

## DATA SHEET

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



## 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.

### 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!

## Main features

The 3rd generation IMACS2 Integrated Multi-Axis Control & Data Acquisition System builds on 30 years' experience as leader

## DATA SHEET

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

## 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

## DATA SHEET

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)



## Products

79-PV70102

IMACS2 - 3rd Generation Integrated Control & Data Acquisition System, Dual Control Axis and 8 channels. 110-230V/50-60Hz/1ph.

## Accessories and consumables

## DATA SHEET

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### 79-PV70I02/KIT2

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

### 79-PV70I02/UP2

Expansion for IMACS2 - New Generation Integrated Control & Data Acquisition System - with additional I/O boards. This extension provides 2 additional Control Axis and 8 additional acquisition channels. It shall be factory installed

### 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 dynamic testing machine