

**Power supply module: NP1S-□□**

**■ Features**

- Power supply module redundancy (NP1S-22/NP1S-42)  
 Redundancy of the power supply has been realized by supplying the power from multiple (up to 3) power supply modules. Redundant power supply units allow you to improve system reliability.
- Small capacity power supply module (NP1S-81/NP1S-91)  
 The use of the 100 V AC or 200 V AC small capacity power supply module (single slot) on a 3-slot and 6-slot basis allows effective use of one slot.



**■ Power supply specifications**

Item	Specifications			
Model	NP1S-22*	NP1S-42	NP1S-81*	NP1S-91*
Rated input voltage	100 to 120/200 to 240 V AC	24 V DC	200 to 240 V AC	100 to 120 V AC
Voltage tolerance	85 to 132 V AC, 170 to 264 V AC	19.2 to 30V DC	170 to 264 V AC	85 to 132 V AC
Rated frequency	50/60 Hz	—	50/60 Hz	—
Dropout tolerance	1 cycle or less (Rated voltage, rated load)	10 ms or less (Rated voltage, rated load)	1 cycle or less (Rated voltage, rated load)	—
AC waveform distortion factor	5% or less	—	5% or less	—
Ripple factor tolerance	—	Three-phase full-wave rectification 5% or less	—	—
Leakage current	0.25mA or less			
Inrush current	22.5 Ao-p or less (ambient temperature = 25°C not repeated)	150 Ao-p or less 2 ms or less	22.5 Ao-p or less (ambient temperature = 25°C not repeated)	
Power consumption	110 VA or less	45 W or less	50 VA or less	40 VA or less
Rated output voltage	24 V DC (22.8 to 26.4 V DC)			
Output current	0 to 1.46 A		0 to 0.625 A	
Insulation method	Transducer			
Dielectric strength	2300 V AC, 1 minute Between power input terminal and ground	510 V AC, 1 minute Between power input terminal and ground	2300 V AC, 1 minute Between power input terminal and ground	1400 V AC, 1 minute Between power input terminal and ground
Insulation resistance	10 MΩ or more with 500 V DC megger			
No. of occupied slots	2 slots		1 slot (specialized for the 3-slot and 6-slot basis)	
Alarm output	Relay NC contact output (Monitoring of output voltage: 24 V DC, 0.3 A or less)		None	
Multiple power supply	Compatible (Up to 3 units mountable on the base board.)			
Weight	Approx. 360 g		Approx. 180 g	

\* ) Note that UL-certified models are different as shown below (the products are the same).

Standard model	UL-certified model
NP1S-22	NP1S-22 A
NP1S-81	NP1S-81 A
NP1S-91	NP1S-91 A

# Programmable Controllers

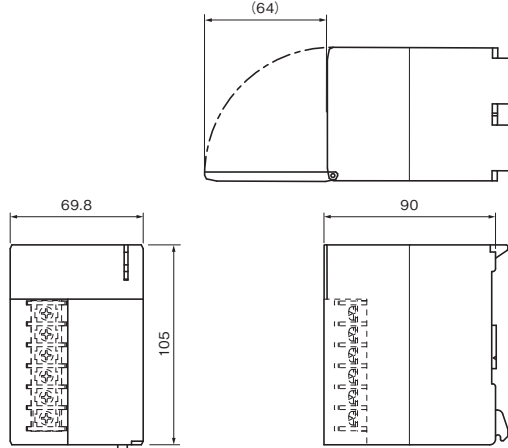
## MICREX-SX series

### Dimensions

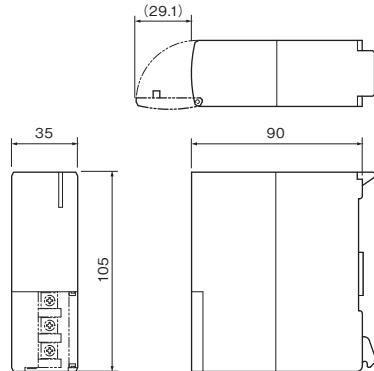
#### ■ Dimensions

(1) Power supply module

1) NP1S-22, NP1S-42

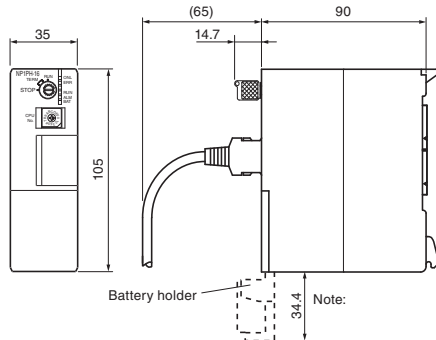


2) NP1S-91, NP1S-81



(2) CPU module

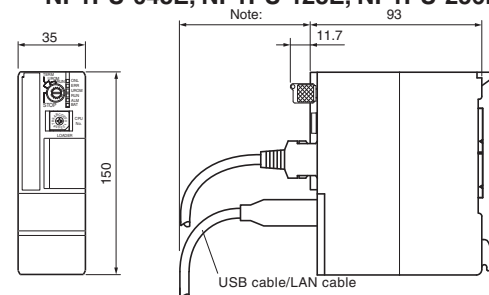
1) SPH200 NP1PH-16, NP1PH-08



Note: For the SPH200, open the battery folder at an angle of 180° when user ROM card is removed.

2) SPH300/SPH2000/SPH3000

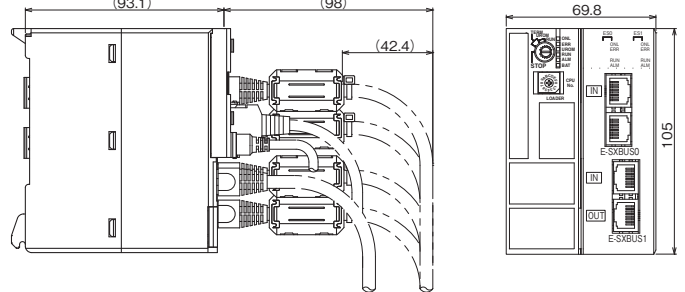
NP1PS-32/32R, NP1PS-74/74R, NP1PS-117R  
 NP1PS-245R, NP1PM-48R/48E, NP1PM-256E/256H  
 NP1PU-048E, NP1PU-128E, NP1PU-256E



Note: Consider the bend of the loader cable you use.

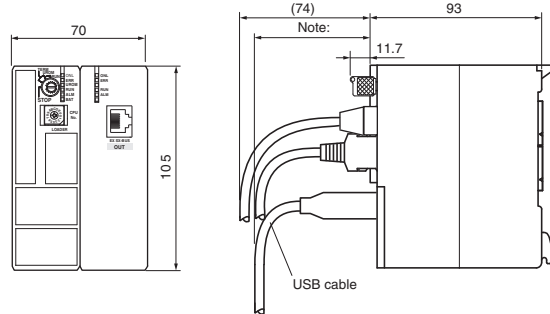
3) SPH3000MM

NP1PU2-048E/256E



4) SPH300EX

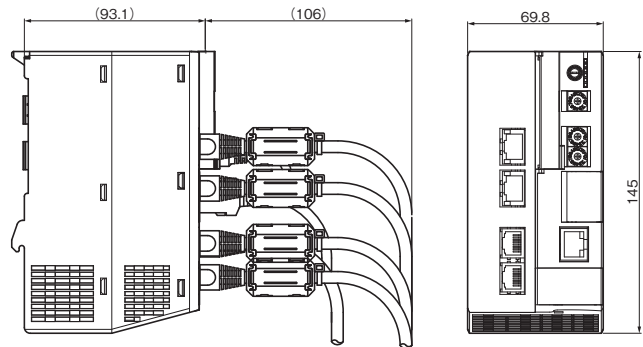
NP1PS-74D



Note: Consider the bend of the loader cable you use.

5) SPH3000MG

NP1PU1-256NE



■ **Type/Ordering codes**

• **SPH3000MM E-SX bus product**

Product name	Model	Specifications and names	Ordering code	Standards					
				CE *2	UL cUL	LR *3	NK		
CPU module	SPH3000MG	NP1PU1-256NE Program memory capacity 256K steps User ROM/USB/Ethernet/SX-Net adapted, Max. No. of I/O Points: 73728	Accessories: Data backup battery (Built-in) SX bus terminating plug 2 pieces Screwdriver (for the CPU setting)	Basic instruction Processing speed 6 ns –	NP1PU1-256NE				
	SPH3000MM	NP1PU2-048E Program memory capacity 48K steps x 2 User ROM/USB/Ethernet adapted, Max. No. of I/O Points: 139264		Basic instruction Processing speed 9 ns –	NP1PU2-048E				
		NP1PU2-256E Program memory capacity 256K steps x 2 User ROM/USB/Ethernet adapted, Max. No. of I/O Points: 139264				NP1PU2-256E			
E-SX bus extension cable *1	NU1C-P3	300 mm cable			NU1C-P3	-			
	NU1C-P6	600 mm cable			NU1C-P6	-			
	NU1C-P8	800 mm cable			NU1C-P8	-			
	NU1C-02	2,000 mm cable			NU1C-02	-			
	NU1C-05	5,000 mm cable			NU1C-05	-			
	NU1C-10	10,000mm cable			NU1C-10	-			
	NU1C-15	15,000mm cable			NU1C-15	-			
	NU1C-25	25,000mm cable			NU1C-25	-			
	NU1C-50	50,000mm cable			NU1C-50	-			
	NU1C-A0	100,000mm cable			NU1C-A0	-			
Communication module	NP1L-RU1	E-SX bus integrated type interface module			NP1L-RU1				
E-SX bus Separate placement unit	NU2X3206-W	24 V DC, 32 points, 7 mA, 0 to 100 ms variable	Screw terminal		NU2X3206-W				
	NU2Y32T09P6	Transistor sink, 12 to 24 V DC, 32 points, 0.6 A/point, 4 A/common	Screw terminal		NU2Y32T09P6				
	NU2AXH2-MR	High-speed multiple-range input 2 ch, resolution: 15 bits, 25 µs conversion period	Screw terminal		NU2AXH2-MR				
	NU2AYH2V-MR	High-speed multiple-range output 2 ch, resolution: 15 bits (voltage), 25 µs conversion period	Screw terminal		NU2AYH2V-MR				
	NU2F-HC2	High-speed counter unit, 4 Mbps (line driver), 1 Mbps (open collector 5 V/12 V/24 V DC)			NU2F-HC2				
ROM card	NP8PSD-002	Auxiliary power unit E-SX bus built-in 24 V DC power supply			NP8PSD-002	-	-	-	-
		User ROM card SD memory card for SPH3000/SPH3000 MM/SPH3000MG, Capacity 2 GB							

• **SPH product**

Product name	Model	Specifications and names	Ordering code	Standards					
				CE *2	UL cUL	LR *3	NK		
CPU module	SPH200	NP1PH-08 Program memory capacity 8K steps Max. number of I/O points: 8192 points	Accessories: Memory backup battery (built-in) SX bus terminating plug 2 pieces Screwdriver (for the CPU setting)	Basic instruction Processing speed 70 ns –	NP1PH-08	○	○	○	○
		NP1PH-16 Program memory capacity 16K steps Max. number of I/O points: 8192 points			NP1PH-16	○	○	○	○
	SPH300	NP1PS-32 Program memory capacity 32K steps Max. number of I/O points: 8192 points		Basic instruction Processing speed 20 ns –	NP1PS-32	○	○	○	○
		NP1PS-32R Program memory capacity 32K steps User ROM/USB adapted, Max. No. of I/O points: 8192 points			NP1PS-32R	○	○	○	○
		NP1PS-74R Program memory capacity 74K steps User ROM/USB adapted, Max. No. of I/O points: 8192 points			NP1PS-74R	○	○	○	○
		NP1PS-117R Program memory capacity 117K steps User ROM/USB adapted, Max. No. of I/O points: 8192 points			NP1PS-117R	○	○	○	○
		NP1PS-245R Program memory capacity 245K steps User ROM/USB adapted, Max. No. of I/O points: 8192 points			NP1PS-245R	○	○	○	○
		NP1PS-74D Program memory capacity 74K steps x 2 User ROM/USB adapted, Max. No. of I/O points: 8192 points x 2			NP1PS-74D	○	○		
	SPH2000	NP1PM-48R Program memory capacity 48K steps User ROM/USB adapted, Max. No. of I/O points: 8192 points		Basic instruction Processing speed 30 ns –	NP1PM-48R	○	○	○	○
		NP1PM-48E Program memory capacity 48K steps User ROM/USB/Ethernet adapted, Max. No. of I/O Points: 8192			NP1PM-48E	○	○	○	○
		NP1PM-256E Program memory capacity 256K steps User ROM/USB/Ethernet adapted, Max. No. of I/O Points: 8192			NP1PM-256E	○	○	○	○
		NP1PM-256H Program memory capacity 256K steps, redundancy function supported User ROM/USB adapted, Max. No. of I/O points: 8192 points			NP1PM-256H	○	○	○	○
	SPH3000	NP1PU-048E Program memory capacity 48K steps User ROM/USB/Ethernet adapted, Max. No. of I/O Points: 8192		Basic instruction Processing speed 9 ns –	NP1PU-048E	○	○		
		NP1PU-128E Program memory capacity 128K steps User ROM/USB/Ethernet adapted, Max. No. of I/O Points: 8192			NP1PU-128E				
		NP1PU-256E Program memory capacity 256K steps User ROM/USB/Ethernet adapted, Max. No. of I/O Points: 8192			NP1PU-256E	○	○ <sup>*4</sup>		
	Power supply module	NP1S-22 Input: 100 to 120 V / 200 to 240 V AC Output: 35 W Accessories: ALM contact connector, line voltage switching short bar			NP1S-22	○	○	○	○
		NP1S-91 Input: 100 to 120 V AC Output: 15 W (1 slot)			NP1S-91	○	○		
		NP1S-81 Input: 200 to 240 V AC Output: 15 W (1 slot)			NP1S-81	○	○ <sup>*5</sup>		
NP1S-42 Input: 24 V DC Output: 15 Accessories: ALM contact connector			NP1S-42	○	○ <sup>*6</sup>	○	○		
Base board	NP1BS-03 For 3 slots Processor buses 2 slots	Accessories: Base board Mounting bracket	NP1BS-03	○	○ <sup>*7</sup>	○	○		
	NP1BS-06 For 6 slots Processor buses 4 slots		NP1BS-06	○	○	○	○		
	NP1BS-08 For 8 slots Processor buses 3 slots		NP1BS-08	○	○	○	○		
	NP1BS-11 For 11 slots Processor buses 3 slots		NP1BS-11	○	○	○	○		
	NP1BS-13 For 13 slots Processor buses 3 slots		NP1BS-13	○	○	○	○		

○ Applicable - Not applicable

\*1 Any length of cable is applicable. Contact our sales representatives for details.  
\*2 The compliance with the CE marking is confirmed for a single unit in the SX series. Be sure to check the compliance with the standard of the final product in which the SX series is built.  
\*3 To prevent the vibration, the module must be fixed for each of the base boards.  
\*4 The model NPS-22 A is UL-certified (cUL certification is not obtained).  
\*5 The model NP1S-91 A is UL-Recognition-certified (cUL certification is not obtained).  
\*6 The model NP1S-81 A is UL-Recognition-certified (cUL certification is not obtained).  
\*7 There is no cUL certification.