

VS-3AV-EC Brief Voltage I/O Expansion Card

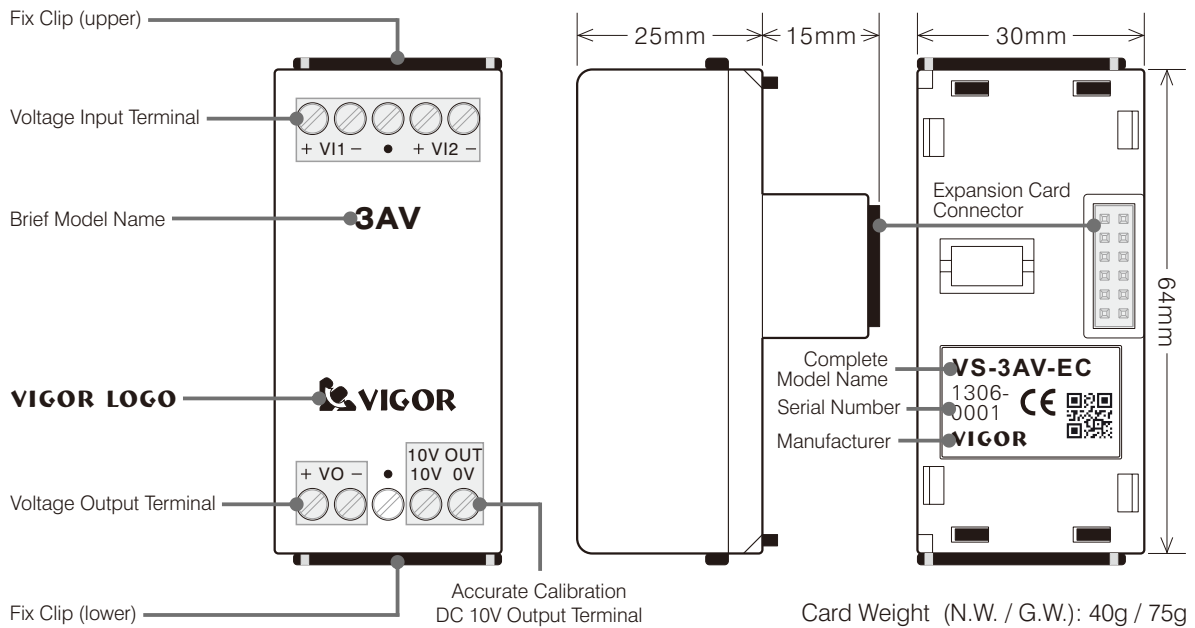
The VS-3AV-EC Brief Voltage I/O Expansion Card offers non-isolated 2 channels 0~10V input and 1 channel 0~10V output. In addition, it provides an accurate calibration DC 10V voltage output to connect with variable resistor or position potentiometer easily.

This VS-3AV-EC brief card is to perform by using the built-in analog I/O circuit in the Main Unit's CPU. Thus, it could achieve low-cost but relatively simple analog I/O function.

Application notes of the VS-3AV-EC expansion card:

1. This expansion card can ONLY be installed at the EC2 expansion socket of the VS series PLC.
2. The VS series PLC Main Unit operates this expansion card through 3 specific special registers that instead of expansion card working area. Its operation method is different from other SF cards and required special attention.
3. The length of external wiring should be as short as possible and kept away from interference sources.
4. If this expansion card does not function normally that due to strong external interference or unqualified equipment matching quality, please replace it with proper VS series PLC special module.

● Product Exterior



● Product Specification

Basic Specification

Item	Specification
Power Consumption	DC12V 25mA (from PLC Main Unit)
Accurate Calibration Voltage Output	DC10V \pm 1%, 10mA (Max.)

Voltage Input Specification

Item	Specification	Conversion Curve Diagram
Voltage Input Range	0~10V	
Converted Value	0~4000	
Input Resistance	56k Ω	
Resolution	2.5mV	
Overall Accuracy	\pm 2% Overall Max.	
Response Time	Renew converted digital values every Scan Time	
Isolation Method	No isolation	

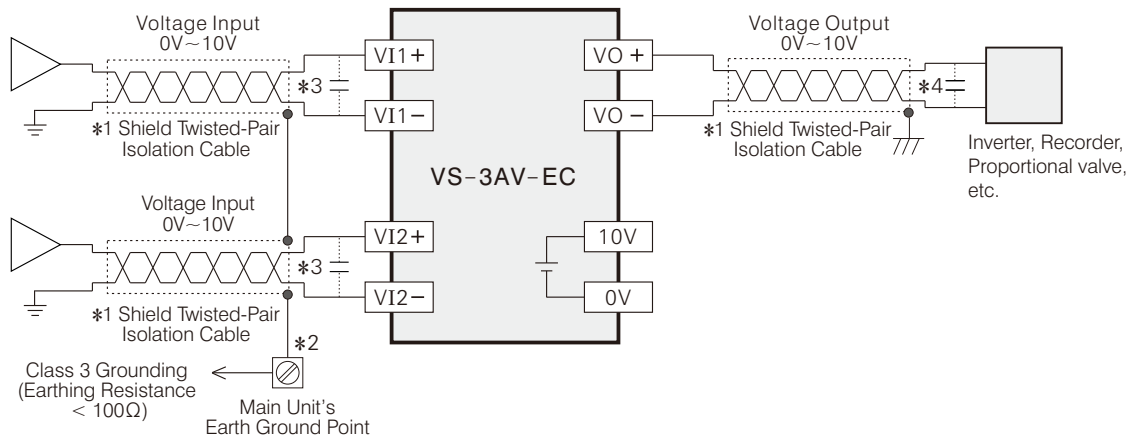
Voltage Output Specification

Item	Specification	Conversion Curve Diagram
Voltage Output Range	0~10V	
Source Digital Range	0~1000	
External Load Resistance	1kΩ~1MΩ	
Resolution	10mV	
Overall Accuracy	± 2% Overall Max.	
Response Time	Renew output every Scan Time	
Isolation Method	No isolation	

- Special Register related to VS-3AV-EC (The Simple Code EC2Dn is useless) ■ Means it's a read only component.

Register ID No.	Component Description
■ D9030	The AD converted value of VI1 at the VS-3AV-EC, 0~10V = 0~4000
■ D9031	The AD converted value of VI2 at the VS-3AV-EC, 0~10V = 0~4000
D9032	The DA digital set value for the VO at the VS-3AV-EC, 0~1000 = 0~10V

- External Wiring



*1: Please use the Shield Twisted-Pair isolation cable for every analog input or output channel. Must keep the signal cable away from any power line (including the power of motor, valve or contactor) to prevent external interference or card damage.

*2: First, please connect the end of the covering layer of shielded cables. Then, connect that end to the earth ground point of Main Unit. After that, make use of class 3 grounding for the point.

*3: If the reading value of voltage signal is fluctuating or with electrically induced noise on the external wiring, please parallel connect a smoothing capacitor (0.1 μ F~0.47 μ F, 25V) between the input terminals.

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- Usage Example of Product

A typical application of this expansion card is to create an interface by connecting the analog input and accurate calibration DC 10V voltage output on the VS-3AV-EC expansion card to a variable resistor on the surface of operation panel.

