

**Dear Customers,**

**MICREX-SX Series SPH**  
**Optical Converter Module (NP1L-OL3)**  
**Release Announcement**

Thank you very much for your continued patronage of Fuji programmable controller.  
We hereby announce the release of the MICREX-SX series optical converter module (Type: NP1L-OL3), which is the replacement for the discontinued model (Type: NP1L-OL2).

**1. Released Model**

Product name	Type (Ordering code)	Specification
Optical converter module	NP1L-OL3	Conversion between SX bus electrical line and optical line (Quartz glass fiber)

**2. Release Date**

Order: Started on April 1, 2019

**3. Product Overview**

- NP1L-OL3 converts electrical signals of SX bus into optical signals, and vice versa.
- The SX bus optical transmission line extends the transmission distance and enables electrical insulation between stations. Even if an optical cable is laid in parallel with a power cable, it is not affected by noise from the power cable.
- NP1L-OL3 cannot be connected with other models of optical converter modules (Type: NP1L-OL1 or NP1L-OL2) via an optical cable. Two modules at both ends to be connected via an optical cable must be the same model.
- It is possible to use NP1L-OL1, NP1L-OL2, and NP1L-OL3 in the same SX bus configuration as far as the same type of optical converter modules are used in pairs.
- NP1L-OL3 will be released as the replacement for the discontinued model, NP1L-OL2.

<Replacement of existing NP1L-OL2 with NP1L-OL3>

- The connector of NP1L-OL2 is compatible with that of NP1L-OL3, however, when replacing NP1L-OL2, replace both ends of NP1L-OL2 modules with NP1L-OL3 modules.
- The luminescence wavelength of the optical device of NP1L-OL2 is not compatible with that of NP1L-OL3. NP1L-OL2 cannot communicate with NP1L-OL3 via an optical fiber.
- If you use a programming tool that does not support NP1L-OL3 (you cannot select NP1L-OP3 in the system definition), select NP1L-OL1 for the type in the system definition. Then, you can use it as a replacement type.

(1) General Specifications

Item		Specification
Physical environmental conditions	Operating ambient temperature	0 to 55°C
	Storage temperature	-40 to +70°C
	Relative humidity	10 to 95%RH, no condensation Transport condition: 5 to 95%RH, no condensation
	Pollution degree	2, no condensation
	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	5 ≤ f < 8.4Hz: Constant amplitude 3.5mm, 8.4 ≤ f < 150Hz: Constant acceleration: 9.8m/s <sup>2</sup>
	Shock	Acceleration peak: 147 m/s <sup>2</sup> , Three times in each direction
Electrical service conditions	Noise immunity	Noise voltage 1.5kVp-p, rise time 1ns, pulse width 1μs (noise simulator)
	Electrostatic discharge	Contact discharge: ±6kV, Aerial discharge: ±8kV
	Radiated, radio-frequency, electromagnetic field	10V/m (80 to 1000MHz)
	EFT/B (Electrical fast transient/burst)	±2kV
	Lightning impulse surge	Common mode: ±1kV, Normal mode: ±0.5kV
	Conducted radio frequency	150kHz to 80MHz, 10V
	Power frequency magnetic field	50Hz, 30A/m
Internal current consumption		54mA
Mass		Approx. 130g

Note: For the other general specifications, see the catalogue of MICREX-SX series SPH (Document No. 22B2-J-0004).

(2) Supported version of programming support tool SX-Programmer

The following version of Expert or Standard loader is required to use NP1L-OL3.

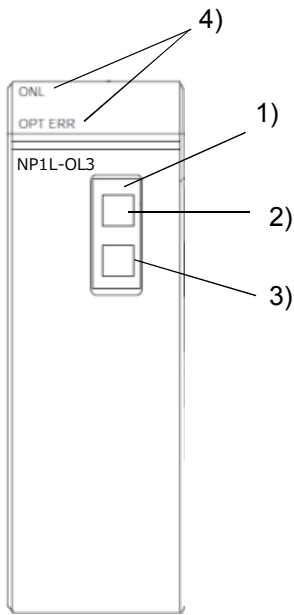
Expert (D300win) V3 (Type: NP4H-SEDBV3) : V3.6.14 or later (Scheduled in April 2019)

Standard (Type: NP4H-SWNV) : V3.0.19 or later (Scheduled in April 2019)

(3) Individual specifications

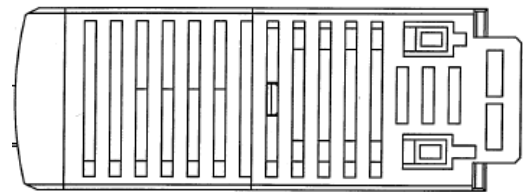
Item		Specification
Optical fiber spec.	Quartz glass multi-mode GI	Core/Clad dia. = 50 μm / 125 μm Core/Clad dia. = 62.5 μm / 125 μm
	Quartz glass single-mode	Core/Clad dia. = 10 μm or less / 125 μm
Luminescence wavelength of optical device		1,310nm
Optical connector		SC type (2 cores) (JIS C5973 [F04 type])
Transmission distance (Between stations)		• Multi-mode: Max. 2 km • Single-mode: Max. 10 km
Number of occupied words		0 word
Station No. setup function		None

(4) Module appearance

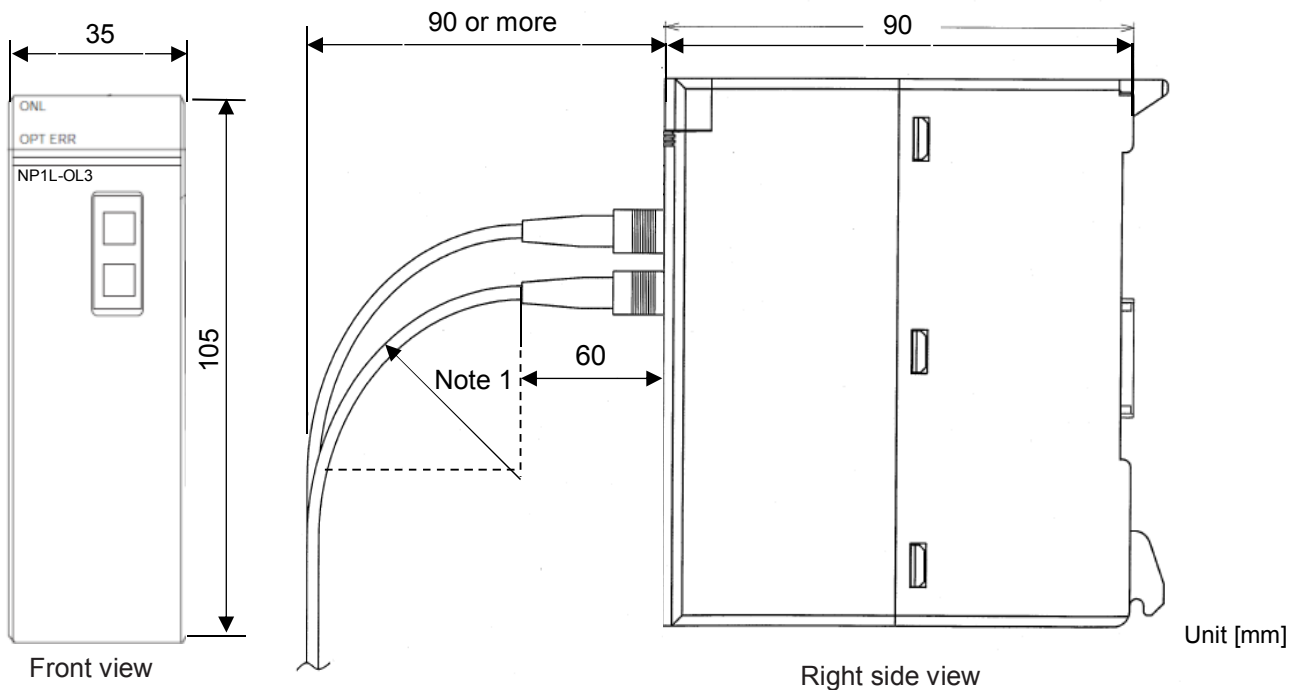


Nº	Name	Function
1)	Optical transceiver	Conversion between SX bus electrical line and optical line.
2)	SC connector on the receiving side	Connects the connector of the optical fiber cable on the receiving side.
3)	SC connector on the sending side	Connects the connector of the optical fiber cable on the sending side.
4)	Status indication LED	ONL (Green), OPT ERR (Red)

(5) External dimensions



Top side view



Unit [mm]

Note 1: Optical cable bending radius: Approx. 30mm