

xRover

Multi-channel Real-Time Data Acquisition



Key Features:

- ✓ Rugged aluminum enclosure with IP67 protection
- ✓ High quality AD conversion with 32-bit, 24-bit or 32-bit Delta Sigma resolution
- ✓ Number and type of channels: per request
- ✓ User configurable sampling rate
- ✓ Ethernet/Wi-Fi communication protocols
- ✓ Internal Micro SD card or Flash Memory for local storing of the event files
- ✓ GPS or RTC time and data synchronization

Applications:

The xRover provides data acquisition and analysis for:

- ✓ Structural Response Monitoring: including earthquakes, dynamic wind effects, temperature effects, and blasts
- ✓ Structural Element Monitoring: including stress, temperature, relative displacement, differential foundation settling, soil structure interaction and acceleration

Overview

Our high-performance, custom-configured xRover is a multi-channel, real-time data acquisition and structural analysis system with both manual and event-driven triggering. The system is capable of supporting user-specified sampling rates for all Digitex Accelerometer inputs (>120dB dynamic range) or any additional third-party sensors (strain, voltage, current, resistance, fiber optic). The Digitex xRover can integrate and manage all sensor types to provide a more complete picture of a structure's health. By taking advantage of the extreme performance and small size, xRover is able to deliver unprecedented control and acquisition capabilities in a compact, rugged package with extreme industrial certifications and ratings for operation in harsh industrial environments. Temperature ranges of -40° to 55° C (-40° to 131° F) and a variety of international safety, electromagnetic compatibility (EMC), and environmental certifications and ratings are all available with xRover.

Series of xRover can be connected in a network using standard CAT5e cable for easy installation. xRover can accept different type of accelerometers and various type of sensors required for SHM instrumentation. The system can be set up to run reliably for days, months, or years without stopping.

Technical Information

Software

Proprietary Digitex Software included with xRover. Fully compatible with xPlover and Voyager server software. Available Digitex PC software, Observer, for advanced analysis.

General	
Type	32-bit, 24-bit or 16-bit AD conversion
Sampling Rate	50, 100, 200, 250, 500, 1000 sps - User Selectable
Storage	SD Card or Flash Memory (4/8/16/32GB)
Advanced Filtering	Anti-aliasing, Option with: SINC1, SINC2, SINC3, SINC4, SSINC.
Communication	Ethernet, Wi-Fi
No. of Channels	Per request

Power	
Input Voltage	110/220 VAC
Power Consumption	Minimum 5W (depending on option chosen)
Sensor Powering	Supplied from digitizer (±12V)
Battery	Included rechargeable battery (12V/7Ah)

User Interface	
Informational LED, Web Interface	

Physical	
Packaging	Rugged aluminum
Protection	IP66/IP67
Weight	7100g (with battery)
Dimensions	280x250x120mm

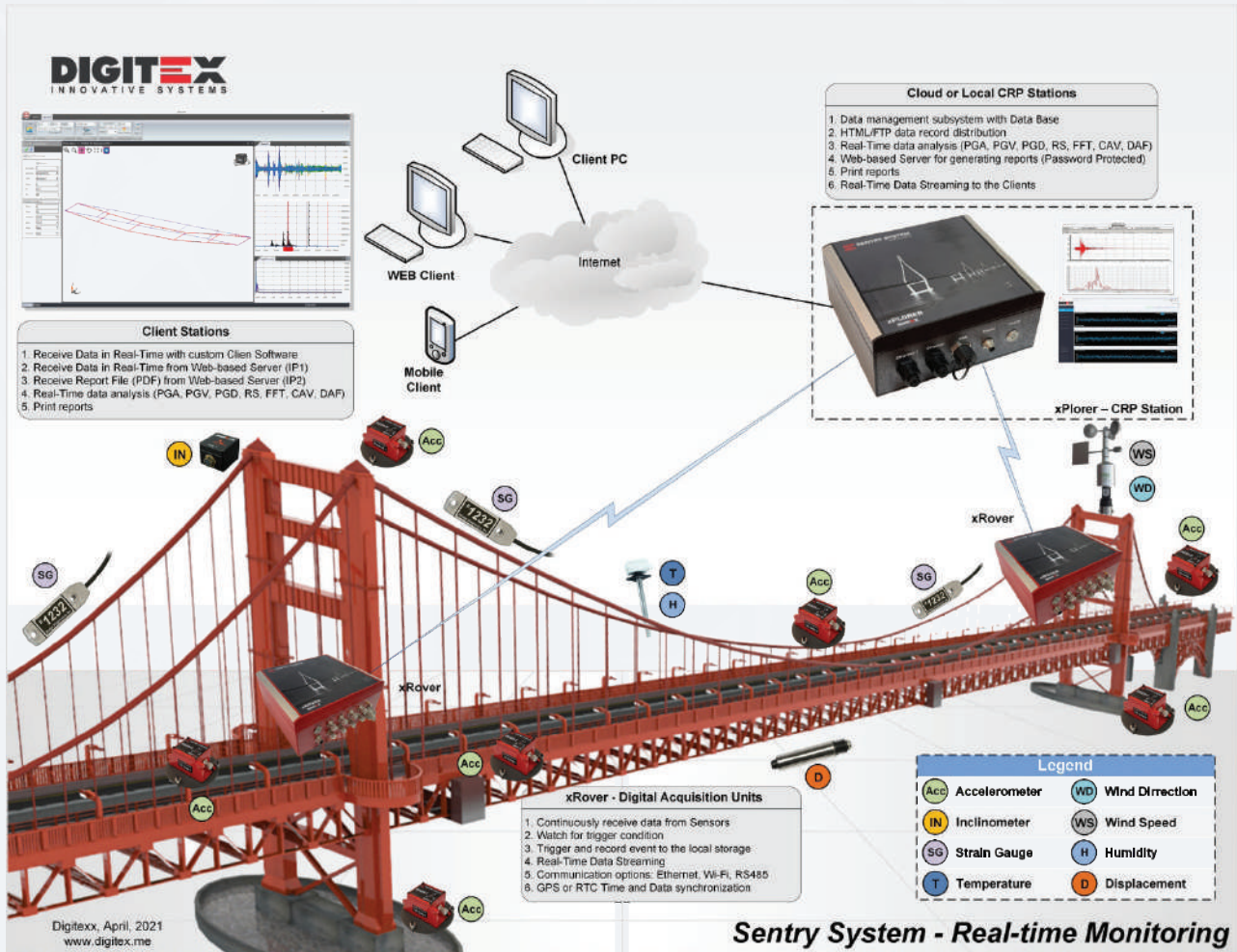
Environmental	
Operating Temp.	-40°C to 55°C
Humidity	90% non-condensing



Customizable number and type of inputs for custom **multi-channel** system

xRover is fully customizable according to the user needs. The user can select the type and number of channels depending on the needs for monitoring by combining different types of sensors.

Accelerometer Channels		Voltage Channels		Wheatstone Bridge Channels	
Type	32-bit $\Delta\Sigma$	Type	16-bit SAR	Type	24-bit $\Delta\Sigma$
Sampling Rate	200 sps (100, 500, 1000)	Sampling Rate	200 sps (100, 500, 1000)	Sampling Rate	200 sps (100, 500, 1000)
Filters	Anti-aliasing, HW, SW	Filters	Anti-aliasing, Software	Filters	Anti-aliasing, Software
Wiring	SE / DIFF with Acc. PW	Wiring	SE / DIFF	Wiring	SE / DIFF; 5V Excitation
Channels [mV]	up to ± 5000 mV	Channels [V]	0-5, 0-10, ± 5 , ± 10 V	Channels [mV/V]	± 39.06 mV to ± 5000 mV
Sensor Power	± 12 V	Sensor Power	± 12 V	Gain	1, 8, 16, 32, 64, 128
Number of Ch.	3 to 21	Number of Ch.	8 to 48	Number of Ch.	4 to 48



About Digitex

Digitex is a company specialized in design and development of real time structural health monitoring systems for a variety of industries and applications including: bridges, tall buildings, campuses, windmills, oil rigs and more. Digitex's innovative solution for ambient vibration measurements and quick health assessment of structures is jointly developed and validated with our partners and advisors from the Universities. When properly configured, the Digitex system is capable of measuring and responding to both natural and man-made events such as: earthquakes, wind, explosions and accidental heavy impacts.

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Sea and Land Technologies Pte Ltd
Global Technologies | Seamless Solution

Main Office & Asia Pacific Service Centre

📍 7 Tuas Basin Link Singapore 638761

☎ +65 6716 0777 📠 +65 6563 0366