2 Specifications Charts

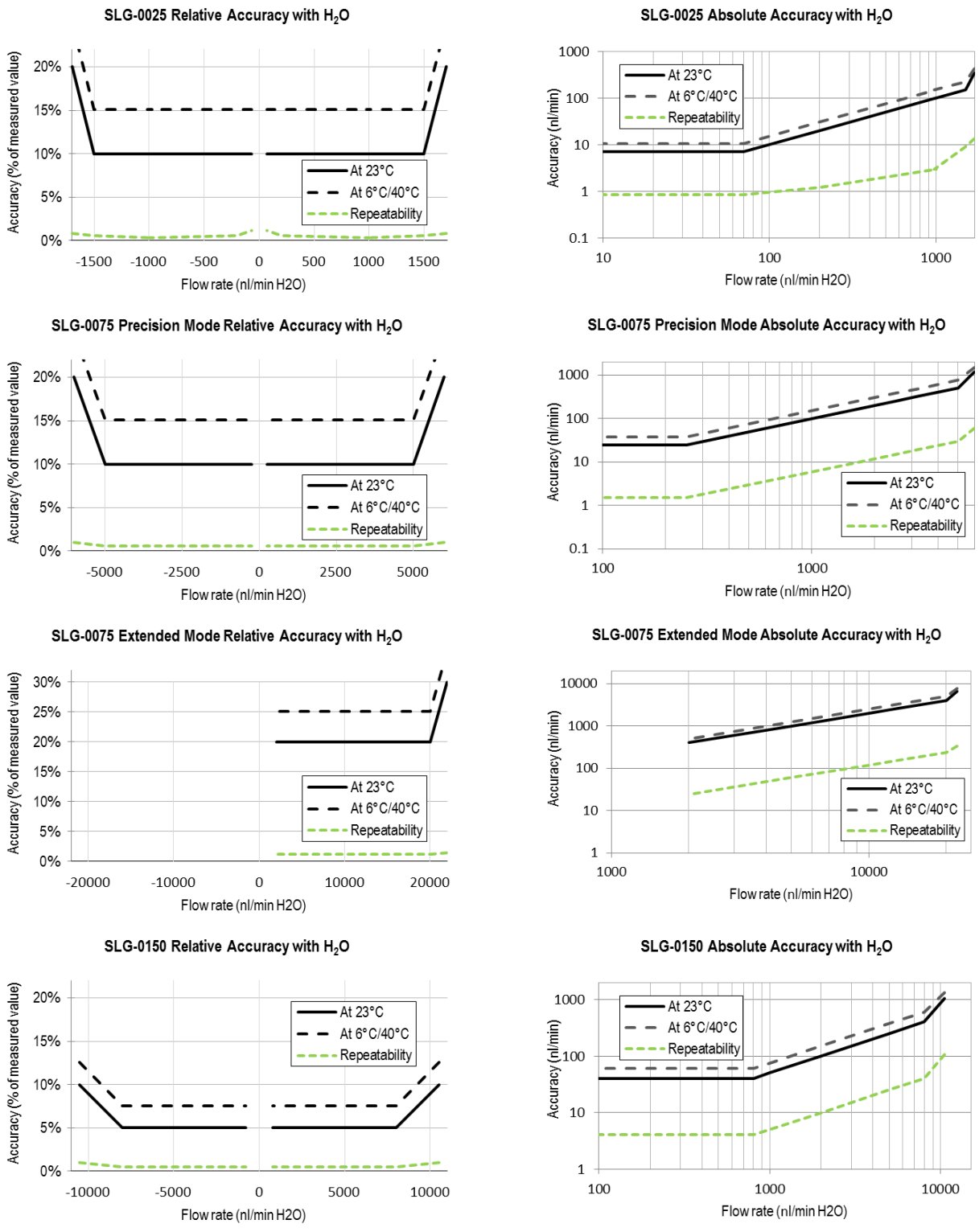


Figure 1: Flow meter accuracy and repeatability across the flow range. Relative error in % of measured value (left column) and absolute error in nl/min (right column) for H_2O

3 Communication with the Sensor

The SLG flow meter shows bidirectional, linear transfer characteristics. The product comes fully calibrated for water.

Digital Sampling Time, 16 bit	74 ms
Digital Sampling Time, 9 bit	1 ms

3.1 Electrical Specifications

Table 2: DC Characteristics

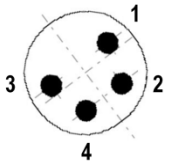
Parameter	Conditions	Min.	Typ.	Max.	Units
Power Supply DC, VDD	Sensor only	4	5	6	V
	w. SCC1-RS485	4	5	6	V
	w. SCC1-Analog	12	24	36	V
Operating Current	VDD = 4-6 V		5.1		mA
	w. SCC1-RS485		20	70	mA
	w. SCC1-Analog		4.3		mA

3.2 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.

Table 3: Electrical pinout

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



3.3 Communication via USB cable

The Sensirion USB Sensor Cable provides an easy to use USB Interface for laboratory and desktop use.

For further information please see the SCC1-USB Sensor Cable datasheet, available on www.sensirion.com/liquidflow-download.

3.4 Digital Communication via RS485-Bus

The SCC1-RS485 Sensor Cable for flow sensors allows the communication via RS485 interface for use in a demanding industrial automation environment. In addition to the standard commands available in the I²C interface of the sensor, the incorporated microcontroller of the cable provides more complex logic such as a dispense volume totalizer, automatic dispense detection, automatic heater control and data buffer for asynchronous read-out.

For further information please see the SCC1-RS485 Sensor Cable datasheet, available on www.sensirion.com/liquidflow-download.

3.5 Analog Communication

The SCC1-ANALOG Sensor Cable allows simple and quick readout of Sensirion's liquid flow meters by converting the digital sensor reading to a 0...10.5 V analog voltage output. Additionally, a digital (high/low) output with two different modes of operation is available (Flow Switch / Volume Counter).

For further information please see the SCC1-Analog Sensor Cable datasheet, available on www.sensirion.com/liquidflow-download.

3.6 Digital Communication via I²C-Bus

Digital communication between a master and the SLI sensor runs via the standard I²C-interface. The physical interface consists of two bus lines, a data line (SDA) and a clock line (SCL) which need to be connected via pull-up resistors to the bus voltage of the system.

These lines can be used on 3.3V or 5.0V level with a clock frequency of 100 kHz. For the detailed specifications of this I²C communication, please refer to specific I²C Application Notes from Sensirion.

Table 4: I²C Output Characteristics

Parameter	Min.	Typ.	Max.	Units
I²C Bus Clock Frequency	100			kHz
Output Voltage Low (SDA/SCL), I_{sink} = 6mA		0.1	0.5	V
Low Level Output Current (SDA/SCL)			6	mA
High Level Input Voltage (SDA/SCL)	2.0			V
Low Level Input Voltage (SDA/SCL)			1.0	V