

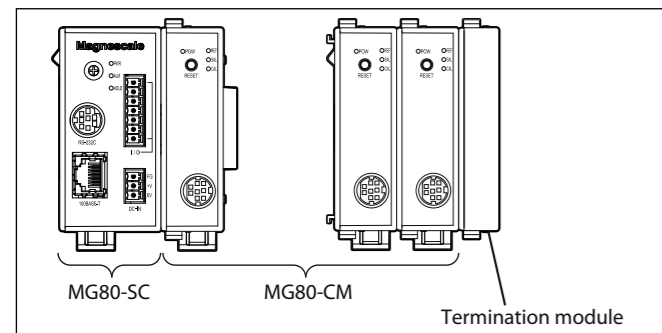
4. Connections

Caution

Do not supply power until all of the connections are complete. Make sure the following settings are done. (Refer to “2. Name and Function of Each Part”.)

- Connect each module (*)
- Connect communication cables (RS-232C, Ethernet cable)
- Connect power input connector

(*) Up to 16 counter modules can be connected to the MG80-SC. Always connect the supplied termination module in the endmost position of the composition units.



5. Specifications

Model name	MG80-SC1 / MG80-SC2
Supply voltage	DC 10.8 to 26.4 V
Power consumption	2.4 W or less (not including the MG80-CM and LZ80-K1/K2)
Maximum number of connectable MG80-CM	16 modules
Power input socket	Terminal block ×1 (3-pin)
I/O	7-pin connector, photocoupler-insulated, 4 inputs, 1 output MG80-SC1 : Current sink type MG80-SC2 : Current source type
Interface connectors	RS-232C 8P ×1 RJ45 ×1 (shielding compatible)
Communication protocol	RS-232C (2,400 bit/s to 230,400 bit/s) Ethernet (100BASE-TX : 100 Mbits/s)
Maximum cable length*	RS-232C: 15 m Ethernet: 20 m (CAT5e shield type recommended)
Unit number setting	Rotary switch
Indicator lamps	Power : Green LED ×1, Alarm : Red LED ×1, Hold : Orange LED ×1
Operating temperature/humidity range	0 to +50 °C (no condensation)
Storage temperature/humidity range	-20 to +60 °C (20 to 90% RH)
Mass	Approximately 130 g
Mounting method	DIN rail

*The customer must provide the communication cables.

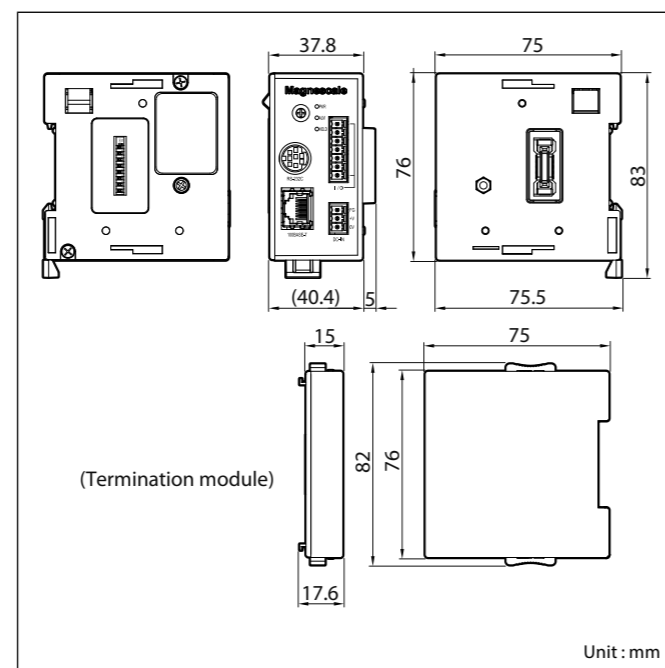
Note: The LZ80-K1/K2 and LZ80-LM cannot be used.

Magnescale Co., Ltd.

45 Suzukawa, Isehara-shi, Kanagawa 259-1146, Japan

MG80-SC1 / MG80-SC2
2-A03-077-1B

6. Dimensions



日本からの輸出時における注意

本製品（および技術）は輸出令別表第1の16の項（外為令別表16の項）に該当します。キャッチオール規制による経済産業省の許可要否につきましては、輸出者様にてご確認ください。

For foreign customers

Note: This product (or technology) may be restricted by the government in your country. Please make sure that end-use, end user and country of destination of this product do not violate your local government regulation.

Magnescale

RS-232C / Ethernet Interface Module

MG80-SC1 / MG80-SC2

Instruction Manual

Read all the instructions in the manual carefully before use and strictly follow them.

Keep the manual for future references.

Safety Precautions

Magnescale Co., Ltd. products are designed in full consideration of safety. However, improper handling during operation or installation is dangerous and may lead to fire, electric shock or other accidents resulting in serious injury or death. In addition, these actions may also worsen machine performance.

Therefore, be sure to observe the following safety precautions in order to prevent these types of accidents, and to read these “Safety Precautions” before operating, installing, maintaining, inspecting, repairing or otherwise working on this unit.

Warning Indication Meanings

The following indications are used throughout this manual, and their contents should be understood before reading the text.

Symbols requiring attention Symbols prohibiting actions



CAUTION



DO NOT
DISASSEMBLE

Warning Failing to follow the precaution items given below may lead to severe injury or death.

- Do not open the cover of the MG80-SC1 / MG80-SC2 to disassemble or modify the unit, as this may result in burns or injury.
These actions may also damage the internal circuitry.

Caution Failing to follow the precaution items given below may lead to injury or damage to surrounding objects.

- The unit does not have an explosion-proof structure. Therefore, do not use the unit in an atmosphere charged with inflammable gases as this may result in fire.
- Be sure to turn off the power before connecting or disconnecting power and signal connectors in order to prevent damage or misoperation.

General precautions

- Before and during operations, be sure to check that our products function properly.
- Provide adequate safety measures to prevent damages in case our products should develop malfunctions.
- Use outside indicated specifications or purposes and modification of our products will void any warranty of the functions and performance as specified of our products.
- When using our products in combination with other equipment, the functions and performances as noted in this manual may not be attained, depending on operating and environmental conditions.

[For U.S.A. and Canada]

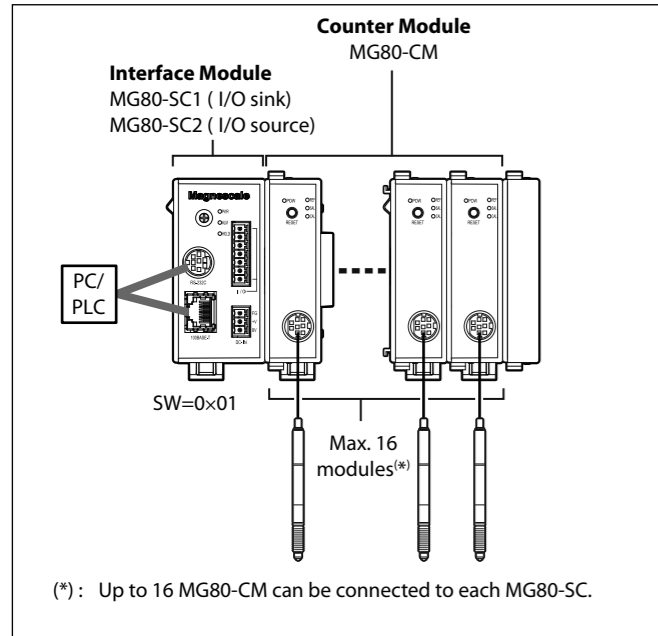
THIS CLASS A DIGITAL DEVICE COMPLIES WITH PART15 OF THE FCC RULES AND THE CANADIAN ICES-003. OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS.

- (1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE, AND
- (2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED, INCLUDING INTERFERENCE THAT MAY CAUSE UNDERSIGNED OPERATION.

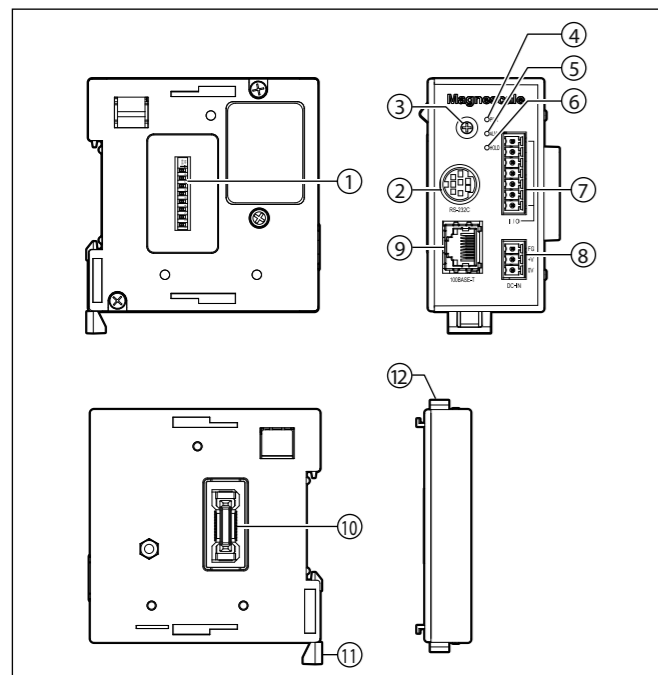
CET APPAREIL NUMÉRIQUE DE LA CLASSE A EST CONFORME À LA NORME NMB-003 DU CANADA.

1. Overview

This product is an RS-232C/Ethernet interface module for measuring systems that can acquire multi-axis measurement data. It is used in combination with counter modules and provides the PLC link function in addition to data output via RS-232C/Ethernet. This product uses common data format with existing MG10/10A products, so MG10/10A users can continue to use the programming environment by simply changing the settings. Refer to the MG80-SC Operating Manual available on the Magnescale website for the setting method. www.magnescale.com_Products_Digital_Gauge_MG80-SC

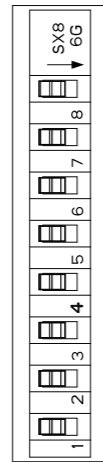


2. Name and Function of Each Part



① RS-232C communication setting switch

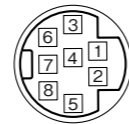
Bold print is used to indicate the factory settings.



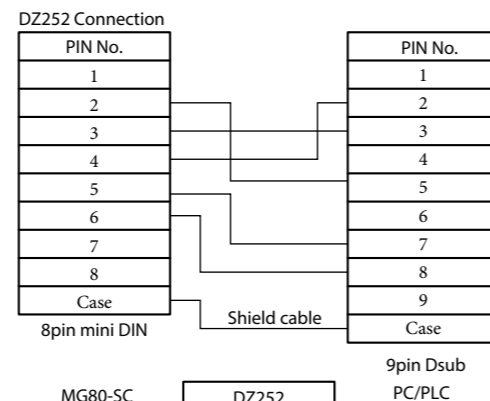
Delimiter setting	SW 2		
CR + LF	OFF		
CR	ON		
Parity setting	SW 3	SW 4	
OFF	OFF	OFF	
ON Even	ON	OFF	
ON Odd	ON	ON	
Stop bit setting	SW 5		
1 bit	OFF		
2 bit	ON		
Data length setting	SW 6		
8 bit	OFF		
7 bit	ON		
Communication speed setting	SW 1	SW 7	SW 8
2400 bps	OFF	OFF	OFF
9600 bps	OFF	ON	OFF
19200 bps	OFF	OFF	ON
38400 bps	OFF	ON	ON
57600 bps	ON	OFF	OFF
115200 bps	ON	ON	OFF
230400 bps	ON	OFF	ON

② RS-232C connector

This port is used for computer/PLC connection, and communications using the RS-232C protocol. Use a DZ252 or DZ254 communication cable (sold separately).



Pin no.	I/O	Cable color (DZ254)	Description	Host unit side	Signal
1		Red	N.C		-
2		White	SG (Signal GND)		SG
3	I	Black	RXD (Receive data)	←	TXD
4	O	Yellow	TXD (Transmit data)	→	RXD
5	I	Blue	CTS (Clear to send)	←	RTS
6	O	Green	RTS (Request to send)	→	CTS
7		Brown	N.C		DSR
8		Gray	N.C		



Compliant with RS-232C (EIA-232C) standard

Signals : Asynchronous, start-stop system, half-duplex system
Communication speed : 2400, 9600, 19200, 38400, 57600, 115200, 230400 bps
Data length : 7 or 8 bits
Parity : None, odd or even; selectable
Stop bit : 1 or 2 bits
Cable length : Max. 15 meters
Flow control : Hardware flow control (RTS, CTS)

③ Module number setting switch

Sets the module number.

④ POWER lamp

Lights green when the power is on.

⑤ ALARM lamp

Lights red when any counter module within the unit is in the alarm status.

⑥ HOLD lamp

Lights orange when the hold function (in which current value output data is latched or peak value data updating is stopped) is activated in any counter module within the unit.

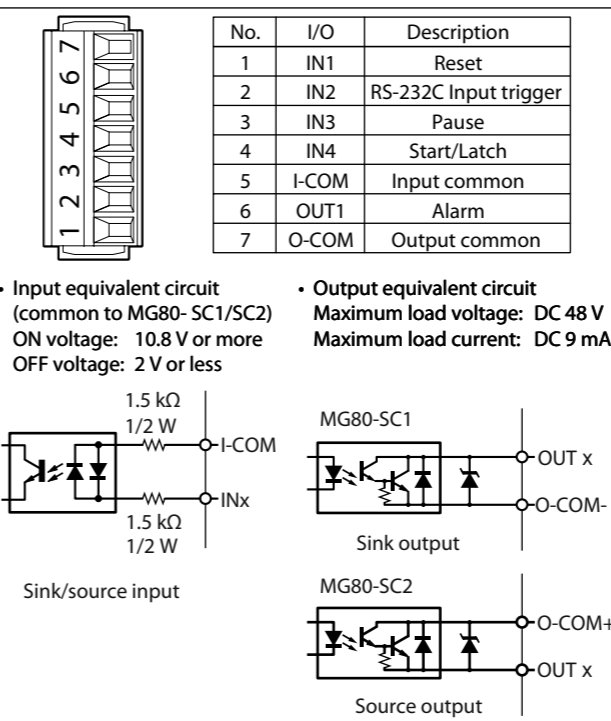
⑦ I/O connector

This I/O connector is used to operate all of the counter modules within the unit at once.

It has four input pins and one output pin.

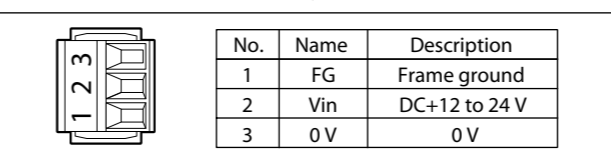
MG80-SC1 : Current sink type

MG80-SC2 : Current source type



⑧ Power input connector

This connector is used to supply external power. (DC +12 to 24 V)



⑨ Ethernet port

This port is used for MG80-SC settings and computer/PLC connection. Communicate using the Ethernet method. Use commercially available Ethernet communication cables.

<Communication cable>

A CAT5e or higher shielded type is recommended.

Cable length: 20 m or less

⑩ Module connector

Connects a counter module.

⑪ DIN rail anchoring lever

This lock mechanism secures the main unit to the DIN rails.

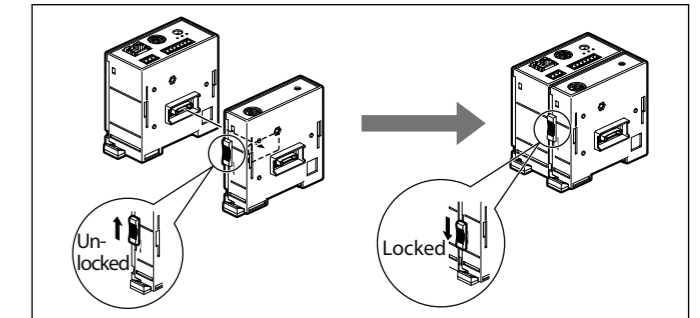
⑫ Termination module

This is the termination module. Connect to the endmost position of the unit.

3. Installation

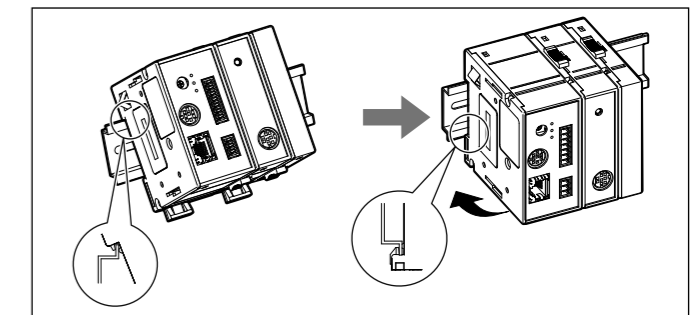
3-1. Connecting the Counter Modules

Unlock the slide locks of the counter module to be connected. Connect the connectors of the interface module and the counter module, and return the top and bottom slide locks to the locked positions to secure the module.



3-2. Installing the Unit on the DIN Rails

This product supports 35 mm wide DIN rails. When the interface unit is shipped from the factory, the tabs on the DIN rail anchoring levers are locked. Align the top side of the groove in the unit's rear panel with the top of the DIN rails, and install the unit by pushing it into position until a clicking sound is heard so that the bottom side of the groove fits snugly on the DIN rails.



3-3. Removing the Unit from the DIN Rails

While holding the unit in place so that it will not fall, pull down the DIN rail anchoring levers of all the modules until a clicking sound is heard.

