

VARISPEED-616PC5/P5 OPTION CARD
CURRENT MONITOR CARD CM-A2/P
INSTRUCTIONS

Upon receipt of the product and prior to initial operation, read these instructions thoroughly, and retain for future reference.



NOTES FOR SAFE OPERATION

Read this instruction manual thoroughly before installation, operation, maintenance or inspection. In this manual, the NOTES FOR SAFE OPERATION is classified as “CAUTION”.



Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury to personnel and damage to equipment.

It may also be used to alert against unsafe practices.

Even items described in  may result in a vital accident in some situations. In either case, follow these important items.



: These are steps to be taken to insure proper operation and to avoid malfunctions, etc.

CAUTION

- The option card uses C MOS IC chips. It may break if touched by bare fingers because of static electricity. Be careful when handling.
- When removing the option card from the inverter for transportation or storage, put the card into the anti-static package it was in when delivered.
- Never change wiring or connect or disconnect connectors while the power is ON.

Failure to observe this caution may injure you.

Current monitor card, CM-A2/P is mounted on the control board of the inverter to convert analog monitor signals (0 to 10V) of the inverter to current signals (4 to 20 mA).

This option card is applicable to the following inverter series:
VS-616PC5/P5: Entire series

Name	Code No.	Functions
Current monitor card CM-A2/P	73600-D010X	Convert analog monitor signals (0 to 10V) to current signals (4 to 20 mA). Non-insulated type

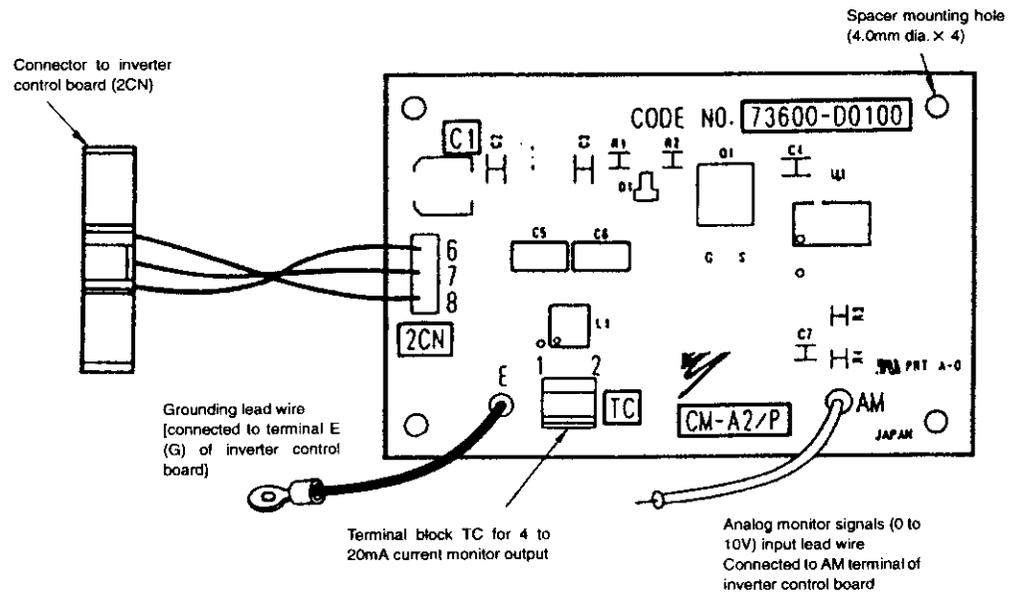


Fig. 1 Current monitor card CM-A2/P



Before use,

- (1) Before using CM-A2/P, read this manual and the manual for the installation of the inverter.
- (2) Before connecting CM-A2/P or external terminals, turn OFF main power of the inverter and verify the CHARGE indicator lamp of the inverter is OFF.
- (3) When ordering CM-A2/P, specify the name and code number.

1 Inspection after Delivery

 CAUTION
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| <ul style="list-style-type: none">• Verify that ordered products have been delivered.
Installation of a wrong device may lead to injury or damage. |
|--|

Though the products have undergone rigorous inspection before shipping, check the following for safety.

- Check the name written on the product to verify that ordered products have been delivered.
- Check for damage caused during transportation.

If there is anything uncertain on the structure, contact your YASKAWA representative.

2 Installing to Inverter (See Fig. 2)

2.1 Installation Procedure

- ① Turn OFF the main power and wait for the time specified on the cover of the inverter. Remove the cover and verify that the CHARGE indicator lamp is OFF.
- ② Position current monitor card CM-A2/P on the control board of the inverter. Gently push CM-A2/P until the spacer engages the four spacer holes of the option card on the control board. Fix CM-A2/P tightly. (See part A of the side view.)
- ③ Plug the connector 2CN of CM-A2/P into 2CN of the control board of the inverter.
- ④ After installing CM-A2/P, connect the inverter with peripheral devices and replace the cover of the inverter.

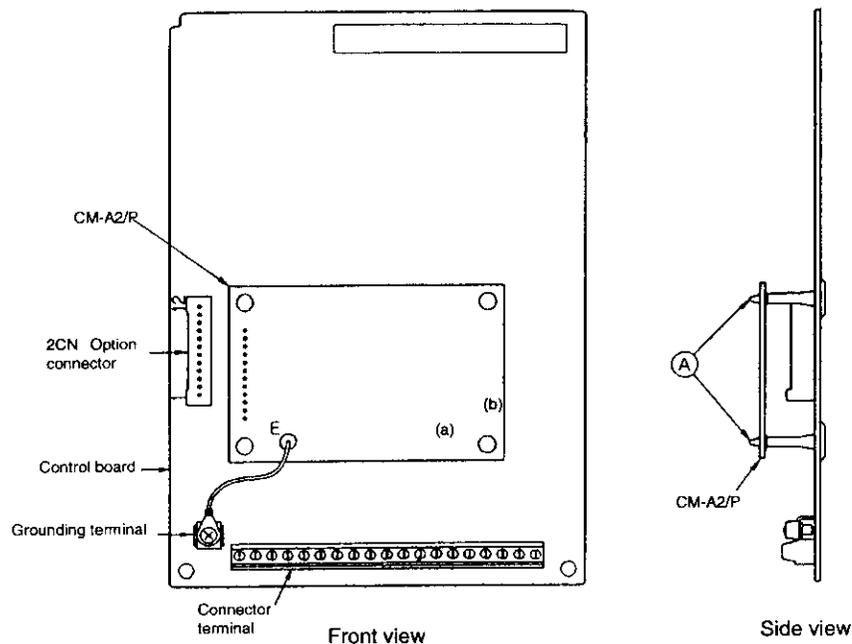


Fig. 2 Installation of current monitor card CM-A2/P

3 Interconnection

Fig. 3 shows interconnection between the inverter, CM-A2/P, and peripheral equipment.

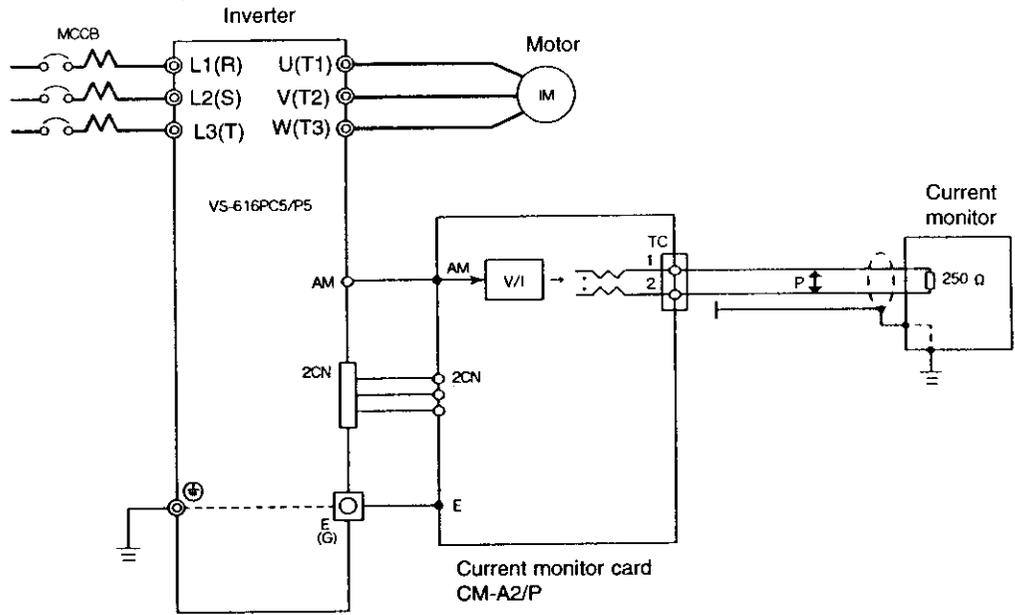


Fig. 3 Interconnection diagram



Notes on wiring

- Separate the wires for current output signals (from terminal block TC1) of the CM-A2/P from the main circuit wires and other power cables.
- Use a shielded wire to connect for current output signals. Connect the wire as shown in Fig. 4 to prevent interference by noise.

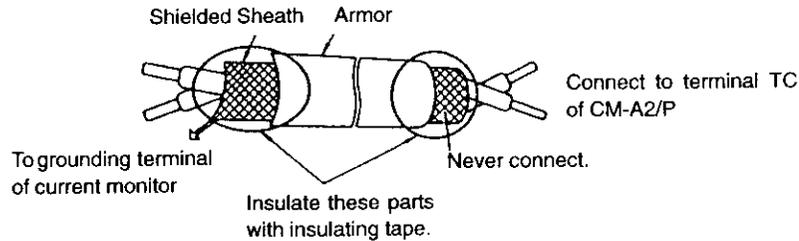


Fig. 4 Shielded wire termination

4 Wiring

See Table 1 for the functions of the external terminals.

Table 1 External terminals

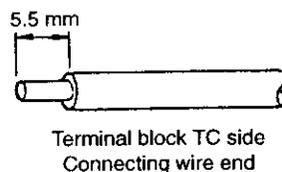
Terminal block symbol	Pin No.	Functions
TC	1	Current monitor output (+)
	2	Current monitor output (-)

Make sure the followings when wiring.

- To prevent noise, use shielded wire in the specified area in Fig.3 and separate from heavy current circuits (200VAC or greater) or relay drive circuits. Wire length must be 50m or shorter.
- Connect the grounding lead wire (E) to grounding terminal E (G) of the control board of the inverter.
- Applicable wire sizes for terminal block TC is shown below.

[Terminal: MKDS1 series manufactured by Phoenix Contact GmbH & Co.]

	[mm ²]	AWG	I [A]	VAC [V]
Thin twisted wire	1	16	12	125
Solid wire	1.5	16	12	125
UL	—	22-16	10	300
CSA	—	28-16	10	300
CSA	—	28-16	10	150



NOTE

Notes on selecting cables

- Too thick a cable applies pressure to the option card and may lead to failure.
- Too thin a cable may lead to imperfect contact or a break in the wire.

CURRENT MONITOR CARD CM-A2/P INSTRUCTIONS

TOKYO OFFICE New Pier Takeshiba South Tower, 1-16-1, Kaigan, Minatoku, Tokyo 105 Japan

Phone (03)5402-4511 Fax (03)5402-4580

YASKAWA ELECTRIC AMERICA, INC.

Chicago-Corporate Headquarters 2942 MacArthur Blvd. Northbrook, IL 60062-2028, U.S.A

Phone (847)291-2340 Fax (847)498-2430

Chicago-Technical Center 3160 MacArthur Blvd. Northbrook, IL 60062-1917, U.S.A.

Phone (847)291-0411 Fax (847)291-1018

MOTOMAN INC.

805 Liberty Lane West Carrollton, OH 45449, U.S.A.

Phone (513)847-6200 Fax (513)847-6277

YASKAWA ELÉTRICO DO BRASIL COMÉRCIO LTDA.

Avenida Brigadeiro Faria Lima 1664-5° CJ 504/511, São Paulo, Brazil

Phone (011)815-7723 Fax (011)870-3849

YASKAWA ELECTRIC EUROPE GmbH

Am Kronberger Hang 2, 65824 Schwalbach, Germany

Phone (49)6196-569-300 Fax (49)6196-888-301

Motoman Robotics AB

Box 504 S38525 Torsås, Sweden

Phone 0486-10575 Fax 0486-41410

Motoman Robotec GmbH

Kammerfeldstraße 1, 85391 Allershausen, Germany

Phone 08166-900 Fax 08166-9039

YASKAWA ELECTRIC UK LTD.

3 Drum Mains Park Orchardton Woods Cumbernauld, Scotland, G68 9LD U.K.

Phone (1236)735000 Fax (1236)458182

YASKAWA ELECTRIC KOREA CORPORATION

Paik Nam Bldg. 901 188-3, 1-Ga Euljiro, Joong-Gu Seoul, Korea

Phone (02)776-7844 Fax (02)753-2639

YASKAWA ELECTRIC (SINGAPORE) PTE. LTD.

151 Lorong Chuan, #04-01, New Tech Park Singapore 556741, SINGAPORE

Phone (65)282-3003 Fax (65)289-3003

YATEC ENGINEERING CORPORATION

Shen Hsiang Tang Sung Chiang Building 10F 146 Sung Chiang Road, Taipei, Taiwan

Phone (02)563-0010 Fax (02)567-4677

BEIJING OFFICE Room No. 301 Office Building of Beijing International Club, 21

Jianguomenwai Avenue, Beijing 100020, CHINA

Phone (86)10-532-1850 Fax (86)10-532-1851

SHANGHAI OFFICE Room No.8B Wan Zhong Building 1303 Yan An Road (West), Shanghai 200050, CHINA

Phone (86)6212-1015 Fax (86)6212-1326

YASKAWA JASON (HK) COMPANY LIMITED

Rm. 2916, Hong Kong Plaza, 186-191 Connaught Road West, Hong Kong

Phone (852)2858-3220 Fax (852)2547-5773

TAIPEI OFFICE Shen Hsiang Tang Sung Chiang Building 10F 146 Sung Chiang Road, Taipei, Taiwan

Phone (02)563-0010 Fax (02)567-4677



YASKAWA ELECTRIC CORPORATION

MANUAL NO. TOE-C736-40.9

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