	2400W	2400W
PEAK Note.2	CURRENT		366.6A	293.3A	200A	177.6A	133A	100A	80A
	POWER		4400W	4400W	4800W	4795W	4795W	4800W	4800W
RIPPLE & NOISE (max.) Note.3			300mVp-p	300mVp-p	300mVp-p	300mVp-p	350mVp-p	450mVp-p	600mVp-p
VOLTAGE ADJ. RANGE			10.8 ~ 14.4V	13.5 ~ 19V	21.6 ~ 28.8V	24.3 ~ 32.4V	32.4 ~ 43.2V	43.2 ~ 55V	54 ~ 72V
VOLTAGE TOLERANCE Note.4			±1.0%						
LINE REGULATION			±0.5%						
LOAD REGULATION			±0.5%						
SETUP, RISE TIME Note.5			1800ms, 60ms/115Vac; 1800ms, 60ms/230Vac; 1800ms, 60ms/277Vac at full load						
HOLD UP TIME (Typ.)			12ms @ 70% load, 8ms @full load						
INPUT									
VOLTAGE RANGE Note.6			85 ~ 305Vac 250 ~ 431Vdc						
FREQUENCY RANGE			47 ~ 63Hz						
POWER FACTOR (Typ.)			0.98/115Vac 0.95/230Vac 0.93/277Vac at full load						
EFFICIENCY (Typ.)			89%	90%	91%	91%	91.5%	92%	93%
AC CURRENT (Typ.)			17A/115Vac 13A/230Vac 11A/277Vac						
INRUSH CURRENT (Typ.)			COLD START 30A/115Vac 60A/230Vac 75A/277Vac						
LEAKAGE CURRENT			Earth leakage current <500μA(rms)@277Vac ; Touch current<100μA(rms) @ 277Vac						
PROTECTION									
SHORT CIRCUIT Note.7	PEAK POWER MODE		Constant current limiting, unit will shut down after 5 Sec, AC repower on to recover. (2 Sec for 12V/15V models)						
	CURRENT LIMITING MODE		Constant current limiting, recovers automatically after abnormal condition is removed						
OVERLOAD Note.8	PEAK POWER MODE		From 105% to 200% of rated output power, unit will shut down after 5 seconds of continuous operation. AC repower on to recover. (2 Sec for 12V/15V models)						
			At >200% of rated output power, constant current limiting is activated. Unit will shut down after 5 seconds of continuous operation. AC repower on to recover. (2 Sec for 12V/15V models)						
	CURRENT LIMITING MODE		Constant current limiting, recovers automatically after abnormal condition is removed						
OVER VOLTAGE			15 ~ 19V	20 ~ 25V	29 ~ 37V	33 ~ 42V	44 ~ 54V	56 ~ 60V	73 ~ 86V
			Protection type : Shut down and latch off output voltage, re-power on to recover						
OVER TEMPERATURE			Shut down output voltage, recovers automatically after temperature goes down						
FUNCTION									
OUTPUT CURRENT PROGRAMMABLE(PC)			Adjustment of constant current level is allowable between 0 ~ 100% of rated current. Please refer to the User Manual.						
OUTPUT VOLTAGE PROGRAMMABLE(PV) Note.9			Adjustment of output voltage is allowable to 0 ~ 120% of nominal output voltage. Please refer to the User Manual.						
PARALLEL			Up to 9600W or (3+1) units. Please refer to the User Manual.						
AUXILIARY POWER			5Vaux @ 0.2A Tolerance ±15%, ripple 150mVp-p						
			12Vaux @ 0.8A Tolerance ±15%, ripple 450mVp-p						
REMOTE CONTROL			By electrical signal or dry contact Power ON: RC short Power OFF: RC open						
REMOTE SENSE			Compensate voltage drop on the load wiring up to 0.5Vdc						
DC OK SIGNAL			Contact rating(max.):5Vdc/10mA resistive load						
CANBus(BUILT-IN) or MODBus(By Request) INTERFACE			Communication provides functions such as control, setting and monitoring						
FAN NOISE (Typ.)	Note.10		Built-in intelligent fan speed control detect by PSU'S internal temperature						
	10% load with Ta=25℃		38dB						
	70% load with Ta=25℃		46dB	44dB	44dB	42dB	38dB	40dB	41dB
ENVIRONMENT									
WORKING TEMP.			-40 ~ +85℃ (Refer to "Derating Curve")						
WORKING HUMIDITY			20 ~ 90% RH non-condensing						
STORAGE TEMP., HUMIDITY			-40 ~ +85℃, 10 ~ 95% RH non-condensing						
TEMP. COEFFICIENT			±0.03%/℃ (0 ~ 60℃)						
VIBRATION			10 ~ 500Hz, 2G 10min./1cycle, 60min. each along X, Y, Z axes						

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2400W AC/DC High Reliable Multi-Industries Enclosed Type Power Supply NSP-2400 series

SAFETY & EMC(Note 11~13)			
SAFETY STANDARDS	CB IEC62368-1, IEC60335-1, IEC61558-1/-2-16, IEC61010-1/-2-201, IEC60601-1; IEC62477-1 DEKRA BS EN/EN62368-1, BS EN/EN60335-1, BS EN/EN61558-1/-2-16, BS EN/EN61010-1/-2-201, BS EN/EN60601-1(3.2 Version);BS EN/EN62477-1 UL UL62368-1, ANSI/AAMI ES60601-1(3.2 Version),UL61010-1/-2-201 CQC GB4943.1 BSMI CNS15598-1 EAC TP TC 004 SEMI F47 approved KC/BIS KC 62368-1 and BIS IS 13252(Part 1) certified, No stock, contact sales by request		
ISOLATION LEVEL Note.14	Primary-Secondary: 2xMOPP, Primary-Earth: 1xMOPP, Secondary-Earth: 1xMOPP		
OVER VOLTAGE CATEGORY Note.15	IEC/EN 61558-1/-2-16 (OVC Ⅲ, altitude up to 2000M) IEC/EN/UL 62368-1 (OVC Ⅱ, altitude up to 5000M) IEC/EN 60335-1 (OVC Ⅱ, altitude up to 5000M) IEC/EN/ANSI/AAMI ES60601-1 (OVC Ⅱ, altitude up to 4000M) IEC/EN/UL 61010-1/-2-201 (OVC Ⅱ, altitude up to 5000M) IEC/EN 62477-1 (OVC Ⅱ, altitude up to 5000M)		
SAFETY EXTRA-LOW VOLTAGE(SELV)	IEC/EN 61558-2-16 (SELV, 12 ~ 60V) IEC/EN 60335-1 (SELV, 12 ~ 36V) IEC/EN/UL 62368-1 (SELV/ES1, 12 ~ 48V)		
WITHSTAND VOLTAGE	I/P-O/P:4KVac I/P-FG:2KVac O/P-FG:1.5KVac		
ISOLATION RESISTANCE	I/P-O/P, I/P-FG, O/P-FG:100M Ohms / 500VDC / 25℃/ 70% RH		
EMC EMISSION	**Parameter**	**Standard**	**Test Level / Note**
	Conducted	BS EN/EN55032(CISPR32),CNS 15936,GB/T 9254.1,KS C 9832	Class B
		BS EN/EN55014-1(CISPR14-1)	
		BS EN/EN55011(CISPR11)	Class B
	Radiated	BS EN/EN55032(CISPR32),CNS 15936,GB/T 9254.1,KS C 9832	Class B
		BS EN/ENEN55014-1(CISPR14-1)	
		BS EN/EN55011(CISPR11)	Class B
	Harmonic Current	BS EN/EN61000-3-2(IEC61000-3-2),GB 17625.1	Class A
	Voltage Flicker	BS EN/EN61000-3-3(IEC61000-3-3)	-----
EMC IMMUNITY	BS EN/EN55035(CISPR35),BS EN/EN61000-6-2(IEC61000-6-2),BS EN/EN60601-1-2(IEC60601-1-2), BS EN/EN55014-2(CISPR14-2),KS C 9835,SEMI F47 tested at 200Vac		
	Parameter	**Standard**	**Test Level / Note**
	ESD	BS EN/EN61000-4-2	Level 4, 15KV air ; Level 4, 8KV contact
	Radiated	BS EN/EN61000-4-3	Level 3, 10V/m(80MHz~2.7GHz) Table 9, 9~28V/m(385MHz~5.78GHz)
	EFT / Burst	BS EN/EN61000-4-4	Level 3, 2KV
	Surge	BS EN/EN61000-4-5	Level 4, 2KV/Line-Line 4KV/Line-Earth
	Conducted	BS EN/EN61000-4-6	Level 3, 10V
	Magnetic Field	BS EN/EN61000-4-8	Level 4, 30A/m
	Voltage Dips and Interruptions	BS EN/EN61000-4-11	>95% dip 0.5 periods, 30% dip 25 periods, >95% interruptions 250 periods
OTHERS			
MTBF	566.1K hrs min. Telcordia SR-332 (Bellcore) ; 47.3K hrs min. MIL-HDBK-217F (25℃)		
DIMENSION (L*W*H)	**325.8*107*41mm**		
PACKING	2.32Kg;4pcs/10.3Kg/1.09CUFT		

NOTE

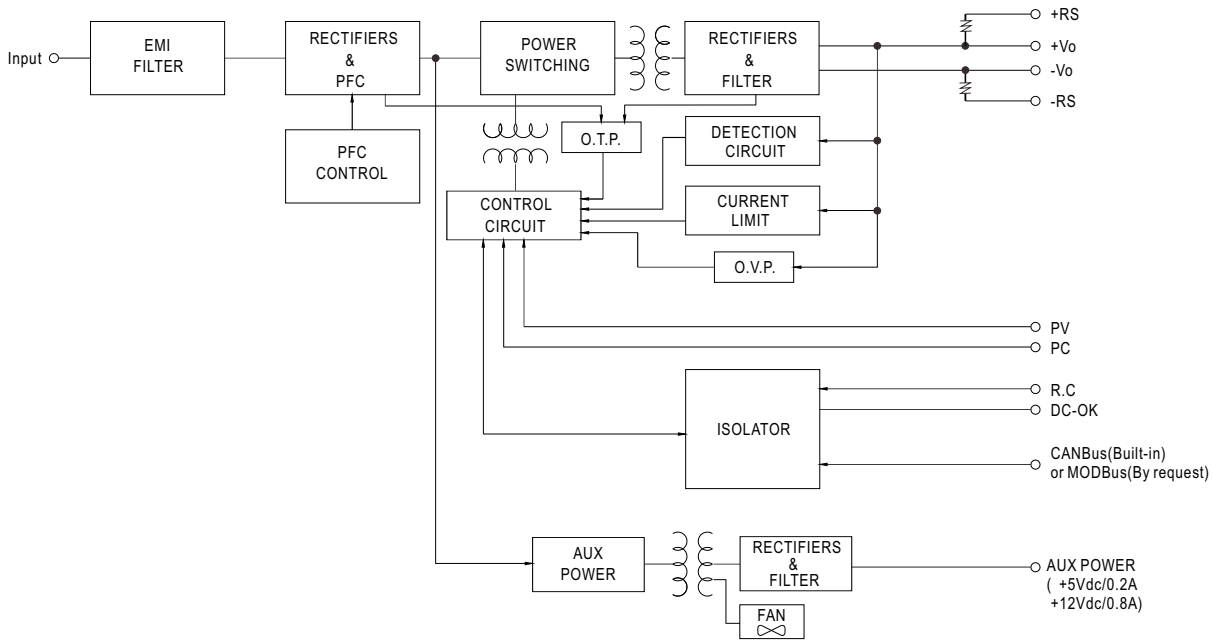
1. All parameters NOT specially mentioned are measured at 230Vac input, rated load and 25℃ of ambient temperature.
2. The peak power duration is 2 seconds for 12V/15V models and 5 seconds for all other models.
3. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uF & 47uF parallel capacitor.
4. Tolerance: includes set up tolerance, line regulation and load regulation.
5. Setup time is measured at the first cold start.
6. Derating may be required at low input voltages; refer to the "Static Characteristics" section for details.
7. Operation under stabilized output voltage may trigger protective shutdown.
8. For details on the overload protection mode, refer to the "Overload Protection Mode" section in the User Manual.
9. When the output voltage is adjusted via the PV function, the output ripple and noise may exceed the specified limits under certain operating conditions.
10. Fan noise measurement is performed in accordance with ISO 7779.
11. The Regulatory Compliance Mark (RCM) is applied on a voluntary basis. The equipment meets the relevant IEC or AS/NZS standards, or AS/NZS 3820 where applicable. The use of the RCM mark complies with AS/NZS 4417.1.
12. The power supply is considered a component which will be installed into a final equipment. All the EMC tests are been executed by mounting the unit on a 360mm*360mm metal plate with 1mm of thickness. The final equipment must be re-confirmed that it still meets EMC directives. For guidance on how to perform these EMC tests, please refer to "EMI testing of component power supplies." (as available on https://www.meanwell.com//Upload/PDF/EMI_statement_en.pdf)
13. The BIS marking may not be available for certain manufacturing sites or models. Please contact your MEAN WELL sales rep for further information.
14. MOPP is suitable for 100-240Vac input only.
15. The ambient temperature derating of 3.5℃/1000m with fanless models and 5℃/1000m with fan models for operating altitude higher than 2000m(6500ft).

※ Product Liability Disclaimer : For detailed information, please refer to https://www.meanwell.com/serviceDisclaimer.aspx

Über die gesetzliche Gewährleistung hinausgehende Garantieangaben sind Herstellergarantien.

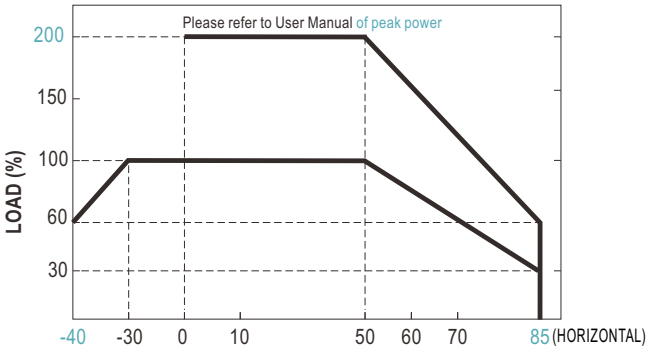
Block Diagram

PFC fosc : 85KHz
PWM fosc : 85KHz



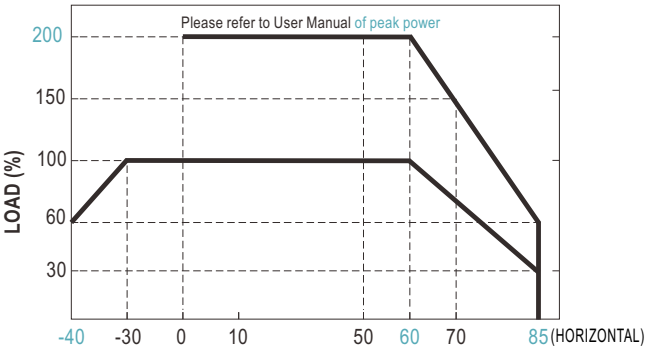
Derating Curve

◎ 12V/15V



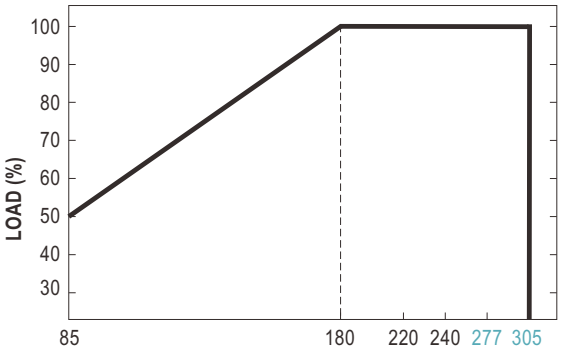
AMBIENT TEMPERATURE (℃)

◎ Others



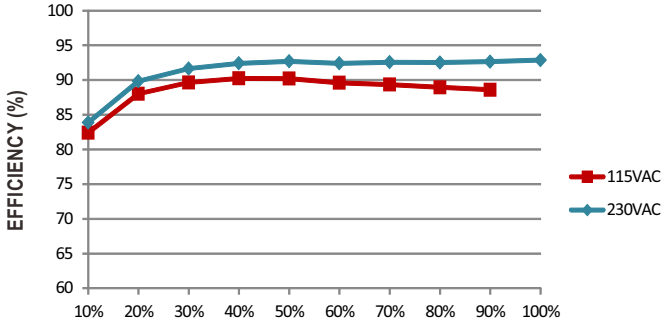
AMBIENT TEMPERATURE (℃)

Static Characteristics



INPUT VOLTAGE (Vac) 60Hz

Efficiency vs Load (48V Model)



LOAD

◎ The curve above is measured at 115/230Vac.

Über die gesetzliche Gewährleistung hinausgehende Garantieangaben sind Herstellergarantien.

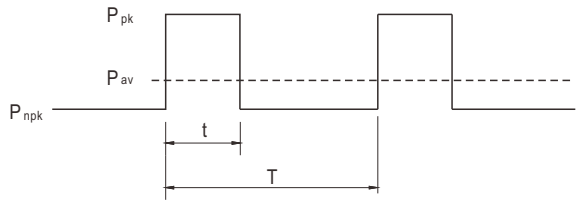
■ User Manual

1.Peak Power

$$P_{av} = \frac{P_{pk} \times t + P_{npk} \times (T-t)}{T} \leqslant P_{rated}$$

$$Duty = \frac{t}{T} \times 100\% \leqslant 35\%$$

$t \leqslant 5$ sec



P_{av} : Average output power(W)

P_{pk} : Peak output power(W)

P_{npk} : Non-peak output power(W)

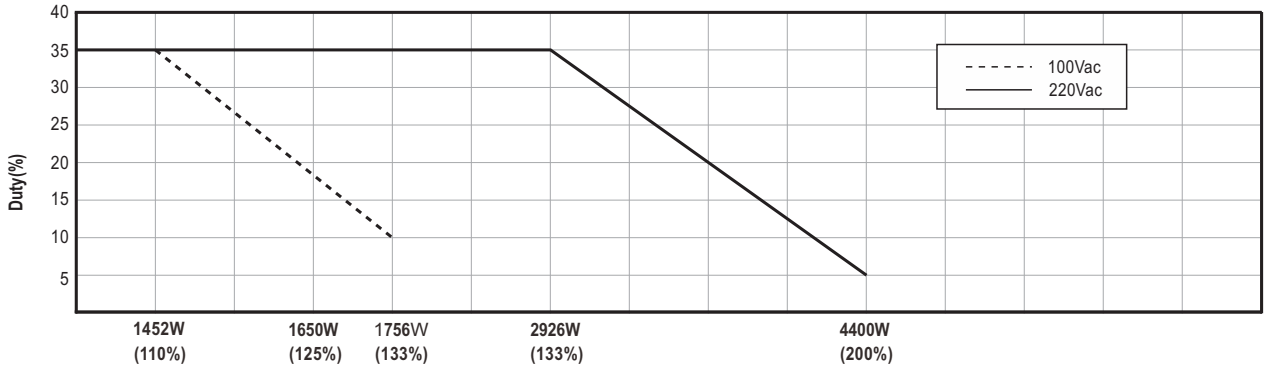
P_{rated} : Rated output power(W)

t : Peak power width(sec)

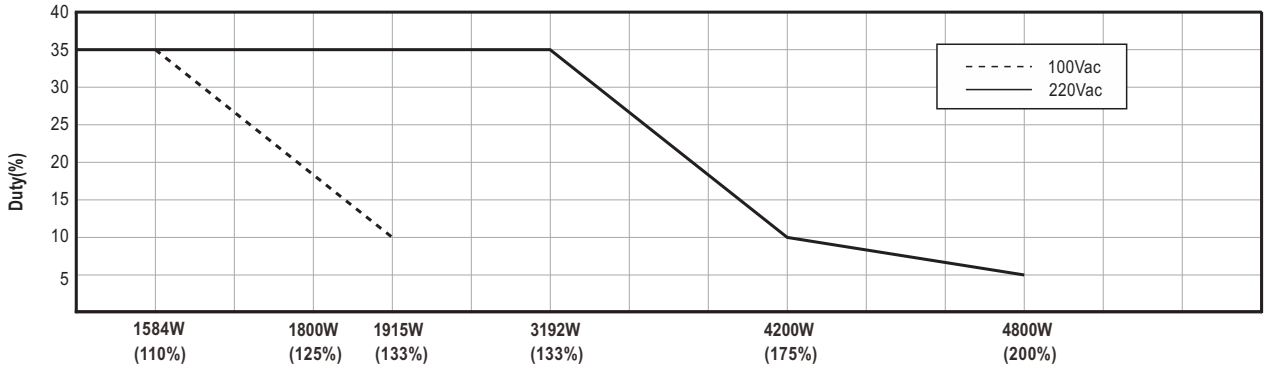
T: Period(sec)

Note:
For 12V/15V models, t ≤ 2 sec.
For other models, t ≤ 5 sec.

◎ 12V/15V



◎ Others



Peak output power (W)

For example (24V model)

V_{in}=220Vac, Duty_max=5%

$P_{av}=P_{rated}$=2400W

P_{pk}=4800W

t≤5sec

$T \geq \frac{5sec}{5\%} = 100sec$

$P_{npk} \leq \frac{T \times P_{av} - t \times P_{pk}}{T-t} = 2273.8W$

	12V/15V	Others
P_{pk}	4400W	4800W
P_{av}	1980W	2400W
Duty_max	5%	5%
t	t≤2	t≤5
T	$T \geq \frac{2sec}{5\%} = 40sec$	$T \geq \frac{5sec}{5\%} = 100sec$
$P_{npk} \leq \frac{T \times P_{av} - t \times P_{pk}}{T-t}$	1853W	2274W

Note:
Input ≥ 220 Vac: Peak power = 2 × rated power
Input < 220 Vac: Peak power = 1.33 × rated power
For 12V and 15V models, the average output power is limited to 90% of the rated output power.

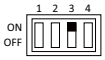
2.Output Voltage Programming(P.V)

(1)Default by potentiometer (SVR)

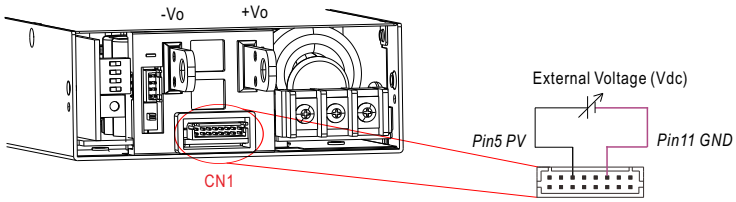
(a)Have the DIP switch position-3 set as 

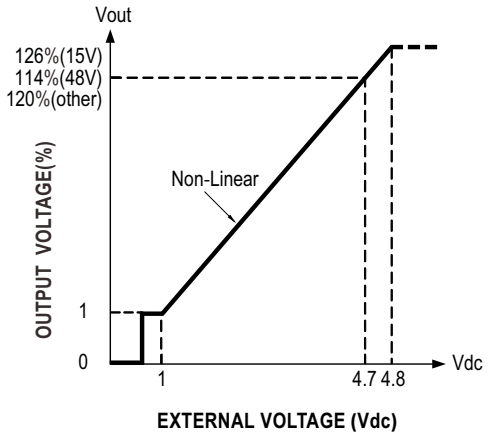
(b)Output voltage can be trimmed by SVR.

(2)By Output Voltage Programming

(a)Have the DIP switch position-3 set as 

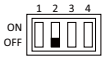
(b)The output voltage can be trimmed to 0~120% by applying EXTERNAL VOLTAGE between *PV* and *GND* on CN1.





3.Output Current Programming(P.C)

(1)Default Overload Protection(OLP) value

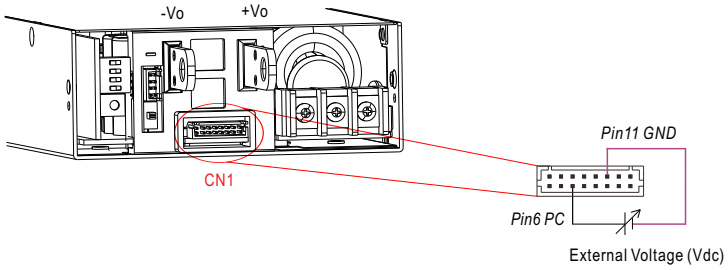
(a)Have the DIP switch position-2 set as 

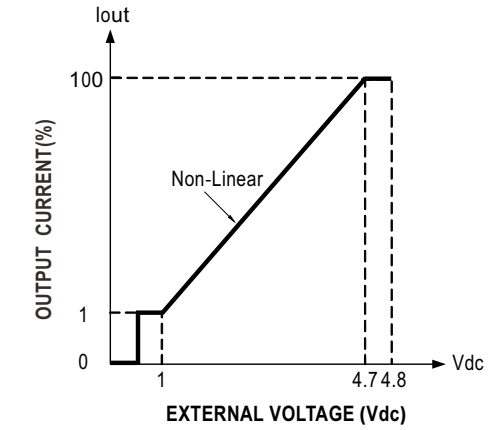
(b)Output current is set default value.

(2)By Constant Current Level Programming

(a)Have the DIP switch position-2 set as 

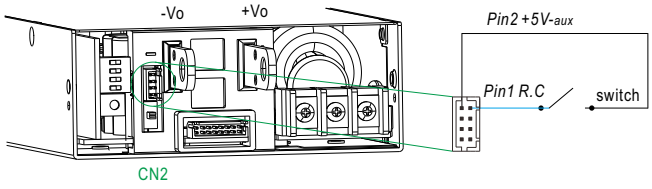
(b)The constant current level can be trimmed to 0~100% of the rated current by applying EXTERNAL VOLTAGE between *PC* and *GND* on CN1.



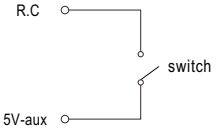
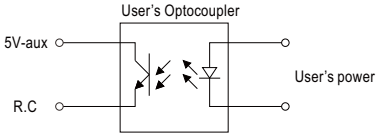
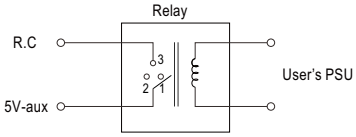


4.Remote Control

※ The power supply can be turned ON/OFF individually or along with other units by using the "Remote Control" function with external switch, photocoupler or relay.



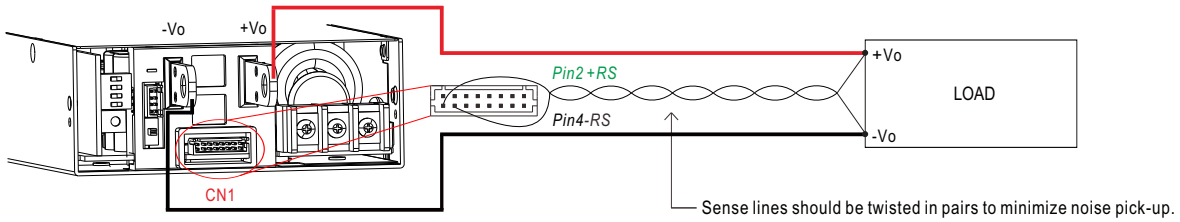
PSU Vo Status	Between +5V-aux(Pin 2) and R.C(Pin 1)
Power ON	Switch Short
Power OFF	Switch Open

		
R.C. by external switch.	R.C. by user's optocoupler control module.	R.C. by user's Relay control module.

Über die gesetzliche Gewährleistung hinausgehende Garantieangaben sind Herstellergarantien.

5.Remote Sense

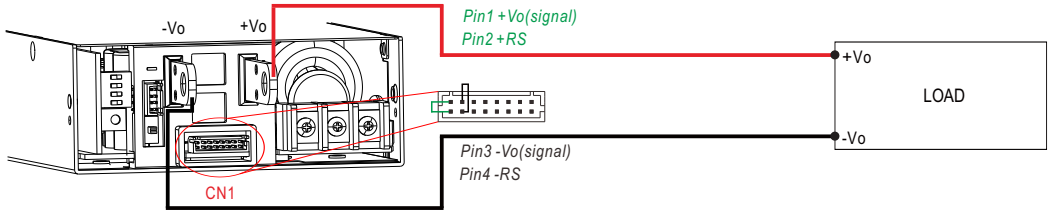
※ The Remote Sense compensates voltage drop on the load wiring up to 0.5Vdc



◎ The +*RS* signal should be connected to the positive terminal of the load whereas -*RS* signal to the negative terminal.

6.Local Sense

※ The +RS,-RS have to be connected to the +Vo(signal), -Vo(signal), respectively, as the following diagram, in order to get the correct output voltage if Remote Sense is not used.



Über die gesetzliche Gewährleistung hinausgehende Garantieangaben sind Herstellergarantien.

7. Parallel Function

NSP-2400 has the built-in active current sharing function and can be connected in parallel, up to 4 units, to provide higher output power as exhibited below :

(1)The power supplies should be paralleled using short and large diameter wiring and then connected to the load.

(2)Difference of output voltages among parallel units should be less than 0.2Vdc.

(3)The total output current must not exceed the value determined by the following equation:

Maximum output current at parallel operation=(Rated current per unit)×(Number of unit)×0.9

(4)Under parallel operation, the minimum output load should be greater than 5% of total output load; otherwise, it is likely that only one unit operates whereas other units may enter standby mode or their LED status indicators may not turn on.

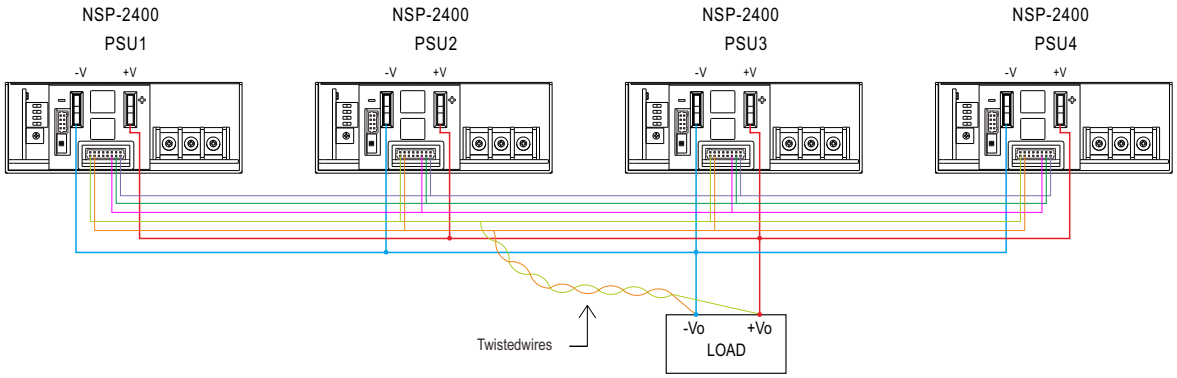
(5)When the total output current is less than 5% of the total rated current, or say (5% of Rated current per unit)×(Number of unit) the current shared among units may not be fully balanced.

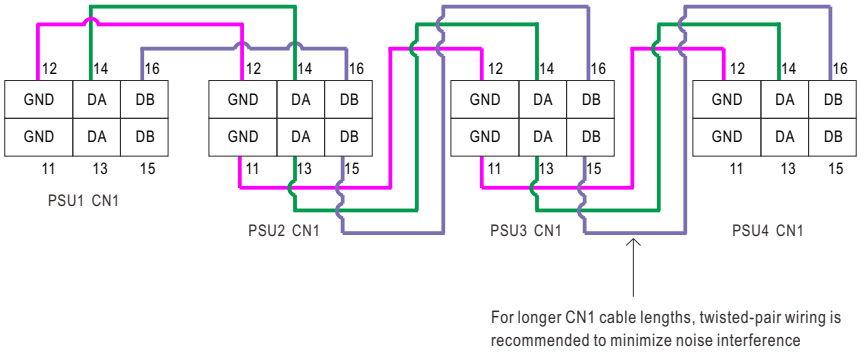
(6)For parallel operation, please contact MEAN WELL technical support if the output voltage is below 1.5V.

(7)CN1/SW1 Function pin connection

Parallel	PSU1		PSU2		PSU3		PSU4	
	CN1	SW1 Pin4	CN1	SW1 Pin4	CN1	SW1 Pin4	CN1	SW1 Pin4
1 unit	X	ON	—	—	—	—	—	—
2 unit	✓	ON	✓	ON	—	—	—	—
3 unit	✓	ON	✓	—	✓	ON	—	—
4 unit	✓	ON	✓	—	✓	—	✓	ON

◎ ✓ is CN1/DIP SW1 connected to plug pin, X is CN1/DIP SW1 not connected to plug pin.





Über die gesetzliche Gewährleistung hinausgehende Garantieangaben sind Herstellergarantien.

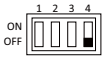
◎ DA,DB and GND are connected mutually in parallel.

◎ DA, DB signal and parallel control function

(1)Non-parallel operation

(a)set the DIP switch of postion-4 as

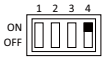
(b)By default, non-parallel operation.

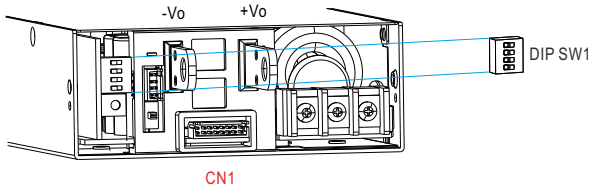


(2)Default parallel operation

(a)set the DIP switch of postion-4 as

(b)PSUs are configured in parallel operation.

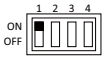




8. Overload Protection Mode

(1)Peak Power Mode

(a)Have the DIP switch position-1 as



(b)Limit current, shutdown after 5 or 2 seconds, recover after re-power on.

(c)Allow 1.33x or 2x peak power for 5 or 2 seconds.

(2)Current Limiting Mode

(a)Have the DIP switch position-1 as



(b)Limit current.

Note: With P.C function active, Peak Power Mode is disabled and the current limit defaults to the P.C setting

9. Support CANBus(Built-in) or MODBus Communication(By request)

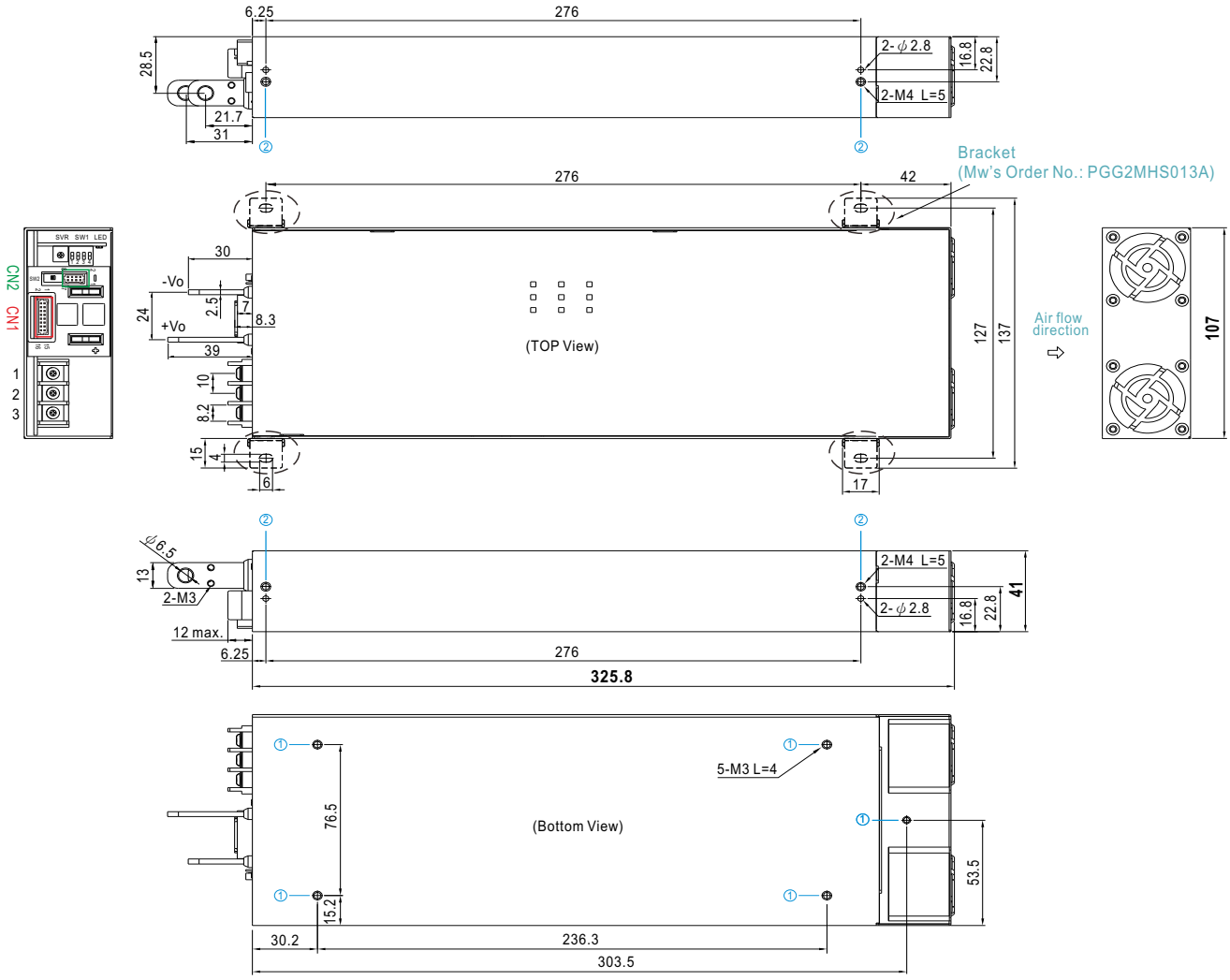
※ Communication provides function such as control, setting and monitoring , Parameters include output power, input voltage,etc.
For more details, please refer to: http://www.meanwell.com/manual.html

2400W AC/DC High Reliable Multi-Industries Enclosed Type Power Supply NSP-2400 series

■ Mechanical Specification

(Unit: mm , tolerance ±0.5mm)

Case No.294A

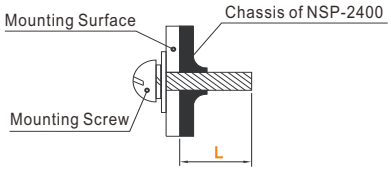


※ AC Input Terminal Pin No. Assignment

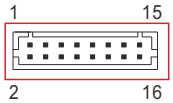
Pin No.	Assignment	Diagram	Screw Thread	Max. mounting torque
1	FG ⏚	1 2 3	M3.5	8Kgf-cm
2	AC/N			
3	AC/L			

※ Mounting Instruction

Hole No.	Recommended Screw Size	MAX. Penetration Depth L	Recommended mounting torque
①	M3	4mm	6~8Kgf-cm
②	M4	5mm	7~10Kgf-cm



※Control Pin No. Assignment (CN1) : HRS DF11-16DP-2DS or equivalent



Mating Housing	HRS DF11-16DS or equivalent
Terminal	HRS DF11-**SC or equivalent

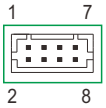
Pin No.	Function	Description
1	+Vo (Signal)	Positive output voltage signal. It is for local sense; it cannot be connected directly to the load.
2	+RS	Positive sensing for remote sense.
3	-Vo (Signal)	Negative output voltage signal. It is for local sense and certain function reference; it cannot be connected directly to the load.
4	-RS	Negative sensing for remote sense.
5	PV	Connection for output voltage programming. (Note.1)
6	PC	Connection for constant current level programming. (Note.1)
7,8,9,10	A0,A1,A2,A3	Interface address lines. (Note.2)
11,12	GND	These pins connect to the negative terminal (-Vo).
13, 14	DA	Differential digital signal for parallel control.
15, 16	DB	Differential digital signal for parallel control.

Note1: Non-isolated signal, referenced to (GND).

Note2: Interface address setting, please refer to the user manual for more details.

Über die gesetzliche Gewährleistung hinausgehende Garantieangaben sind Herstellergarantien.

※ Control Pin No. Assignment(CN2) : HRS DF11-08DP-2DS or equivalent

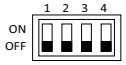


Mating Housing	HRS DF11-08DS or equivalent
Terminal	HRS DF11-**SC or equivalent

Pin No.	Function	Description
1	R.C	The unit can turn the output ON/OFF by electrical signal or dry contact between R.C and +5V-aux. (Note) Short (4.5 ~ 5.5Vdc) : Power ON ; Open (-0.5 ~ 0.5Vdc) : Power OFF ; The maximum input voltage is 5.5Vdc.
2	+5V-AUX	Auxiliary voltage output, 4.25~5.75Vdc, referenced to GND-aux. The maximum load current is 0.2A. This output has the built-in "Oring diodes" and is not controlled by "R.C"
3	$\overline{\text{DC-OK}}$	High (3.5 ~ 5.5Vdc) : When the Vout ≦77%±5%. Low (-0.5 ~ 0.5Vdc) : When Vout ≧80%±5%. The maximum sourcing current is 10mA and only for output. (Note)
4,6	GND-AUX	Auxiliary voltage output GND. The signal return is isolated from the output terminals (+Vo & -Vo).
5	+12V-AUX	Auxiliary voltage output, 10.2~13.8Vdc, referenced to GND-aux. The maximum load current is 0.8A. This output has the built-in "Oring diodes" and is not controlled by "R.C".
7	D+	For MODBus model: Data line used in MODBus interface. (Note)
	CANH	For CANBus model: Data line used in CANBus interface. (Note)
8	D-	For MODBus model: Data line used in MODBus interface. (Note)
	CANL	For CANBus model: Data line used in CANBus interface. (Note)

Note: Isolated signal, referenced to GND-AUX.

※ DIP Switch Position Assignment(DIP-SW1): Please refer to the User Manual.

Pin No.	Assignment	Diagram
1	Overload(OLP) type select	 DIP-SW PIN1:OL_SD DIP-SW PIN2:PC DIP-SW PIN3:PV DIP-SW PIN4:PRL
2	Output Current Programming (PC)	
3	Output Voltage Programming (PV)	
4	DA,DB Signal and paralled control function	

※ LED Status Indicators

Description	Output of alarm
Normal operation	Green : Steadily lit
Remote off	Red : Steadily lit
Internal over-temperature	Orange : 1 Blink/Pause
Overload / Short	Red : 1 Blink/Pause
Over voltage	Red : 2 Blink/Pause
Over temperature	Red : 3 Blink/Pause
Fan fail	Red : 4 Blink/Pause
AC under voltage	Red : 5 Blink/Pause
Others (Note)	Red : 6 Blink/Pause

Note: 1. Others include hardware fault etc
2. In Current Limiting mode, OLP operate in constant current limiting, with the indicator steadily lit green.

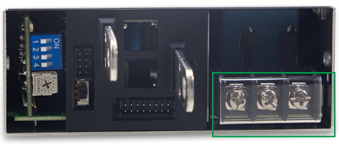
※ Control Pin Assignment SW2



Function	Description
ON	Termination resistors(120Ω). For CANBus/MODBus communication.
OFF	No need to communicate.

Über die gesetzliche Gewährleistung hinausgehende Garantieangaben sind Herstellergarantien.

■ Accessory List

No.	Item		Quantity
1	Remote Sense(CN1) mating wire along with NSP-2400 (standard accessory)	UL1007 26AWG 16 15 2 1 15 HRS DF11-16DS or equivalent 	1pcs/per model
2	Remote Control(CN2) mating wire along with NSP-2400 (standard accessory)	UL1007 26AWG 8 7 2 1 15 HRS DF11-8DS or equivalent 	1pcs/per model
3	Bracket Mw's Order No.: PGG2MHS013A (Optional accessories can be purchased separately)		4pcs/per model (Please refer to Installation Diagram)
4	Terminal cover MW'S Order NO. :PEE4TBC-03-DG (Optional accessories can be purchased separately)	 PEE4TBC-03-DG	1pcs/per model

■ Installation Diagram

