POWER ELECTRONICS®
NEW ZEALAND

SD750 PT100 CONFIGURATION

dgreetham@power-electronics.co.nz

Industrial Support Technician
Power Electronics NZ Ltd
28th August 2023

Document SD750-10 Rev B

Contents

POWER ELECTRONICS NEW ZEALAND

28th August 2023

Parameters

Group 4: Inputs

Subgroup 4.4: Analogue Input 3 / PT100

Screen	Range	Function	Set on RUN
G4.4.0 PT100 Mode = No	No Yes	Configures the AI3 to work with a PT100 sensor. **When enabled, all other parameters within this group will become disabled.** **Note**: In case of activating the PT100 mode, besides configuring the analogue input 3 in mode PT100 (G4.4.0 = Yes), one of the analogue outputs must be configured in mode 10mA (G8.2.2 or G8.3.2 = 10mA). See hardware configuration in the Hardware and Installation Manual.	NO

Group 8: Outputs

G8.2.1 AO1 or G8.3.1 AO2 -Source Selection= Set to (21) Max Scale

G8.2.2 AO1 or G8.3.2 AO2- Format= Set to 10mA

G8.2.3 AO1 or G8.3.3 AO2- Low Level= 0% (equates to 0mA)

G8.2.4 AO1 or G8.3.4 AO2- High Level= 100% (equates to 10mA)

Group V1: Motor Visualization

This group shows information related to motor parameters.

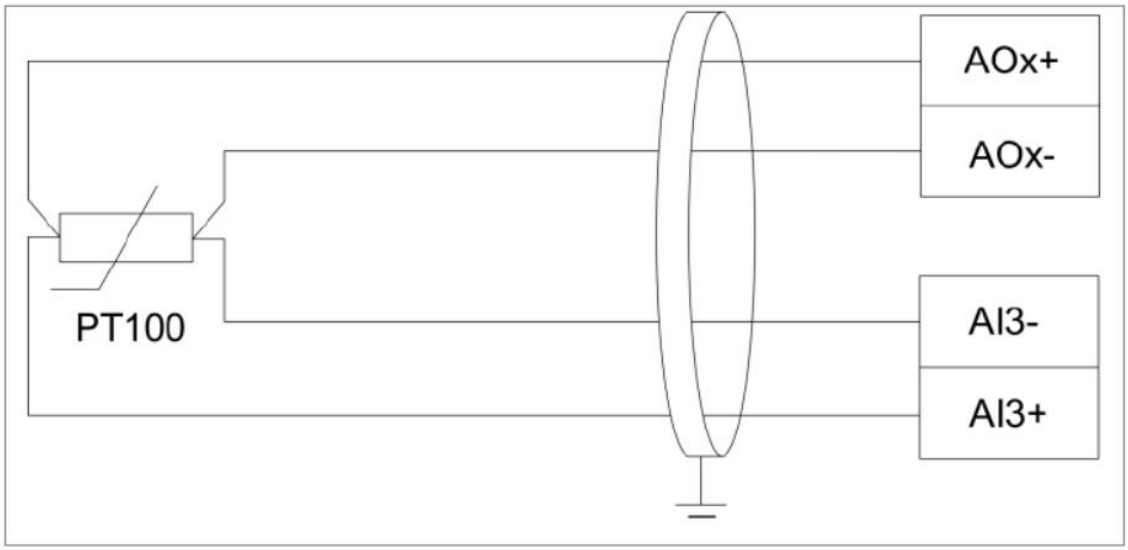
SV1.15 Motor temperature = 0 °C	°C	Shows the motor temperature measured with the PT100 sensor. **Visible if [G4.4.0 = YES].**

Group 11: Protections

Group 11.2: Motor

G11.2.5 PT100 motor fault = Off °C	69 = Off, 70 to 180°C	Configures the threshold temperature to trigger F79 PT100.	YES
G11.2.6 PT100 fault timeout = 30 s	0 to 3000s	Sets the time where temperature must be equal to the value set in G11.2.5 to trigger fault F79 PT100. **Note: This parameter is hidden if [G11.2.5 = Off].**	YES

Connection Diagram



Terminal Numbers

Terminals 21 : AI3+
Terminals 22 : AI3-
Terminals 23 or 25 : AO1+ or AO2+
Terminals 24 or 26 : AO1- or AO2-

NOTE: the remote I/O control cables must be screened

Notes explanations of parameters

AI3 (PIN 21/22) PT100 mode.

The AI3 allows configuring a PT100 sensor. With this sensor, motor temperature can be measured continuously. Ground cable screening must be connected only in one end. For further information about parameter configuration, consult the *Software and Programming Manual*.

Measurement process:

a. Analogue output is configured in current mode.
b. Analogue input is configured in voltage mode and any of the two analogue outputs in mode 10 mA.
c. A current of 1mA (generated by the analogue output) through the PT100.
d. Voltage in the analogue input is measured.
e. With injected current and voltage, the PT100 resistance is calculated.
f. With the PT100 table, and knowing the resistance, temperature is obtained.