ELITE SERIES
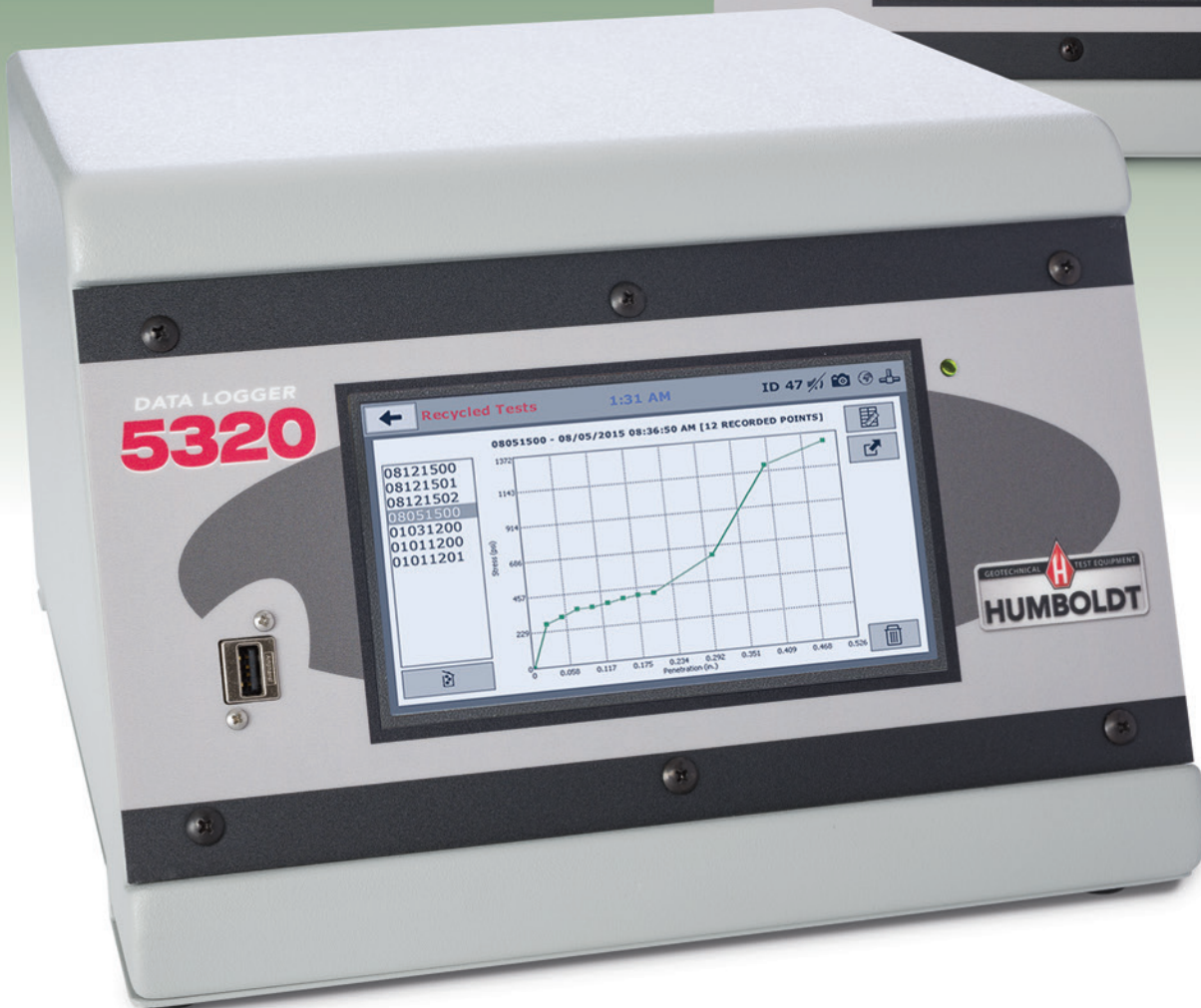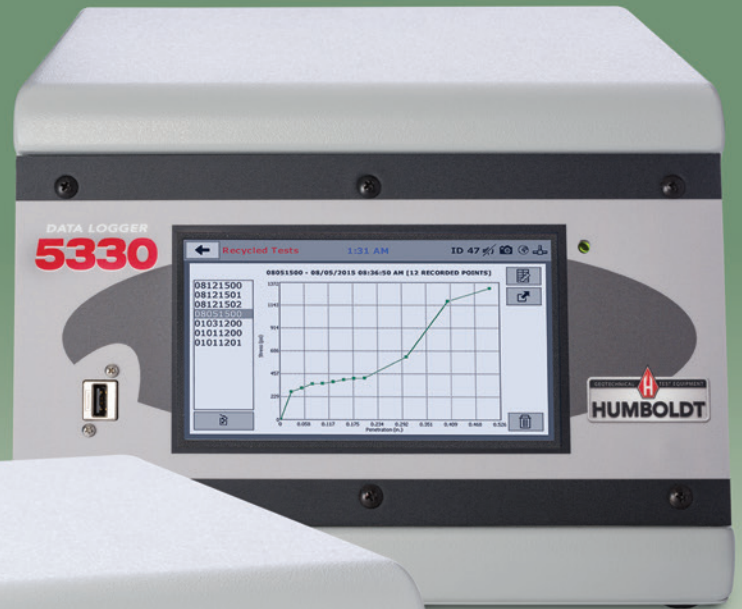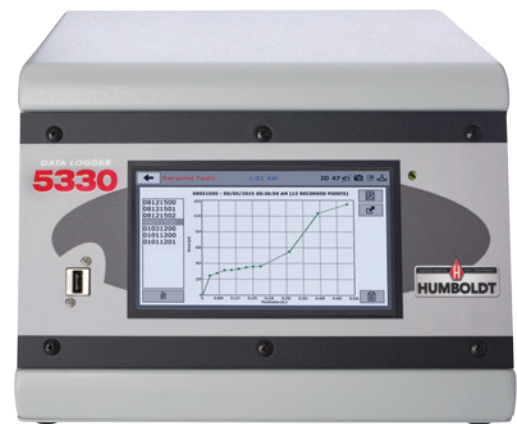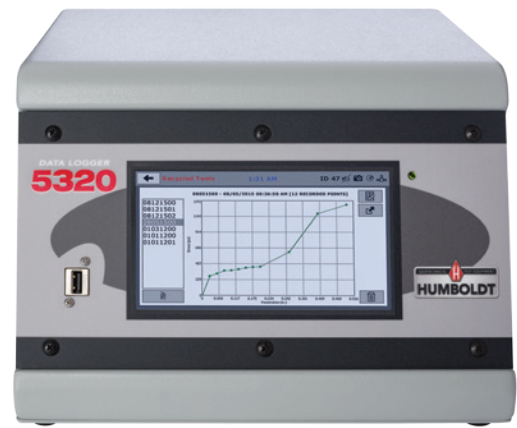# Data Loggers

Data Loggers

Humboldt's Elite Series Data Loggers are specifically designed for use within construction materials testing labs. You can use Humboldt Data loggers to cost-effectively update your older, non-computerized load frames, direct shear and consolidation machines with computerized data acquisition— increasing lab output, freeing-up technicians and providing more accurate test results.

Humboldt's modular-design, data acquisition concept is designed to give you the most flexible and cost-effective method of data logging for your lab. Rather than having to buy into a large data logging system and then growing into it, Humboldt data loggers give you the flexibility and low cost outlay of being able to buy loggers on an "as you grow" basis, increasing your data logging capability as your expansion demands.

Humboldt Data Loggers can be used with a wide variety of transducers, load cells and digital indicators; and both come with Humboldt's, highly-regarded, NEXT software. This software provides robust data acquisition, calibration and report generation for those wanting to use a computer to monitor tests and collect test data.

In stand-alone mode, these data loggers provide a 7" (178mm) touch-screen controller, which probides real-time, visual views of your data in both tabular and graphic formats. These new waterproof, touch screens provide colorful, at-a-glance monitoring of testing functions without the use of a computer. Operators can see all the data in several formats at the machine while the test is running. Data can then be viewed simultaneously or downloaded later to a computer in the lab, in the next room or at a different location, while also providing report generation capabilities from within Humboldt's NEXT software or our enhanced test-specific modules.

When operated from a networked computer the NEXT software provides robust machine and test control, and report generation. It also allows the ability to control and monitor multiple machines from a single computer.

HM-5320 Data Logger
HM-5330 Data Logger

Designed for applications where it is desired to add data acquistion capabilties to older or simpler testing equipment that does not have data acquisition capabilities. These data loggers provide advanced data acquisition and reporting functions effectively updating the equipment they are used with.

The HM-5320 provides four individual, 16-bit analog to digital converters with an instrumentation excitation supply of 10 VDC. This analog data logger is ideal for use with instruments, such as pressure transducers, load cells, and strain transducers. It provides data storage for 1000 readings per channel.

The HM-5330 provides four individual, digital Indicator inputs with an instrumentation excitation supply of 5 VDC. This digital data logger is ideal for use with digital indicators. It provides data storage for 1000 readings per channel.
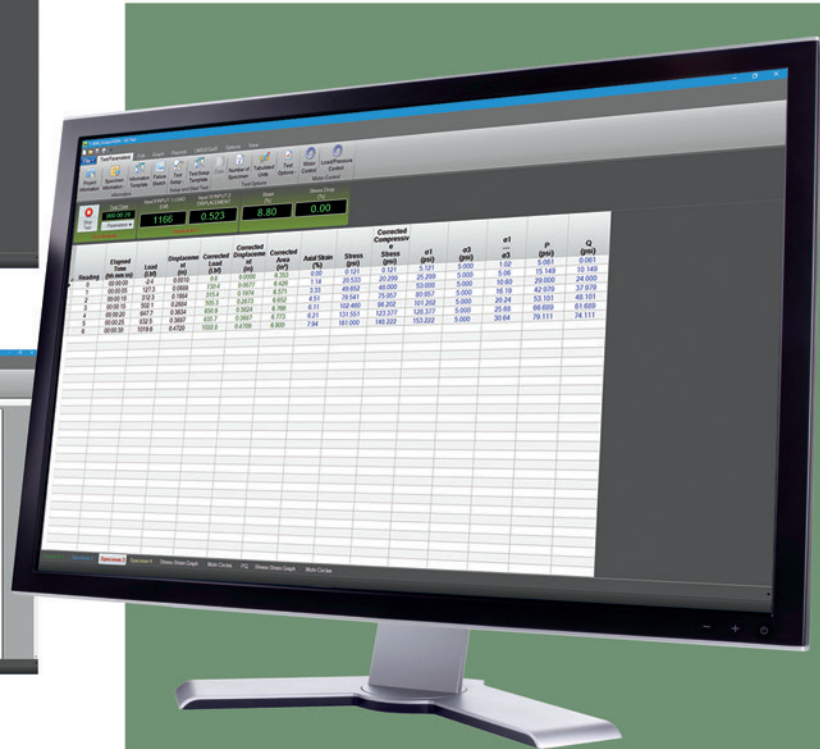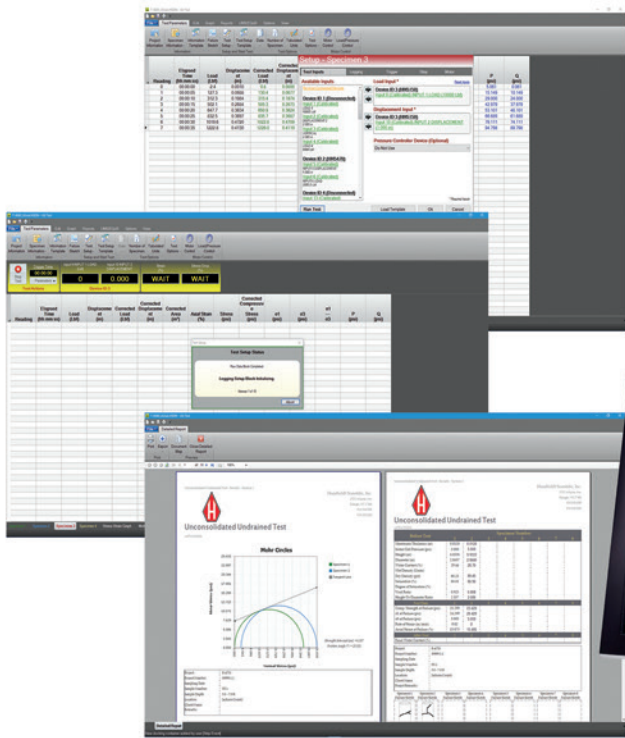
Stand-Alone Control

Humboldt's touch-screen controller provides you with full, graphical monitoring of all testing functions in a stand-alone application, while maintaining full computer control when desired.

Now you can have finger-tip control and real-time monitoring of data acquistion with Humboldt's touch-screen controller, found on these data loggers. The seven-inch, waterproof screen provides at-a-glance monitoring of testing functions, in a real-time graphical display, without the use of a computer, building upon Humboldt's dedication to modular, stand-alone data acquisition.

Now, in a stand-alone application, you will be able to run tests and display results while viewing tabulation, basic x-y graphs and instrument readings in real-time during the test, using user-defined, basic data acquisition. Test data is stored in the device and can be downloaded to a USB drive via the machine's FRONT USB port or the data can be transferred to a computer via the LAN port.

A second USB port located on the back of the machine can also be used to power a wireless access point, which can provide a wireless hook-up with a computer, if no LAN is available.

Touch-Screen Controller provides:

- 4-channel data acquisition

- Hi-res, 7" waterproof, touch-screen provides control of data acquisition and real-time graphical display of tests

- Data acquisition control via touch-screen

- Control up to 4 different tests at the same time

- Calibration of channels to load cells, transducers and other suitable instruments

- Real-time graphical chart and numerical display of tests via touch-screen display

- Effective sampling rate of 50 readings per second

- Stores up to 1000 tests with 3000 points per test

- 2 USB ports. One in front for data transfer and the rear port is for powering a wireless access point.

Computer Control

Humboldt's Next software is included with all Humboldt Data loggers. This software provides robust data acquisition, calibration and report generation for those wanting to use a computer to monitor tests and collect test data.

In addition, operators have the ability to monitor tests in real time while collecting test data from a PC in the lab, in the next room or at a different location, while also providing report generating capabilities using Humboldt's standard software or our enhanced test-specific modules.

So, whether you are controlling a single operation or controlling a complete geotechnical lab, Humboldt's NEXT software, in conjunction with Humboldt Data loggers, provides a complete solution for the calibration, acquisition, recording and presentation of testing data in data tabulation and graphic chart formats.

Humboldt Data loggers in conjunction with NEXT software provides:
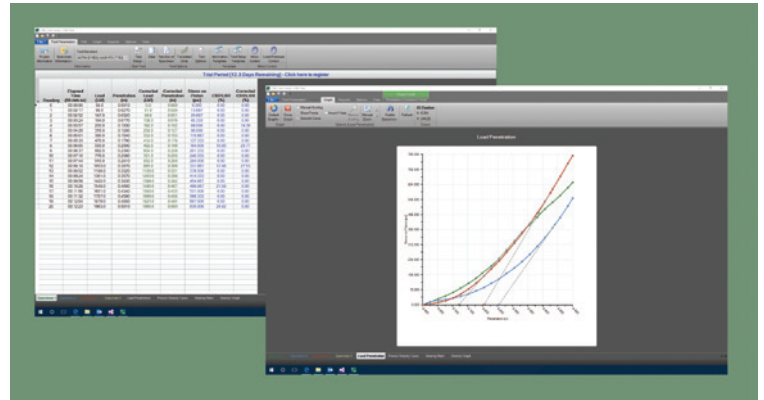
- Data acquisition via networked computer

- Provides the ability to use Next Software's, advanced test-specific modules

- Real-time graphical chart and numerical display of tests via computer display

- Effective sampling rate of 50 readings per second

- Stores unlimited tests with up to 3000 points per test.

- Up to 255 individual tests can be run simultaneously from a single PC

- Advanced, test-specific modules are available, which provide all the calculations and graphs required per testing standards

- Provides advanced graphing capabilities

- Provides full-unit customization

- Reports can also be exported to Excel or a CSV file, if desired, and, we can provide custom integration/export solutions for LIMS, EQuIS, gINT, etc.
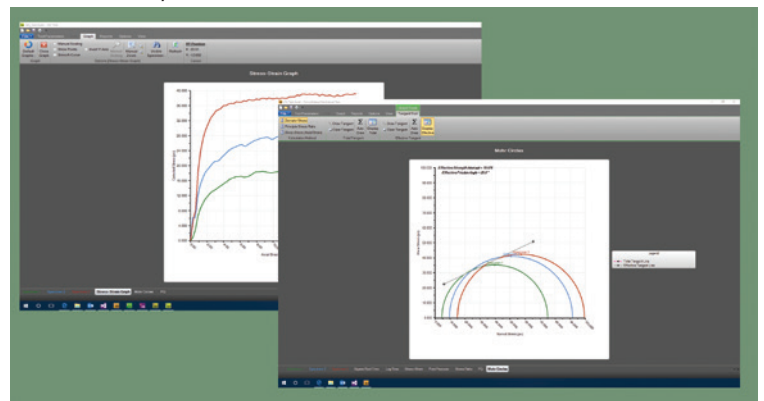
NEXT Test-Specific Software Modules

Humboldt NEXT software can be enhanced with the purchase of test-specific modules. These modules provide you with the following capabilities beyond the standard software included with your ELITE Series load frames.

- test-specific setup that guides you through the process, which includes selecting data collection parameters that best fit the specific test;
- input specific project information for each test, such as project name, client information, etc;
- all test-specific initial, intermediate, and final parameters required by ASTM and BS standards is dynamically calculated for you, based on your input of specimen information, such as size, weight, etc;
- tabulated test data, graphs and all test-specific calculations are provided in real time, allowing you to monitor tests in process;
- generate test-specific reports that include all graphs and data presented in a project;
- simultaneously run multiple tests on one computer, involving any of the available HMTS modules and any compatible Humboldt equipment up to 255 device connections, which is up to 1020 inputs;
- create and store test-specific test setup templates for rapid setup of future tests;
- produce test-specific graphs, which allow you to draw construction lines to calculate angles and other test-specific parameters;
- automatically recover from a PC shutdown without loss of data;
- all unit parameters can be adjusted individually;
- easily change between different test standards;
- access free, downloadable software upgrades for purchased modules, and
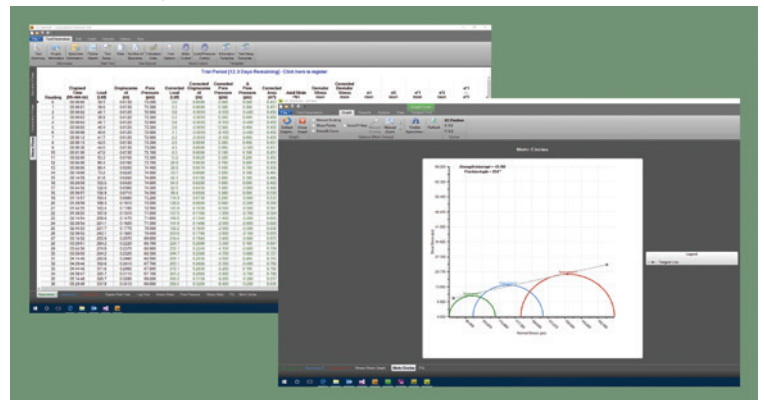- additional modules are available, please enquire.
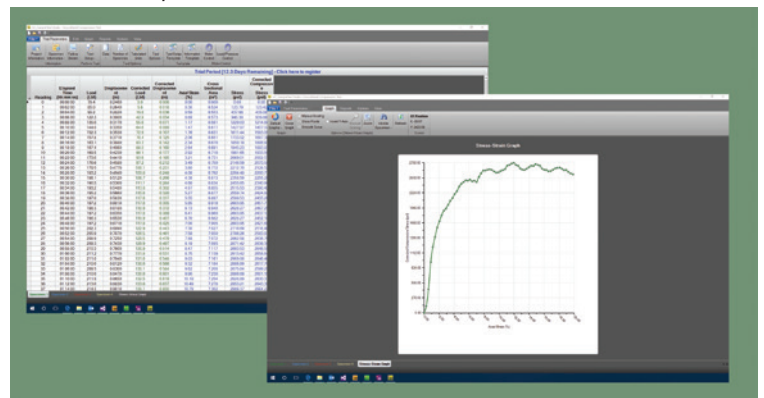
CBR/LBR Module	HM-5001SW
Unconsolicated Undrained Module	HM-5002SW
Consolidated Undrained Module	HM-5003SW
Unconfined Module	HM-5004SW
Consolidated Drained Module	HM-5006SW
Marshall Module	HM-5005SW
Consolidation Software	HM-5011SW
Direct Shear Software	HM-5000SW

CBR/LBR Module, HM-5001SW

UU Module, HM-5002SW

CU Module, HM-5003SW

UC Module, HM-5004SW

Controller Specifications

Specifications for the touch-screen controller, instrumentation and data acquisition

Display	7" (178mm) VGA (480 x 800) Resistive-touch screen
Real-time test data	Graphic and tabulation
Processor	Dual 32-bit ARM
RAM	64MB
Memory, non-volatile	4GB
Analog to digital converter	24 bit
Data acquisition	4 Channels
Logging speed	up to 50 readings per second
Multi-test storage	1000
Points per test	3000
USB port (front)	use to export data and import/export calibration data, also use to provide external power for optional WIFI adapter
USB port (back)	provides external power at the back of the machine
Ethernet connection	for network connectivity
Emergency stop	Large button
24-bit differential analog to digital converter (21 bits @1000 samples/sec.	4
Ambient temperature sensor	1
Limit switches	4
Firmware Update	Ethernet or flash drive

Elite Series Data Logger Features:

- Four channels with real-time data acquisition
- Hi-res, 7" color, waterproof touch-screen
- 2 USB ports. One in front for data transfer and the rear port is for powering a wireless access point.
- Nonvolatile test data storage and instrument calibration
- Battery-backed, real-time clock
- Auto conversation of instrument calibration between English or Imperial units and SI or metric units
- Test setup and selection via touch screen
- Automatic triggering of test logging data
- View test data in real time via 7" touch screen
- Logging rate as fast as 0.1 second/reading
- Humboldt Next Software
- Up to sixteen units can be connected to a computer.