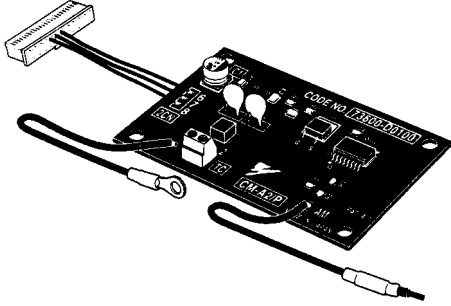


OMRON

# 3G3HV-PCMA2 Voltage/Current Conversion Card (For the 3G3HV only)

## INSTRUCTION SHEET

Thank you for purchasing this OMRON product. Please read this instruction sheet and thoroughly familiarize yourself with the functions and characteristics of the product before use. This instruction sheet describes procedures for mounting and wiring the 3G3HV-PCMA2 Voltage/Current Conversion Card, and should be read in conjunction with the *3G3HV Inverter User's Manual (I515)*. Please retain this sheet for future reference.



**OMRON Corporation**

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### Safety Precautions

Before attempting to operate the Voltage/Current Conversion Card, be sure to thoroughly familiarize yourself with the information contained in this instruction sheet and those of any other applicable equipment, make sure that you have a working knowledge about the equipment, and make sure that you are well versed on all safety procedures and precautionary items in order to ensure the safe and proper use of the OMRON Inverter and other peripheral devices.

Since diagrams in this instruction sheet may be shown with covers and protective shielding removed in order to provide more detailed explanations, make sure that covers and protective shielding are replaced as stipulated prior to using the product, and then use the product only as outlined in the *User's Manual*.

Be sure to contact our sales representative if the product is to be left in storage for an extended period of time.

Make sure that this instruction sheet and other applicable manuals are readily available to equipment operators.

Make sure that this instruction sheet is readily available once it is read.

- The precautionary items list critical information for safety. Be sure to heed these items at all times.
- The following conventions are used to indicate and classify precautions in this instruction sheet.

**! DANGER!** Not following a precaution given as a "DANGER" is likely to result in fatal or serious injury.

**! WARNING** Not following a precaution given as a "WARNING" may result in fatal or serious injury.

**! Caution** Not following a precaution given as a "Caution" can result in injury to people or damage to the product or system.

Items listed under caution may also have serious consequences depending on the circumstances, so be sure to heed these items at all times.

### Mounting

**! WARNING** Never reach inside the Inverter as this may result in an electrical shock.

**! WARNING** Do not mount, remove, or wire Optional Cards without first shutting the Inverter power OFF and waiting until the prescribed amount of time (indicated on the front cover of the Inverter) has passed after all indicators on the Inverter are no longer lit. Failure to do so may result in an electrical shock.

**! WARNING** Do not nick, apply undue stress, place heavy objects on, or sandwich cables. Otherwise, this may result in an electrical shock.

**! Caution** Do not touch the elements on Optional Cards. Otherwise, this will result in equipment damage.

### Connections and Settings

**! Caution** Do not change settings unless absolutely necessary. Otherwise, this will result in injury or equipment damage.

**! Caution** Be sure to connect the ground wire (E) of the Optional Cards to the shielded wire ground on the control circuit board. Otherwise, this will result in faulty operation or equipment damage.

### Description

The 3G3HV-PCMA2 Voltage/Current Conversion Card is an Optional Card used only with the SYSDRIVE 3G3HV Inverter.

The 0- to 10-V multi-function analog output from a 3G3HV Inverter is input to the Card where the voltage is converted and output as 4- to 20-mA current.

The Card is mounted on an Inverter control circuit board.

### Nomenclature

**2CN connector**  
Connects to 2CN on the control circuit board

**TC output terminal**  
Output terminal for 4- to 20-mA current

**Four, mounting holes: 4 dia. (mm)**

**Ground wire (E)**  
Connects to the control circuit board's E(G) ground terminal for the shielded wire.

**Voltage signal input line**  
Connects to the multi-function analog output terminal (AM) of the control circuit terminals.

### Specifications

Model	Input specifications	Output specifications	Output accuracy
3G3HV-PCMA2	0 to 10 V	4 to 20 mA (see note 1)	3% (see note 2)

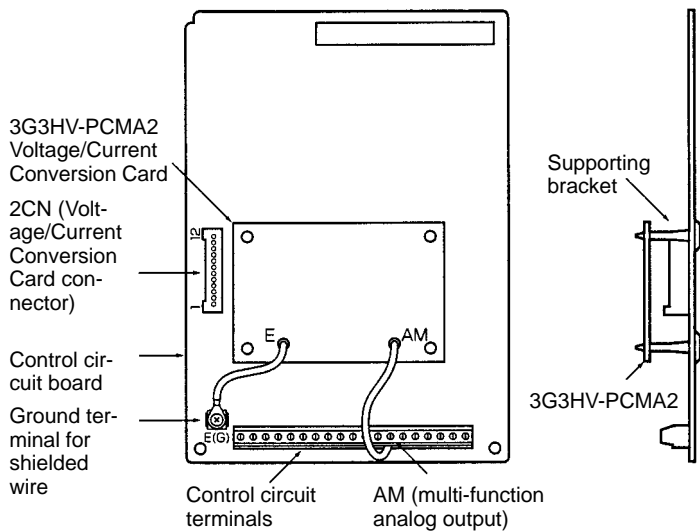
- Note**
1. This output is proportional to the input.
  2. This refers to the accuracy of the input voltage, and does not include the multi-function analog output error.

## Mounting Procedure

- 1, 2, 3... 1. Be sure to turn OFF Inverter power prior to mounting. If the power is ON, wait the prescribed amount of time after the power is turned OFF, as indicated on the front cover of the Inverter, and then remove the front cover. Make sure the charge indicator for the nearest terminals is not lit.
2. Mount the Voltage/Current Conversion Card to the Inverter control circuit board. Align and insert the four supports on the control circuit board into the mounting holes on the Card, and push the Card until it clicks into place.
3. Make sure the 2CN connector on the Card slides securely into the 2CN connector of the control circuit board.
4. Connect the ground wire (E) on the Card to the E(G) ground terminal for the shielded wire on the control circuit board.
5. Connect the voltage signal input line of the Card to the AM terminal of the control circuit terminals on the Inverter.
6. Replace the Inverter cover once the Card is mounted and wired to peripheral devices.

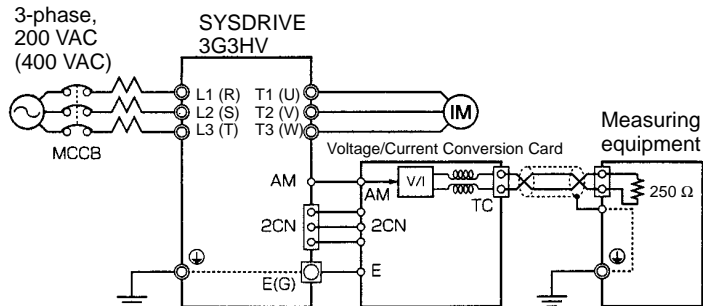
Front View

Side View



## Wiring

### Peripheral Device Wiring Example



- Note**
1. Be sure to connect the ground wire (E) of the Voltage/Current Conversion Card to the E(G) ground terminal for the shielded wire.
  2. Install the output signal wire of the Voltage/Current Conversion Card at least 30 cm away from the power supply line and other power lines.
  3. Use twisted-pair shielded wire for the output signal of the Voltage/Current Conversion Card, and make sure that the end is shielded. Also, use tape or other insulation to keep shielded wire sections from contacting other signal wires or devices.
  4. Make sure that the signal wire length is less than 50 m in order to minimize the effects of noise.

### Output Terminals

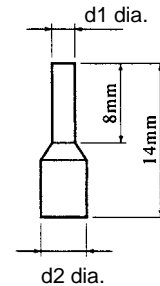
Terminal board code	No.	Function
TC	1	4 to 20-mA output terminal
	2	Output terminal common

### Wire Thickness

Terminal code	Wire thickness (mm <sup>2</sup> )	Type of wire
TC (1, 2)	Stranded wire: 0.5 to 1.25 Single wire: 0.5 to 1.25	Shielded twisted-pair wire

### Solderless Terminal Sizes

For better reliability and easier wiring, we recommend using solderless terminals for output signal and control circuit terminal wiring.

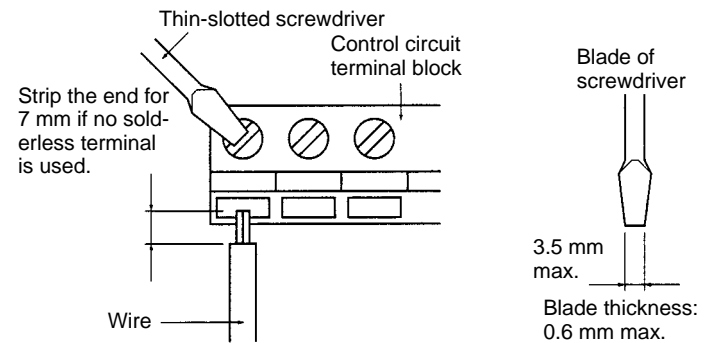


Wire thickness	Model	d2	d2
0.5 mm <sup>2</sup>	A1 0.5-8 WH	1.00	2.60
0.75 mm <sup>2</sup>	A1 0.75-8 GY	1.20	2.80
1 mm <sup>2</sup>	A1 1-8 RD	1.40	3.00
1.5 mm <sup>2</sup>	A1 1.5-8 BK	1.70	3.50

(Manufacturer: Phoenix Contact)

### Wiring Procedure for Output and Control Circuit Terminals

- 1, 2, 3... 1. Use a thin-slotted screwdriver to loosen the terminal screws.
2. Insert the wire from underneath the terminal block.
3. Tighten the terminal screws firmly.



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**Note:** Specifications subject to change without notice.

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