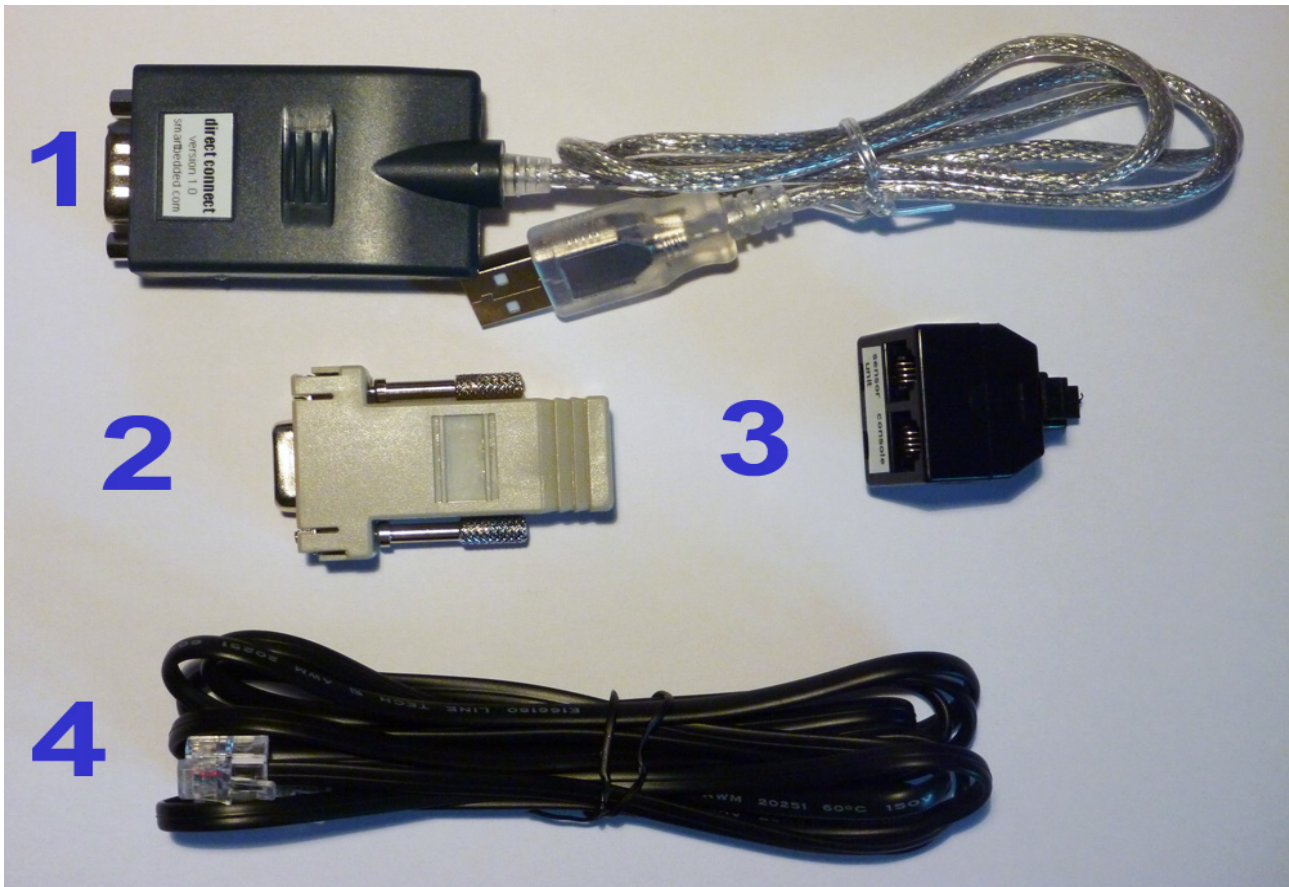


Instructions for "direct connect kit - PC"

The smartbedded "direct connect kit - PC" allows you to directly connect your Davis®¹ Vantage Pro2™ and Vantage Pro2 Plus™ cabled sensor unit to your Windows or Linux PC without the need of a console or data logger. This gives you direct access to the data as it comes from the sensor unit. **Only cabled sensor units are supported (Davis® part numbers: 6152C, 6162C, 6327C, 6322C)** Received data does not include indoor temperature and humidity and does not include pressure as these values are measured in the Vantage™ console, not in the sensor unit. The "direct connect kit - PC" does also provide power for the cabled sensor unit. After having installed a USB-serial driver for the Prolific PL2303 chip and starting the smartbedded read-out program, all you have to do is to plugin the kit into a USB port of your PC and to connect the RJ11 cable of your sensor with the RJ11 jack of this kit. By the help of an adapter included in the kit you can connect the console in parallel as well.

Package Content

The "direct connect kit" consists of 4 pieces:



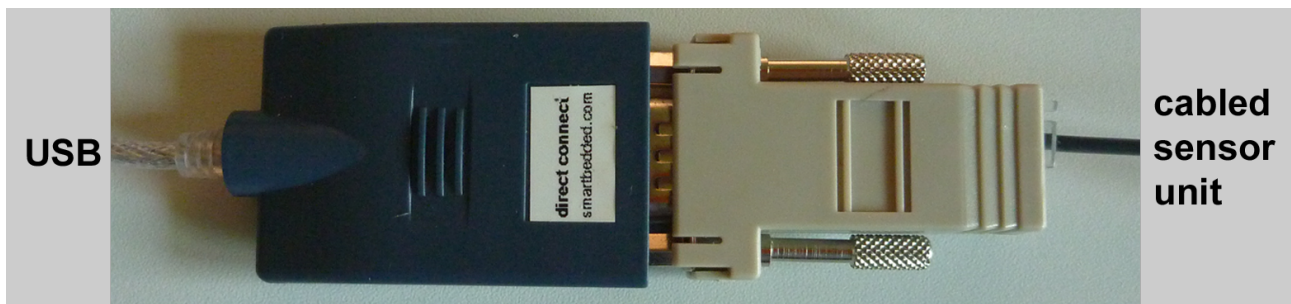
¹ The Davis logo and text is a registered trademark of Davis Instruments Corp. Vantage Pro2 and Vantage Pro2 Plus are trademarks of Davis Instruments Corp. Whenever Davis or Vantage is mentioned in this document these trademarks are referenced, even if a TM or ® should be missing.

1. **USB adapter** doing signal conversion and linking the sensor unit to your Meteohub.
2. **DB9-to-RJ11 adapter** connecting part 1 physically to the cable of your Vantage™ sensor unit.
3. **RJ11 splitter** that allows you to additionally connect the cabled Vantage™ console. This part does come in white or black.
4. **RJ11 cable** to connect the Vantage™ console to the RJ11 splitter.
5. this manual in printed form. You might also get additional info and support on this product on "<http://www.smartbedded.com>"

Standard Setup

Setup is done in a few simple steps.

1. Install the Prolific PL2303 driver for your operating system. This driver makes the kit available as a "/dev/ttyUSBx" device on Linux systems and as an additional COM port on Windows machines. PL2303 driver for Linux is part of most Linux standard distributions. If not, please check what package needs to be installed on your distribution to get the pl2303 kernel module. If your Windows does not recognize the PL2303 as an additional COM port, please make use of this installation package:
http://www.smartbedded.com/files/PL2303_Prolific_DriverInstaller_10311.zip
2. Plug the DB9-to-RJ11 adapter (item #2 in the picture) to the USB adapter (item #1) and fasten the screws.
3. Plug the USB cable of the USB adapter into your PC.
4. Plug the cable running from your cabled Vantage Pro2™ or Vantage Pro2 Plus™ sensor unit into the RJ11 jack of the DB9-to-RJ11 adapter.



Extended Setup

As mentioned in the introduction a Vantage™ cabled Console can be connected in addition to the "direct connect kit". This allows to monitor data in parallel to make use of it via your PC. Setting up this variation is also done in a few steps.

1. Follow instructions of the Standard setup, but do not connect the cable from the sensor unit to the DB9-to-RJ11 adapter. Instead connect the RJ11 splitter (item #3) to the DB9-to-RJ11 adapter (item #2) until it clicks into place. Remark: The splitter can be released from the DB9-to-RJ11 adapter by pressing the knob on the top of the splitter.
2. Connect the cable from the sensor unit with the jack of the RJ11 splitter labeled "sensor unit".
3. Connect the Vantage™ console to the RJ11 splitter jack named "console" by using provided RJ11 cable (item #4).

4. Please note that the Vantage™ sensor unit will not work with USB adapter (item #1) not being connected to the PC. Reason is, that the USB adapter feeds the sensor unit with power, not the Vantage™ console like when the sensor unit does directly connect to the console.



PC Setup

1. Download the smartbedded readout program that fits to your operating system and architecture:
 - Linux x86:
<http://www.smartbedded.com/files/issread-X86>
 - Linux Kirkwood (SheevaPlug et al):
<http://www.smartbedded.com/files/issread-PLUG>
 - Windows XP/7:
<http://www.smartbedded.com/files/issread.exe>
2. Start the downloaded file on the command line with the serial device (example "/dev/ttyUSB0") as parameter on a Linux system or the numerical com port number (example "5" for port COM5) on a Windows system. An explanation of additional parameters is displayed with option "-h".
3. After a couple of seconds data is prompted to the console and can be piped into a file or a follow-up process.

Examples

1. List of options and parameters: "issread.exe -h"

```
Usage: issread [OPTION] DEVICE
```

```
Read weather data from a cabled DAVIS(R) VantagePro2(TM) sensor unit  
and print data to STDOUT.
```

```
OPTIONS:
```

```
-h          print this information  
-m          output data in meteohub style  
-t secs    output data in tabular style (invalidate after secs of no data)  
-r          alternative rain rate calculation (average of last 10 mins)  
-i          assume rain bucket size is 0.1 inch instead of 0.2 mm
```

```
DEVICE:
```

```
/dev/ttyUSB0 or any other serial device path (Linux) or  
device number (Windows)
```

2. Human readable output: "issread.exe 5" or "issread-X86 /dev/ttyUSB0"

```
temperature 15.7 C
wind average 0.4 m/s, wind gust 0.4 m/s, wind direction 80, wind chill 15.7 C
rain rate 0.0 mm/h, rain total 0.0 mm, rain increment 0.0
wind average 0.2 m/s, wind gust 0.0 m/s, wind direction 76, wind chill 15.7 C
wind average 0.1 m/s, wind gust 0.0 m/s, wind direction 79, wind chill 15.7 C
solar radiation 2 Wqm
wind average 0.1 m/s, wind gust 0.0 m/s, wind direction 79, wind chill 15.7 C
temperature 15.7 C
wind average 0.1 m/s, wind gust 0.0 m/s, wind direction 79, wind chill 15.7 C
rain rate 0.0 mm/h, rain total 0.0 mm, rain increment 0.0
wind average 0.1 m/s, wind gust 0.0 m/s, wind direction 75, wind chill 15.7 C
wind average 0.1 m/s, wind gust 0.0 m/s, wind direction 76, wind chill 15.7 C
uv index 0.0 uvi
wind average 0.1 m/s, wind gust 0.0 m/s, wind direction 75, wind chill 15.7 C
```

3. Meteohub style output: "issread.exe 5" or "issread-X86 /dev/ttyUSB0"

```
th 154 88 134
wind 80 0 0 154
rain 0 0
wind 76 0 0 154
th 155 88 135
wind 75 0 0 155
rain 0 0
wind 73 0 0 155
sol 2
wind 73 0 0 155
```

4. Tabular style output: "issread.exe -t 120 5" or "issread-X86 -t 120 /dev/ttyUSB0"

#	temp	hum	dew	wind	av.wind	winddir	chill	raininc	rate	uvind	solar
#	C	%	C	m/s	m/s	deg	C	mm	mm/h	uvi	wqm
x		89	x	x	x	x	x	x	x	x	x
x		89	x	0.0	0.0	76	x	x	x	x	x
15.3		89	13.5	0.0	0.0	76	15.3	x	x	x	x
15.3		89	13.5	0.0	0.0	76	15.3	x	x	x	x
15.3		89	13.5	0.0	0.0	76	15.3	0.0	0.0	x	x
15.3		89	13.5	0.0	0.0	73	15.3	0.0	0.0	x	x
15.3		89	13.5	0.0	0.0	72	15.3	0.0	0.0	x	x
15.3		89	13.5	0.0	0.0	72	15.3	0.0	0.0	x	0
15.3		89	13.5	0.0	0.0	73	15.3	0.0	0.0	x	0
15.3		89	13.5	0.0	0.0	73	15.3	0.0	0.0	x	0
15.3		89	13.5	0.0	0.0	73	15.3	0.0	0.0	x	0
15.3		89	13.5	0.0	0.0	73	15.3	0.0	0.0	x	0
15.3		89	13.5	0.0	0.0	73	15.3	0.0	0.0	x	0
15.3		89	13.5	0.0	0.0	72	15.3	0.0	0.0	x	0
15.3		89	13.5	0.0	0.0	72	15.3	0.0	0.0	0.0	0
15.3		89	13.5	0.0	0.0	76	15.3	0.0	0.0	0.0	0

Additional Remarks

The "direct connect kit - PC" can make Davis Vantage Console and data logger obsolete when...

- you have a PC solution that is always on and does not depend on a battery buffered data logging option that the data loggers from Davis® do provide.
- you don't rely on air pressure data. When you need this, you might consider buying a cheap separate pressure sensor from Toradex, "Oak USB Sensor Atmospheric Pressure" (http://toradex.com/En/Products/USB_Sensors_and_Peripherals/Oak_USB_Sensors/Atmospheric_Pressure) which can be connected to a second USB port of your PC. Readout of data has to be handled by software provided by Toradex.

Warning

Connecting a cabled sensor unit with your IT and network can always put harm to your rig in case of lightning strikes. Please apply additional appropriate protection mechanisms. The "direct connect kit" does not provide an over voltage protection that can handle this.