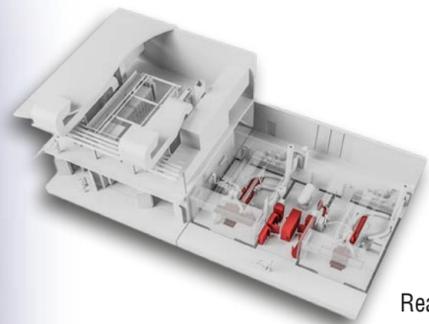


## TEST BENCHES

## IN-VEHICLE MEASUREMENTS



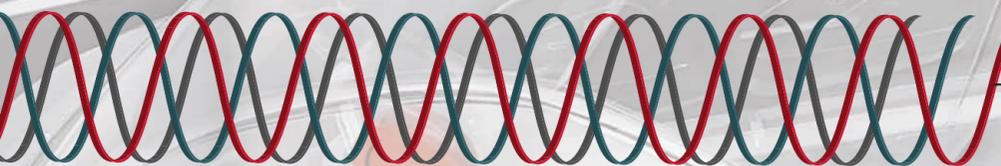
Real time analysis



ACQUISITION



CALCULATIONS



RESULTS

OSIRIS™

MORPHEE®

Software and Testing Solutions

FEV

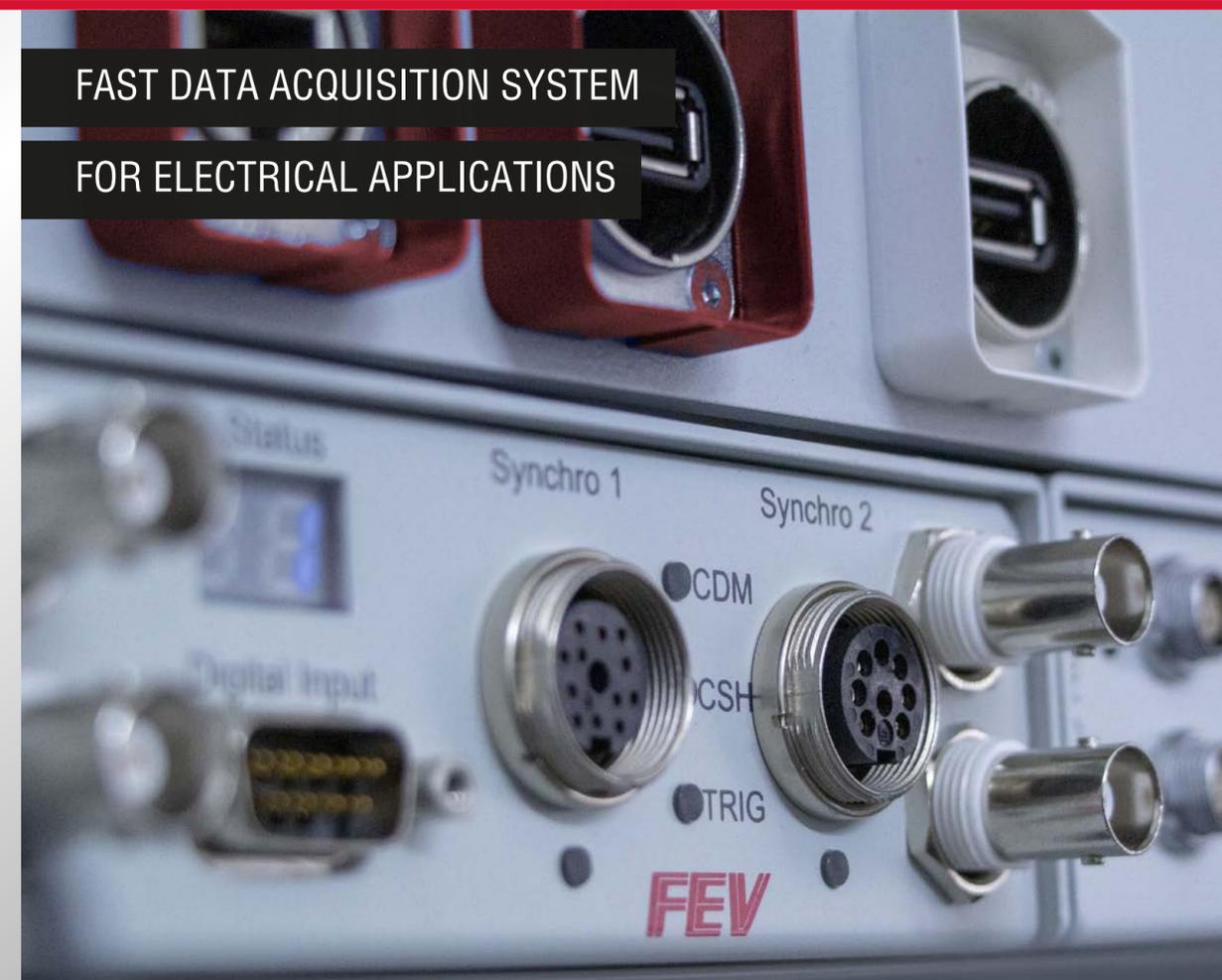


OSIRIS™ POWERMETER

FEV

FAST DATA ACQUISITION SYSTEM

FOR ELECTRICAL APPLICATIONS



Are you interested in innovative, pioneering software solutions?

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FEV Software and Testing Solutions

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# OSIRIS™ - POWERMETER

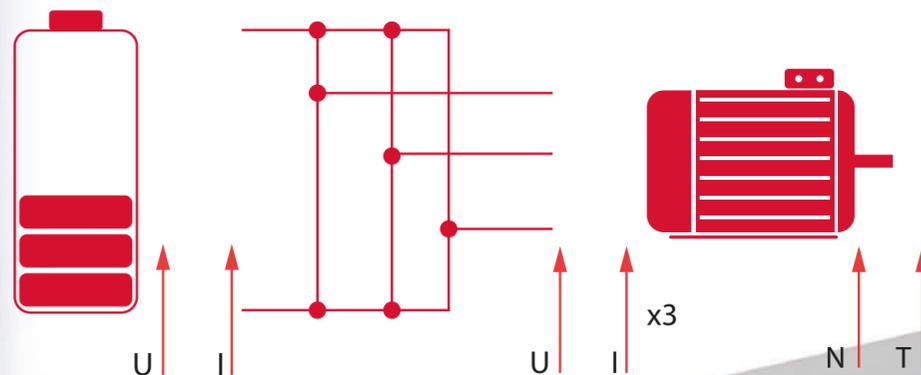
A FAST DATA ACQUISITION SYSTEM  
DEDICATED TO ELECTRICAL  
APPLICATIONS



## THE SOLUTION:

OSIRIS™ POWERMETER complements the existing version of OSIRIS™ fast data acquisition system with regard to analyzing signals for electrical applications.

OSIRIS™ POWERMETER has all the classic functions of a wattmeter and is compatible with all types of application: e-motor, e-axle, inverter and battery. It performs in real time the usual power measurement calculations used to evaluate the performances at output of converters, and electric motors, such as active power, apparent power, reactive power and the power factor.



## MEASUREMENT ACCURACY & HIGH DYNAMIC RANGE

How to measure electrical signals as different as those of a small electric motor, a start and stop or a BEV, MHEV, PHEV? With the OSIRIS™ system, thanks to an ingenious system of adapted probes, you maintain a high level of accuracy whatever the scale of measurement: 48 V or 1200 V / 1200A.

In addition, how to have high dynamic measurements in real time? A vehicle keeps accelerating and slowing down. As OSIRIS™ POWERMETER uses the same real-time technology and measures at each cycle as for combustion engines, it originally has this functionality also necessary for electric motor vehicles. Signal processing makes it possible to work on the frequency of the electrical signal and not on a fixed period of time, and thus to perform calculations on the transient operation of the motor.

## ADAPTED TO LARGE TEST CENTRE NEEDS

OSIRIS™ allows you to optimize your equipment fleet according to your needs. Each 8-channel module can be easily coupled to another, in case you need more channels. Its size of 19" x 1U makes it a compact device that can be used both on the bench and in the vehicle. It is valid for hybrid, electrical and combustion applications because it is the same acquisition device for measuring electrical and pressure signals.

## NO ELECTROMAGNETIC INTERFERENCE

The measurement is taken on the test bench but the information arrives by USB3 link in the control unit directly via MORPHEE®, the real-time automation system developed by FEV, at the same time as the output engine speed and torque calculations for the electric motor (e-motor) or transmission (e-axle). The output calculation is thus performed without any intermediary in the automation software.

OSIRIS™ software is also capable of communicating with all automation systems in the world.

## TECHNICAL DATA



Acquisition Hardware	
PC Communication	Proprietary Ethernet Gigabit + USB 3
Analog Inputs	8 differential inputs (ADC 18 bits 1,2 MHz) Native input range +/- 10 V Measurement with high voltage probes and current clamps
Digital channels	4 digital outputs relay or TTL 4 digital inputs HTTL or analog
Synchronization	1 encoder input LVDS, TTL or RS422 2 sensor inputs HTTL or analog
Power supply	9...30 VDC (Support transient from 6 VDC to 48 VDC)
Consumption	14 W
Dimensions (L x h x W)	220 mm x 42 mm x 140 mm (1U, half 19")
CEM	IEC61326-1
Operating Temperature	-40... +50 °C
Daisy chain	Up to 2 acquisition modules (16 channels)
Software	
Measurement modes	Time
File formats	ASCII
Graphical displays	Trends, Monitoring, Scatter, etc ...
Communication	DCOM interface, INDI or AK over TCP/IP and RS232
Calculations	
Power calculations	Active power, apparent power, reactive power & power factor
Statistical evaluations	Minimum, maximum, mean, standard deviation, stability
Measurement	
Voltage	From 48 V up to 1200 V, AC/DC
Current	Up to 1200 A, AC/DC

On the road to e-mobility, test centres are required to regularly test electric motors. The objective is to optimize the entire electrical chain: from battery to converter, from converter to electric motor and from motor to wheel. The measurement of the voltages and currents of each component of the electric powertrain must make it possible to evaluate its performance under the usual conditions of the automotive world, in particular those of test centres. This means: accurate measurements, whether on a small 48 V electric motor in a micro or light hybrid vehicle or on a 1200 V engine or similar; dynamic measurements in real time; easy integration into a test bench without any electromagnetic interference, etc.

With FEV solutions, boost your electric revolution!