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## APPLICATION NOTE

[www.triomotion.com](http://www.triomotion.com)

### 1. Introduction

It has become apparent that different languages interpret different terminology differently. This documents aim is to clarify the connections and to introduce a standard language set that will be used in the future.

### 2. Connection to earth

All Trio Motion Coordinators **MUST** be connected to earth. Please look at chapter 3 in the Technical Reference Manual for details on how to connect your controller to earth.

### 3. 0V Reference

In the past we have referred to 0V as 'Ground', this has caused confusion in translation to some languages. If you read Gnd or Ground in any documentation please use this as 0V and NOT Earth.

Table 1 details the connections on controllers, you can compare the alternative terminology to a description and the new standard name. Please be careful as some of the alternative names are repeated and their meaning varies depending on which port they are used on.

Group	Short Name	Long Name	Description	Alternative (old) terminology
Earth	Shield	Shield	Connection for cable braid or	Earth, Shield, Shell, Screen
CAN	CAN24V	CAN 24V	24V supply for CAN and supply on some controllers	V+,
	CAN0V	CAN 0V	Reference voltage for CAN and supply on some controllers	V-, 0V
Serial	Ser5V	Serial 5V	5V output from serial port	Internal 5V, +5V Output
	Ser0V	Serial 0V	Reference voltage for serial port	Internal 0V, RS232 GND
Encoder	Enc5V	Encoder 5V	5V output on Step/ Enc port	5V
	Enc0V	Encoder 0V	Reference voltage on Step/ Enc port	GND
Stepper	Step5V	Stepper 5V	5V output on Step/ Enc port	5V
	Step0V	Stepper 0V	Reference voltage on Step/ Enc port	GND
Voltage out	Vout12V	Voltage Output 12V	12V supply for DAC	+12V
	Vout-12V	Voltage Output -12V	-12V supply for DAC	-12V
	Vout0V	Voltage Output 0V	Reference voltage for DAC	Vout-, AGND, V-, 0V
	Vout	Voltage Output	DAC output axis 0 (only one axis in controller/ daughterboard)	Vout+, V+
	Vout0	Voltage Output 0	DAC output axis 0	Analogue Output (Axis 0)
	Vout1	Voltage Output 1	DAC output axis 1	Analogue Output (Axis 1)
Power	Pwr5V	Power Supply 5V	5V supply	5V
	Pwr24V	Power Supply 24V	24V supply	24V
	Pwr0V	Power Supply 0V	Reference for supply	0V
Analogue in	AIN0V	Analogue Input 0V	Reference for analogue input	Analogue Ground (0V)
	AIN0	Analogue Input 0	Analogue input 0	
	AIN1	Analogue Input 1	Analogue input 1	
Digital I/O	I/O0V	Input/ Output 0V	Reference for I/O	I/O 0Volt, I/O 0V, IOGND
	I/O24V	Input/ Output 24V	24V Supply for I/O	I/O 24Volt, I/O 24V, IO 24V
	In0	Input 0	Input 0	
	In1	Input 1	Input 1	
	Op0	Output 0	Output 0	
	Op1	Output 1	Output 1	
	I/O8	Input / Output 8	Bi-directional I/O 8	Input/ Output Channel 8
	I/O9	Input / Output 9	Bi-directional I/O 9	Input/ Output Channel 9

Table 1: Naming conventions