

## USBDEVELKIT DEVELOPMENT KIT V3



- USB interface
- Back auxiliary connector for external sensors
- RoHS-compatible & Pb-free
- Flash software upgradeable through USB
  
- Software compatible with windows 7 / XP
- Recording software

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### DESCRIPTION

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The USB demonstration kit provides easy to use hardware and software for evaluation of MEAS pressure sensor.

The software allows basic graphing and logging of the raw and calibrated pressure and temperature as well as altitude data.

The software interface also shows the sensor calibration words and provides tunable averaging of the measured data.

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### FEATURE

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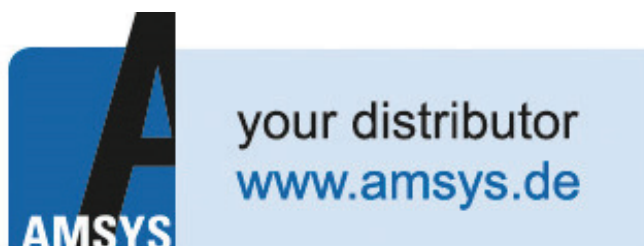
- Supply voltage from USB
- Graphing and data logging software
- Fast measurement rate up to ~25 samples/s
- Demonstrator for future products
- Sample board for each sensors
- 0°C to +50°C operation temperature

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### PACKAGE CONTENT

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- 1 USB developer key
- Samples boards on request.
- 1 Software driver and manual on Compact Disk CD



## USBDEVELKIT DEVELOPMENT KIT V3

### ABSOLUTE MAXIMUM RATINGS

Parameter	Symbol	Conditions	Min	Max	Unit	Notes
Supply voltage	USBVDD	Ta = 25 °C	-0.3	6.0	V	
Storage temperature	T <sub>s</sub>		-20	+85	°C	1

#### NOTE

- Storage and operation in an environment of dry and non-corrosive gases.

### RECOMMENDED OPERATION CONDITIONS

(Ta = 25°C, VDD = 3.0 V unless noted otherwise)

Parameter	Symbol	Conditions	Min.	Typ.	Max	Unit
Supply voltage	VDDUSB			5.0		V
Supply current, Active Idle	I <sub>Active</sub> I <sub>Idle</sub>	VDD = 5.0 V		13.5 4		mA mA
Update speed.		Actual 25 Hz performance may vary with time and computer	1		25	Hz
Operating temperature range	T		0	+25	+50	°C
Internal Self Test Key	P_error			+/-5		mBar

### FUNCTION

#### GENERAL

The USB DEVEL module is meant for evaluation of new and future pressure sensor modules from MEAS Switzerland Sàrl.

The module and software will allow the user to see the raw and calibration data read from the sensor as well the calculated pressure and altitude derived from those data.

#### HUMIDITY, WATER PROTECTION

The USB DEMO module case does not provide special water protection.

#### LIGHT SENSITIVITY

The USB DEMO module should provide adequate light protection for most indoor and outdoor lightning situations.

#### ESD PRECAUTIONS

Some ESD suppressor diodes help protect against the risks due to electrostatic discharges on the USB port connectors up to 2kV direct discharge.

## USBDEVELKIT DEVELOPMENT KIT V3

### PIN CONFIGURATION

On the back of the USB module PCB an auxiliary connector with the following pin configuration can be found. It is normally used for in factory flash programming or to attach the sensor.

A MEC1-108-02-F-D-EM2 connector from SAMTEC ([www.samtec.com](http://www.samtec.com)) is soldered in place.

Use the “PCB Internal connection” to access to these pins through the connector.

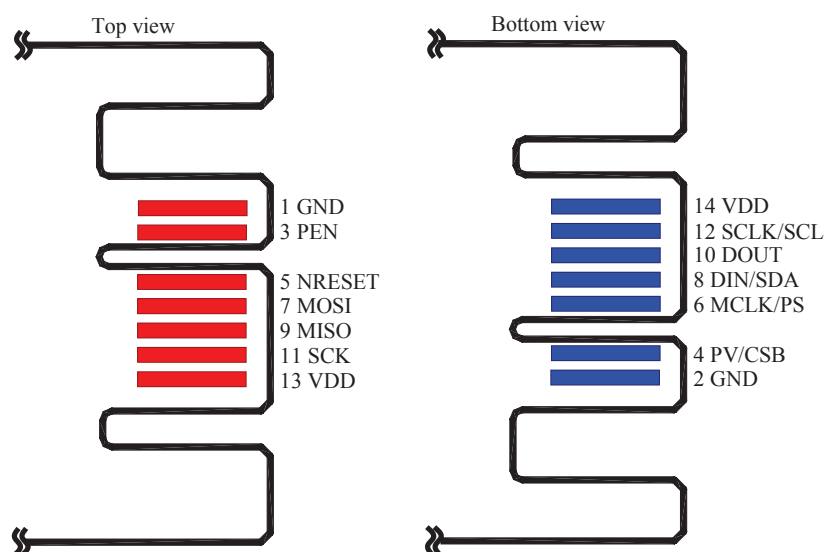


Fig. 1: Pin configuration of USB module back connector

• Pin Name	• Pin	• Type	• Function
<b>User interface</b>			
GND	2	G	Ground
PV/CSB	4	N	Negative programming voltage (1) / Chip Select
MCLK/PS	6	I	Master clock (32.768 kHz) / Protocol select
DIN/SDI/SDA	8	I	Serial data input for external sensor
SDO/-DOUT	10	O	Serial data output for external sensor
SCLK/SCL	12	I	Serial data clock for external sensor
VDD	14	P	Positive supply voltage 3.3 volts from USB module
<b>Manufacturer reserved interface</b>			
GND	1	G	Ground
PEN	3	I	Programming enable (1)
NRESET	5	I	Reset input active low for microcontroller
MOSI	7	O/I	SPI output of microcontroller / external programming pin
MISO	9	I/O	SPI Input of microcontroller / external programming pin
SCK	11	O	SPI clock
VDD	13	P	Positive supply voltage 3.3 volts from USB module

#### NOTE

- 1) Pin 3 (PV) and PIN 4 (PEN) are only used by the manufacturer for test and should not be connected.

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## FUNCTIONAL BLOC DIAGRAM

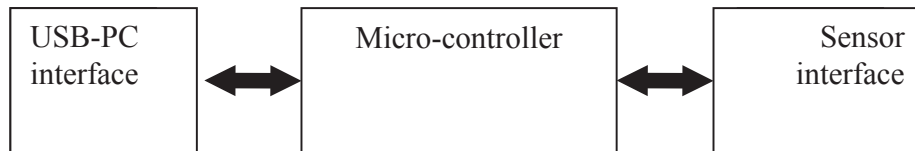
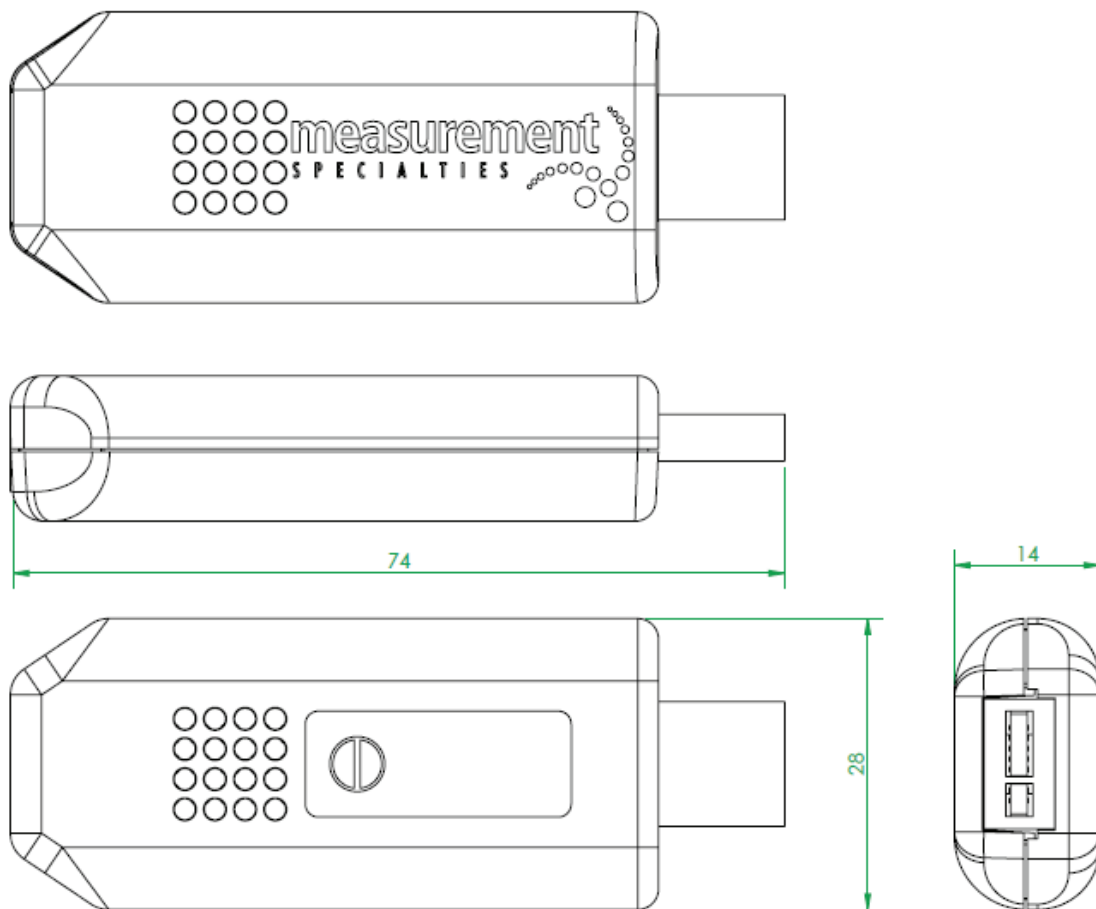


Figure 1: Block diagram of USB DEVEL KIT

## DEVICE PACKAGE OUTLINES



## USBDEVELKIT DEVELOPMENT KIT V3

### ORDERING INFORMATION

Product	Part Number / Art. Number
USB DEVELOPMENT KIT	PROTO-USBDEVELKIT
PCB Internal connection	PROTO-PCBDEVELBRD

### FACTORY CONTACTS

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