



## The Vernier Adapter

*(Product No. 3051)*



**DATA HARVEST**

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## Introduction

The *Smart Q* Vernier adapter has been designed to provide the calibration tables and connection for compatible Vernier DIN analogue sensors to an **EASYSense** unit. Vernier's DIN range of sensors has 5-pin DIN plugs for use with the ULI and Serial Box Interface.

Vernier produces the same range of sensors with British Telecom type connectors – BTA analogue sensors (for use with the LAB Pro, CBL & CBL2 loggers). These can also be used with the *Smart Q* Vernier adapter if connected via a BTA to DIN adapter (supplied by Vernier).

**Note:** This does **not** apply to BTA sensors that do not have a DIN equivalent that is included in the compatibility list or the Vernier stainless steel Temperature probe (TMP-BTA) which is unsuitable for use with the BTA-DIN adapter.

The selected Vernier sensor and its range will be stored in the *Smart Q* Vernier adapter so it is automatically loaded each time the Adapter is connected.

## Vernier Sensor compatibility chart

Range No.	Product Name	Product Code	Gain Setting	Label	Unit
0	Force plate 2700 N	FP-BTA		Force plate	N
1	Force plate 600 N	FP-BTA		Force plate	N
2	3-Axis Accelerometer	3D-DIN		Acceleration	m/s/s
3	25-g Accelerometer	ACC-DIN		Acceleration	m/s/s
4	Barometer	BAR-DIN		Pressure	Atm
5		BAR-DIN		Pressure	In Hg
6		BAR-DIN		Pressure	mBar
7		BAR-DIN		Pressure	mm Hg
8	Biology Gas Pressure Sensor	BGP-DIN		Pressure	Atm
9		BGP-DIN		Pressure	in Hg
10		BGP-DIN		Pressure	kPa
11		BGP-DIN		Pressure	mm Hg
12	CO <sub>2</sub> Gas Sensor	CO2-DIN		CO2 Conc.	ppm
13	Colorimeter**	COL-DIN		Transmittance	%
14	Conductivity Probe	CON-DIN	100 mg/L	TDS	mg/L
15		CON-DIN	1000 mg/L	TDS	mg/L
16		CON-DIN	10000 mg/L	TDS	mg/L
17		CON-DIN	200µS	Conductivity	µS
18		CON-DIN	2000µS	Conductivity	µS
19		CON-DIN	20000µS	Conductivity	µS
20	Current & Voltage Probe System Current	CV-DIN 1		Current	A
21	Voltage	CV-DIN 2		Voltage	V

22	Direct-Connect Temperature	DCT-DIN		Temperature	C
23		DCT-DIN		Temperature	Deg. F
24	Dual-Range Force Sensor	DFS-DIN	5N	Force	N
25		DFS-DIN	10N	Force	N
26		DFS-DIN	50N	Force	N
27	Dissolved Oxygen Probe	DO-DIN		DO2	mg/L
28	Exercise Heart Rate Monitor	EHR-DIN		Potential	V
29	EKG Sensor	EKG-DIN		Potential	V
30	Flow Rate Sensor	FLO-DIN		Flow Rate	ft./s
31		FLO-DIN		Flow Rate	m/s
32	Gas Pressure Sensor	GPS-DIN			Atm
33		GPS-DIN			kPa
34		GPS-DIN			mm Hg
35		GPS-DIN			psi
36	Heart Rate Monitor	HRM-DIN		Potential	V
37	Instrumentation Amplifier	INA-DIN	0-20mV	Voltage	V
38		INA-DIN	0-200mV	Voltage	V
39		INA-DIN	0-1V	Voltage	V
40		INA-DIN	±20mV	Voltage	V
41		INA-DIN	±200mV	Voltage	V
42		INA-DIN	±1V	Voltage	V
43	Frederiksen Infrared Sensor***	IR	1000 W/m <sup>2</sup>	Infrared	W/m <sup>2</sup>
44	Ion Sel ISE Amplifier*	ISE-DIN		Voltage	mV
45	Low-g Accelerometer	LGA-DIN		Acceleration	m/s/s
46	Light Sensor	LS-DIN	600	Illumination	Lux
47		LS-DIN	6000	Illumination	Lux
48		LS-DIN	150000	Illumination	Lux
49	Magnetic Field Sensor	MG-DIN	High	Mag. Field	Gauss
50		MG-DIN	High	Mag. Field	mT
51		MG-DIN	Low	Mag. Field	Gauss
52		MG-DIN	Low	Mag. Field	mT
53	pH Sensor	pH-DIN		-Log[H <sup>+</sup> ]	pH
54	Pressure Sensor	PS-DIN		Pressure	Atm
55		PS-DIN		Pressure	kPa
56		PS-DIN		Pressure	mmHg
57		PS-DIN		Pressure	psi
58	Relative Humidity Sensor	RH-DIN		Humidity	%RH
59	Student Force Sensor	SFS-DIN		Force	N
60	Thermocouple	TCA-DIN	Type K	Temperature	C
61	Frederiksen Ultraviolet Sensor***	UVA		Ultraviolet A	%
62	Raw Voltage			Raw Voltage	V

\* The Ion Selective ISE Amplifier (ISE-DIN) can be used with Vernier's Ion Selective Electrodes [Ammonium (NH<sub>4</sub>-DIN), Calcium (CA-DIN), Chloride (CL-DIN) and Nitrate (NO<sub>3</sub>-DIN)]. Usually these sensors are calibrated by using the High & Low Standard calibration solutions supplied by Vernier to enter a concentration value. It will not be possible to enter a

concentration value when these electrodes are used with the *Smart Q* Vernier adapter. The value from the Ion Selective Electrode will be displayed as a milli-Volt reading.

\*\* The Vernier adapter is not able to respond to a reset to zero button e.g. as used during the calibration of the Colorimeter.

\*\*\*The Frederiksen IR and UVA sensors are not a Vernier product but have been added to the list of sensors to make their use possible with this Adapter.

It will **not** be possible to modify this *Smart Q* Vernier adapter for any new sensor Vernier may introduce.

## Connecting




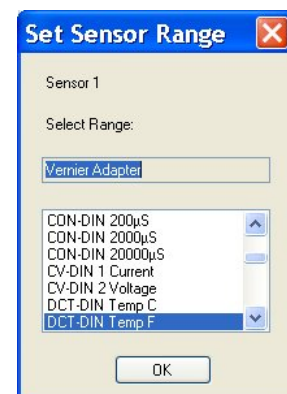
Plug the Vernier sensor into the 5-DIN socket

- Push one end of the sensor cable (supplied with the **EASYSense** unit) into the hooded socket on the Adapter with the locating arrow on the cable facing upwards.
- Connect the other end of the sensor cable to an input socket on the **EASYSense** unit.
- Connect the Vernier sensor to the 5-DIN socket.
- The **EASYSense** unit will detect that the *Smart Q* Vernier adapter is connected and display values using the currently selected range. If the range is not suitable, set to the correct range.

## Ranges

To select the Vernier Sensor and its range:

- Connect the Vernier adapter to the **EASYSense** unit.
- Start the **EASYSense** program and select one of the logging modes from the Home screen e.g. EasyLog. Select **Sensor Config** from the **Settings** menu.
- Select the Adapter from the list (it will be listed using its current range) and click on the **Change Range** button. There is a large amount of information to be read, so there may be a delay as the list loads.
- The display will indicate the Vernier product code and the range of units available for that sensor. E.g. The Barometer sensor (BAR-DIN) has four ranges: Atm, in HG, mBar & mmHg. The sensor and range currently selected will be highlighted. Select the required range and click on OK.
- Close Sensor Config. Click on New  and then Finish for the change in range to be detected.



The range setting will be retained until changed by the user. With some **EASYSense** units it is possible to set the range from the unit. Please refer to the **EASYSense** unit's user manual.

## Warranty

All Data Harvest Sensors are warranted to be free from defects in materials and workmanship for a period of 12 months from the date of purchase provided they have been used in accordance with any instructions, under normal laboratory conditions. This warranty does not apply if the Sensor has been damaged by accident or misuse.

In the event of a fault developing within the 12 month period, the Sensor must be returned to Data Harvest for repair or replacement at no expense to the user other than postal charges.

**Note:** Data Harvest products are designed for **educational** use and are not intended for use in industrial, medical or commercial applications.



### WEEE (**W**aste **E**lectrical and **E**lectronic **E**quipment) Legislation

Data Harvest Group Ltd is fully compliant with WEEE legislation and is pleased to provide a disposal service for any of our products when their life expires. Simply return them to us clearly identified as 'life expired' and we will dispose of them for you.