MicroNova
Software and Systems

NovaCarts Multi I/O Board

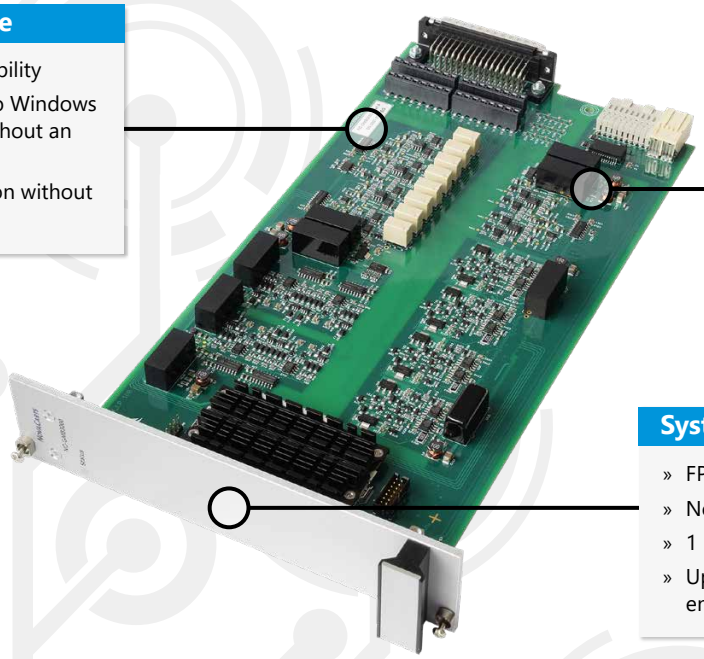
This universal input and output board can be used to simulate sensors as well as to perform actuator measurement. It offers eight digital and eight multifunctional input channels. The latter can be configured as analog, digital or PWM inputs. For digital and PWM input channels, users can also set the switching threshold.

Furthermore, eight analog output channels are available, for example, to simulate the back measurement channels of control units or a temperature sensor. The board also includes eight digital output channels with PWM capability, which can be configured with low-side, high-side or push-pull functionalities.

The included FPGA logic enables complex and high temporal resolution simulations. The standard configuration already includes the logic for a digital incremental encoder function. Customer-specific requirements can be realized individually.

Ethernet interface

- Plug-and-play capability
- Direct connection to Windows control software without an adapter
- Standalone operation without RT system



Diagnosis and maintenance

- Simple maintenance through self-detection and configuration
- Advanced diagnostic capability

System on chip

- FPGA and dual-core ARM
- NovaCarts Real-Time Software
- 1 ms model platform
- Upgrades of hardware-dependent functions via firmware

Features

Multi-function inputs	8
Digital inputs	8
Analog outputs	8
Digital outputs	8
Supply voltage	24 V
Operating temperature	0 to +55 °C
Storage temperature	-20 to +70 °C
Humidity	10 to 90 % (no condensation)
Dimensions	Height: 4U, Width: 4U
Connection to RT system	Ethernet

ks.MicroNova GmbH - Amalie-Wündisch-Str. 4 - D-34131 Kassel
Phone: +49 561 816198-0
Fax: +49 561 816198-199
Email: sales-testing@micronova.de

MicroNova AG - Unterfeldring 6 - D-85256 Vierkirchen
Phone: +49 8139 9300-0
Fax: +49 8139 9300-80
Email: sales-testing@micronova.de

MicroNova
Software and Systems

Data Sheet

Module name: **NC-GMB3000**

Data sheet version: **2V0**

Specifications

Analog output	
Output voltage	0 – 20 V
Accuracy	+/- 20 mV
Resolution	16 Bit
Output current	10 mA
Digital / PWM output	
External voltage supply	5 – 60 V
Operating modes	High-side, low-side, push-pull switch, Tri-state
Output current	50 mA, min. 30 mA
PWM frequency	max. 100 kHz
Multi-function inputs	
Operating modes	Analog voltage, PWM, or digital input
Input voltage range	0 – 60 V
Accuracy	+/- 20 mV (in measuring range 0 V – 20 V) +/- 100 mV (in measuring range 20 V – 50 V) +/- 300 mV (in measuring range 50 V – 60 V)
Resolution	16 Bit
PWM frequency	max. 100 kHz
Input resistance	1 MΩ
Digital inputs	
Input voltage range	0 – 60 V
PWM frequency	max. 100 kHz
Input resistance	1 MΩ
Switching threshold	Configurable 3 – 25 V
Optional modules	
NC-FIE4400	FIU Fault injection board
NC-GME3300	Current measurement board