



GxTracker™

The GxTracker™ is an easy-to-install web-based monitoring system that displays ground source heat pump (GSHP) system data and performance metrics of up to 3 heat pumps to an online data portal. System requirements include:

- At least 3/4-inch of exposed metal on entering and leaving GSHP water connections
- Constant loop flowrate (variable flowrates require the accessory GXT-F Flow Kit)
- An active internet connection and AC power source

GXT

GxTracker™ Hardware:

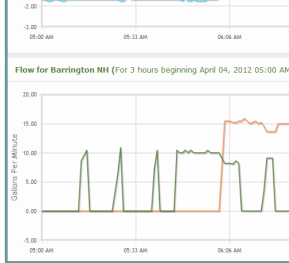
- ♦ (1) GxTracker™ Gateway and AC power adapter
- ♦ (1) CR Magnetics CR-9380-NPN current switch and GXT current switch adapter
- ♦ (2) GxTracker™ temperature sensors and thermal pads.
- ♦ RJ11 telephone lines: (2 ea.) 14-ft, 7-ft, (1) 6-in and assorted telephone line connectors.

GxTracker™ Online Data Portal:

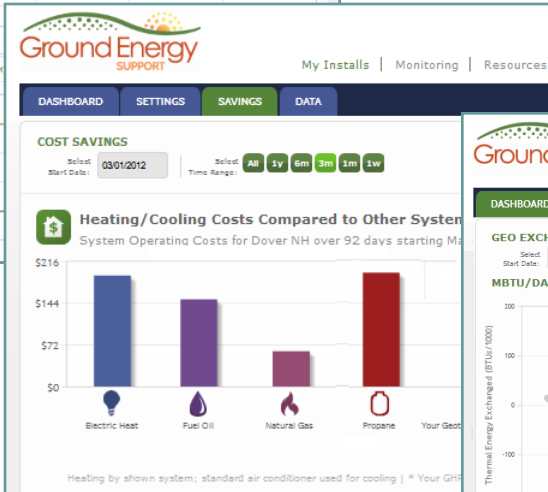
Customizable Data Graphs — User-defined graphs illustrate detailed GSHP system performance. Downloadable raw data and computed daily summary metrics allow for custom analyses and troubleshooting.



GeoExchange — Simple graphics illustrate the renewable heat withdrawn from or stored in the ground by the GSHP system and comparison with conventional fuels.



Weather — Current temperature and daily forecast as well as computed degree days using 15-minute local weather data.



Data Archive — 3-month archive of one-minute resolution data. 3-year archive of daily summaries. Downloadable CSV data files.

Alerts — Email and Dashboard alerts informing users of loop temperatures, anomalous performance metrics, and system maintenance reminders.



GeoBenefits — Cost savings and carbon offsets using system performance data and regional fuel costs and carbon intensity. Operating costs are modeled using system measurements and heat pump manufacturer specifications. Fuel costs are updated monthly from the DOE Short-term Energy Outlook database. Regional carbon intensities of electricity usage from the EPA eGrid.

Accessories	Part	Description	Price
Internet Connectivity Kit	GXT-IC	Enables use of home electrical lines to connect GxTracker™ to internet router	\$100
Additional Heat Pump Kit	GXT-HP	REQUIRED for systems with more than one heat pump.	\$200
Flow Kit	GXT-F	Optional for most systems, REQUIRED for systems with variable flow rates.	See Website
Plus Power Kit—WattNode	GXT-P-W	Optional. Revenue grade electric metering of individual system components.	
Plus Power Kit—CTs	GXT-P-CT	Optional. Current transducers measure amperage for individual system components.	
Hot Water Generation Kit	GXT-HWG	Optional. Measure the BTUs produced from a geo or solar hot water system	

Installer Console

Welcome Back, ABC-Geothermal | Logout

YOUR LOGO HERE

My Installs | Live Sites | Resources | Help Desk | Support

MY INSTALLS

- DOVER NH
Options

There is an issue with this install
- DURHAM NH #1
Options

No problems at this time
- DURHAM NH #2
Options

No problems at this time
- SOUTHINGTON, CT
Options

No problems at this time
- PARRISGEO
Options

No problems at this time

 - Dashboard
 - Settings
 - Savings
 - Data
 - Export CSV Data
 - Sensor Diagnostics
 - Export Daily Summary

The GxTracker™ Installer Console offers a convenient, at-a-glance display of all your installations. Systems with active alerts are easily identified. From the Console, you can navigate directly to data products for each installation.

Permission Settings: Share data with client with additional Owner account or share on the web (Public).

	User	Dashboard	Savings	HP Data	Settings	Diagnostics	Hot Water Generation	Performance	Misc Temp
OWNER		✓	✓	✓	Alerts ✓ Sensors ✓	✓	✓	✓	✓
PUBLIC		✓	✓	✓					

Diagnostics: Concise display of real-time data

Performance: Convenient snapshots of system performance

Sensor Responses

GE ID	Position	Purpose	Last Response
G10115	1	Compressor	0.00 W
G11031	1	leaving water temp	59.00° F
G11073	1	entering water temp	57.42° F
G10114	2	Compressor	0.00 W
G11024	2	entering water temp	68.22° F
G11058	2	leaving water temp	68.90° F
G10116	3	Compressor	0.00 W
G11007	3	entering water temp	61.59° F
G11055	3	leaving water temp	64.40° F

SYSTEM PERFORMANCE

Select End Date: 03/13/2013 | Select Time Range: All 1y 6m 3m 1m 1w 1d

	361 days starting March 17, 2012		Same Period Previous Year	
	Heating	Cooling	Heating	Cooling
Degree Days	5,905.80	736.69	0.0	0.0
Total BTUs	53,435,448.01	9,080,699.06	0.00	0.00
Geoexchange	40,025,404.63	8,022,069.22	0.00	0.00
% GEO	74.90%	88.34%	0.00%	0.00%
System Operating Cost	\$535.62		\$0.00	

CSV Downloads of Minute Resolution Data and Daily Summaries (shown below):

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
Date	CDD	HDD	BTUs Exchanged 1	BTUs Exchanged	BTUs Exchanged 3	BTUs Heat	BTUs Cool	kWh Total	kWh Loop Pump	Pump 1 Runtime	Pump 2 Runtime	Pump 3 Runtime	Any Pump Runtime	Hot Water Generated
12/27/2012	0	33.4	115,750	79,329	200,055	143,403	0	56.64	14.59	7.84	7.54	5.46	14.30	0
12/28/2012	0	36.0	78,980	9,595	184,440	104,453	0	39.25	8.61	5.57	0.92	5.82	9.91	0
12/29/2012	0	39.7	167,725	21,279	58,908	97,205	0	38.88	10.37	11.43	1.74	1.65	12.31	0

How to Order: Go to www.groundenergy.com/wp/inquiry and complete the interactive questionnaire. We will send you a personalized quote. Payment can be made online or by mail.