Get the best out of your Sensor!

Sensor Signal Processors and Integrated Absolute Pressure Systems Customized for Your Application

Key features

- Linearization and temperature compensation for MEMS, thick- and thin film sensors
- Selectable output:
  - analog (0..3.3V / 0..5V / 0..10V | 4..20mA)
  - digital (SENT | I²C / SPI w. / wo. CRC | PWM/FM)

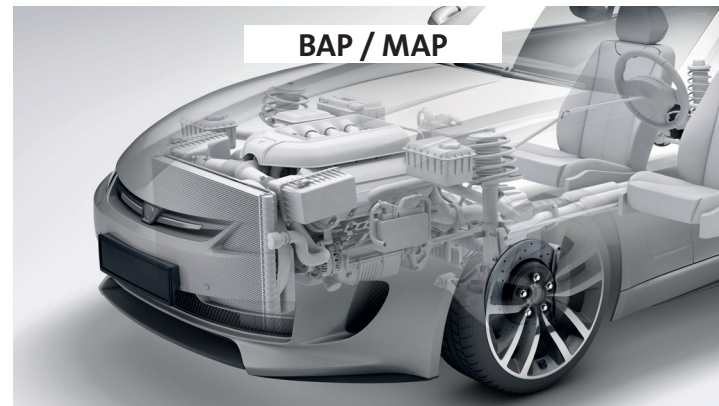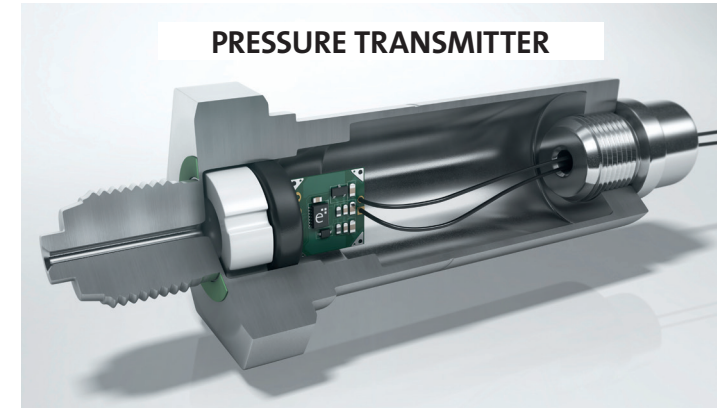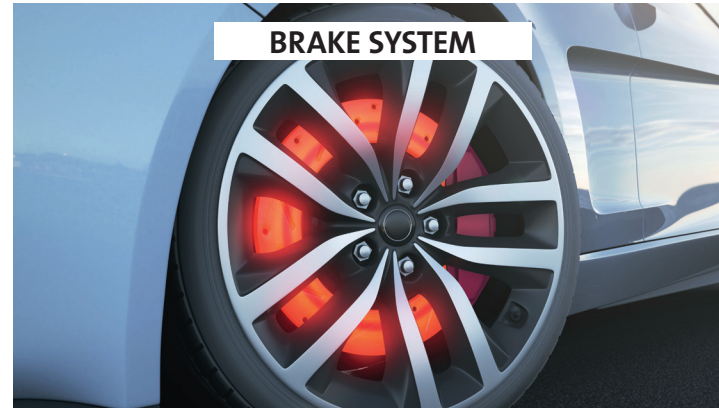## Always up to date

- Always state-of-the-art: >20 years SSP experience
- Always getting better: 4th generation of SSPs
- Always highest reliability:
  AECQ-100 / IATF16949 / ISO26262

Need help?

- Ecosystem supporting evaluation and design in
- Evaluation Kits
- GUI for graphical configuration and calibration
- APIs for configuration, calibration and communication with examples in C and Labview
- Mass calibration systems

BRAKE SYSTEM

PRESSURE TRANSMITTER

CPAP

WHITE GOODS

elmos

The Intelligence for Your Sensor.

GET YOUR ELMOS PRESSURE SENSOR IC

SMALLEST SOLUTIONS
WITH GREAT CAPABILITIES

elmos
E703.11

BAP / MAP

Best of both worlds:

Bandwidth and response time of analog path
+
precision of polynomial correction.
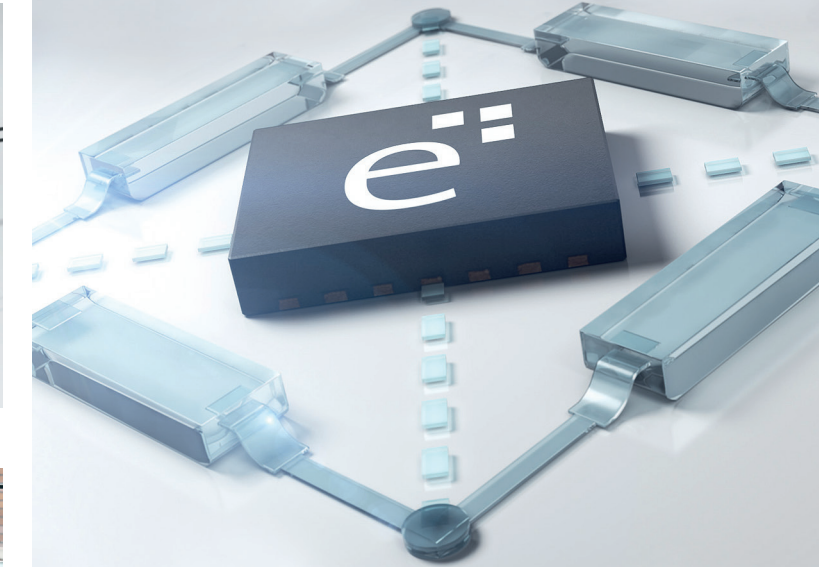
The right pressure sensor solution

high bandwidth
Highest precision
AECQ-100
true background diagnostics
output rescaling without recalibration
simultaneous analog and digital output
Smallest packages
Smallest BOM across all applications

Make your sensor precise!

With up to 2 * 3rd order multi dimensional polynomial correction.

Get your pressure fast!

Supporting the highest sample rates and lowest latencies in the industry.

Rescale your sensor!

Perform offset and gain adjustment without recalibration.

Keep your evaluation and design in simple!

A comprehensive ecosystem supporting single and mass evaluation will help you to get started without even reading the data sheet!

Sensor Signal Processors and Integrated Pressure Sensors Portfolio

	Sensor Signal Processors					Integrated Absolute Pressure System (IAPS)
	E520.42	**E520.45**	**E520.47**	**E703.11**	**E703.21**	**E524.71/72/73**
Application	automotive	automotive	automotive	industrial / consumer	industrial / consumer	BAP / MAP Sensor
Key features	■ Analog voltage & SENT ■ 10nV/√Hz noise density ■ AECQ-100	■ SENT + NTC ■ NTC linearisation ■ AECQ-100	■ Dual bridge input ■ Configurable SENT ■ ASIL C support ■ AECQ-100	■ Widely configurable input, gain, bandwidth, accuracy ■ I_{SUP} <20 μA in sleep mode ■ 16 bit ADC	■ 4..20mA / 0..10V output ■ Calibration via current loop terminals (current modulated interface) ■ Precise current sense shunt ■ Integrated voltage regulator	■ SPI / I²C / analog ■ SOIC8 package ■ AECQ-100
Supply [V]	4.5 .. 5.5V	4.5..5.5V	4.75..5.25V	2.7..5.5V	8..32V	3.0..5.5V
Protection [V]	-28..40V	-18..18V	-18..35V	-	-40..40V	-
Temp. range [°C]	-40..150°C	-40..150°C	-40..150°C	-40..125°C	-40..125°C	-40..125°C
Sensor span [mV/V]	±0.8..± 50 mV/V	±5..±56 mV/V	±3..±56 mV/V	±2 ..±88mV/V	±2..±88mV/V	-
Offset trim [span]	±2.5 *..> ±50 * span (depending on gain)	-0.67..+1.67 * span	-4..+3.75 * span	±2.7 * span	±2.7 * span	-
Sensor ADC	14 bit, 6.7kS/s	14 bit, 3.9kS/s	15 bit, 3.9kS/s	16 Bit, 2..50kS/s	16 Bit, 2..50kS/s	16 Bit, 20kS/s
Temp. channel	DIO / int.	NTC / bridge / DIO / int.	NTC / bridge / DIO / int.	bridge / DIO / int.	bridge / DIO / int.	int.
Output digital	■ SENT ■ 1-wire	■ SENT / I²C ■ 1-wire	■ SENT / I²C ■ 1-wire	■ I²C / SPI ■ 1-wire	■ I²C / SPI ■ 1-wire	■ I²C / SPI
Output analog	■ 0.5..4.5V ratiometric	-	-	■ 0..3.3V ■ 0..5V ■ 0.5..4.5V ratiometric ■ PWM, FM	■ 4..20mA ■ 0..5V ■ 0..10V ■ PWM, FM	■ ratiometric, different options
DAC	12 Bit, 6.7kS/s	-	-	16 Bit, 400kS/s	16 Bit, 400kS/s	16 Bit, 400kS/s
Response time (τ)	Configurable: 0.16 ms..2.5 ms	Configurable: <1 ms..27 ms	Configurable: <1..27 ms	Configurable: 0.139..50 ms	Configurable: 0.139..50 ms	1ms
Package	■ QFN20L4 (4x4mm) ■ QFN20L5 (5x5mm) ■ Bare-Die	■ QFN20L4 (4x4 mm) ■ Bare-Die	■ QFN20L4 (4x4 mm) ■ Bare-Die	■ DFN14 (3x4 mm) ■ Bare-Die	■ DFN14 (3x4mm)	■ SOIC8 (6x5 mm)