

# SA3-2/4, SA3-10/40

## General

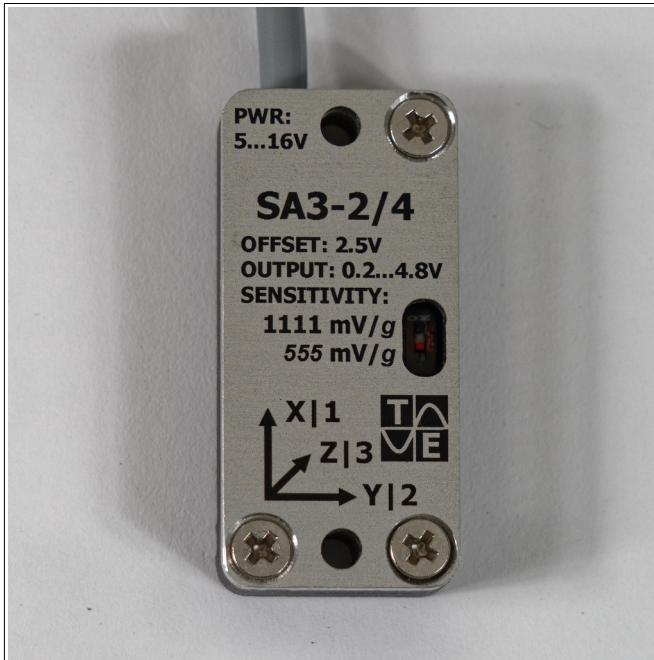


Figure 1: Static acceleration sensor SA3-2/4.



Figure 2: Static acceleration sensor SA3-10/40.

The SA3-2/4 and SA3-10/40 are three dimensional static acceleration sensors with two measurement ranges and an integrated low-pass filter of 1<sup>st</sup> order ( $f_c = 1.5$  kHz).

## Pin Assignment

**Plug 1+2:** This plug is manufactured by Binder (Binder Series 719).

Pin	Assignment
1	Power supply (5...16 V DC – decoupled from pin 5 and from plug 3)
2	Ground (0 V)
3	Output signal 1
4	Output signal 2
5	Power supply (5...16 V DC – decoupled from pin 1 and from plug 3)

**Plug 3:** This plug is manufactured by Binder (Binder Series 719).

Pin	Assignment
1	Power supply (5...16 V DC – decoupled from pin 5 and from plug 1+2)
2	Ground (0 V)
3	Output signal 3
4	(unused)
5	Power supply (5...16 V DC – decoupled from pin 1 and from plug 1+2)

## Voltage Output

Sensor	Voltage(Acceleration $a$ )	Output range
SA3-2	$1111 \text{ mV/g} \cdot a + 2.5 \text{ V}$	0.2 ... 4.8 V
SA3-4	$555 \text{ mV/g} \cdot a + 2.5 \text{ V}$	0.2 ... 4.8 V
SA3-10	$222 \text{ mV/g} \cdot a + 2.5 \text{ V}$	0.2 ... 4.8 V
SA3-40	$55 \text{ mV/g} \cdot a + 2.5 \text{ V}$	0.2 ... 4.8 V

## TEMES Settings

SA3-2	Acceleration	Voltage
1	-1 g	1.389 V
2	1 g	3.611 V
Min	-2 g	0.278 V
Max	2 g	4.722 V

SA3-4	Acceleration	Voltage
1	-1 <i>g</i>	1.945 V
2	1 <i>g</i>	3.055 V
Min	-4 <i>g</i>	0.28 V
Max	4 <i>g</i>	4.72 V

SA3-10	Acceleration	Voltage
1	-1 <i>g</i>	2.278 V
2	1 <i>g</i>	2.722 V
Min	-10 <i>g</i>	0.28 V
Max	10 <i>g</i>	4.72 V

SA3-40	Acceleration	Voltage
1	-1 <i>g</i>	2.445 V
2	1 <i>g</i>	2.555 V
Min	-40 <i>g</i>	0.3 V
Max	40 <i>g</i>	4.7 V

## Technical Data

Property	Description
Box dimensions:	18 mm x 38 mm x 8 mm
Typical weight:	Without cable: 12 g With cable: 42 g
Supply voltage:	5...16 V DC
Output range:	0.2 ... 4.8 V
Output amplifier gain:	2.777
Output resistance:	1 kΩ
Quiescent current consumption:	< 1 mA
Chip set:	SA3-2/4: ADXL354 from Analog Devices SA3-10/40: ADXL356 from Analog Devices
Tolerances/deviation:	See chip set documentation

## Further Information

For the SA3-2/4 and SA3-10/40 exists an active low-pass filter *LPF* of 6<sup>th</sup>-order and with no overshoots.