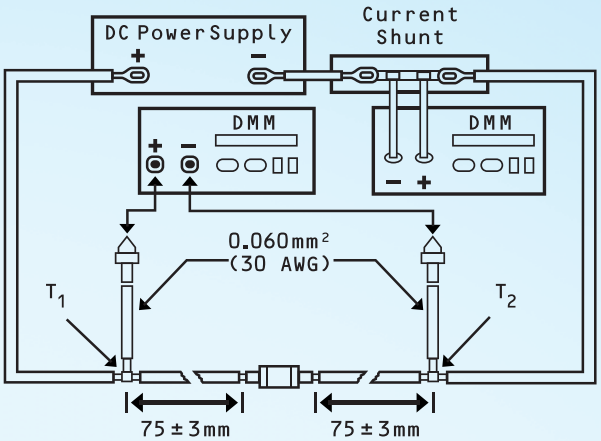
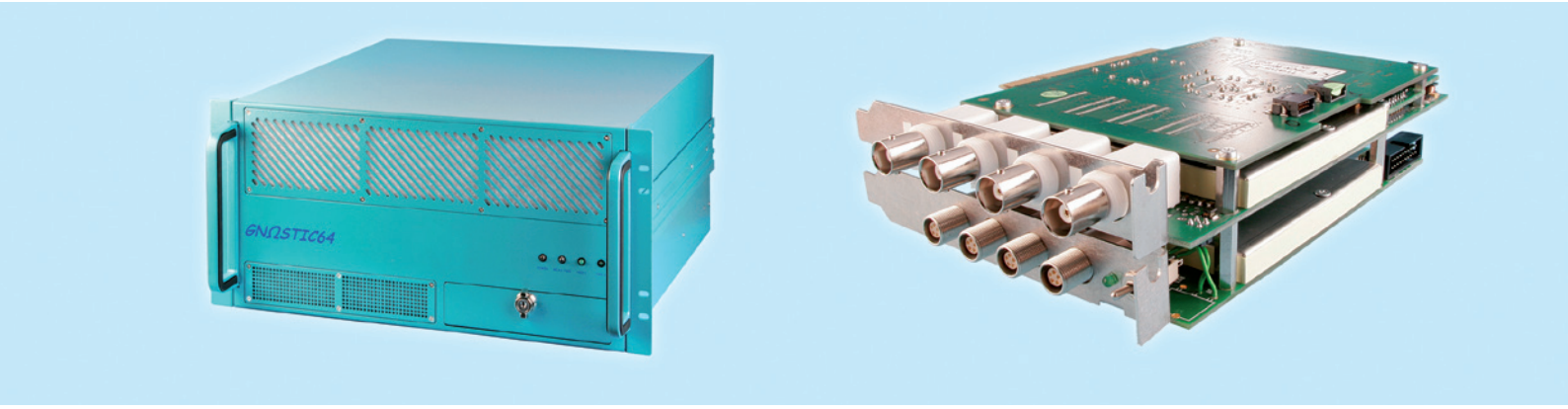
Gnostic 64

"This is the first system that we have encountered that actually does what it is supposed to be doing and what we were promised it would do." *Yazaki Europe Ltd, Cologne*



A solution to all of your customers' questions.

The Gnωstic64 measurement system



Left: The IPC chassis of the Gnωstic64 system – Right: Four channel integrated input amplifiers and current sources

Through a standardised measurement circuit with a 120Ω resistor and a source of 12V/DC, the current of 100mA that flows through the electrical contact is successfully measured. The voltage arising across both sides of the contact is proportional to the contact resistance.

Within the framework of the quality assurance measurements and as part of a multi-pole connector, the contact is tested within a climatic chamber on a shaker. And it is under these simulated real operating conditions that the micro interruptions of the contact should not exceed 200nSec (e.g. USCAR standard).

For some considerable time, the high speed on board networks and the multi pole connections in the automotive industry have required an up to date new testing concept. This need includes a very high time resolution, the recording of the real time signals of the micro interruptions, the recording of the resistance trend of the contact and a higher number of simultaneous measurement channels. And it is this basic concept that is integrated into the Gnωstic64 system.

The Gnωstic64 system delivers:

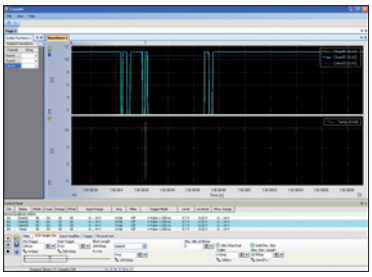
- up to 64 simultaneous measurement channels
- an independent current source per channel
- a highly accurate programmable time trigger
- a very high time resolution
- a precise amplitude trigger for each channel
- the recording of the micro interruptions for off-line analysis
- multiple simultaneous trigger events that ensure no data is lost
- signal conditioning for noise-free and reliable measurements
- recording of the excitation frequency and the temperature during the test
- recording of the contact resistance trend during the test
- the possibility of synchronising multiple systems

An acquisition and analysis software solution that is simply unrivalled

Acquisition Software

There is simply no acquisition software on the market to rival this innovation. As a dedicated solution for the measurement of contact interruptions and the peerless trigger functions, this represents a genuine technological step forward.

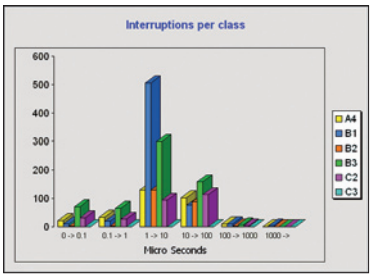
During a test, the trigger events and the measurement results (the trend and trigger events) are displayed in real time. Meanwhile, in 'Dual Mode', two time bases are defined. One of these is for the 'quick' data acquisition of the micro contact interruptions (e. g. 40 MHz / 25 nSec) and the other is for the 'slow' data acquisition for the recording of the trend of the contact resistance (e. g. every 5 seconds).



Analysis Software

The analysis software reads the recorded data of the micro interruptions, calculating a statistical evaluation of the interruption times for every single contact. The results are graphically presented and stored in a *.txt file that can easily be imported into Microsoft® Excel® for a more in-depth analysis.

The analysis software empowers the user to change the amplitude trigger level, in turn providing the possibility of evaluating the data according to different norms. In addition, for each channel, the elapsed time of the first interrupt is calculated. A graphical statistical analysis of the micro interrupts according to the excitation frequency and the temperature is immediately available on the screen.



Gnωstic4 – Compact entry model

As the entry model, the Gnωstic4 system delivers four micro interruption measurement channels (not extendible) without the temperature or excitation frequency measurement. However, the measurement amplifiers – the current sources, the acquisition card and the software (acquisition and analysis) – are identical to the Gnωstic64 system. The Gnωstic4 system is integrated into an industrial mini PC chassis and a 24V/DC (rather than a 110-230V/AC) power supply can be ordered as an option for mobile applications.

Technical Specifications Gnωstic64 system

Hardware Specifications

Acquisition Cards

- maximum number of channels in the Gnωstic64 configuration: 20 total per chassis
- time resolution: 25 nSec (standard) / 12.5 nSec (optional)
- trigger functions:
  - amplitude: trigger level, rising or decreasing
  - time: pre-trigger, re-trigger or trigger hold-off. Conversion to time or number of acquisition points / block length
  - single channel triggering or simultaneous triggering of all channels
  - second time base for trend recording
  - during the data acquisition on one channel, the trigger events on the other channels remain active
- time signal recording: data acquisition of one event, programmable block length with re-trigger or trigger hold-off for optimal throughput
- measurement card:
  - 100 mA current source per channel
  - integrated filter to reduce the electrical noise
  - measurement amplifier per channel for high speed, reliable measurements
  - high voltage power supply (± 15 V) to capture the full voltage swing during the micro interruptions
  - includes measurement amplifier for the four wire PT100 temperature sensor
  - includes isolation amplifier (DC/DC or Freq./DC) for the COLA signal of the vibration control system
- the measurement of the temperature and the excitation frequency each use one measurement channel

Industrial PC (IPC)

- 5U industrial chassis with built-in filter and measurement power supply
- Intel® Core™2 Duo Processor T5600 (1,83 GHz), 1 GB RAM, DVD-R/W
- ATX 500 W power supply and four silent ventilators for durability testing
- fast SATA 2 hardware RAID 0 controller, 2 x 150 GB hard disks
- Microsoft® Windows XP® Professional (German, French, English; other languages can be delivered on demand)
- TFT 19" screen with wireless mouse and keyboard

Scope of Delivery

- measurement cards 40 MHz / 14 Bit (standard)
- complete system, integrated into the industrial PC chassis
- plenum measurement cables (3.5 m) with a Lemo connector (current source and measurement of the micro interruptions combined into one cable) suitable for the environmental temperatures from -70°C bis +200°C
- PT100 four wire temperature sensor with cable and connector
- coax cable for the COLA signal of the vibration control system

Services

- system burn-in
- installation and initiation on site
- telephone and e-mail support provided
- software updates through an ftp site

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