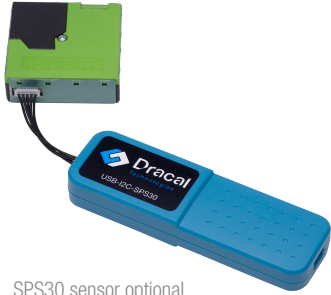**Dracal**
TECHNOLOGIES

USB ADAPTER FOR SPS30 PARTICULATE MATTER SENSOR — USB-I2C-SPS30

SPS30 sensor optional

DESCRIPTION

The USB-I2C-SPS30 is an I2C to USB converters for use with the Sensirion SPS30 Particulate matter sensor. It allows connecting a PC or most Android device with an available USB port. The SPS30 is directly powered by our USB converter. Our downloadable software will automatically identify the SPS30 and be ready for real-time data acquisition of all channels from the sensor.

APPLICATIONS

○ OEM
○ Greenhouse
○ Server rooms
○ Manufacturing
○ LIMS integration
○ Scientific research
○ Building automation
○ Engineering and R&D

INSTALLATION TIME
Less than 10 minutes

UNIQUE SERIAL NUMBER
Each unit is assigned a unique serial number allowing for traceability and certification

FREE DAQ SOFTWARE
Real-time data visualization and logging

DATA INTEGRATION
Command-line tools for direct data access and integration

ALSO AVAILABLE
Traceability certificates

USB ADAPTER SPECIFICATIONS			
Parameter	**Condition**	**Value**	**Units**
Temperature operating range	–	0 to 70	°C
Humidity operating range[1]	Non condensing	10 to 90	%RH
Sensor wires lenght	–	7	cm
Communication interface			
Computer side	–	USB	
Sensor side	–	I_2C	
I_2C speed	–	400	kHz
Maximum sampling rate	–	10	/sec
Housing and USB cable			
Material	–	ABS	–
IP rating	–	51	–
System galvanic isolation	–	None	–
USB cable length	–	1	m
Colour	–	Cyan	–
Maximum USB cable length		2	m
Housing dimensions	88 X 28 x 14		cm
Weight (without USB cable)	–	24	g
RoHS	Yes		
Power supply			
Voltage	Powered through a USB port	5	V
Current consumption	At 5V	15	mA

[1] If water condensation or splashing is possible, it is recommended to install the probe pointing down to reduce the risk of water build-up in the sensor. If water splashing is possible, protect the sensor and the cable converter using extra precautions. Extra housing may be required depending on the application.

SPS30 SPECIFICATIONS

Parameter	Condition		Value	Units
Mass concentration range	–		0 to 1'000	µg/m3
Mass concentration size range	PM1.0		0.3 to 1.0	µm
	PM2.5		0.3 to 2.5	µm
	PM4		0.3 to 4.0	µm
	PM10		0.3 to 10.0	µm
Mass concentration precision1,2 for PM1 and PM2.53	0 to 100 µg/m3		±10	µg/m3
	100 to 1000 µg/m3		±10	% m.v.
Mass concentration precision1,2 for PM4, PM104	0 to 100 µg/m3		±25	µg/m3
	100 to 1000 µg/m3		±25	% m.v.
Maximum long-term mass concentration precision limit drift	0 to 100 µg/m3		±1.25	µg/m3 / year
	100 to 1000 µg/m3		±1.25	% m.v. / year
Number concentration range	-		0 to 3'000	#/cm3
Number concentration size range	PM0.5		0.3 to 0.5	µm
	PM1.0		0.3 to 1.0	µm
	PM2.5		0.3 to 2.5	µm
	PM4		0.3 to 4.0	µm
	PM10		0.3 to 10.0	µm
Number concentration precision1,2 for PM0.5, PM1 and PM2.53	0 to 1000 #/cm3		±100	#/cm3
	1000 to 3000 #/cm3		±10	% m.v.
Number concentration precision1,2 for PM4, PM104	0 to 1000 #/cm3		±250	#/cm3
	1000 to 3000 #/cm3		±25	% m.v.
Maximum long-term number concentration precision limit drift2	0 to 1000 #/cm3		±12.5	#/cm3 / year
	1000 to 3000 #/cm3		±1.25	% m.v. / year
Sampling interval	-		1±0.04	s
Typical start-up time5	number concentration	200 – 3000 #/cm3	8	s
		100 – 200 #/cm3	16	s
		50 – 100 #/cm3	30	s
Sensor output characteristics	PM2.5 mass concentration		Calibrated to TSI DustTrak™ DRX 8533 Ambient Mode	
	PM2.5 number concentration		Calibrated to TSI OPS 3330	
Lifetime6	24 h/day operation		> 10	years
Acoustic emission level	0.2 m	max.	25	dB(A)
Long term acoustic emission level drift	0.2 m	max.	+0.5	dB(A) / year
Additional T-dependent mass and number concentration precision limit drift2	temperature difference to 25°C	typ.	±0.5	% m.v. /
Weight	–		26.3 ±0.3	g
Power supply				
Voltage	–		4.5 to 5.5	V
Current consumption	Max./ at 5V		80	mA

AVAILABLE CHANNEL(S)
As displayed in our logging software

CHANNEL ID*	DECRIPTION	TYPE	NATURE
00	Mass Concentration PM1.0	Concentration	Real
01	Mass Concentration PM2.5	Concentration	Real
02	Mass Concentration PM4.0	Concentration	Real
03	Mass Concentration PM10	Concentration	Real
04	Number Concentration PM0.5	Concentration	Real
05	Number Concentration PM1.0	Concentration	Real
06	Number Concentration PM2.5	Concentration	Real
07	Number Concentration PM4.0	Concentration	Real
08	Number Concentration PM10	Concentration	Real
09	Typical Particle Size	Size	Real

* Channel Id as it appears in DracalView. Virtual channel Id differ in DracalView and dracal-usb-get.

CAUTION: Please keep in mind that electromagnetic interference (EMI) may decrease the accuracy of the sensor. Avoid using this device near EMI sources such as motors, high voltage transformers and fluorescent tubes.

NOTE: Note that this product is not waterproof and requires protection if contact with water is possible.

TIP: Avoid installing the sensor in a location where strong vibration is likely to occur. Strong vibrations may cause slight inaccuracies in the reading.

TIP: As for any precision measurement equipment, it is advised to power on the unit at least 10 minutes before using it.

ORDERING

PRODUCT(S)

PART NUMBER	OPTION	DESCRIPTION
612001	USB-I2C-SPS30	USB Adapter for SPS30 particulate matter sensor
624065	USB-I2C-SPS30+Sensor	USB Adapter for SPS30 particulate matter sensor+ Sensirion SPS30 Sensor

Warning: This product is not designed for use in, and should not be used for, human applications.

Note: While every effort has been made to ensure accuracy in this publication, no responsibility can be accepted for errors or omissions.

Note: Data may change without notification, and you are strongly advised to obtain copies of the most recently issued datasheet.

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