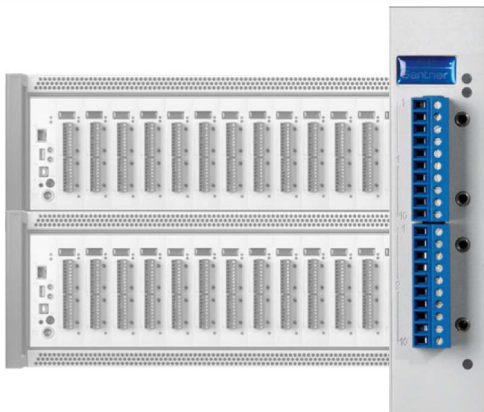




Q Series - Q.raxx A103 Multi Channel Plug-in Module for Voltages

Gantner
instruments



The Q.raxx product is based on the standardised 19" technology and is designed for measurements with a high level of flexibility, reliability and accuracy. The range of applications starts from small stand-alone solutions up to networked multi-channel applications in the field of stationary testing and assembly.

The wide range of available plug-in modules and the flexibility of the system configuration allows an optimised solution for each single task. Up to 13 plug-in modules in one system plus a Controller Unit provide a powerful package with PAC functionality, logging possibilities and an Ethernet TCP/IP interface.

Conclusion:

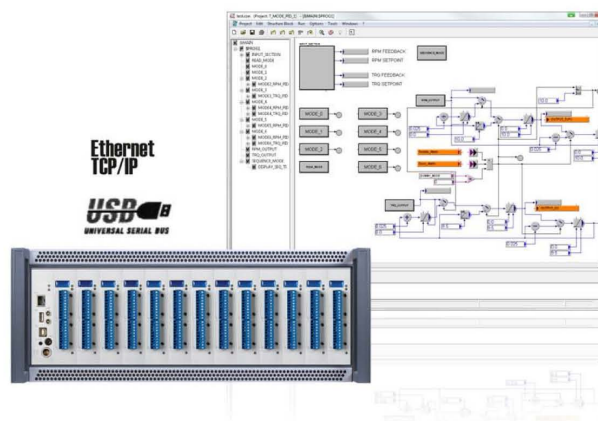
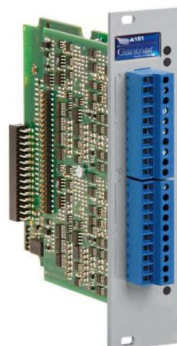
Dynamic signal acquisition up to 100 kHz, inputs and outputs for all types of signals, galvanic isolation of inputs and outputs, multi-channel solutions, high density packaging and intelligent signal conditioning for all kind of test applications.

Most important features of the system:

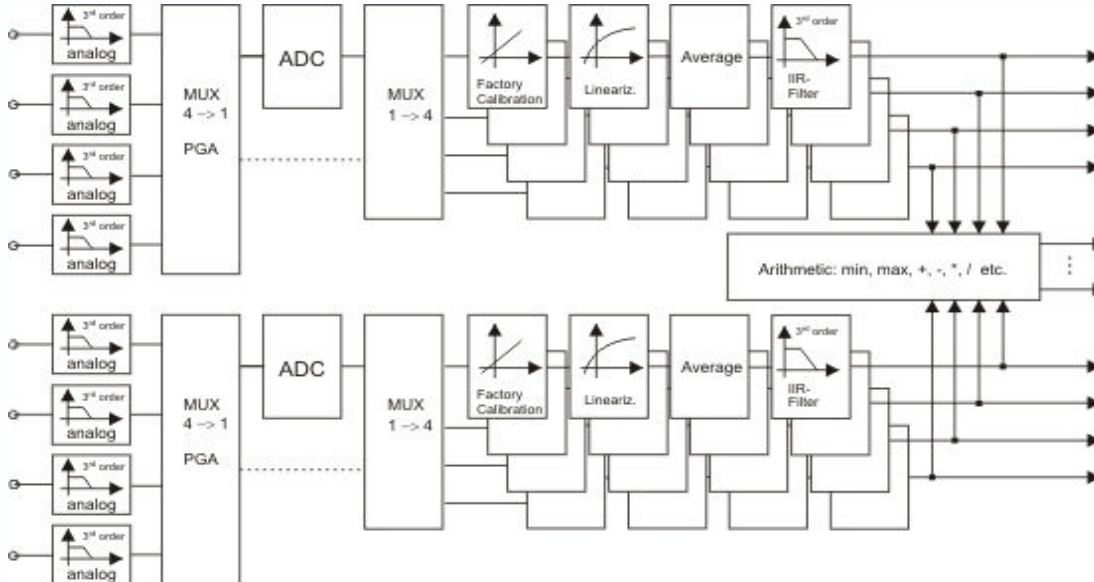
- **High density and flexibility**
Up to 16 modules in one system in any constellation, flexible plug selection
- **Test Controller inclusive**
Ethernet TCP/IP for configuration and data transfer, 16 MByte data memory, expandable by USB device, logging features, PAC functionality, IRIG synchronization
- **Robust and reliable**
Stable and compact aluminum housing, easy to carry electromagnetic compatibility according EN 61000-04 and EN 55011
Temperature range -20 up to +60°C
Power supply 10 up to 30 VDC

Most important features of the plug-in A103:

- **8 galvanic isolated input channels**
differential voltage, current via shunt connector
Isolation voltage 100 VDC
- **High accuracy digitalisation**
24 bit ADC, 100 Hz sample rate per channel with 8 active channels, sum sample rate 800 Hz
- **2 digital in and 2 outputs**
input: state, tare, memory reset
output: state, alarm, threshold
- **Signal conditioning**
linearisation, digital filter, average, scaling, min/max storage, arithmetic, alarm
- **Galvanic isolation**
channel to channel to power supply and to interface, V_{iso} 500 VDC



Block Diagram



Specifications

| Analog Inputs | | | |
|---------------------------|---|-----------------|------------|
| Number | 8 | | |
| Accuracy | 0.01 % typical | | |
| | 0.02 % in controlled environment ¹ | | |
| | 0.05 % in industrial area ² | | |
| Linearity error | 0.01 % of the final value typical | | |
| Repeatability | 0.003 % typical (within 24 h) | | |
| Isolation voltage | 100 VDC permanent, channel to channel | | |
| | 500 VDC channel to channel to power supply to interface ³ | | |
| Measurement Voltage | Range | max. Deviation | Resolution |
| | ±10 V | ±2 mV | 40 µV |
| Input resistance | >10 MΩ | | |
| Long term drift | <100 µV / 24 h; <250 µV / 8000 h | | |
| Temperature influence | on zero | on sensitivity | |
| | <50 µV / 10 K | <0.05 % / 10 K | |
| Signal-noise-ratio | >100 dB at 100 Hz | >120 dB at 1 Hz | |
| Analog/Digital-Conversion | | | |
| Resolution | 24 bit | | |
| Sample rate | 100 Hz at 8 active channels, 400 Hz at 2 active channels | | |
| Conversion method | Sigma-Delta | | |
| Anti-aliasing filter | low pass 3rd order per channel (-3 dB at 20 Hz) | | |
| Digital filter | IIR, low pass, high pass, band pass, 4th order, 1 Hz up to 10 Hz in steps 1, 2, 5 | | |
| Averaging | configurable or automated according the selected data rate | | |

¹ according EN 61326: 1997, appendix B

² according EN 61326: 1997, appendix A

³ noise pulses up to 1000 VDC, permanent up to 250 VDC

| Digital In/Outputs | |
|---------------------------|--|
| Number | 4, 2 digital inputs and 2 digital outputs |
| Input | state, tare, reset |
| Input voltage | max. 30 VDC |
| Input current | max. 0.5 mA |
| Upper threshold | >10 V (high) |
| Lower threshold | <2.0 V (low) |
| Output | state, alarm |
| Contact | open drain p-channel MOSFET |
| Load | 30 VDC/100 mA (ohmic load) |
| Power Supply | |
| Power supply | 10 up to 30 VDC, overvoltage and overload protection |
| Power consumption | approx. 2 W |
| Influence of the voltage | <0.001 %/V |
| Environmental | |
| Operating temperature | -20°C up to +60°C |
| Storage temperature | -40°C up to +85°C |
| Relative humidity | 5 % up to 95 % at 50°C, non condensing |
| Dimension | |
| Front plate (W x H) | (30 x 128) mm |
| Depth | 118 mm |

Warm Up Time

All declarations are valid after a warm up time of 45 minutes.

Valid from January 2011. Specification subject to change without notice