Product Overview

DACOM West

Melexis

SAMYOUNG S&C
Smart Sensing Solutions

BECOM
it's possible.

Sense

Position sensors
Current sensors
Temperature sensors
Pressure sensors
Time-of-Flight
Environmental sensors

Cactus Technologies

hyperstone

Silicon Power
INDUSTRIAL

Store

Industrial Flash products
Industrial DRAM
Flash Controllers

DAVICOM
Connectivity Beyond Limits

REYAX
TECHNOLOGY CORPORATION, LTD

Siretta
Enabling the Industrial IoT

TAIMAG

Bubec

WIZnet

Connect

Ethernet
RJ45 Jacks | Transformers
Antennas
Bluetooth | WiFi | Zigbee | RFID | ISM | GPS
Industrial modems + routers
Mobile network analysers

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Melexis
INSPIRED ENGINEERING

Sensing Solutions

About Melexis

Melexis N.V., based in Belgium, was founded in 1988. With their experience of more than 30 years, they have become one of the world leaders in automotive semiconductor sensors, as well as a leading player in integrated circuits for motor driving, car networking and wireless communication.

Primarily focused on the automotive market, Melexis is also active in other areas such as industrial and medical sectors, home automation and smart appliances.

Melexis offers a wide range of standard products such as Sensor ICs (Hall-Effect, Optical, Infrared and MEMS), Communication ICs (Low Power RF, RFID and Automotive BUS), Actuator-ICs (for electric motors, electro magnets and LEDs), as well as application specific integrated circuits (ASICs).

Melexis mainly focuses on semiconductors for the automotive industry and is energizing the transition to Electrical Vehicles (EVs). They increase the efficiency of ICE cars. Besides the automotive market, and cater to other markets as well:

- ***Alternative mobility***
  Melexis ICs assist e-bikes, drones and other transport means by enhancing range, safety and comfort.
- ***Smart appliances***
  Gaming, white goods, e-toys. Melexis ICs bring performance and user friendliness.
- ***Smart buildings***
  Smart buildings require smart ICs. Efficiency, security and comfort are all in reach.
- ***Robotics***
  Capturing the environment, interpreting this signal and acting accordingly. That's how Melexis innovative ICs enhance robots.
- ***Energy management***
  Getting the most out of your energy sources in an efficient way requires specialized Melexis ICs.
- ***Digital health***
  Health applications require the most reliable and precise ICs. Melexis has the right solutions.

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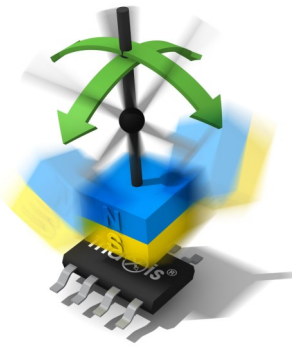
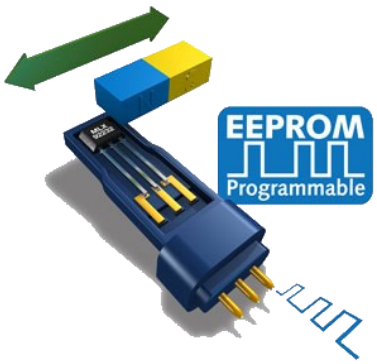
Hall Effect Sensor ICs

Traditional Hall sensors are only sensitive to the magnetic flux density perpendicular to the surface of the Hall element and consequently of the IC and package. These single-axis devices, despite enabling some applications, often require complex magnetic structures and face accuracy challenges especially over a wide temperature range (due to the thermal drift of the measured magnet).
Triaxis® sensors, on the other hand, are based on a patented innovative magnetic sensor technology that enables measurement of the three magnetic flux components (BX, BY and BZ) in a single integrated circuit. This is done by utilizing a unique Integrated Magnetic Concentrator (IMC®). Using the three magnetic components, it is possib-le to create 2D or 3D sensors that determine rotary (angle), linear (stroke), or even joystick type motion as well as 3D-magnetometers that can output the individual magnetic (BX, BY, and BZ) components.

Position sensor ICs

Hall based position sensor ICs including the famous **Triaxis®** technology.
The main task of position sensors is the sensing of angular or linear displacements, distances, gaps, distensions and fill levels.
Triaxis® sensors, are based on a patented innovative magnetic sensor technology that enables measurement of the three magnetic flux components (BX, BY and BZ) in a single integrated circuit. This is done by utilizing a unique **Integrated Magnetic Concentrator (IMC)**. Using the three magnetic components, it is possible to create 2D or 3D sensors that determine rotary (angle), linear (stroke), or even joystick type motion as well as 3D-magnetometers that can output the individual magnetic (BX, BY, and BZ) components





Current sensor ICs

Based on renowned Hall-effect technology

Melexis provides two types of current sensors suitable for a broad range of applications. Conventional Hall sensors are sensitive to the magnetic field perpendicular to the chip surface, planar IMC-Hall® sensors are sensitive to magnetic fields parallel to the chip surface.
Each current sensor is individually tested and calibrated over temperature on the Melexis production line. However, in order to achieve optimal accuracy, a final calibration is required at customer-side after assembly to compensate for mechanical tolerances (sensor position deviations, shield dimensions, etc.)

Latch & switch ICs

Unique latch & switch family with lateral sensitivity

As our world becomes more technology-driven and automa-ted, the role of basic sensors becomes ever more im-portant. More and more systems, including vehicles, house-hold white goods and industrial installations rely on sensing to operate correctly and safely.
Latch and switch devices rely on the principles of the Hall-effect to, through the position of a magnet, determine the physical position of an object.
These on-off switching devices are very common in automotive applications such as braking, shifter applications, doorlocks or seatbelts. However, they are equally valuable to ensure the door of a washing machine is closed, BLDC motor commutation or ensuring that a safety interlock is in place on an industrial machine.

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Sensing Solutions

Speedsensor ICs

Solutions for speed measurement

Speedsensors are used to measure the covered distance or angle per time unit. A major application field is the speed controlling and monitoring of asynchronous drive systems applied in various industries like on- and off-road vehicles, the energy sector, medical sector, automation and machi-nery sectors. Hall-Effect geartooth sensing makes use of the Hall ele-ment to sense the variation in flux found in the airgap between a magnet and passing ferrous gearteeth.
A modern approach is to convert the signal from the Hall element to a digital value and then perform signal proces-sing to create a digital output from that effort.

Pressure sensor ICs

Suitable for a variety of pressure ranges, outstanding in terms of long-term stability and compact size

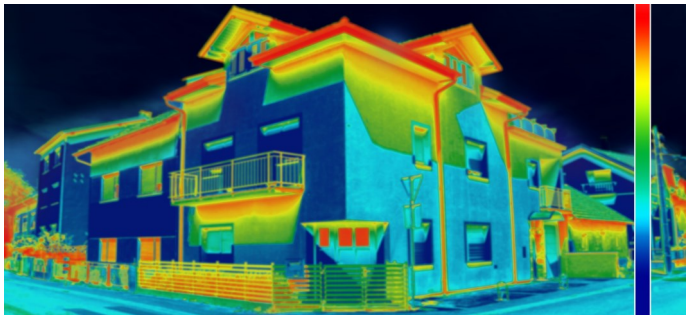
Melexis' micromachined versatile pressure sensor IC solutions are suitable for a variety of low, middle and high pressure ranges. They excel in long term stability and compact size.
Commonly used to help with the measurement of pressure for certain gasses and liquids, Melexis offers both relative and absolute sensors also for harsh media standard available for the extendeded temperature
range (-40°C to 150°C).

Infrared and optical ICs

Optical sensor ICs

Small form factor optical sensors with light-to-voltage or light-to-digital output either as single input or linear array

Enabling high accuracy, high resolution, robust and wide field-of-view 3D detection, classification and anti-spoof au-thentication of persons and objects for automotive, indust-rial, robotics, security (smart entry, smart cities), etc.



Infrared ICs

Suitable for demanding thermal environments with extended operating temperature range

Non-contact temperature sensing relies on detecting energy emitted in the infrared (IR) wavelength region. Every object emits energy in this way, which can be measured to calculate its temperature. However, as the sensing devices behind this get ever smaller, they become more susceptible to the impact of thermal shocks, which can induce measurement error and thermal noise.
Thermopile temperature sensing technology is increasingly being used in medical (including home healthcare) and industrial applications (like infrared temperature gun), as it is robust, accurate and reliable. A thermopile is simply an electronic transducer that converts thermal energy into an electrical signal and works on the principle that everything emits thermal far-infrared (FIR) radiation.

Development and programming tools

The Melexis family of programmable sensors is designed to be integrated into an application and then programmed. Programming allows for setting the various operating modes inside the chip and for performing an end-of-line calibration which reduces or removes residual error due to mechanical tolerances for example.

The PTC-04 programmer is designed for efficient and pre-cise calibration of the Melexis families of programmable ICs and can be easily adapted to a standard PC and to an application module to allow calibration of programmable sensor ICs within the
operating environment.
Communication to the PC is done via an RS-232 null modem cable or USB.
The PC requires no custom configuration, allowing the pro-grammer to be used with any PC with a COM port speed of 115.2kbs or a standard USB 1.1 or USB 2.0 (Type A) interface.

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Time-of-Flight Camera Modules

About BECOM

Since 1984 BECOM has been a reliable partner for electronics development, manufacturing and service for its industrial customers. From the first creative idea through the development and validation phase to series production, customers receive everything from a single source. Thanks to international locations and partners, customers all over the world benefit from the high-quality solutions, services and know-how of their experts.

The time-of-flight specialist Bluetechnix joined the BECOM Group in 2016. Thus BECOM expanded its business field with innovative sensor solutions and can offer its customers the decades of experience of the domestic time-of-flight pioneer. The scope of services and the stability of BECOM complement the innovative power of BECOM Systems and guarantee long-term availability and highly efficient processes.

As a system solution provider, BECOM offers fully optimized 3D time-of-flight camera solutions based on customer requirements, complete with integrated application software and support. Innovative ideas and highest quality have made BECOM a reliable partner for all companies. Thus BECOM delivers customized solutions and products, which convince even in demanding environments, such as the automotive and medical industry.

Product Range

- Depth sensor solutions
- Image processing
- 2D Embedded Vision
- 3D Embedded Vision
- Edge Computing
- Deep Learning & KI

Module Features	
① Sensor Integration Multiple Vendors	④ Optics Lens Concepts, Field-of-View
② Embedded Processing FPGA, ARM, DSP, Host SDK/API	⑤ Illumination LED/Laser, Eye Safety
③ Connectivity ETH, USB, MIPI Synchronisation	⑥ Mechanical Integration Miniaturization, Housings, Cooling

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SAMYOUNG S&C
Smart Sensing Solutions

Environment Sensors

About SAMYOUNG

Samyoung S&C designs, develops and manufactures environment, safety and health (ESH) related sensors and electronic control systems for commercial and industrial applications. From sensor elements to control modules and wireless transmitters, Samyoung S&C is committed to provide a full spectrum of product solutions and services to meet diverse customer requirements.

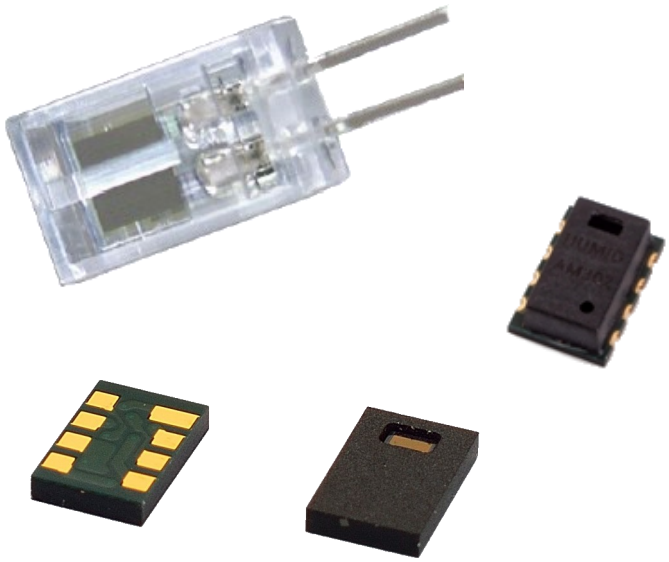
Samyoung S&C was spun off in 2000 as a new product division of Samyoung Electronics, the third largest capacitor manufacturer in the world and continued to grow in its product lines and customer base worldwide as an independent sensor specialist.

Aiming to provide "Sensible Sensing Solutions" to customers' ever-challenging requirements, Samyoung S&C operates a nationally accredited R&D center, world class wafer fabrication and component packaging facilities and state of the art measurement and testing laboratories. All products of Samyoung S&C are developed inhouse and manufactured at the plants in Korea.

Samyoung S&C is certified to ISO/TS 16949, KS Q 14001, ISO 14001 by KMAR.

Product Range

- Humidity and Temperature sensor solutions
- Resistive RH sensor elements
- Particle/Gas sensors
- Condensation solutions
- Humidity sensors for ADS



Application Examples

- **Energy saving HVAC control**
  Air conditioning, Refrigeration, IAQ monitoring, Vent Fans, Home Appliances, Humi-/Dehumidifiers
- **Process Control & Instrumentations**
  Medical Instruments, Handheld Devices, Weather Stations, Food Processing, Printers, RFIDs
- **Automobile & Transportation**
  Cabin Climate Control, Defogging Control, Condensing Preventive Device
- **Mass Quantity Application**
  OEM custom specification available

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Smart Solutions for you!