

BIONOMADIX SMART CENTER (BN-SMART-ESS, BN-SMART-ENH)

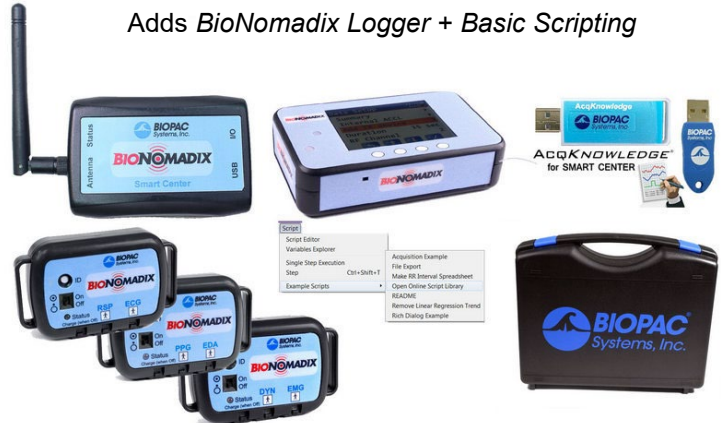
Start Collecting High-Fidelity Wireless Data in Minutes

Smart Center Essentials



Smart Center Enhanced

Adds *BioNomadix Logger + Basic Scripting*



BioNomadix Smart Center is an easy-to-use, small-form data acquisition unit and wireless receiver that records physiological data in most major application areas using BioNomadix Transmitters. The Smart Center offers a compact and sophisticated physiology platform that sets up in minutes. Simply plug the Smart Center into the computer, set up the transmitters and subject, then start recording high quality data with *AcqKnowledge* for Smart Center.



Transmitters are automatically detected and paired using the *AcqKnowledge* for Smart Center setup wizard and guided prompts.

Smart Center is available in Essentials or Enhanced packages, with additional licensed functionalities available for either system. Adhesive Velcro® disks are included for mounting unit on various surfaces.

Smart Center supports all BioNomadix Transmitter types for collecting a full range of body signals. When connected, Smart Center appears in the *AcqKnowledge* software as a stand-alone hardware menu item. Use the full range of *AcqKnowledge* software's powerful automation, measurement, and reporting tools, cited in thousands of publications.

Smart Center does not require a battery and is entirely USB-powered. (Wireless BioNomadix transmitters are battery-powered and include an AC wall charger. Transmitters last up to 72 hours on a charge.)

The included Smart Center case holds the Smart Center, up to four transmitters, two transmitter chargers, Logger, Logger Charger, USB cable, antennas, with room to spare for accessories—electrodes, leads, gels, straps, etc. (accessories purchased separately). The durable case makes moving the complete system easy and protects hardware during transport or storage.

Add the BN-SMART-IOCBL cable to access 8 digital input lines and record synchronization signals from SuperLab or E-Prime stimulus/response studies.

High Level Features

- Small form factor
- Direct connection to computer
- 9 Channels of wireless data
- Simple to use and easy to connect
- Signal-specific analysis options
- 10-meter range
- Up to 2 kHz data acquisition speed
- Digital input

Note: When disconnected from external equipment, digital inputs are held high by 100 kΩ pull-up resistors.

BioNomadix Transmitters for Smart Center support the following signals—EEG, ECG, EMG, EOG, EGG, EDA, RSP, SKT, PPG, Cardiac Output, Goniometry, Dynamometry, Heel-Toe Strike.

See specifications for specific BioNomadix Transmitter types and part numbers.

BioNomadix Smart Center Essentials (BN-SMART-ESS)

- Smart Center unit
- 2-3 transmitters, select quantity and signals when ordering
- Micro-USB-to-USB cable
- *AcqKnowledge* 6 for Smart Center
- USB Software Installation and License keys
- Durable form-fitted carrying case

BioNomadix Smart Center Enhanced (BN-SMART-ENH) adds:

- 3 transmitters included (select signals when ordering)
- BioNomadix Logger—wireless, wearable data logger ([BN-LOGGER](#))
- BIOPAC Basic Scripting

Smart Center Compatible Licensed Feature Options

Add additional *AcqKnowledge* software Licensed features to an existing Smart Center package:

- [BIOPAC Basic Scripting license](#)—Customize the display and simplify the user interface. With scripting, it's possible to consolidate many tasks into one automated routine that eliminates the potential for error. Guarantee reproducibility every time with a Basic Script, no matter who is controlling the experiment. (Add to Essentials, included in Enhanced.)
- [Actigraphy](#)—Use long-term accelerometry data recorded with the Logger's built-in accelerometer and analyze sleep and activity patterns of mobile subjects (included with BN-SMART-ENH).
- [FaceReader Integration](#)—Synchronize with existing FaceReader emotion reading software for analyzing facial movements and classifying subject's response.
- [Network Data Transfer](#)—Real-time data transfer system that allows access to data being acquired into a graph by *AcqKnowledge* for use in an external application.
- [Remote Monitoring](#)—Provides a simple browser interface from which acquisitions can be started or stopped and remote data can be viewed during and post-acquisition.

Specifications

Unit Dimensions:	92 mm (L) x 60 mm (W) x 27 mm (D)
Maximum Sample Rate:	2 kHz per channel
Bit Rate:	12 bits per sample
Frequency:	2.4 GHz
Ports:	USB (1), I/O (1)
Antenna:	Yes, removable
Power Source:	Computer USB (cable included)
Range:	10 meters line-of-sight
Transmission:	Wireless with Dual Signal BioNomadix Transmitters
Maximum Transmitters Supported:	3
Maximum Data Channels:	6, plus derived signals selectable in software
Software:	AcqKnowledge 6 for Smart Center
Supported OS:	Windows 11/10/8.x/7, MacOS 10.9-14
FCC ID:	ZWIBNXR1
IC:	9901A-BNXR1
VCCI:	211-128161
Carrying Case Dimensions:	34 cm (L) x 28.47 cm (W) x 8.24 cm (D)

Supported Signals & BioNomadix Transmitters*

Electrocardiogram	BioNomadix BN-ECG2-T
Electromyogram	BioNomadix BN-EMG2-T
Electroencephalogram	BioNomadix BN-EEG2-T
Electrogastrogram	BioNomadix BN-EGG2-T
Electrooculogram	BioNomadix BN-EOG2-T
Respiration	BioNomadix BN-RSP2-T
Skin Temperature	BioNomadix BN-SKT2-T
Photo Plethysmogram & Electrodermal Activity	BioNomadix BN-PPGED-T
Respiration & Electrocardiogram	BioNomadix BN-RSPEC-T
Cardiac Output (dZ-Dt)	BioNomadix BN-NICO-T
Dynamometry & Electromyography	BioNomadix BN-DYNEMG-T
Goniometry	BioNomadix BN-GONIO-T
Heel-Toe Strike	BioNomadix BN-STRIKE-T

*For full transmitter specs and necessary leads/electrodes, see [BioNomadix Product Sheet](#)

Smart Center Digital Channel Pin-outs

Pin	Description
2	Din_1
3	Din_2
5	Din_3
6	Din_4
8	Din_5
9	Din_6
11	Din_7
12	Din_8
13	GND
18	+ 5 V
14	DOUT_4
15	DOUT_3
16	DOUT_2
19	DOUT_1