

# Sensor Connectors



## CNE Series PRODUCT MANUAL

**For your safety, read and follow the considerations written in the instruction manual, other manuals and Autonics website.**

The specifications, dimensions, etc. are subject to change without notice for product improvement. Some models may be discontinued without notice.

### Features

#### [Common Features]

- Significantly reduce installation work and time
- Wide range of connectors compatible with diverse cables and wires
- High density connection with contact pitch of 2mm
- Compatible with e-CON connectors
- 3A current capacity for each pin

#### [Wire Mount Plug / Socket]

- Compact and secure one-touch connection type sensor connectors
- Wire mount plug/sockets allow relay connection of wires
- 9 different color covers for identifying wire thickness
- Visually inspect connection status with translucent covers

#### [Board Mount Socket]

- Contacts positioned within mold to prevent electric shock or short-circuit
- Connect up to 4 wire mount plugs (1/2/4)
- Closely-packed connection possible

### Safety Considerations

- Observe all 'Safety Considerations' for safe and proper operation to avoid hazards.
- ⚠ symbol indicates caution due to special circumstances in which hazards may occur.

**⚠ Warning** Failure to follow instructions may result in serious injury or death.

**01. Fail-safe device must be installed when using the unit with machinery that may cause serious injury or substantial economic loss. (e.g. nuclear power control, medical equipment, ships, vehicles, railways, aircraft, combustion apparatus, safety equipment, crime/disaster prevention devices, etc.)**

Failure to follow this instruction may result in personal injury, economic loss or fire.

**02. Do not use the unit in the place where flammable / explosive / corrosive gas, high humidity, direct sunlight, radiant heat, vibration, impact or salinity may be present.**

Failure to follow this instruction may result in explosion or fire.

**03. Do not connect, repair, or inspect the unit while connected to a power source.**

Failure to follow this instruction may result in fire.

**04. Check 'Connections' before wiring.**

Failure to follow this instruction may result in fire.

**05. Do not disassemble or modify the unit.**

Failure to follow this instruction may result in fire or electric shock.

**⚠ Caution** Failure to follow instructions may result in injury or product damage.

**01. Use the unit within the rated specifications.**

Failure to follow this instruction may result in fire or product damage.

**02. Use a dry cloth to clean the unit, and do not use water or organic solvent.**

Failure to follow this instruction may result in fire.

## Ordering Information

This is only for reference.

For selecting the specified model, follow the Autonics website.

### ■ Wire mount plug / Socket

CNE - ① ② - ③

#### ① Connector type

P: Wire mount plug  
S: Wire mount socket

#### ② No. of pins

03: 3-pin  
04: 4-pin

#### ③ Cover color and cable specification

Model	Cover color	Cable spec. <sup>01)</sup>	
		Nominal cross section area (mm <sup>2</sup> )	Cover diameter (mm)
WT	Clear	0.05 to 0.08 (AWG30 - 28)	Ø 0.6 to 0.8
YG	Yellow-green		Ø 0.8 to 1.0
VT	Violet		Ø 1.0 to 1.2
RE	Red	0.13 to 0.21 (AWG26 - 24)	Ø 0.8 to 1.0
YW	Yellow		Ø 1.0 to 1.2
OG	Orange	0.32 to 0.5 (AWG22 - 20)	Ø 1.2 to 1.6
GN	Green		Ø 1.0 to 1.2
BL	Blue		Ø 1.2 to 1.6
GY	Gray		Ø 1.6 to 2.0

01) It is recommended to use PVC insulation.

### ■ Board mount socket

CNE - B ① ②

#### ① No. of lines

No mark: 1-line  
2: 2-line  
4: 4-line

#### ② No. of pins

03: 3-pin  
04: 4-pin

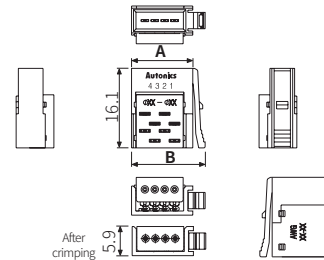
## Specifications

Type	Wire mount plug	Wire mount Socket	Board mount socket
Model	CNE-P	CNE-S	CNE-B
Application	Connector	Board mount socket / Wire mount Socket	Wire mount plug
	Cable	AWG30 - 20 (insulator outside diameter Ø 0.6 to 2.0)	Wire mount plug
	PCB	-	Fender plated-through hole, hole dia.: 1.0 mm PCB thickness: 1.0 to 2.2 mm
Power supply	≤ 32 VAC~ / VDC=		
Rated current	≤ 3.0 A		
Ambient temperature	Applying 1 A: -20 to 85 °C Applying 2 A: -20 to 75 °C Applying 3 A: -20 to 60 °C (rated at no freezing or condensation)		
Ambient humidity	40 to 80%RH (rated at no freezing or condensation)		
Terminal retention	≥ 1.4 kgf		
Pressure strength	AWG30: ≥ 0.5 kgf AWG24: ≥ 0.8 kgf AWG20: ≥ 1.0 kgf		
Extraction	≥ 0.49 N (50 gf) / pin		
Insertion	≤ 1.96 N (200 gf) / pin		
Dielectric strength	1,000 VAC~ for 1 min (between terminals)		
Insulation resistance	≥ 1,000 MΩ (between terminals)		
Contact resistance	≤ 0.05 Ω (short current: 1 mA, max. open voltage: 20 mV)		
Material	Body: PC/ABS (UL94V-0), terminal: C5210 (Gold 0.2μm), case: PC (UL94-V0)		Body: PC/ABS (UL94-V0), terminal: C5210 (Gold 0.2μm)

## Dimensions

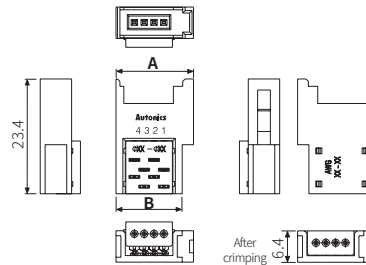
• Unit: mm, For the detailed drawings, follow the Autonics website.

### ■ Wire mount plug



Pins	A	B
3-pin	10.4	14.4
4-pin	12.4	16.4

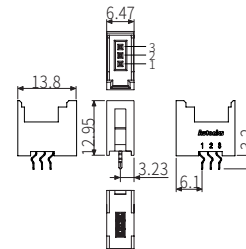
### ■ Wire mount Socket



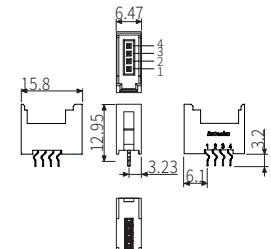
Pins	A	B
3-pin	13.8	11.5
4-pin	15.8	13.5

### ■ Board mount socket

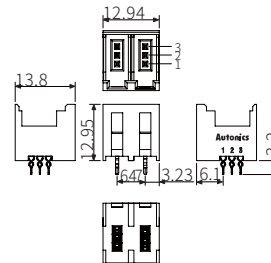
#### • CNE-B03 (1-line × 3-pin)



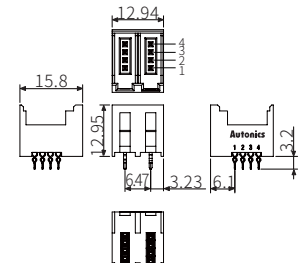
#### • CNE-B04 (1-line × 4-pin)



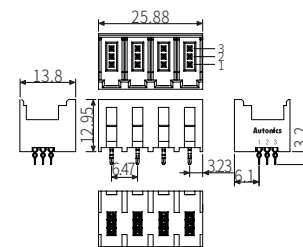
#### • CNE-B203 (2-line × 3-pin)



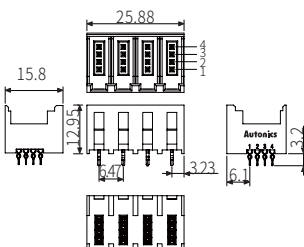
#### • CNE-B204 (2-line × 4-pin)



#### • CNE-B403 (4-line × 3-pin)



#### • CNE-B404 (4-line × 4-pin)



### • PCB hole pattern

	1-line	2-line	4-line
3-pin			
4-pin			

## Connections Order

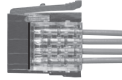
### 01. Select the connector

Check the wire specifications (conductor section, cover diameter) and select the proper color of sensor connector. The proper sensor connector may be different by conductor of wire. Cover diameter of applied wire at connector (at translucent part) and AWG number of body backside are marked.



### 02. Insert the wires

Check the pin numbers and insert the wires into the according holes. Check that the wires are fully inserted to the end of the cover.



### 03. Crimping

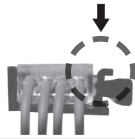
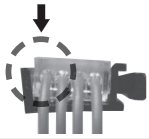
Insert the cover into the body with a jig (press fitting tool, etc). Apply pressure with the jig from the side.



### 04. Check the cover

Check to make sure that the cover is level with the body and that there is no space between the cover and the body.

#### Wrong examples



Press the part of arrows again. Press the part of arrows again.