

DATA SHEET

IMACS2, Third Generation Integrated Multi-Axis Control System (IMACS)

MAIN FEATURES

The 3rd generation IMACS2 Integrated Multi-Axis Control & Data Acquisition System builds on 30 years' experience as leading manufacturer and trusted partner of advanced dynamic testing systems for asphalts and other pavement materials.

We've listened to feedback about your needs and wishes and have adopted the most advanced electronic technologies to develop a superior controller that provides the ultimate in testing machine control and powerful data-acquisition that is flexible yet easy to use.

The platform is extremely powerful and will allow you to regularly add new functions that will be made available to the users ensuring the controller is always up-to-date with the very latest technology and innovations. Right-now, in spite of its cutting-edge performance, we are only using a small portion of its power.

IMACS2 has been designed to be modular and scalable so you can add additional axes of control and data acquisition channels when required.

Main features

- **Ultimate precision** — most advanced control & data acquisition with industry leading 24-bit resolution and up to 200kHz sample rate
- **Smart 'Plug and Play' transducers** — quick, easy and avoids set-up errors
- **Dependable** — Touch Screen control protects data in case of PC shut-down
- **Breathe new life into any legacy testing system** a genuinely universal multi-purpose controller
- **Closer analysis** with powerful advanced data processing
- **No compromise** on specification or selection of components
- **Worry-free seamless migration** — compatible with UTS and UTS Neutron
- **Designed for the future** and expandable in every way

GENERAL DESCRIPTION

Dependable and user-friendly

Data safety confidence - An innovative double control facility (local via color touch screen display) and remote (via PC) will be available to allow users to set-up tests directly on the controller as well as from a PC ensuring valuable test continuity in event of PC disconnection.

Easy-to-use system - Designed around the user's needs reducing learning curve and simplifying testing procedures.

Future-ready - Internet remote connection, ready for advanced 4.0 connectivity for any future need.

Superior storage

The multiple data storage options include internal storage for data protection, USB ports and ethernet. Smart remote connectivity and support Using the ethernet, the system can seamlessly connect to your network and be accessed remotely for system diagnostics, training, advanced support and firmware updates.

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Maximum flexibility

To further maximize the systems versatility, IMACS2 has been designed with the most comprehensive and advanced array of external interfaces giving you the ability to interface with and control almost any system, including:

- Gigabit and 100Mb ethernet
- USB, RS232/485
- CAN bus
- GPIO
- ESTOP
- HDMI
- Servo valve outputs
- Solenoid outputs
- Servo motor control
- Encoders and more!

TECHNICAL SPECIFICATIONS

- **ADC Resolution** 24 bit
- **Sampling Rate (ks per sec)** 5kHz up to 200kHz
- **Oversampling** Up to x64
- **DAC Resolution** 16 bit
- **Control Loop Frequency (kHz)** 5khz – 25kHz
- **Max. Channels** 20
- **Channels Per Axis** 4
- **Number of Axis (standard + opt)** 2 + 3
- **PC Communications** Gigabit Ethernet USB
- **External Communications Interfaces** RS485 / RS232
- **CAN / Ethernet**
- **Digital Inputs** 8
- **Digital Outputs** 8
- **Plug and Play Transducers** yes
- **Touchscreen LCD Display** yes
- **HDMI Output** yes
- **USB Host** yes
- **Encoder Input** yes
- **PWM / Stepper Motor Control** yes
- **Solenoid Outputs** 10 — 2 per axis
- **SD Card** yes
- **Internet remote connection** yes

EXTERNAL INTERFACES

- Gigabit Ethernet — UTS/UTS Neutron interface
- 10/100Mb Ethernet — Internet access, Data share (e.g., Remote Diagnostics, Upgrades)
- RS232/RS485 — Serial extender and controller (e.g., climatic chambers)
- CAN bus — Generic peripheral extender (e.g., Hydraulic board)

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ORDERING INFO

Stand-alone version for UTM upgrade

79-PV70I02

IMACS2 - New Generation Integrated Control & Data Acquisition System, Dual Control Axis and 8 channels. Suitable for upgrade of existing hydraulic, pneumatic & electro-mechanical dynamic testing machines. 110-230V/50-60Hz/1ph.

79-PV70I02/UP

Upgrade for IMACS2 - New Generation Integrated Control & Data Acquisition System - for additional I/O board including one Control Axis and 4 acquisition channels

79-PV70I02/KIT1

IMACS2 connection kit, suitable for existing servo-pneumatic and electro-mechanical dynamic testing machines

79-PV70I02/KIT2

IMACS2 connection kit, suitable for existing servo-hydraulic dynamic testing machines

IMACS2-based version of UTM machines

79-PV70A02/I2

UTM-16P, Servo-pneumatic universal testing system 16 kN capacity. Complete with Dual Axis IMACS2 Controller. 110-230V/50-60Hz/1ph

79-PV70A12/I2

UTM-16P, Servo-pneumatic universal testing system 16 kN capacity, complete with motorized crosshead. Complete with Dual Axis IMACS2 Controller. 230V/50-60Hz/1ph

79-PV70A14/I2

Same as above, but 110V-60Hz/1ph

79-PV70B02/I2

UTM-30 30kN Standard Actuator Servo-hydraulic dynamic testing system. Complete with Dual Axis IMACS2 Controller. 208-230V/50-60Hz/1ph.

79-PV70B12/I2

UTM-30 30kN Labyrinth Actuator Servo-hydraulic dynamic testing system. 30kN Servo-hydraulic labyrinth bearing actuator assembly. Complete with Dual Axis IMACS2 Controller. 208-230V/50-60Hz/1ph.

79-PV70C05/I2

UTM-130 130kN Servo-Hydraulic Universal Testing Machine. Complete with Dual Axis IMACS2 Controller. 400V/50Hz/3ph.

79-PV70C06/I2

Same as above, but 220V/60Hz/3ph.

79-PV70C15/I2

UTM-130XL 130kN Servo-Hydraulic Universal Testing Machine for XL4PB. Complete with Dual Axis IMACS2 Controller. 400V/50Hz/3ph.

79-PV70C16/I2

Same as above, but 220V/60Hz/3ph.

79-PV74A02/I2

Four Point Bend Apparatus, servo-pneumatic. Complete with IMACS2 Controller. 110-230V / 50-60Hz / 1ph

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