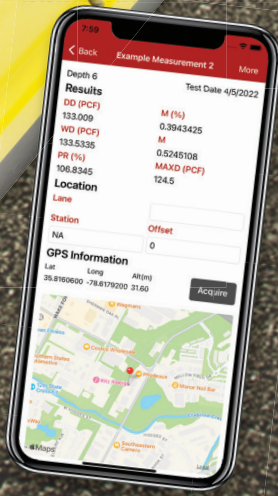


HUMBOLDT

NUCLEAR GAUGES And Accessories



1.24



Nuclear Gauges

NEW



HS-5001NX



HS-5001EZ-2

Choose from Two,
High-Quality Gauge Models

Humboldt's Moisture/Density Gauges Provide:

- High-quality gauges — built to take a beating
- Truly, field-serviceable with parts readily available
- No added cost from Humboldt for third-party calibration
- Exceptional calibration, leak test and repair services



Why Humboldt...



All Humboldt nuclear gauges are built rugged for the day-to-day rigors of construction projects. These gauges are built to last using high-quality Noryl® PPO material, which is one of the most dimensionally stable thermoplastics available. This produces a gauge housing that is less brittle than the competition resulting in less breakage. Humboldt also pays strict attention to sealing our gauges against dirt and dust, providing a better design and less electronic problems due to dust. Humboldt gauges are also “Field Serviceable”. If you have a problem with your Humboldt gauge, chances are we can quickly get a part out to you, which you can install on your own, saving you lots of time and money. Other manufacturers require you to send your gauge back to the factory for calibration. We don't. You can send your gauge back to us or you can allow a third party to calibrate your gauge without incurring any charges from Humboldt.

With Humboldt, you get:

- High-quality gauges, built to take a beating
- Truly, field serviceable with parts readily available
- No added cost from Humboldt for third party calibration
- Exceptional calibration, leak test and repair services

Humboldt Nuclear Gauges have been used for years in many tough and demanding applications. They have always proven to be: easy-to-operate, easy-to-power, easy-to-service and the most rugged gauges in the industry. They also feature our innovative trigger release handle that eliminates pinched fingers while providing smooth operation. Unlike some competitors, all Humboldt Nuclear Gauges are manufactured with 100% new parts — no refurbished parts, sold as new. Humboldt Nuclear Gauges are available in two models: the new **NX** Gauge, and the **EZ-2** Gauge.

The **EZ-2** Gauge features a large display screen that can still be seen in bright sunlight, with easy-to-use, built-in test routines and auto features, making testing a quick and accurate operation.

The **NX** Gauge, provides more efficient operation, data collection and processing than any other gauge in its class. Using state-of-the-art technology, the **NX** Gauge brings you a host of features aimed at making your job easier. Featuring an enhanced user interface and color touch-screen, the **NX** Gauge provides intuitive operation of all gauge operations. It also provides touch-pad operation as an alternative control method.

HS-5001NX Nuclear Gauge

NEW



HS-5001NX













Humboldt's New HS-5001NX Moisture/Density Gauge provides more efficient operation, data collection and processing than any other gauge in its class. The HS-5001NX brings you a host of new features aimed at making your job easier. Featuring a color touchscreen, the NX Gauge provides intuitive operation of all gauge operations. It also provides touch pad operation as an alternative control method.

The New NX's versatility allows it to measure density through direct transmission, backscatter, thin lift and trench modes, as well as providing moisture determinations. The gauge uses an advanced microprocessor-based technology to provide highly accurate measurements of density and moisture that are automatically computed for direct readouts of wet density, dry density, moisture content, percent of moisture, percent of compaction (Proctor or Marshall), void ratio and air voids. The New NX Gauge complies with all pertinent standards: ASTM D6938, D2950, C1040 and AASHTO T310, T355 and all other international standards. The gauge is calibrated by the Five-block calibration method ASTM D7013, D7759.

-  Touch Screen Operation
-  Direct Readouts
-  Enhanced User Interface

HS-5001NX

KEY FEATURES:

-  **Touch-Screen or Touch Pad** — Color touch-screen, which provides complete control or you can also use the menu-driven touch pad.
-  **Temperature Sensor** — Auto recording of ambient temperature at test
-  **WiFi Enabled** — The NX gauge can connect to your PC for downloading test results wirelessly up to 30 feet.
-  **USB Port** — For fast, test download
-  **3D Accelerometer** — Auto turn off upon motion (with movement of the gauge)
-  **Easy Self Repairs** — The NX Gauge's modular design enables it to be serviced in the field by you, if necessary. No need to send the gauge in for repair, we'll send you the necessary components and walk you through many of the repair procedures if assistance is needed.
-  **Multi-Language** — Selectable: English, French, Spanish
-  **Dual Power Source** — 6 AA batteries & rechargeable NiMH pack
-  **Micro SD Card** — Auto storage of 2GB of test data, 250 tests per project
-  **GPS** — Geographic coordinates and altitude information
-  **Real Time Clock (RTC)** — Multi-date/time formats
-  **Ambient Light Sensor (ALS)** — Can sense the light and automatically power on backlight



HS-5001EZ-2 Nuclear Gauge

HS-5001EZ-2

Humboldt's HS-5001EZ-2 reflects the latest in portable, electronic design for nuclear gauges, featuring a large, back-lit LCD display. Humboldt's EZ-2 Moisture/Density Gauge is just that — easy. Easy-to-operate, easy-to-power and easy-to-service. The EZ-2 gauge features a menu-driven control panel with easy-to-use, built-in test routines and auto features, making testing a quick and accurate operation. It also features our innovative trigger release handle that eliminates pinched fingers while providing smooth operation.

The EZ-2's versatility allows it to measure density through direct transmission, backscatter, thin lift and trench modes, as well as providing moisture determinations. The gauge uses an advanced micro-processor-based technology to provide highly-accurate measurements of density and moisture that are automatically computed for direct readouts of wet density, dry density, moisture content, percent of moisture, percent of compaction (Proctor or Marshall), void ratio and air voids. The EZ-2 Gauge complies with all pertinent standards: ASTM D6938, D2950, C1040 and AASHTO T310, T355 and is factory calibrated by the Five-block calibration method ASTM D7013, D7759.



-  **Bright Menu Display**
-  **Direct Readouts**
-  **AA Batteries (1200hrs)**

HS-5001EZ-2

KEY FEATURES:



USB Port —
For fast, test download



Large Display —
Easily readable in bright sunlight
LCD-type, TFT; Normal black



Multi-Language —
Selectable: English, French, Spanish



Micro SD Card —
Auto storage of 2GB of test data,
250 tests per project



Real Time Clock (RTC) —
Multi-date/time formats



Temperature Sensor —
Auto recording of ambient temperature at test



3D Accelerometer —
Auto turn off upon motion
(with movement of the gauge)



Power Source —
6 AA batteries



GPS —
Geographic coordinates and
altitude information



SPECIFICATIONS

Mechanical

Operating Temperature	14 to 158°F (-10 to 70°C), ambient to 347°F (175°C) Material Surface
Storage Temperature	-70 to 185°F (-55 to 85°C)
Humidity	98% without condensation, Rain-Resistant Construction
Vibration	0.1" (2.5mm) at 12.5 Hz
Materials	
Shielding	Tungsten Powder Alloy
Source Rod	440C Stainless steel, Induction, heat treated to 55 Rockwell C
Gauge Base	Computer-Machined 6061-T6 Aluminum, Hard-Coated and PTFE Impregnated
Post and Frame	Computer-Machined 6061-T6 Aluminum, Anodized for Anti-corrosion
Index Rod	7075 aluminum, Hard Coated and PTFE Impregnated
Top Shell	Injection-Molded Noryl with Integral Color
Bearing	Relieved Bronze with Neoprene Seals
Screws/Fittings	Stainless Steel and Brass

Measurement: Density at 125 pcf (2000 kg/m³)

Direct Transmission: 6" (150mm)	15 seconds (Fast)	1 minute (Std.)	4 minutes (Slow)
Precision, pcf (kg/m ³)	±0.5 (8)	±0.25 (4)	±0.13 (2)
Chemical Error, pcf (kg/m ³)	±1.0 (16)	±1.0 (16)	±1.0 (16)
Surface Error, pcf (kg/m ³)	-0.5 (8)	-0.5 (8)	-0.5 (8)
Backscatter, 3.5" (88mm)	15 seconds (Fast)	1 minute (Std.)	4 minutes (Slow)
Precision, pcf (kg/m ³)	±1.0 (16)	±0.5 (8)	±0.25 (4)
Chemical Error, pcf (kg/m ³)	±2.5 (40)	±2.5 (40)	±2.5 (40)
Surface Error, pcf (kg/m ³)	-3.0 (48)	-3.0 (48)	-3.0 (48)
Measurement: Moisture at 10pcf (160kg/m ³)			
Measurement Depth: 4-8" (100-200mm)	15 seconds (Fast)	1 minute (Std.)	4 minutes (Slow)
Precision, pcf (kg/m ³)	±0.5 (8)	±0.25 (4)	±0.13 (2)
Surface Error, pcf (kg/m ³)	-0.25 (4)	-0.25 (4)	-0.25 (4)

Dimensions/Weight

Gauge	
Dimensions (base)	15.75" x 8.66" x 5.5" (400 x 220 x 140mm)
Handle Height	18" or 21.5" (450 or 550mm)
Weight	30 lbs (13.6kg)
Reference Standard	
Dimensions	13.8" x 7.8" x 3" (350 x 200 x 75mm)
Weight	10 lbs (4.5kg)
Transit Case	
Dimensions	31" x 14" x 19.5" (787 x 356 x 495mm)
Weight	31 lbs (11.8kg)
Accessory Case (loaded)	
Dimensions	19.7" x 9.8" x 5" (500 x 250 x 125mm)
Weight	16 lbs (7.3kg)
Total Shipping Weight	90 lbs (41kg)

Radioactive Materials Data Needed for License Application

Radioactive Material	Chemical/Physical Form	Maximum Amount
Cesium-137	Sealed Source Humboldt 2200064	Not to exceed 11 millicuries per source
Americium-241:Be	Sealed Source Humboldt 2200067	Not to exceed 44 millicuries per source

Electrical

Displays:	HS-5001NX	TFT, Normal Color, Sunlight Readable
	HS-5001EZ-2	TFT, Normal Black, Sunlight Readable
Timer Stability		0.01%
Power Supply Stability		0.10%
Power Source:	HS-5001NX	Six (6) alkaline AA-size batteries and NIMH
	HS-5001EZ-2	Six (6) alkaline AA-size batteries
Power Consumption:	HS-5001NX	Active—0.9 - 24mA — Battery Life—1200 hours
	HS-5001EZ-2	
Power Protection:	HS-5001NX	Regulated Supplies—Short Circuit Proof
	HS-5001EZ-2	Main Batteries—Circuit Breaker
	HS-5001EZ-2	Regulated Supplies—Short Circuit Proof
Low Battery Condition:		LOBAT Alarm and Auto Shutoff for low and dead battery conditions
Battery Life:		Remaining Battery Life Automatically Estimated at Power-up by activating TEST routine
Language		Selectable – English, French, Spanish
Micro-controller (MCU)		160MHz, 32 Bit
Real Time Clock (RTC)		Multi date/time formats
3D Accelerometer		Auto turn off on motion
Micro SD Card		Auto storage of 2GB of test Data - 250 tests per project
Shutdown		Auto / User selectable

Radiological

Gamma Source	
Material, Type and Amount	Cs-137, 370MBq (10mCi)
Special Form Registration	USA/0356/S-96 Rev 12
ANSI and ISO Class	ANSI 77C66535
Neutron Source	
Material, Type and Amount	Am-241: Be, 1.48GBq (40mCi)
Neutron Yield	70 Knps ±10%
Special Form Registration	CZ/1009/S-96 Rev 1
ANSI and ISO Class	ANSI 77C66545
Source	
Type	Sealed Source, Special Form
Housing	Stainless Steel, Double Encapsulated
Surface Dose Rates	18.7 mrem/hr Maximum (Neutron and Gamma)
Transit (shipping) Case	DOT 7A, Type A, Yellow II Label, 0.2 TI

CALIBRATION and repairs

Fast and EaZy, Full-Service Nuclear Gauge Calibration, Leak Tests and Service

To support our customers and their use of our nuclear gauges, Humboldt maintains a complete service and **ISO/IEC 17025: 2017** accredited calibration facility at Humboldt Scientific in Raleigh, North Carolina. Here we provide repair and calibration services for Humboldt gauges, as well as those of the other manufacturers. All services are performed by experienced and certified technicians with over 25 years of experience. Our services are built upon providing fast and reliable turn-around of your gauge calibration and repairs while maintaining competitive prices. Humboldt nuclear gauge calibration complies or exceeds ASTM and AASHTO standards by providing five-block calibration for all gauge calibrations. We maintain multiple sets of calibration blocks, which are traceable to master NIST standards. These blocks are set up in isolated, temperature-controlled bays to reduce interference during calibration. Documentation and certificates for calibrations conform to NIST procedures and requirements. We also provide leak test analysis services, gauge rental and disposal services.

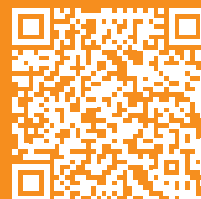
**Need to ship your gauge to us
for calibration or service?
Let us handle it!**

EaZy Shipping Program

And, to make using our services as easy as possible, we have designed our EaZy shipping program. Just go to our website and fill out the calibration/repair form and we'll handle the rest. We will send you the completed shipping papers your gauge will need to have for shipping to us and directions on how to prepare and pack your gauge for shipment. We will contact the shipper and have them pick up your gauge from your designated location and ship it back to you when the calibration is completed.



EaZy Shipping



HS-201050 Find My Gauge Kit

Nuclear Gauge - Find My Gauge Kit

Now with Humboldt's New Find My Gauge Tracking Kit, you can locate your gauge through any computer or mobile device! With this amazing GPS tracker, your gauges can be tracked to see where they are!

No need to upgrade your Nuclear Gauge to track it. Simply install the GPS tracker inside your Gauge and with a few simple steps, you will be able to find your gauge!

Humboldt will provide the GPS tracker and all the necessary mounting hardware, cabling and instructions!

It's that simple!

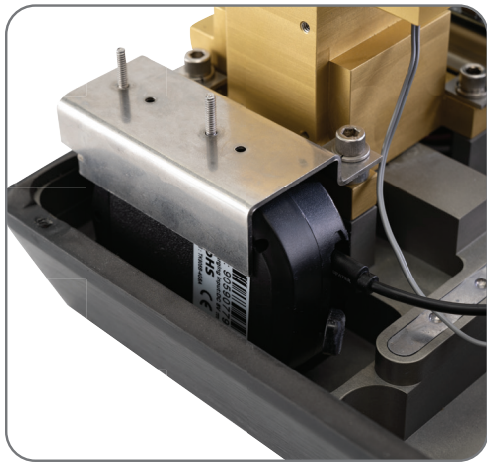


FEATURES:

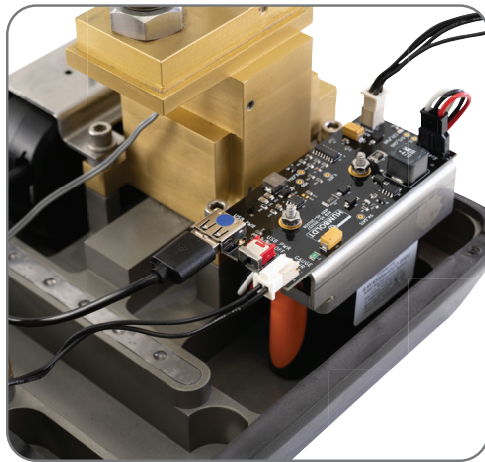
- Outdoor and indoor use
- Built-in, sensitive, vibration sensor - even if a slight vibration for 3 seconds, the device will send alarm to owner.
- Geo-fence will help you make safe area. When the gauge is out of the safe area, the device will send alarm to owner.
- Highly waterproof
- 6 month server storage to view historical routes in APP & Web platform at any time.
- 5000mAh rechargeable battery - device can work up to 7 days for 24/7 monitoring. (Depending on the number of inquiries per day the device will work longer.)
- Includes easy access charging port - no need to disassemble the gauge
- Tracking software can be installed to your personal computer or phone. Free of charge no contract required.
- **SIM Card sold separately. As little as 5 dollars a month in USA and data sim card are available around the world.**



SPECIFICATIONS



GPS Shown inside of Nuclear Gauge



Inside of Nuclear Gauge



Easy Access Charging Port

GPS Asset Tracker (Find My Gauge) Specifications:

Dimensions	3.5"x2.8"x0.8" (90mm x 72mm x 22mm)
Weight	168g
Network	GSM / GPRS
Band	850 / 900 / 180 0/1900Mhz
GPS Sensitivity	-159dBm
GPS Accuracy	5m
Wall Charger	Input: 110-220V Output: 5V-1A
Battery	Chargeable 3.7V 5000mAh Li-ion Battery
Stand By	90 Days
Time To First Fix	Cold Status 45s Warm Status 35s Hot Status 1s
Storage Temp.	-40°F to +185°F (-40°C to +85°C)
Operation Temp.	-4°F to +131°F (-20°C to +55°C)
Humidity	5%--95% non-condensing

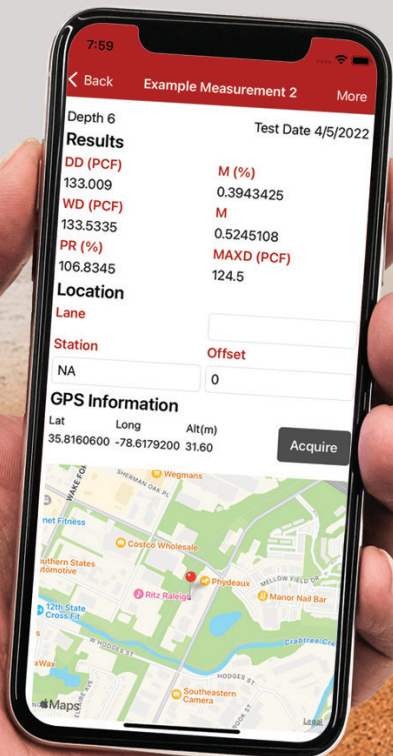
GPS Asset Tracker (Find My Gauge) Options:

HS-201050	Find My Gauge Kit With GPS, SIM Card, Wall AC charger & Hardware
HS-201055	Same as HS-201050 with extra NiMH Batteries
HS-201060	Same as HS-201055 with MotherBoard
HS-201065	Same as HS-201050 with EZ-2 Front Panel Assembly & MotherBoard
HS-201070	Same as HS-201065 with extra NiMH Batteries
HS-201075	Same as HS-201050 with NX Front Panel Assembly & MotherBoard





Humboldt Gauge App EZ-2 Nuclear Gauges



Make it **EZ**, Get the App!



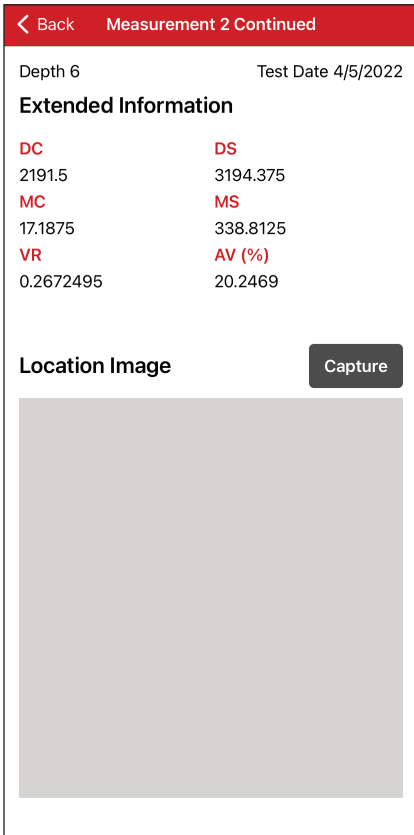
Phone not included. App download only.

Capture test results and share them with anyone with Humboldt's new QR-code-driven cellular phone gauge app. Now, you can transfer your test data to your phone and from there, share it with anyone via email, text message or cloud-sharing platforms. The simplicity of this process is aided by the Humboldt EZ-2 gauge's graphical display, which allows the use of QR codes and your phone's camera to transfer test data. The app also allows the user to use the coordinates of the nuclear gauge to tag the GPS location for each measurement.

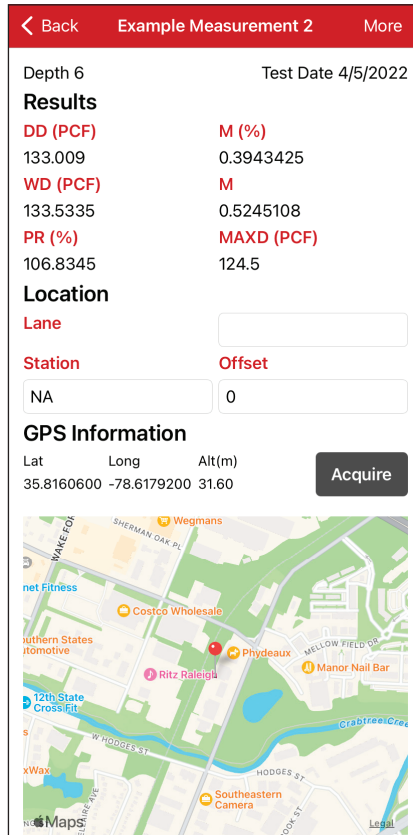
With the new gauge and app, you will be able to transfer data for single readings, as well as projects and groups of projects. This is great for storing test data in multiple places to protect against data loss, as well as sharing data with the lab and supervisors while you are onsite. And, the gauge still stores all the test data, which can then be transferred by the app or thumb-drive with a .csv file. So look into the new Humboldt EZ-2 nuclear gauge and our new app and see how easy using a nuclear gauge can be.



MOBILE APP DETAILS



The extended information screen provides you with data relating to density, moisture, standard density and standard moisture counts. Also supplied is the void ratio measurement and avg. void percentage, as well as a place to add a photo of the actual test location.



Typical information displayed on the phone app includes: time of test, dry density, moisture percent, wet density, moisture, percent of proctor, maximum density, as well as the location, the GPS information and a map illustrating the test location



After each test, a QR code is presented on the EZ-2 Screen. Scanning this code transfers the data to the phone app and allows you to share it with others via email, text message or a cloud-sharing platform.

Available to Download Now:



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