

Analog output(× 2ch)
Interface Card
“OPC-G1-AO”
Product Specifications

Development Dept.
Drive Solution Center
Drive and Solution Business Headquarters

	DATE	NAME	APPROVED		Fuji Electric Systems Co.,Ltd.	
DRAWN	2010-1-11	Yuji.Suzuki/Seto				
CHECKED	2010-01-13	Y. Kato	Y. Kato	No.	SI27-5218	1/6

1. Overview

This product is an optional analog output interface card to be mounted on the FRENIC-MEGA series of inverters. It has the following terminal.

- Analog current output , 2ch (4 to 20mA)

2. Specifications

2.1 Connection Ports

The interface card can be connected to any one of the three option connection ports(A-,B-,and C-ports) on the inverter. But it is not allowed to be mounted with OPC-G1-AIO at the same time.

2.2 Applicable ROM Version

Table 2-1 lists the inverter's ROM version to which the interface card is applicable.

Table 2-1. Applicable ROM Version

Series	Type of inverter	Inverter capacity	ROM version
FRENIC-MEGA	FRN□□□G1□-□□□	All capacities	G1S10700 or later

*A box (□) replaces alphanumeric letters depending on the inverter capacity, enclosure, power supply voltage, etc.

2.3 Operating Environment

Table 2-2 lists environmental requirements for the inverter equipped with the interface card.

Table 2-2 Environmental Requirements

Item	Specifications	Remark
Site location	Indoors	—
Surrounding Temp.	Refer to the FRENIC-MEGA Product Specifications.	—
Relative humidity	5 to 95%	—
Atmosphere	The inverter must not be exposed to dust, direct sunlight, corrosive gases, flammable gases, oil mist, vapor or water drops. Pollution degree 2(IEC60664-1) The atmosphere can contain a small amount of salt.(0.01mg/cm ² or less per year) The inverter must not be subjected to sudden changes in temperature that will cause condensation to form.	—
Altitude	1000m max	—

3. Terminal Functions

3.1 Terminal Allocation

Figure 3-1 shows the terminal allocation viewed from the direction of the arrow.

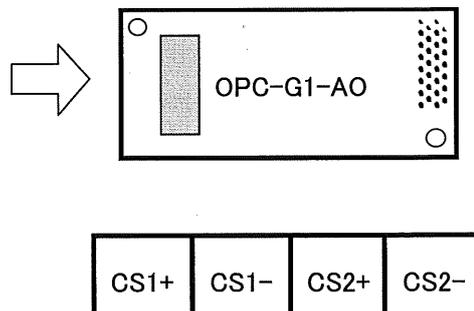


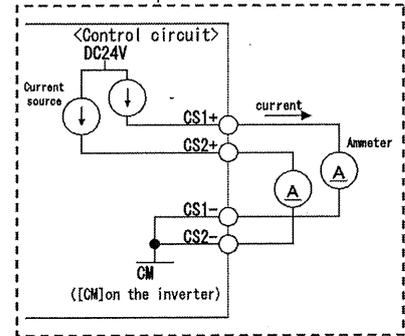
Figure 3-1 Terminal Allocation

3.2. Details of the Terminal Functions

Table 3-1 lists terminal symbols, names and functions of the terminals on the interface card.

Table 3-1 Terminals and their specifications

Classification	Symbol	Name	Functions	Remarks
Analog Output	[CS1+] [CS2+]	Analog current output +	<ul style="list-style-type: none"> •Outputs the monitor signal of analog DC current •One of the following items can be issued from CS1, CS2 <ul style="list-style-type: none"> •Output Frequency (before/after slip compensation) •Output current •Output voltage •Output torque •Load factor •Input power •PID feedback amount •PG feedback value •DC link bus voltage •Universal AO •Motor output •Calibration •PID command •PID output •Resolution : 1/3000 •Output current error : Max. $\pm 3\%$ •Input impedance of the external device : Max 500 Ω. 	Isolated from terminals [11] on the inverter.
	[CS1-] [CS2-]	Analog current output -		



3.3 Terminal Specifications

Table 3-2 lists the terminal specifications.

Table 3-2 Terminal Specifications

Item	Specifications
Maker	OSADA
Type Code	OTB-192-4P
Screw size	M3
Terminal pitch	7.62mm
Applicable terminal width	Max : 6.1mm

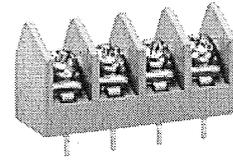


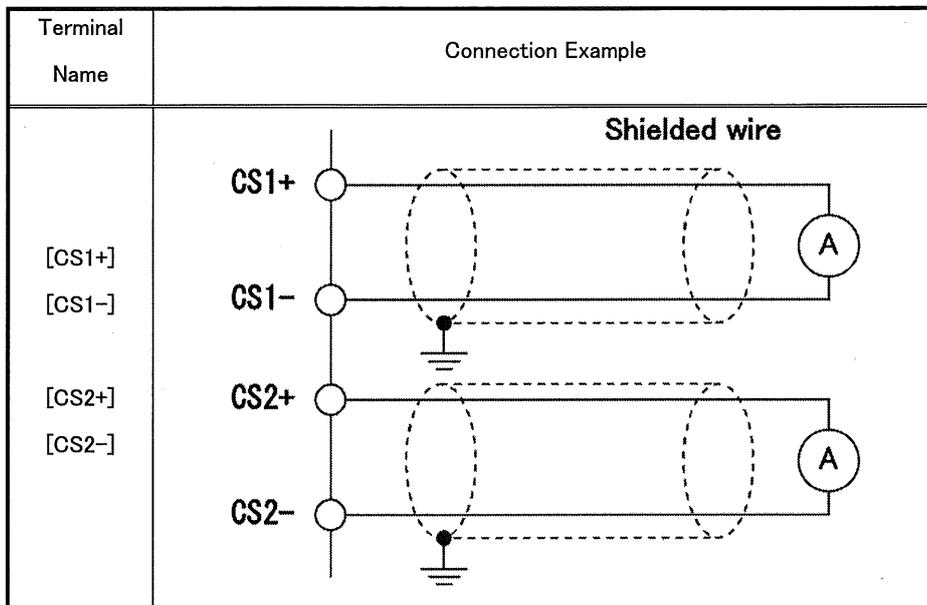
Figure 3-2 Terminal

(Note) Depending upon the wire type and the number of wires used, the front cover of the inverter may be lifted by the wires, which impedes normal keypad operation. If it happens, change the wire type or size.

3.4 Connection Example

Table 3-3 shows the connection examples of the terminals.

Table 3-3 Connection Example



4. Configuration of Function Codes

4.1 Lists of Function Codes

Table 4-3(CS1) and Table4-4(CS2) list function codes prepared for the interface card.

Table 4-3 CS1 Terminal Function

Function Code	Name	Data	Function	Definition of Monitoring amount (100%)
o74	Terminal CS1 function (Mode selection)	0	Output frequency1 (before slip compensation)	Max. output frequency (F03)
		1	Output frequency2 (after slip compensation)	Max. output frequency (F03)
		2	Output current	Inverter rated output current x2
		3	Output voltage	200V class series: 250V 400V class series: 500V
		4	Output torque	Rated motor torque x2
		5	Load factor	Rated motor load x2
		6	Input power	Inverter rated power x2
		7	PID feedback amount	PID feedback amount 100%
			PG feedback value (speed)	Maximum speed (feedback amount 100%)
		9	DC link bus voltage	200V class series: 500V 400V class series: 1000V
		10	Universal AO	20,000/100%
		13	Motor output	Motor rated power x2
		14	Calibration	Full-time full scale (equivalent of 100%) Output
		15	PID command (SV)	Feedback amount 100%
		16	PID output (MV)	Max. output frequency (F03)
		o75	(Gain to output voltage)	0 ~ 300%

Table 4-4 CS2 Terminal Function

Function Code	Name	Data	Function	Definition of Monitoring amount (100%)
o71	Terminal CS2 function (Mode selection)	0	Output frequency1 (before slip compensation)	Max. output frequency (F03)
		1	Output frequency2 (after slip compensation)	Max. output frequency (F03)
		2	Output current	Inverter rated output current x2
		3	Output voltage	200V class series: 250V 400V class series: 500V
		4	Output torque	Rated motor torque x2
		5	Load factor	Rated motor load x2
		6	Input power	Inverter rated power x2
		7	PID feedback amount	PID feedback amount 100%
		8	PG feedback value (speed)	Maximum speed (feedback amount 100%)
		9	DC link bus voltage	200V class series: 500V 400V class series: 1000V
		10	Universal AO	20,000/100%
		13	Motor output	Motor rated power x2
		14	Calibration	Full-time full scale (equivalent of 100%) Output
		15	PID command (SV)	Feedback amount 100%
		16	PID output (MV)	Max. output frequency (F03)
		o72	(Gain to output voltage)	0 ~ 300%

5.Revision History

INDX	Page	Modification	Date	Written by	Checked by	Approved by
-	-	•1 st Edition	2010-1-11	Yuji.Suzuki Seto	y.kato	y.kato