1 Sensor Performance

Parameter	SLQ-QT500 (IPA)	SLQ-QT500 (H_2O)	Unit
Full scale flow rate	2000 (120)	2000 (120)	µl/s (ml/min)
Flow meter output limit[1]	2500 (150)	2500 (150)	µl/s (ml/min)
Accuracy below full scale [2] (whichever error is larger)	5	5[3]	% of measured value
	0.125	0.125	% of full scale
Repeatability below full scale (whichever error is larger)	0.5	0.5	% of measured value
	0.0125	0.0125	% of full scale
Temperature coefficient (additional error per °C; whichever is larger)	0.15	0.15	% measured value / °C
	0.00375	0.00375	% full scale / °C
Mounting orientation sensitivity[4]	2.5	1.0	% of full scale

Table 1: Performance of the SLQ-QT500 (all data for medium IPA, 23°C, unless otherwise noted)

1.1 Specification Charts

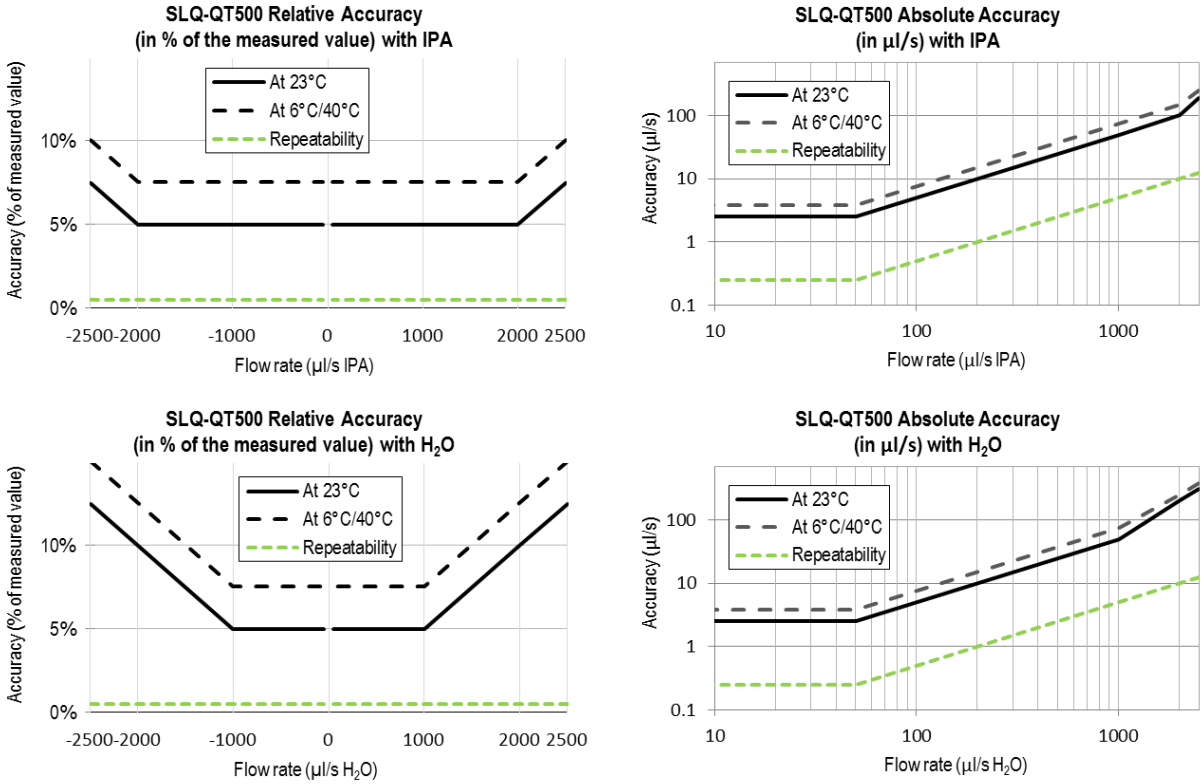

Figure 1: Flow meter accuracy and repeatability across the flow range. Relative error in % of measured value (left column) and absolute error in µl/s (right column) for IPA (top) and H_2O (bottom)

[1] Flow rate at which the flow meter output saturates

[2] Accuracy with straight inlet tube

[3] Accuracy below ±1000 µl/s. See the charts for the accuracy specification between 1000 µl/s and 2500 µl/s

[4] Maximum additional offset when mounted vertically

2 Specifications

2.1 Electrical Specifications

This section describes the electrical specification when connecting directly to the sensor's M8 connector for I²C communication. The preferred mode of communication is via the SCC1 interface cables. See the respective SCC1 cable datasheets for further details.

Parameter	Symbol	Conditions	Min.	Typical	Max.	Units	Comments
Supply voltage DC	VDD		3.3	3.5	3.7	V	
Supply current	IDD	Measurement		5.1	6.5	mA	VDD = 3.5 V

Table 2: DC characteristics

2.2 Timing Specifications

Parameter	Symbol	Min.	Typical	Max.	Units	Comments
Power-up time	t_{PU}			25	ms	Time to sensor ready
Flow detection response time			<50		ms	Response time to flow changes (τ_{63})
I²C SCL frequency	f_{I2C}		100	400	kHz	
Readout frequency		12.5	200	1000	Hz	Depending on Resolution setting. Sampling time for 9 bit resolution: 1 ms, for 16 bit resolution: 74 ms.

Table 3: Timing specifications

2.3 Absolute Minimum and Maximum Ratings

Parameter	Rating	Unit
Operating temperature	+5 … +50 (+41 … +122)	°C (°F)
Operating humidity	0…95 %, non-condensing	% RH
Short term storage temperature[5]	-10 … +60 (+14 … +140)	°C (°F)
Short term storage humidity[5]	0…95 %, non-condensing	% RH
Maximum supply voltage	4.0	V

Table 4: Absolute minimum and maximum ratings

2.4 Electrical Connector and Pinout

The flow meter is equipped with a male connector type M8, 4-pin, threaded lock according to IEC 61076-2-101 (Ed. 1)/ IEC 60947-5-2, and is compatible with Sensirion's SCC1 interface cables.

Pin	
1	SDA (data)
2	GND
3	VDD
4	SCL (clock)

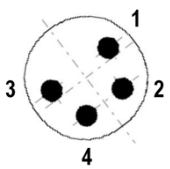

Table 5: Electrical pinout

[5] Flow path empty. Short term storage refers to temporary conditions during e.g. transport.