TEL 604 540 1100
info@rstinstruments.com
www.rstinstruments.com

RST Instruments Ltd.
11545 Kingston St.,
Maple Ridge, BC V2X 0Z5 Canada

ISO 9001
Certified System ™

CR6 FlexDAQ Data Logger shown in a weatherproof enclosure with Flexi-Mux Multiplexers.

CR1000 FlexDAQ Data Logger variation.

RST's Flexi-Mux Multiplexer can be used for increasing the number of sensors.

PRODUCT CATEGORY:
READOUTS + DATA LOGGERS

flexDAQ DATALOGGERS

READY TO RUN
pre-assembled
pre-wired
pre-tested
pre-programmed

FlexDAQ Data Loggers

Ideal for remote monitoring in both common and demanding geotechnical conditions, RST FlexDAQ Data Loggers offer precisemeasurement and reliable data acquisition from various sensor types and gauges including vibrating wire, thermistor, digital MEMS, linear potentiometer, strain gauge, Linear Variable Differential Transformer (LVDT), and time-domain reflectometer (TDR).

RST FlexDAQ Data Loggers offer extreme flexibility in design configurations and are custom-made to accommodate a variety ofsensor types specific to the parameters of your project. The framework for building a FlexDAQ Data logger is dependent on the type,number, precision, and speed of measurements required. Best of all, FlexDAQ Data Loggers arrive to you completely pre-assembled, pre-wired, pre-tested, and pre-programmed; ready to be put to work straight out of the box with minimal set-up.

All FlexDAQ Data Loggers bear similarities in measurement and programming capabilities and can easily incorporate additional sensor and telecommunication options.

> APPLICATIONS

Remote data logging of various types of geotechnical instrumentation used in dams, tunnels, bridges, mines, and natural slopes.	Alarm triggering when movement reaches a pre-set critical rate or levels reach a present value.
Real time data logging and analysis.	

> FEATURES

Out-of-the-box functionality and "ready to run".	Available weatherproof housing.
Pre-assembled, pre-wired, pre-programmed and pre-tested.	Flexible configurations made to your specifications.
Dynamic and static data logging capabilities.	

Multiplexers, such as the RST Flexi-Mux (see photo below left, separate brochure available), and/or SDM devices may be added to augment measurement and control capabilities that include:

Adding extra sensors that can be monitored by the data logger.	Providing non-volatile data storage and on-board battery-backed clock.
On-board data processing.	Initiating measurement and control functions based on time or event.
Controlling external devices such as pumps, motors, alarms, freezers, and valves.	Using PC support software, keyboard or display to program.
Operating independently of AC power, computers, and human interaction.	Consuming minimal power from a 12 Vdc source.

Interfacing with on-site and telecommunication devices such as telephone modems (including cellular and voice-synthesized), short haul modems, radio transceivers, satellite transmitters, and ethernet interfaces.

> BENEFITS

✓ Increase Productivity	✓ High Accuracy
✓ High Reliability	✓ Technical Support
✓ Custom Options	✓ Increase Safety

TEL 604 540 1100
info@rstinstruments.com
www.rstinstruments.com

RST Instruments Ltd.
11545 Kingston St.,
Maple Ridge, BC V2X 0Z5 Canada

ISO 9001

FlexDAQ Data Loggers

PRODUCT CATEGORY:
READOUTS + DATA LOGGERS

SPECIFICATIONS + ORDERING

Due to the customizable nature of FlexDAQ Data Loggers, specifications can vary greatly depending on your requirements. Contact RST Instruments for complete information on options such as solar panel, battery, cell modem, cellular plans, RSTAR frequency (from 900 MHz to 2.4 GHz depending on country), and mounting types.

FlexDAQ Data Loggers can be customized with an assortment of features, including, but not limited to the following:

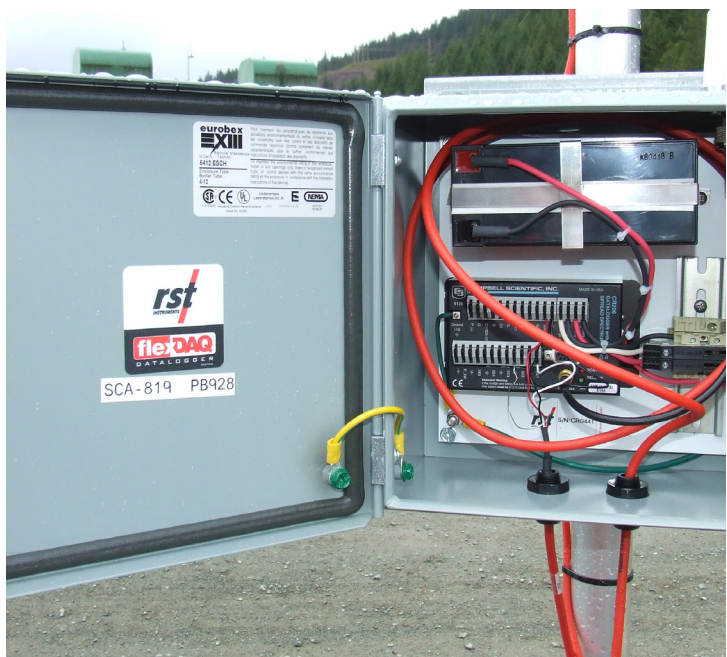|	
Fit up to 10 Flexi-Mux in a 20"x16"x8" enclosure.	Connect analog and digital sensors (4-20mA, Voltage, SDI12, MODBUS, voltage differential/single ended)
Set alarms to send notifications from remote locations	Monitor slope, earthquake, and weather, etc.
Take static and dynamic readings from 20Hz to 333Hz. Note that 200Hz+ dynamic readings may be limited depending on complexity of the project.	Use solar panel or battery with either satellite or cellular modem (with available data plans) for remote monitoring. Note: Two-year data plan is available on certain RSTAR hubs and FlexDAQ loggers with cell modem options.
Retrieve data easily with scheduled retrieval, forwarded through FTP.	Retrieve data from multiple RSTAR DT Loggers with a fixed interval.

FlexDAQ Data Loggers and RSTAR hubs are pre-programmed, ready to run and come with accessories including antenna, cables, and batteries. RSTAR hubs are compatible with RST DT loggers. To upgrade existing RST DT loggers, contact RST with the serial numbers so the hub can be programmed accordingly.

Along with fully-customized options, RST also offers the following standard FlexDAQ loggers and RSTAR hubs for quicker delivery.

AVAILABLE CONFIGURATION OPTIONS

Available standard design options include hardware to monitor following sensors through ethernet or cellular on AC, low or high solar and battery capacity and different mounting options such as wall mount and 1.5", 2" and 2.5" pole mount.

Up to 10 direct-wired vibrating wire instruments with thermistors	Up to 10 direct-wired IPI or tiltmeter strings
Single direct-wired ShapeArray	DT loggers via RSTAR wireless communication

Typical FlexDAQ Installation with Solar Panel.

TEL 604 540 1100
info@rstinstruments.com
www.rstinstruments.com

RST Instruments Ltd.
11545 Kingston St.,
Maple Ridge, BC V2X 0Z5 Canada

Certified System
ISO 9001

FlexDAQ Data Loggers

PRODUCT CATEGORY:
READOUTS + DATA LOGGERS

SPECIFICATIONS + ORDERING

ELGL1210

Options based on Campbell Scientific Loggers
Logger selection depends on various factors including the hardwired sensors, telemetry option(s) and reading intervals

CR6	CR310	CR1000X

POWER OPTIONS
Power options will be seleted based on the region, type, number of sensors, and intervals of monitoring

No battery (to be supplied by customer)
AC power with 7AHR battery
Solar power (LP) with 50 watt solar panel and 24AHR battery
Solar power (HP) with 110 watt solar power and external 100AHR battery
Battery power only - External 100AHR inside the insulated aluminum casing (single or double Lead Acid Battery options available)

TELEMETRY OPTIONS
Up to three telemetry options can be chosen for each FlexDAQ logger

USB with External Feedthrough port
Ethernet with External Feedthrough port
Cell Modem - With 2-year data plan available for most countries
Cell Modem- Without data*
Wi-Fi
RS485 (Hardwire)
Fibre Optic
Satellite (Without data plan)*

MOUNTING OPTIONS

Wall mount
Pole mount (in 1.5", 2.0", 2.5" and 3.0")
Pedestal with vandal proof locks

*Sim card with static IP is required

INTERFACE OPTIONS FOR HARDWIRED SENSORS

Vibrating Wire Sensors (VW)	Piezometers, Extensometers, Crack Meters, VW Strain Gauges, VW Load Cells, Total Earth Pressure Cells Liquid Settlement Systems, ...
ShapeArray™	SAAV, SAAX
MEMS	IPI (In-Place Inclinometers), Tilt Meters, Tilt Beams, Track Monitoring Systems
Analog Sensors (4-20mAmp and 0-5 volt)	Strain Gauge Piezometers, Strain Gauge Load Cells, numerous environmental sensors and weather stations
Digital Sensors	MODBUS, RS485 numerous environmental sensors, weather stations and RS485 transducers
TDR	Time Domain Reflectometry
SDI-12	Various environmental sensors and weather stations
LVDT, Load Cells	Potentiometer

OPTIONAL RADIOS
Not all FlexDAQ loggers require a selection of options below

RSTAR Radio Communication between DT Loggers and central hub	900MHz, 920MHz, 868MHz, 2.4GHz Distance between the nodes and the hub to be specified to choose the right antenna
FlexDAQ Communication Communication between FlexDAQ loggers/Repeater(s)/Base Station	902-928 MHz, 2.4GHz, 863-870MHz, 902-928MHz Distance between the FlexDAQ loggers and base station to be specified for selecting the best antenna gain

*All FlexDAQ data loggers require LoggerNet software license