

imc SPARTAN



Voltage



Temperature



Strain Gauge



DATA ACQUISITION SYSTEM FOR PHYSICAL & MECHANICAL TESTING

Multi-channel
Measurement
& Control

**imc**

..... integrated measurement & control

SPARTAN – measurement system for multi-channel physical measurements



Automotive research and development, e.g. Dynamometer test cells.



Process monitoring and control, e.g. assembly line manufacturing process.



Structure analysis and monitoring, e.g. Civil Engineering.



Current



Voltage



Temperature



Strain Gauge



Frequency



Digital I/O



CAN-Bus

HIGH-END TECHNOLOGY



- High-precision amplifiers
- Integrated signal conditioning for voltage, strain gauge, and temperature sensors
- Synchronous sampling up to 500 samples/s/channel
- Isolated and protected inputs*

UNPLUGGED



- Robust PC-less data logging operations
- Save any number of configurations to the PC, or internal flash storage
- Internal backup power is standard, for reliable operation and shutdown

SIMPLY CLEVER:

Protection from data loss by built-in uninterruptible power supply (UPS)

- Orderly data save and shutdown if a power failure is detected
- Automatic resumption of "autostart" measurement when power is restored

SPARTAN makes high-performance test & measurement fast, easy and affordable

Whether testing in-vehicle or in the field, benchtop or test stands, the **imc SPARTAN system** delivers the tools to meet your mechanical measurement and control needs, effectively saving you time and money!

Based on imc's proven instrumentation, SPARTAN's robust feature set ensures reliable data in long-term monitoring measurements, while also providing synchronous storage, alarms and autonomous event logging.

From interactive testing to standalone recording, with the integrated **imcStudio software environment** you will be up and running in a fraction of the time it takes conventional "off the shelf" products.

* Temperature and Voltage Modules

Scalable solution for process monitoring tasks – SPARTAN

Analog Inputs (Up to 128 channels) in groups of 16 for measurement of

- Isolated Voltage, Current
- Strain / Bridge, plus Voltage
- Temperature (including CJC), plus Isolated Voltage

Digital I/O & Control:

- Frequency / Incremental Counter Inputs, standard
- Digital I/O standard
- Analog Outputs available



Dual Node CAN Bus
(Up to 8 Independent Nodes Possible)

GPS or External Display

Smart DC Power,
UPS Battery Backup,
Remote Operation &
Synchronization

Ethernet LAN
WLAN, 3G/4G

SPAR-1 (16 ch.)

SPAR-2 (32 ch.)

SPAR-4 (64 ch.)

SPAR-6 (96 ch.)

SPAR-8 (up to 128 ch.)



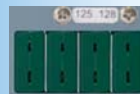
Available in six different housing sizes, including a 19" rack version, with up to 128 analog input channels, plus CAN Bus

NETWORKED



- Site-wide connectivity via LAN/WLAN
- Distributed measurements with multiple synchronized SPARTAN systems
- CAN Bus interface for vehicle data bus connectivity and/or decentralized measurement modules (e.g. CANSAS)

INTERCONNECTIONS



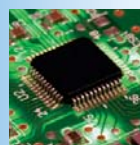
- Voltage, current, temperature or strain gauge signals are directly supported
- Breakout connectors for quick connection of any signal or sensor
- Direct thermocouple connections available (e.g. Type-K)
- 16 digital input / 8 output are standard
- 4 incremental counter inputs for the measurement of frequency, RPM, angle, displacement, velocity, etc.

READY-TO-TEST



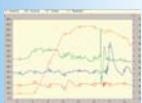
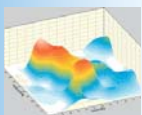
- Graphical and menu-driven operation – no programming necessary
- Measurement and control process starts at the push of a button
- Operation standalone, via a PC, or utilizing an external display unit
- Automatic sensor recognition (TEDS)

INTELLIGENT



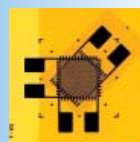
- Adaptable real-time processing saves you time with on-the-fly calculations: Data reduction, advanced digital filters and smoothing, limit monitoring, alarm signaling, class-counting, and more.

LIVE DATA VISUALIZATION



- Freely selectable simultaneous display modes: 2D, 3D, color map, bar charts, waterfall, single values and more
- Event Record logbook channels overlaying measurement data
- Graphically survey your data: zoom, pan, markers and measurements

STRAIN GAUGE MEASUREMENTS



- Static and dynamic resistive bridge measurements
- Connect full, half, and quarter bridges directly
- Record mechanical strain ($\mu\text{m}/\text{m}$ or $\mu\epsilon$) or stress (N/mm^2 , PSI, etc.)
- Innovative and automated compensation for cable losses

SIMPLY CLEVER:

Complete real time strain gauge analysis, including rosette calculations (e.g. principal strain)

imcStudio - Testing Your Way

Once upon a time, running a test meant turning a few knobs, and watching a couple of gauges. Test Reports were simple. Software tools came along giving us more features, but at the cost of exponentially increased complexity.

Take back control! **imcStudio** offers a comprehensive solution fully integrated with **imc SPARTAN**. By providing a quick and easily customizable user experience, imcStudio relieves you from the burden of complex programming, debugging, and software maintenance chores.

Whether you are a development engineer gathering your own data in the field, a test engineer creating a multi-user test cell operator interface, or an engineering manager responsible for enterprise level measurement and control strategy, **imc** provides a cross-application, multi-use & balanced solution all under one roof: **imcStudio**.

SIMPLIFY DAQ:

At Your Fingertips

- Easily Tailored GUI
- Tiered Access Control
- Triggered Test Sequencer
- Complete Test Control
- No programming Required

Everything You Need

- Hardware Configuration
- Intuitive Live Data Displays
- Test Automation
- Signal Processing & Analysis
- WYSIWIG Test Reports



Additional information: www.imc-berlin.com/spartan

HOTLINE

General issues surrounding operation and technology
Repair, remodeling, calibration, system-updates

APPLICATION

Project review, development plans, user support, custom system expansions, test rigs, applications, software solutions

TRAINING SESSIONS

Product training, topic training, seminars, registration and scheduling

SUGGESTION BOX

Questions and concerns, requests and further developments, product criticism, measurement instruments, services

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