



Installation & Maintenance Manual
SI unit - CompoNet compatible
Series EX12□-SCM□



Safety Instructions

These safety instructions are intended to prevent hazardous situations and/or equipment damage. These instructions indicate the level of potential hazard with the labels of "Caution", "Warning" or "Danger". They are all important notes for safety and must be followed in addition to International standards (ISO/IEC), Japan Industrial Standards (JIS) and other safety regulations. To ensure safety of personnel and equipment the safety instructions in this manual and the product catalogue must be observed, along with other relevant safety practices.

Caution	Operator error could result in injury or equipment damage.
Warning	Operator error could result in serious injury or loss of life.
Danger	In extreme conditions, there is a possibility of serious injury or loss of life.

Warning

- Do not disassemble, modify (including changing of printed circuit board) or repair. An injury or failure can result.
- Do not operate the product outside of the specifications. Do not use for flammable or harmful fluids. Fire, malfunction, or damage to the product can result. Verify the specifications before use.
- Do not operate in an atmosphere containing flammable or explosive gases. Fire or an explosion can result. This product is not designed to be explosion proof.
- If using the product in an interlocking circuit:
 - Provide a double interlocking system, for example a mechanical system.
 - Check the product regularly for proper operation. Otherwise malfunction can result, causing an accident.
- The following instructions must be followed during maintenance:
 - Turn off the power supply.
 - Stop the air supply, exhaust the residual pressure and verify that the air is released before performing maintenance work. Otherwise an injury can be caused.

Caution

- After maintenance is complete, perform appropriate functional inspections. Stop operation if the equipment does not function properly. Safety cannot be assured in the case of unexpected malfunction.
- Provide grounding to assure the safety and noise resistance of the SI unit. Individual grounding should be provided close to the product with a short cable.

Safety Instructions (continued)

Note

•The direct current power supply to be used should be UL approved as follows.

- (1) A limited voltage / current circuit in accordance with UL508.
 A circuit which power is supplied by secondary coil of a transformer that meets the following conditions
- Maximum voltage (with no load): less than 30 Vrms (42.4 V peak)
 - Maximum current: (1) less than 8 A (including when short circuited) (2) limited by circuit protector (such as a fuse) with the following ratings

No-load voltage (V peak)	Max. current rating (A)
0 to 20 [V]	5.0
20 to 30 [V]	100 / peak voltage

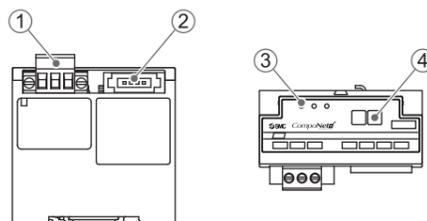
- (2) Circuit (of class 2) which is of maximum 30 Vrms (42.4 V peak), with UL1310 class 2 power supply unit or UL 1585 class 2 transformer.

Model Indication and How to Order

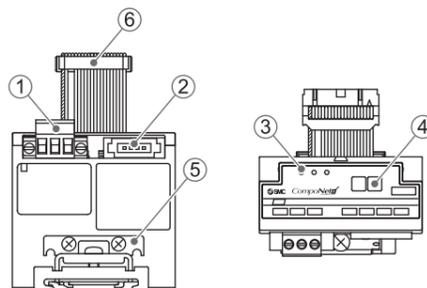
Refer to the operation manual for this product.

Names and Functions of Individual Parts

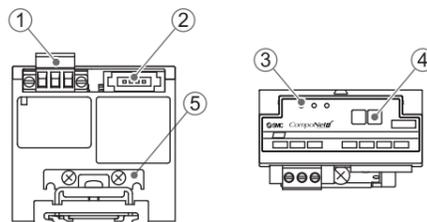
•EX120 series



•EX121 series



•EX122 series

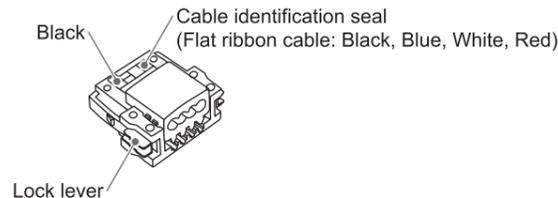


No.	Description	Application
1	Power supply connector	Connect to the power supply for solenoid valve.
2	Communication connector	Connect to the CompoNet network.
3	Display	The status of the unit is indicated by LED.
4	Setting switch area	For setting the node number.
5	Mounting bracket	For mounting to a DIN rail.
6	MIL connector	Connect to the solenoid valve.

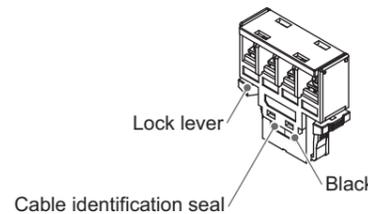
Names and Functions of Individual Parts (continued)

•Accessories

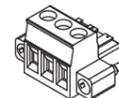
Communication connector: IDC connector for flat ribbon cable (EX9-CCM1: Not supplied with product) Applied when using a flat ribbon cable dedicated for use with CompoNet products.



Communication connector: Terminal block connector for round cable (VCTF) (EX9-CCM2: Not supplied with product) Applied when a VCTF cable is used.



Power supply connector: Straight type (EX9-CP2: 1 pc. supplied with product)



Installation

•Installation size

The SI unit can not be installed as a stand-alone unit, and therefore does not have mounting holes. It must be installed as part of a valve manifold assembly.

Refer to the operation manual for applicable valve manifolds.
 SV1000/2000/3000/4000
 SY3000/5000
 VQ1000/2000

Wiring

1. Communication wiring

The network cable and communication connector for CompoNet are connected in the following manner.

Note
 The communication connector for the SI unit should be as shown below.

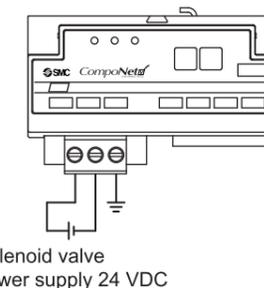
	Communication connector		
	SMC	OMRON	HONDA TSUSHIN KOGYO
For flat ribbon cable: IDC connector	EX9-CCM1	DCN4-BR4	-
For round cable: Terminal block connector	EX9-CCM2	-	HON-TC4LMZG+

We do not provide a tool that is used for wiring IDC connector. Please contact OMRON for further details.

To get more information about the communication wiring, refer to the operation manual for this product.

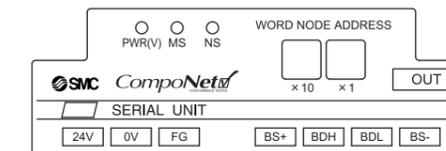
2. Power supply wiring (Solenoid valve power supply)

Connect the wiring for the solenoid valve power supply to the power supply connector (EX9-CP2). Tighten the screw with 0.5 to 0.6 Nm of tightening torque.



Setting

•LED indication

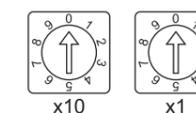


Display	Content
PWR (V)	Solenoid valve power supply ON : Light ON Solenoid valve power supply OFF : Light OFF
MS	Unit in normal operation : Green light ON Fatal error : Red light ON Minor error : Red light flashes Power supply off : All lights OFF
NS	On line/Connection completed : Green light ON On line/Connection not completed : Green light flashes Fatal communication error : Red light ON Minor communication error : Red light flashes Power supply off : All lights OFF

•Switch setting

- The node setting is conducted using the rotary switch inside the unit cover.
- Make sure the switch setting is carried out with the power supply turned off.
- The switch should be set using a small flat screwdriver.

WORD NODE ADDRESS



Setting	Setting range
x10	0 to 6
x1	0 to 9

*1: The station number should be any number from 00 to 63. If a node is set to a number greater than 63, the "NS" LED will light up. After turning the power off, set to the correct number.
 *2: The address number cannot be duplicated.

Maintenance

Mounting and wiring

Item to inspect	Criteria	Countermeasure
Confirm the connectors (communication, power supply) of the SI unit are securely connected.	No looseness.	Tighten the connector screws. (refer to "Mounting/Installation")
Confirm the connecting cable is not broken.	No signs of breakage.	If any breaks are found, replace the cable.

Replacement parts

Item to inspect	Criteria	Countermeasure
Cable for moving parts (when used)	No signs of breakage and no error in the conductive resistance value. (For the resistance value, check for exceeding of specified range and balance change in pair cable.)	If any breaks are found, or the conductive resistance is incorrect, replace the cable. Refer to the cable specifications for the conductive resistance.
SI unit	No error in operation and display.	If any error is found in the operation or on the display, replace the unit.

Power supply

Item to inspect	Criteria	Countermeasure
Confirm the voltage is within the specified range. Measure the voltages at both sides of the power supply for CompoNet.	14 VDC to 26.4 VDC	Investigate the cause of the voltage fluctuation, and take countermeasures against it.
Confirm the voltage is within the specified range. Measure the voltages at both sides of the power supply for solenoid valves.	24 VDC +10%/-5% (refer to "Unit specification")	

Specifications

Refer to the operation manual for this product.

Outline with Dimensions (in mm)

Refer to the operation manual for this product.

Contact

AUSTRIA	(43) 2262 62280	NETHERLANDS	(31) 20 531 8888
BELGIUM	(32) 3 355 1464	NORWAY	(47) 67 12 90 20
CZECH REP.	(420) 541 424 611	POLAND	(48) 22 211 9600
DENMARK	(45) 7025 2900	PORTUGAL	(351) 21 471 1880
FINLAND	(358) 207 513513	SLOVAKIA	(421) 2 444 56725
FRANCE	(33) 1 6476 1000	SLOVENIA	(386) 73 885 412
GERMANY	(49) 6103 4020	SPAIN	(34) 945 184 100
GREECE	(30) 210 271 7265	SWEDEN	(46) 8 603 1200
HUNGARY	(36) 23 511 390	SWITZERLAND	(41) 52 396 3131
IRELAND	(353) 1 403 9000	UNITED KINGDOM	(44) 1908 563888
ITALY	(39) 02 92711		

SMC Corporation

URL <http://www.smcworld.com> (Global) <http://www.smceu.com> (Europe)

Specifications are subject to change without prior notice from the manufacturer.
© 2009 SMC Corporation All Rights Reserved.