

# OROS Universal Inputs

Dynamic, Parametric and XPod™ Inputs for OROS 3-Series Analyzers



For OR36 & OR38 Instruments

## Introduction

The vibration measurement on machines, vehicles and structures is a proven method for system health determination and qualification. These operations take place in the field close to the operating unit, making the **portability and robustness** of the instrument a key point.

Moreover, different types of transducers/inputs are required to collect all the relevant data during such tests. The **flexibility** of the instrument is then a key point.

With the universal inputs for OR36 and OR38 multi-analyzers/recorder, **OROS offers the ultimate solution. OROS combines in a robust design, the flexibility** which is usually offered by expensive and heavy laboratory devices.

### Industries

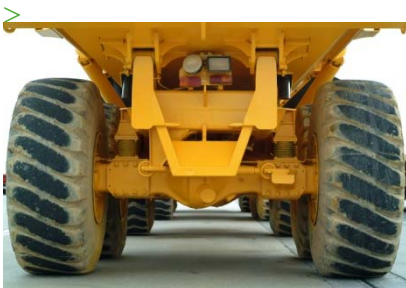
- > Automotive, railways
- > Aerospace
- > Energy & process
- > Industrial vehicles
- > Marine / Defense
- > Machine tools
- > Automation

### Machines

- > Vehicles ground link, chassis
- > Engines, transmissions
- > Pumps & compressors
- > Motors, generators & alternators
- > Pipes, hydraulics cylinder
- > Turbines & fans
- > Aircrafts, ships structures

### Applications

- > Mixed **dynamic** and **parametric** measurements
- > Acceleration, displacement, velocity, sound pressure
- > Force, pressure, load and **strain**
- > **RPM, torsion**, angular position
- > **Temperature**, power, position
- > Laboratory, **field** and **on-board** test and measurements



## Description

With the OROS universal inputs, there's no need to check and carry dedicated conditioners to conduct comprehensive and accurate measurements for your tests. The OR36 and OR38 universal inputs manage many types of transducers with their adapted conditioning. Each input can be independently changed at any time to offer:

- > A **standard noise and vibe input** for hammers, accelerometers, proximity probes and microphones,
- > A high accuracy **parametric input** for power, pressure, **proportional tach**,
- > The specific **XPod™ conditioning** for dynamic **strain gauges, pressure, load** or **temperature** transducers

In addition, the external synch. dedicated inputs allows measuring:

- > High precision **triggering**
- > 1 to N pulses/rev **tachometer**
- > 1 to 4096 pulses/rev **torsional + angular sampling** inputs

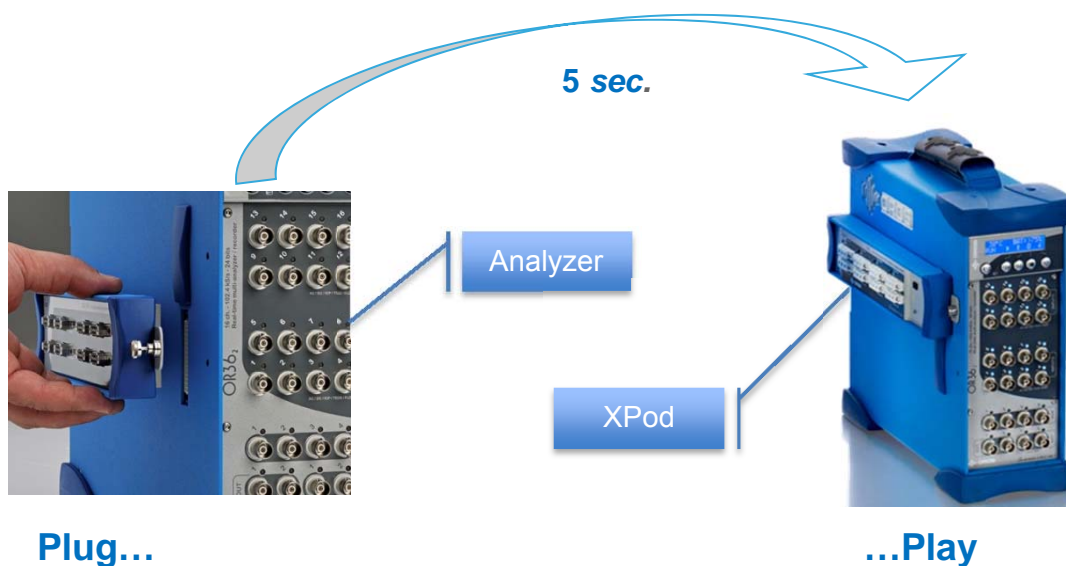
No need to change anything with your instrument hardware. The switch from one input type to another is easily available from the software interface. Simply select the requested type for the channel in use. Depending on the assigned input type, the corresponding settings are made available. The way to operate the analyzer software, NVGate®, is kept clear and easy whatever the front-end or analysis.

The universal inputs are fully supported by the direct recording (D-rec) mode that allows recording any types of inputs raw data in stand-alone without a PC.

### XPod™ Technology

OROS analyzers benefit from a **field-oriented design**. For signal conditioning, the 3-Series analyzers feature plug & play conditioners instead of old-fashioned card slots. This technology brings unrivalled **flexibility, portability and robustness for vibration measurements**.

The XPod modules can be added, removed and exchanged between the analyzers in a few seconds, making your instruments 100 % adaptable in the field.

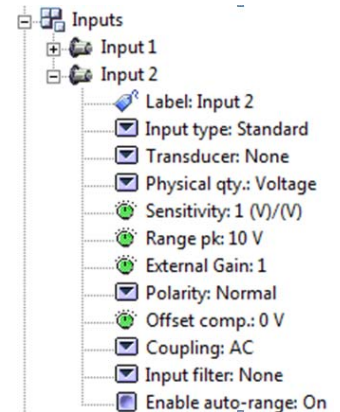


Thanks to the side fixation, the regular BNC connectors are kept available to use the inputs with classical ICP/AC/DC/Float transducers. When activated, each XPod channel can be set individually. The unused channels remain available for classical use with the front-end BNCs.

Of course, as with any OROS instrument, the XPod offers high quality of design and manufacturing for both **robustness and precision**.

## Main Features

- > Multiple uses for each input:
  - o Dynamic inputs for regular AC, DC ICP transducers
  - o DC inputs for parameter acquisition
  - o XPod conditioners for Wheatstone bridge & thermocouple
- > 100 % switchable from software interface
- > All inputs sampled synchronously
- > External synch inputs 64 times oversampled



## Specifications

### Dynamic input

- 24 bits / 120 dB / ±40 V
- 2.048 kS/s to 102.4 kS/s
- AC, DC, ICP(2 or 4 mA), Float, TEDS

### Parametric input

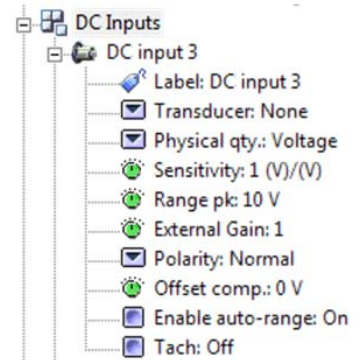
- 21.5 bits / ±40 V
- -3 dB @ 3.5 Hz
- -200 dB rejection of 10 Hz harmonics
- DC offset < ±100 µV

### Strain gauge (Wheatstone bridge) XPod

- 8 inputs per module. Dynamic inputs
- 120 Ω and 350 Ω built-in completion resistors
- Full, ½ & ¼ bridge interface
- 0 to 10 V excitation voltage
- NVGate® or D-rec auto zero
- Slim design: h < 25 mm / 1" - 0.4 kg / 0.180 lb
- High (100:10) and Low gain (10:1)

### Temperature (RTD & Thermocouple) XPod

- 8 inputs / module. Parametric inputs
- PT100, PT1000 RTDs
  - 0.5 to 4 mA power for RTDs
  - Precision: < 0.5% of full range
- J, K, T, N, E Thermocouples
  - Cold junction compensation: 2 integrated built in sensors
  - Integrated linearization
  - Precision: < 0.1% of full range
- Probe identification by colored LED
- -210 °C to +1 200 °C temperature range



## Ordering Information

|                     |  |
|---------------------|--|
| <b>OR36-IN4-U</b>   | Additional 4 universal inputs for OR36           |
| <b>OR38-IN8-U</b>   | Additional 8 universal inputs for OR38           |
| <b>OR38-FREQ-32</b> | OR38, 32 universal ch. FFT & recorder analyzer   |
| <b>OR36-REC-16</b>  | OR36, 16 universal ch. PC & Stand-alone recorder |
| <b>OR3X-XPD-B</b>   | 8 ch. bridge conditioner XPod                    |
| <b>OR3X-XPD-T</b>   | 8 ch. RTD & Thermocouple conditioner XPod        |

# OROS, Leadership through Innovation

### About Us

Now approaching 30-years in business, OROS' designs and manufacturing have been renowned for providing the best in noise and vibration analyzers as well as in specific application solutions.

### Our Philosophy

Reliability and efficiency are our ambition everyday. We know you require the same for your measurement instruments: comprehensive solutions providing performance and assurance, designed to fit the challenges of your demanding world.

### Our Emphasis

Continuously paying attention to your needs, OROS collaborates with a network of proven scientific affiliates to offer the latest of the technology, always based on innovation.

### Worldwide Presence

OROS products are marketed in more than 35 countries, through our authorized network of representatives, offices and accredited maintenance centers.

### Want to know more?

|                          |  |
|--------------------------|--|
| OROS headquarters        | <a href="http://www.oros.com">www.oros.com</a>                         |
| OROS Inc                 | <a href="http://www.orosinc.com">www.orosinc.com</a>                   |
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