

Item		Specification	
Physical environmental conditions	Operating ambient temperature	0 to 55° C (Surrounding Air Temperature)	IEC 61131-2
	Storage temperature	-25 to +70° C	
	Relative humidity	20 to 95%RH no condensation (Transport condition: 5 to 95%RH no condensation)	
	Pollution degree	2 (Note1)	
	Corrosion immunity	Free from corrosive gases. Not stained with organic solvents.	
	Operating altitude	2000m or less above sea level (Transport condition: 70kPa or more)	
Mechanical service conditions	Vibration	Half amplitude: 0.15mm, Constant acceleration: 19.6 m/s ² , Two hours for each of three mutually perpendicular axes, total six hours. (Note 2) (Note 3)	
	Shock	Acceleration peak: 147 m/s ² Three times for each of three mutually perpendicular axes. (Note 2)	
Electrical service conditions	Noise immunity	1.5kV, rise time 1 ns, pulse width 1 μs (noise simulator)	JEM TR177
	Electrostatic discharge	Contact discharge: ± 4kV Aerial discharge: ± 8kV	IEC 61000-4-2
	Radiated, radio-frequency, electromagnetic field	80 to 1000MHz (10V/m) 1.4 to 2.0 GHz (3V/m) 2.0 to 2.7 GHz (1V/m)	IEC 61000-4-3
	EFT/B (Electrical fast transient/burst)	Equipment power, I/O power, AC I/O (unshielded): ± 2kV Data communication, digital and analog I/O s' (except AC unshielded I/O): ± 1kV	IEC 61000-4-4
	Lightning impulse surge	AC equipment power: ± 2kV common mode, ± 1kV differential mode DC equipment power: ± 0.5kV common mode, ± 0.5kV differential mode	IEC 61000-4-5
	Conducted radio frequency	150kHz to 80MHz. 10V	IEC 61000-4-6
	Power frequency magnetic field	50Hz, 30A/m	IEC 61000-4-8
Construction	Panel-mounted type(open equipment)	-	
Cooling	Air cooling	-	
Dielectric property	Dielectric strength and Insulation resistance are described in each module's specifications.	-	
Internal current consumption	Described in each module's (unit's) specifications.	-	
Mass	Described in each module's (unit's) specifications.	-	
Dimensions	Described in 3-11	-	

Note: 1) Pollution degree 2: This pollution does not conduct usually, but under certain circumstances temporary conductivity occurs due to condensation.

2) The unit is fixed by screws to the control panel. When the unit is mounted to the DIN rail, care must be taken that vibrations or shocks will not occur.

3) In an environment where repetitive or continuous vibration occurs, be sure to take vibration-proofing measures.

3-2-1 Power supply specifications

Item	Specification			
Type(Note5)	NP1S-22(NP1S-22 A)	NP1S-42	NP1S-91(NP1S-91A)	NP1S-81(NP1S-81A)
Rated input voltage (tolerance)	100 to 120/200 to 240V AC (85 to 132V AC) (170 to 264V AC)	24V DC (19.2 to 30V DC)	100 to 120V AC (85 to 132V AC)	200 to 240V AC (170 to 264V AC)
Rated frequency	50/60Hz	-	50/60Hz	
Frequency (tolerance)	47 to 63Hz	-	47 to 63Hz	
Dropout tolerance (Note 2)	1 cycle or less (Note 1)	10ms or less (When rated voltage, and rated load)	1 cycle or less (Note 1)	
AC waveform distortion factor	5% or less	-	5% or less	
Ripple factor tolerance	-	Three-phase full-wave rectification can be used. 5% or less	-	
Leakage current	0.25mA or less			
Inrush current	22.5A _{0-P} or less (Ambient temperature =25° C not repeated) 1ms or less	150A _{0-P} or less 2ms or less	22.5A _{0-P} or less (Ambient temperature=25° C not repeated) 1ms or less	
Power consumption (Note 3)	110VA or less	45W or less	40VA or less	50VA or less
Rated output voltage (tolerance) (Note 4)	24V DC (22.8 to 26.4V DC)			
Output current	0 to 1.46A		0 to 0.625A	
Isolation method	Transducer			
Dielectric strength	2300V AC, 1minute between power input terminals and ground	510V AC, 1 minute between power input terminals and ground	1400V AC, 1 minute between power input terminals and ground	2300V AC, 1 minute between power input terminals and ground
Insulation resistance	10MΩ or more (500V DC megger)			
Occupied slots	2		1	
Alarm output	Provided :Relay NC contact output Object: Monitoring of output voltage Output specification: 24V DC, 0.3A or less (AC power supply are not used)		Not provided	
Mass	Approx. 360g	Approx. 360g	Approx. 180g	

Note 1) This is a value from rated voltage to 0V and for all phases.

Note 2) The value when the interval between momentary power failures is 1 second or longer

Note 3) The value under maximum load when rated voltage is input

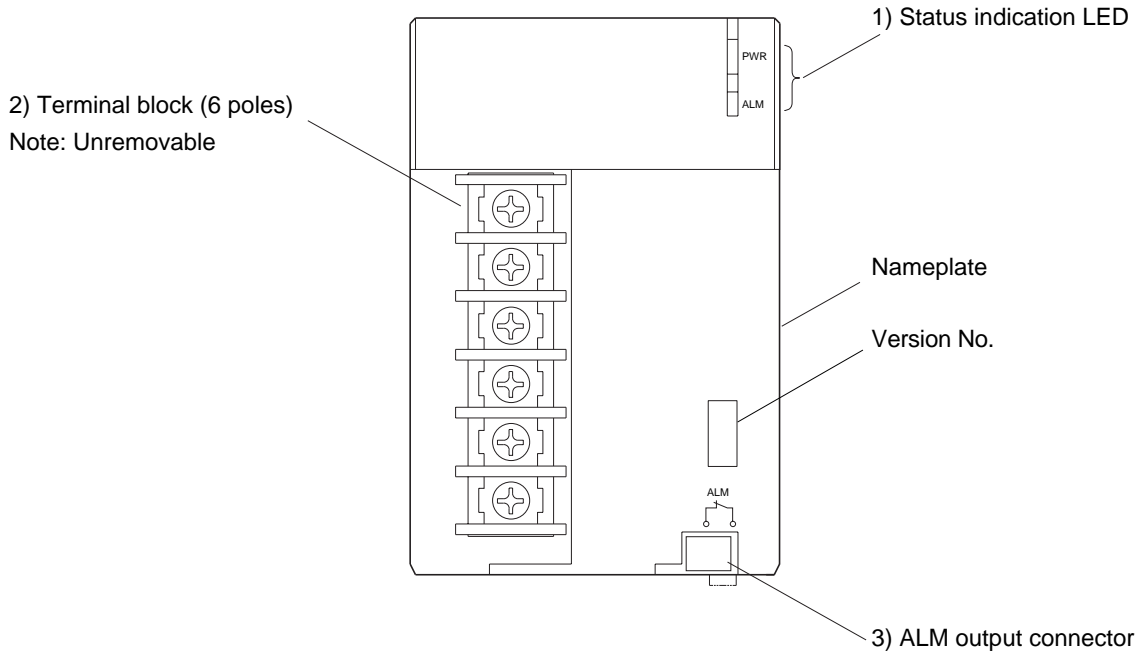
Note 4) Maximum 3 units of NP1S-22, NP1S-42, NP1S-91 or NP1S-81 can be mounted in parallel on one base board.

Note 5) These name are shown on product.

Ordering code is NP1S-22/NP1S-42/NP1S-91/NP1S-81(without suffix A)

3-2-2 Names and functions

(1) NP1S-22/NP1S-42



Note: Terminal cover is removed in this figure to explain functions.

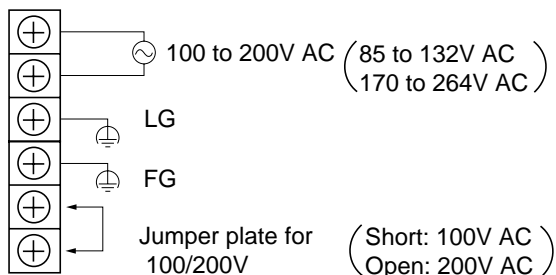
1) Status indication LED

Symbol	Color	Description
PWR	Green	Turns on when the output voltage is within the rated range. Turns off when out of the range.
ALM	Red	Turns on when the output voltage is within the rated voltage.

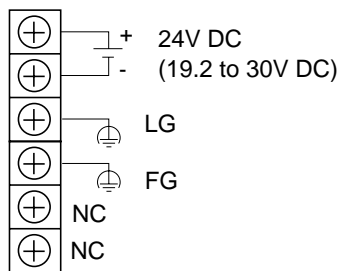
2) Terminal block (6 poles)

This is a terminal block (M4) with 6 poles. Signals are as follows.
(Tightening torque: 1.2N·m, Applicable wire size: 2mm²)

<NP1S-22 (AC power supply)>



<NP1S-42 (DC power supply)>

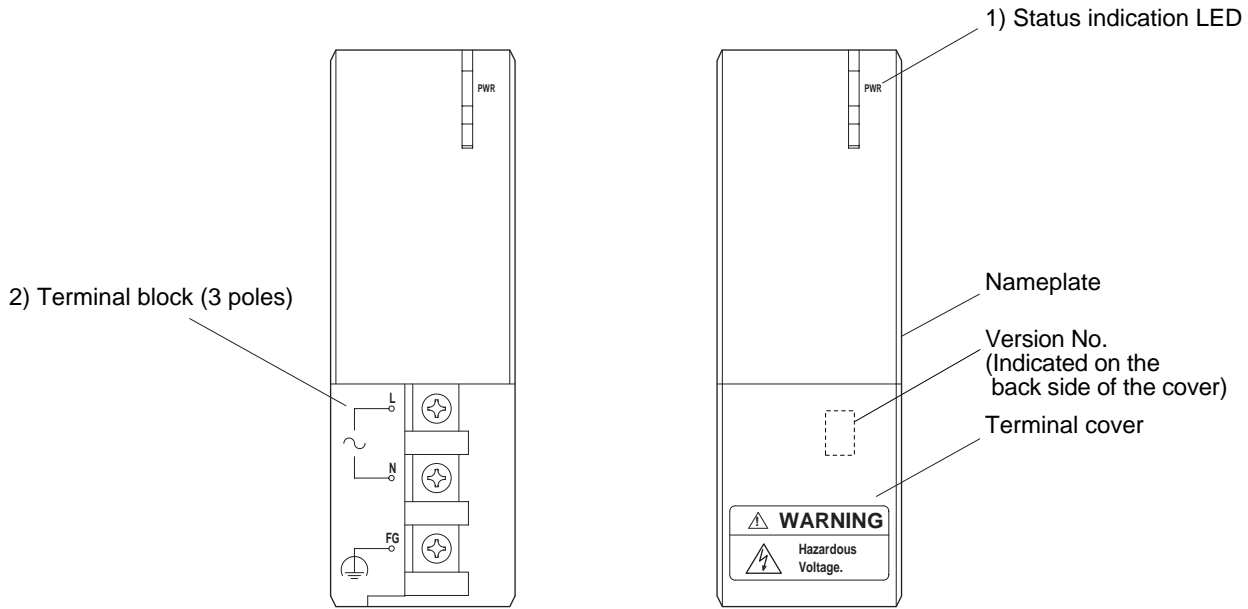


3) ALM output connector

The ALM contact is an NC contact. While the power supply module is normal (output voltage is 22.8 to 26.4V), the ALM contact is OFF. If the power supply module is not normal, the ALM contact is ON. The rated voltage is 24V DC, the rated current is 0.3A.

The connector with cable (length: 600 mm) is supplied with the product.

(2) NP1S-91/NP1S-81



Note: In the left side figure, the terminal cover is removed only for explanation purpose. The right side figure shows the terminal cover mounted condition.

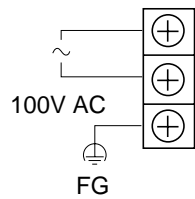
1) Status indication LED

Symbol	Color	Description
PWR	Green	Turns on when the output voltage is within the rated range.

2) Terminal block (3 poles)

This is a terminal block (M4) with 3 poles. Signals are as follows. (Tightening torque: 1.0N·m, Applicable wire size: 2mm²)

<NP1S-91>



<NP1S-81>

