NetPod 4004 - Data Acquisition & Control System

Part Number - NPAO16-1030

Analogue Output ± 10 V **Output** ± 30 mA **Software Selectable**

Introduction

The **NPAO16-1030** card is a 4 channel high speed analogue output card for the NetPod 4004 series data acquisition instrument. The NPAO16-1030 supports 4 independently configurable analogue outputs channels each individually set for voltage or current operations by the driver software . Preset output levels, for each channel at boot up time can be defined in the driver software.

4 x Independent Output Channels

± 10V / ± 30 mA User Software Selectable Output Type

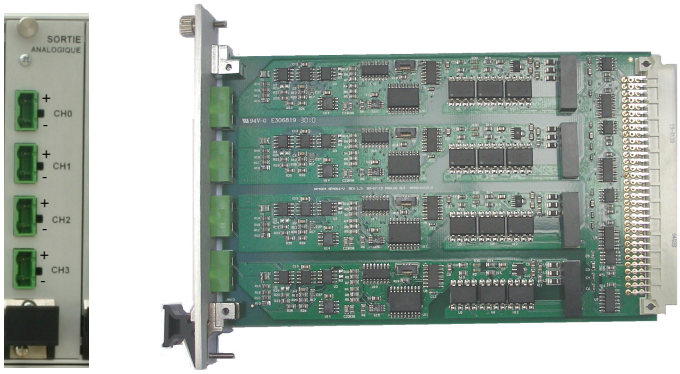
Maximum Isolation 2000V DC/Channel

Maximum Cable Size 1.5 mm ^{2}

Power Consumption < 1 W / Channel

User Defined Initialisation Levels

Output Signal Type Identification



NPAO16-1030 Card

Operation

The analogue output card supports voltage and current output under control from the driver software. The update rate of the output signals is at the same rate as sampling rate of analogue input channels.

Installation Limitation

The NetPod 4004 supports 16 analogue output channels within a single instrument along with a single digital I/O card.

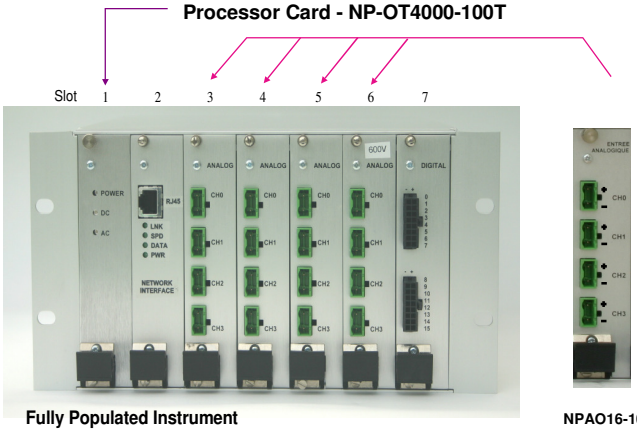
Output Signal Type Selection

The analogue output signal can be switched under software control between current and voltage without any user interaction on the card itself. The driver software must scan the network to obtain and store any new configuration details.

Test Results

The output errors shown below are worst case and are to be used as a guide only.

	Load Resistance			100 Ω	300 Ω	0 Ω
Setting	100 Ω	300 Ω	0 Ω	% Error Full Scale	% Error Full Scale	% Error Full Scale
-30	-30.001	-29.989	-30.007	-0.05	0.05	-0.05
0	-0.001	-0.001	-0.001	-0.05	-0.05	-0.05
30	30.002	29.989	30.008	0.05	-0.05	0.04



Fully Populated Instrument

NPAO16-1030

Pre-set Initialisation / Startup levels

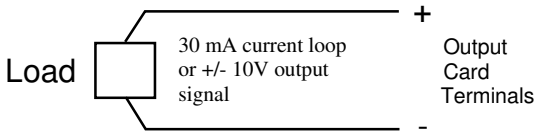
Each output channel can be independently configured using the driver software to give a pre-set output level on initialisation. The card has an initial zero level initialisation value held for 2 seconds after which the preset level is output. Since the output signal can be predefined then

The initial output level is zero no matter which output signal type has been chosen.

Load Circuit

The maximum load resistance that can be directly connected to the the **NPAO16-1030** is 350 Ohm.

Connecting an load circuit to the NPAO16-1030



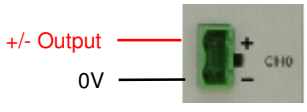
Specification

No Channels	4	**Isolation**	to 2 KV DC
Range	+/- 10V +/- 30 mA	**Protection**	short circuit < 1 min
Resolution	0.3 mV 0.001 mA	**Integral Non linearity**	+/- 1 LSB
Power	< 1 W / Channel		
Accuracy Voltage Output	< 0.1% FS	**Current Output**	< 0.15% FS

FS = Full Scale

Output Connection from the NPAO16-1030

The image below shows how to connect to the NPAO16-1030 to obtain a voltage output



Output Signal Type Identification

The output signal type for each channel can be identified by the driver software. Signal operational details can be accessed and processed by third party applications.