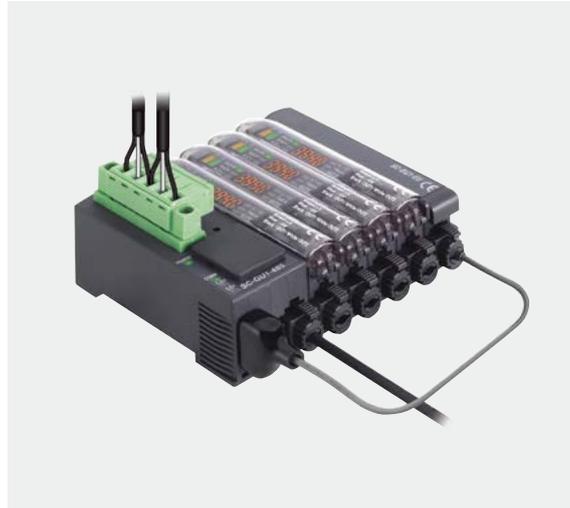
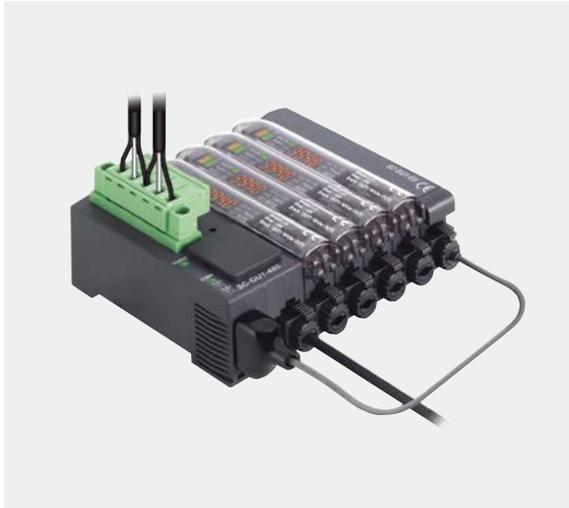


# Upper Communication Unit for Digital Sensors SC-GU1-485



# SC-GU1-485



## Features

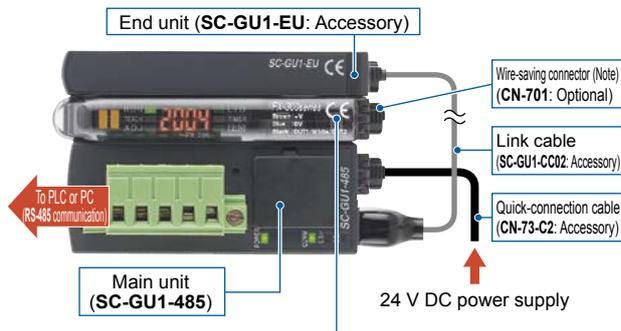
- Control and settings can be carried out remotely
- High general applicability so that any type of PLC can be used
- Communication speed 57.6 kbps
- Series connection of a maximum of 31 nodes is possible
- Up to 16 digital sensors\* can be connected side by side
- Save wiring, construction and space

\* The maximum number of units is 12 for configurations including either the FX-501(P)/502(P) or LS-501(P).

## Proposal of a new “management and setting” method for sensors

### Control and settings can be carried out remotely

Setting and checking incident light intensity for digital sensors **FX-501(P)**, **FX-502(P)**, **FX-301(P)/305(P)**, **LS-501(P)/403**, **DPS-401(P)/402(P)** and analog input unit **SC-A01/A02**, **SC-T1JA** that are scattered inside and outside equipment can be carried out remotely for all sensors by using the **SC-GU1-485**, which greatly improves ease of operations such as monitoring equipment that is running and also equipment starting and maintenance.

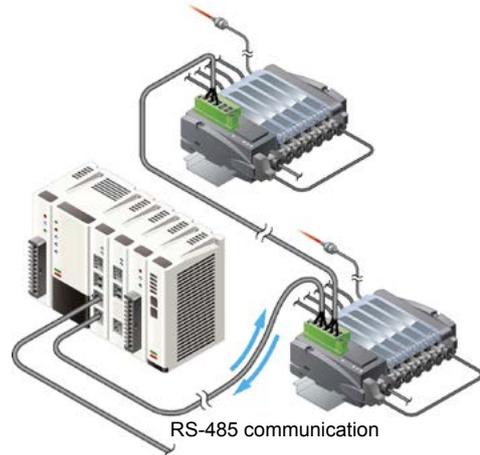


- Applicable digital sensor
- Digital fiber sensor **FX-501(P)/502(P)**
  - Digital laser sensor **LS-501(P)/403**
  - Digital pressure sensor **DPS-401(P)/402(P)**
  - Digital fiber sensor **FX-301(P)** (Updated version)/**305(P)**
- Applicable analog input unit
- Analog voltage input unit **SC-A01**
  - Analog current input unit **SC-A02**
  - 1-channel connector input unit (analog communication unit) **SC-T1JA**

Note: Used when the output signal is sent via a **SC-GU1-485** to the PLC.  
If the output signal is sent directly to the PLC, a quick-connection cable(sub cable) (**CN-72-C□**, **CN-71-C□**) should be used.

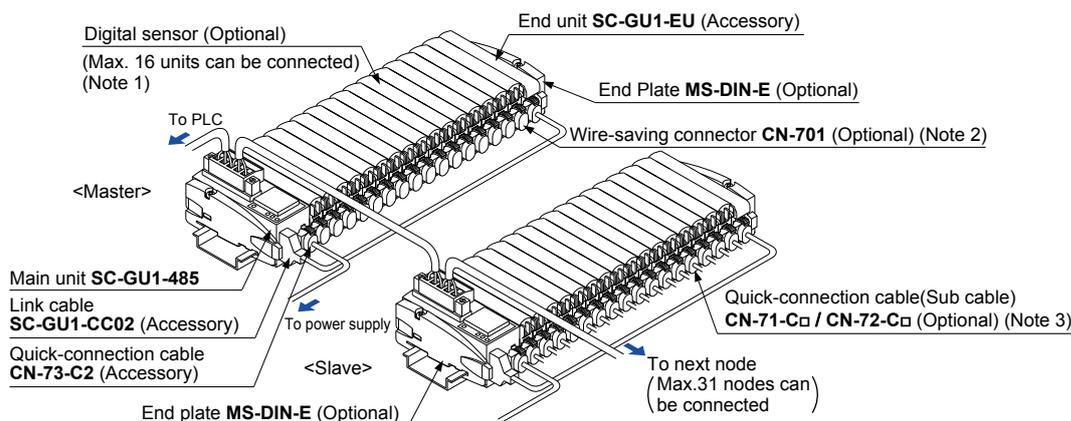
### High general applicability so that any type of PLC can be used

RS-485 communication provides a high level of general compatibility so that any type of PLC can be used. Integration with existing systems is possible without the need to change PLCs.



Compatible with all PLCs equipped with RS-485 compatible units

## SYSTEM CONFIGURATION



Notes:1) The maximum number of units is 12 for configurations including either the **FX-501(P)/502(P)** or **LS-501(P)**.

2) Used when the output signal is sent via a **SC-GU1-485** to the PLC.

3) Use when wiring output signal lines directly to a PLC. For more information on quick-connection cables, refer to the instruction manual or relevant page on the digital sensors used in your environment.

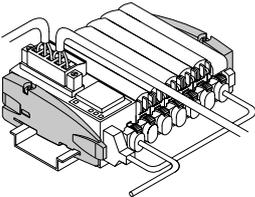
## ORDER GUIDE

### Communication unit

Type	Model No.	Description
Main unit	<b>SC-GU1-485</b>	Non-contiguous digital sensors and analog input units can be centrally managed and configured via RS-485 communication between PLCs and PCs. Applicable digital sensors include <b>FX-501(P)/502(P)</b> , <b>FX-301(P)/305(P)</b> , <b>LS-501(P)/403</b> , and <b>DPS-401(P)/402(P)</b> . Applicable analog input units include <b>SC-A01/A02</b> and <b>SC-T1JA</b> . Up to 16 digital sensor / analog input units can be connected per unit. (Note)

Note: The maximum number of units is 12 for configurations including either the **FX-501(P)/502(P)** or **LS-501(P)**.

**End plates** End plates are not supplied with the communication unit. Please order it separately.

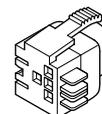
Appearance	Model No.	Output
	<b>MS-DIN-E</b>	When <b>SC-GU1-485</b> , a sensor amplifier, an analog input unit or an end unit are connected on a DIN rail, these end plates clamp amplifiers into place on both sides. Make sure to use end plates when cascading multiple amplifiers together. <b>2 pcs. per set</b>

## OPTIONS

Designation	Model No.	Description
Wire-saving connector	<b>CN-701</b>	Used when the output signal is sent via a <b>SC-GU1-485</b> to the PLC, etc.

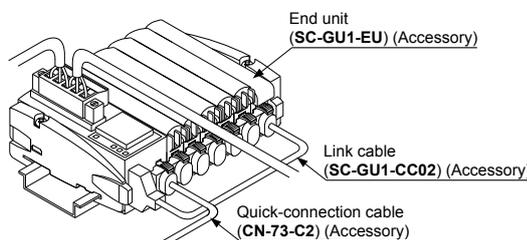
### Wire-saving connector

• **CN-701**



### Accessories

- **SC-GU1-EU** (End unit)
- **SC-GU1-CC02** (Link cable)
- **CN-73-C2** (Quick-connection cable)



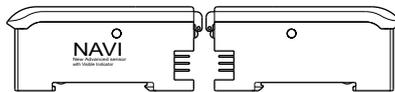
**SPECIFICATIONS**

Please refer to following product web pages for specifications of digital sensors.  
**FX-501(P)/502(P), FX-301(P)/305(P), LS-501(P), LS-403, DPS-401(P)/402(P).**

Type	Main unit	
Item	Model No.	
CE marking directive compliance	EMC Directive, RoHS Directive	
Applicable digital sensor / analog input unit	<b>FX-501(P), FX-502(P), FX-301(P)</b> (Note 2), <b>FX-305(P), LS-501(P), LS-403, DPS-401(P), DPS-402(P), SC-A01, SC-A02, SC-T1JA</b>	
Connectable units	Max. 16 units of digital sensor / analog input unit per <b>SC-GU1-485</b> (Note 3)	
Connectable nodes	Max. 31 nodes	
Supply voltage	24 V DC $\pm 10\%$ Ripple P-P 10 % or less	
Current consumption	45 mA or less ( <b>SC-GU1-EU</b> : 10 mA or less)	
Communication method	Two-wire half duplex communication	
Communication speed	57,600 bps / 38,400 bps / 19,200 bps / 9,600 bps, Selectable by DIP switch	
Synchronization method	Asynchronous communication method	
Electrical characteristic	Conforming to EIA RS-485	
Total extension length	Communication cable: 100 m <b>328.084 ft</b> or less [ <b>SC-GU1-485</b> (termination) to PLC] Power supply cable: Less than 10 m <b>32.808 ft</b>	
Indicators	Power (POWER)	Green LED (Lights up when the power is ON)
	Communication (COMM)	Green LED (Lights up during communication)
	Upper communication error (C.Err)	Red LED [Blinks when communication error between PLC (Programmable Logic Controller) and Master or Master and Slave, or command error occurs]
	Lower communication error (S.Err)	Red LED (Blinks when communication error between the main unit and sensors occur)
Environmental resistance	Ambient temperature	-10 to +55 °C <b>+14 to +131 °F</b> (If 4 to 7 units are connected in cascade: -10 to +50 °C <b>+14 to +122 °F</b> , if 8 to 16 units are connected in cascade: -10 to +45 °C <b>+14 to +113 °F</b> ) (No dew condensation or icing allowed), Storage: -20 to +70 °C <b>-4 to +158 °F</b>
	Ambient humidity	35 to 85 % RH, Storage: 35 to 85 % RH
	Voltage withstandability	1,000 V AC for one min. between all supply terminals connected together and enclosure
	Insulation resistance	20 M $\Omega$ , or more, with 250 V DC megger between all supply terminals connected together and enclosure
	Vibration resistance	10 to 150 Hz frequency, 0.75 mm <b>0.030 in</b> double amplitude in X, Y and Z directions for two hours each
	Shock resistance	98 m/s <sup>2</sup> acceleration (10 G approx.) in X, Y and Z directions five times each
Material	Enclosure: Heat-resistant ABS, Connector cap: silicone rubber	
Weight	Net weight: 35 g approx. ( <b>SC-GU1-EU</b> : 10 g approx.), Gross weight: 120 g approx.	
Accessories	<b>SC-GU1-EU</b> (End unit): 1 pc. <b>CN-73-C2</b> [Quick-connection cable (cable length 2 m <b>6.562 ft</b> ): 1 pc. <b>SC-GU1-CC02</b> [Link cable (cable length 0.2 m <b>0.656 ft</b> ): 1 pc.	

Notes: 1) Where measurement conditions have not been specified precisely, the conditions used were an ambient temperature of +20 °C **+68 °F**.

2) Applicable units are for the **FX-301(P)** after version update. Do not use the previous version of **FX-301(P)**. The updated version of **FX-301(P)** has the "NAVI" printed only on single side.



3) The maximum number of units is 12 for configurations including either the **FX-501(P)/502(P)** or **LS-501(P)**.

**PRECAUTIONS FOR PROPER USE**

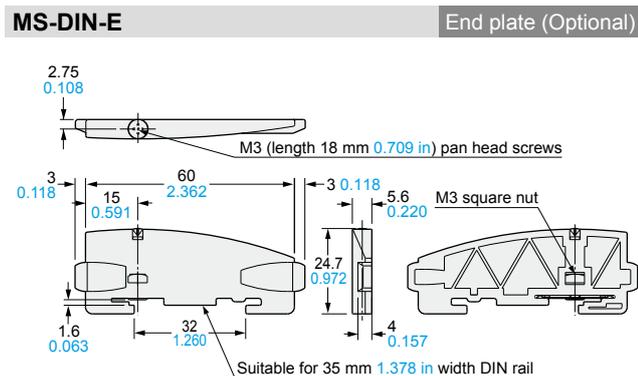
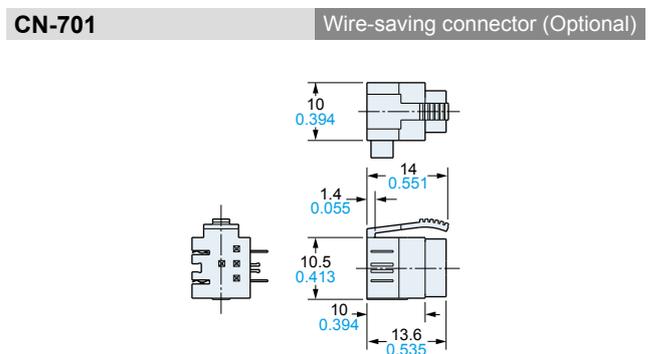
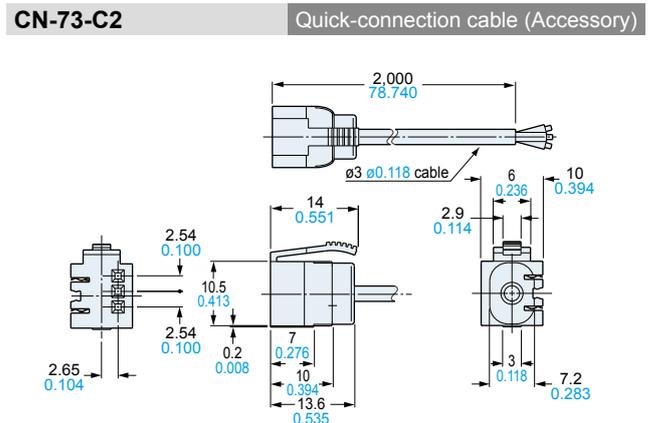
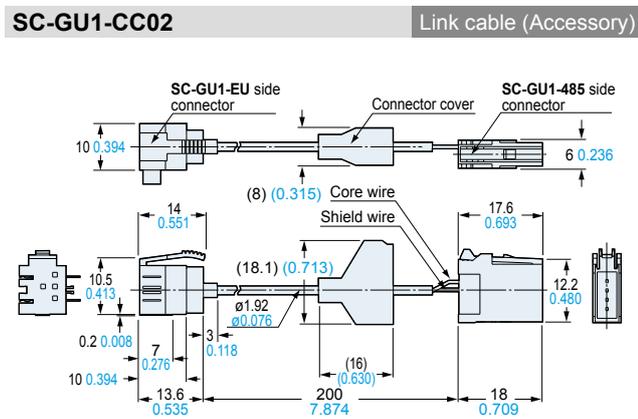
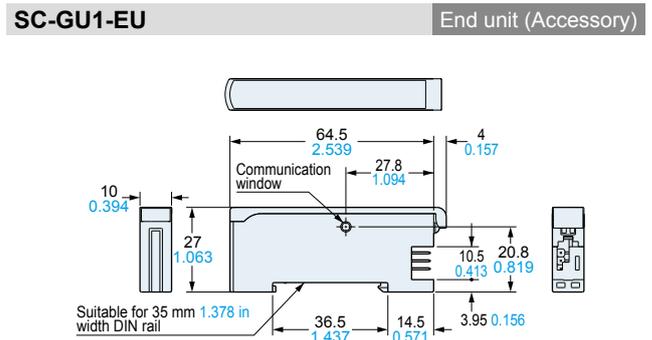
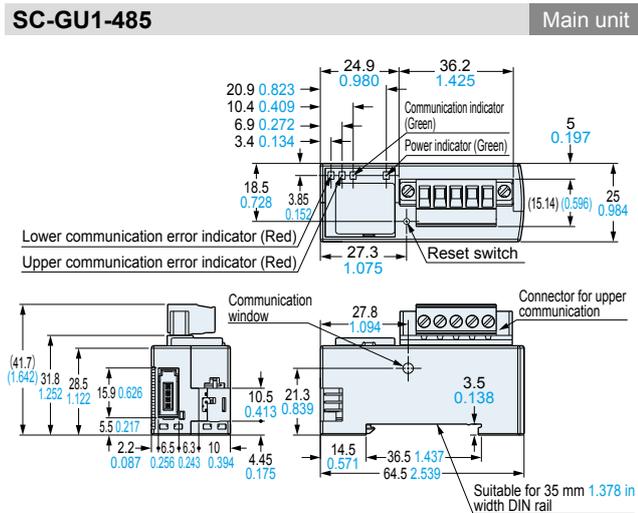


- Never use this product in a device for personnel protection.
- In case of using devices for personnel protection, use products which meet laws and standards, such as OSHA, ANSI or IEC etc., for personnel protection applicable in each region or country.

- For communication conditions and commands of **SC-GU1-485**, refer to "Product specifications".

**DIMENSIONS (Unit: mm in)**

Please refer to following product web pages for dimensions of digital sensors.  
**FX-501(P)/502(P), FX-301(P)/305(P), LS-501(P), LS-403, DPS-401(P)/402(P).**  
 The CAD data can be downloaded from our website.



Material: Polycarbonate

## Disclaimer

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