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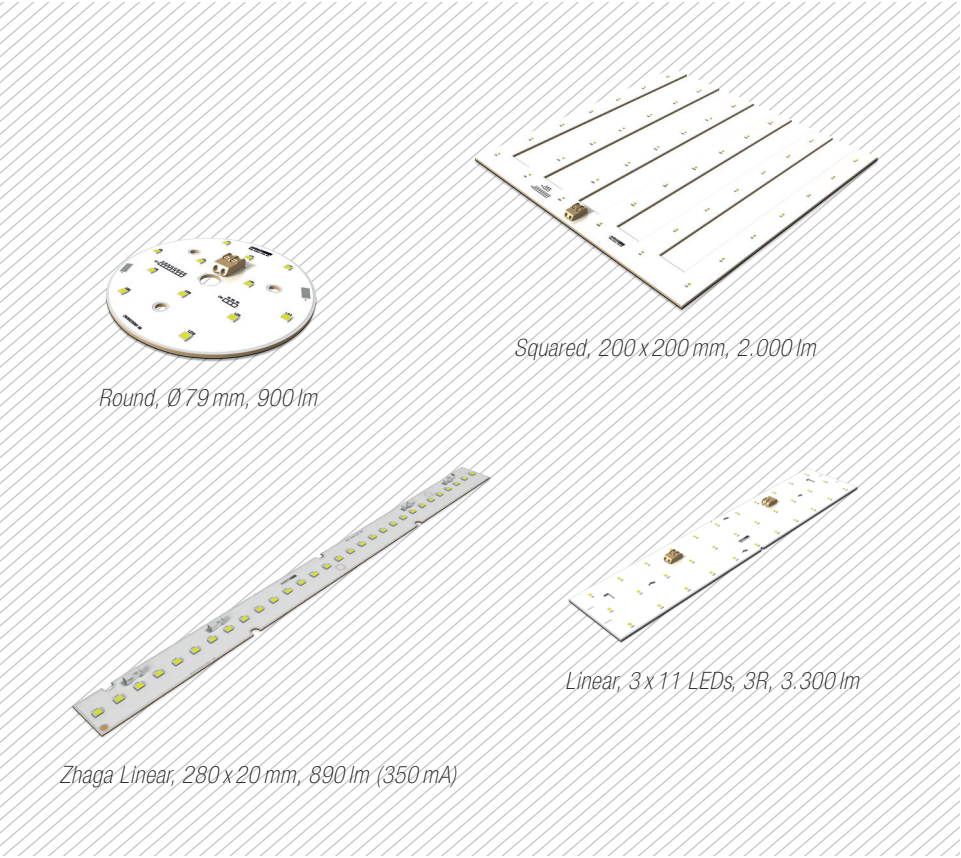
OUR PRODUCT OF THE MONTH: CUSTOMIZED LED MODULES / STANDARD MODULES FROM AUDAX ELECTRONICS



Round, Ø 79 mm, 900 lm

Squared, 200 x 200 mm, 2.000 lm

Zhaga Linear, 280 x 20 mm, 890 lm (350 mA)

Linear, 3 x 11 LEDs, 3R, 3.300 lm

FEATURES

- Customized Light Engines according customer's specification
- Standard Zhaga LED modules are available
- Audax is able to offer the LED modules with LEDs of famous suppliers, like Nichia, Cree, Lumileds
- Technical expertise in lighting since several years
- Development will be according to customer's electrical and optical requirements
- Short lead-time for customized samples development (max. 4 weeks)

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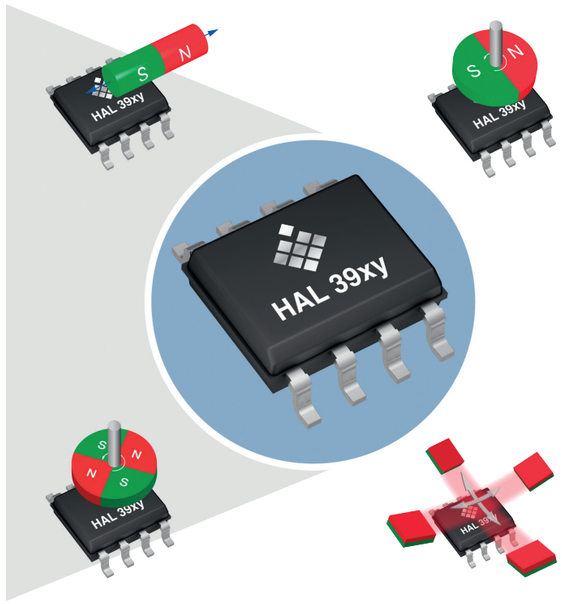
MICRONAS

3D POSITION HALL SENSOR PRODUCT LINE WITH UNIQUE STRAY FIELD COMPENSATION FROM TDK-MICRONAS

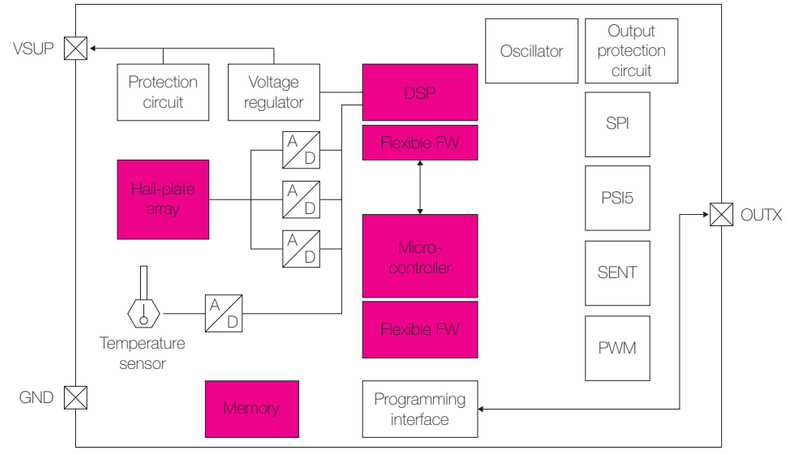
The new 3D sensor meets today's and tomorrow's automotive and industrial market needs and offers four different measurement modes in a single device: Linear position detection, rotary 360° angle detection and rotary 180° angle detection with stray field compensation including gradient fields as well as the capability for real 3D magnetic field measurement (B_X, B_Y, B_Z).

The heart of the HAL 39xy sensors is the patented 3D HALpixel cell technology. It helps not only to measure magnetic fields very accurately, but it is also insensitive to stray fields. The unique concept is based on an array of Hall plates. Each measurement mode uses a different combination of them to enable best performance in each mode. The highly flexible sensor array of the MasterHAL sensor line helps design engineers to select the best operation mode for any given measurement task. The HAL 39xy is the only solution available on the market that integrates all four modes in a single device. This offers a clear benefit to customers: They only have to qualify one device instead of various different hardware versions.



3D Sensor HAL 39xy

Thanks to its flexible architecture, the HAL 39xy sensor family offers a wide range of configuration possibilities. It features a powerful DSP and an embedded microcontroller. The DSP is responsible for fast signal processing, while the microcontroller performs the interface configuration and supervision of the functional safety related tasks. TDK-Micronas offers the development of customized firmware for the DSP and the microcontroller. Together with the flexible Hall sensor front-end, this enables customers to realize new kinds of applications. The innovative architecture of the HAL 39xy sensors makes it easy for customers to develop new solutions using fast prototyping techniques. It also enables quick and easy adaptation to changes in interface standards such as SENT, SPI, and PSI5.



Flexible Architecture of HAL 39xy Family

APPLICATIONS

- All kind of valves and actuators (e.g. cooling valves, EGR, turbocharger actuators)
- Selectors and gear shifters
- Pedal-position detection
- Position detection in transmission systems
- Steering-angle detection
- Chassis position detection

KEY DATA

Type	HAL 3900, HAL 3930, HAL 3980
Package	SOIC-8
Digital output formats	SPI, PWM & SENT SAE J2716 rev. 2016, PSI5 2.x
Angular error	± 0.6° @ 10 mT for rotary setups
Magnetic field amplitude range	10 mT ... 130 mT. Down to 5 mT with reduced accuracy
Safety	ASIL-B ready development according ISO 26262
Sample availability	Q1/Q2 2019

FEATURES

- Stray field robust position detection (linear and rotary up to 360°) covering ISO 11452-8 requirements
- Compensation of stray fields with gradients for applications with 180° rotation
- Real 3D magnetic field measurement of B_X, B_Y and B_Z
- Transmission of temperature compensated magnetic raw values (B_X, B_Y, B_Z), up to two calculated angles, angle velocity, magnetic field amplitude and / or chip temperature
- SEooC according to ISO 26262 to support functional safety applications
- Additional switch output
- Wide supply voltage range: 3.0 V ... 16 V
- Suitable for automotive applications, thanks to a wide ambient temperature range from -40 °C up to max. +160 °C

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3D POSITION HALL SENSOR PRODUCT LINE WITH UNIQUE STRAY FIELD COMPENSATION FROM TDK-MICRONAS

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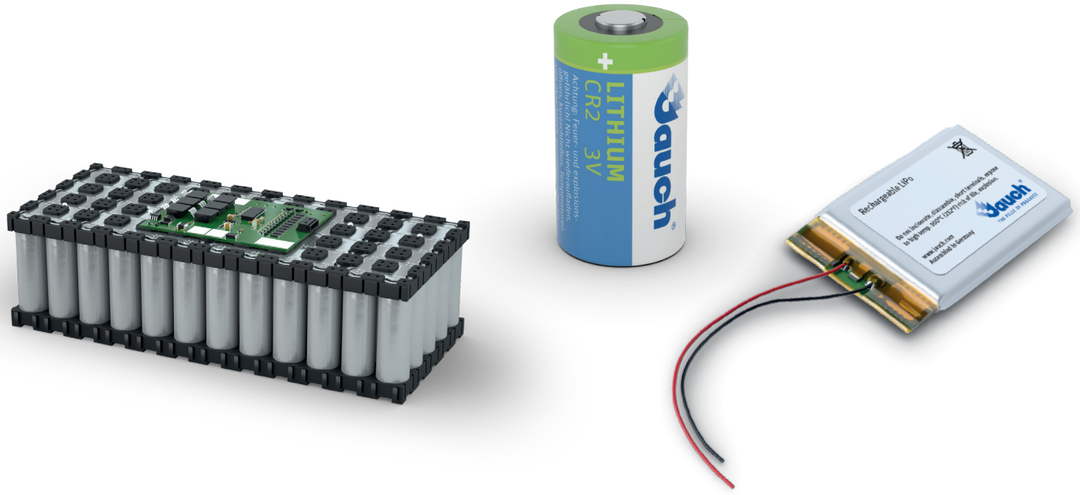
JAUCH QUARTZ: SPECIALIST FOR LITHIUM BATTERY TECHNOLOGY



Endrich has entered into a partnership with the manufacturer Jauch Quartz. From May 1, the portfolio will include lithium batteries from Jauch, i.e. customer-specific complete solutions for battery systems – from the simple battery cell to the intelligent battery pack for complex applications. Even customer-specific cell sizes can be realized.

The programming of the protective electronics, which protects the pack against over- or deep-discharging, for example, is also carried out by Jauch. Such electronic battery management systems are indispensable for lithium batteries and ensure smooth operation even under extreme conditions.

As a battery manufacturer with over 40 years of industry know-how, Jauch is very familiar with the various certification standards and can test according to UN 38.3, ATEX, CE, UL, RoHs, REACH in its own test centre. Thanks to state-of-the-art test equipment, Jauch can carry out all the tests required by the UN 38.3 regulation for the transport of lithium batteries itself. These include thermal and climatic stress tests as well as impact and vibration tests.

However, Jauch is not only strong in development, but also has a large repertoire of lithium batteries in standardized sizes. The portfolio includes CR lithium manganese dioxide and ER lithium thionyl chloride batteries as well as lithium ions and lithium polymer batteries. All batteries are available in various standardized sizes and with different voltages and capacities. In the field of lithium polymer batteries, curved and ultra-thin designs with a thickness of only 0.5 millimeters are also possible. Thanks to this flexibility, even at an advanced stage of the project, the right design can be found for numerous battery-powered applications.

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OLMATIC POWER TRACKING – DYNAMIC ENERGY DISTRIBUTION THROUGH HIGHLY INNOVATIVE METHOD

Energy is a central concept of the natural sciences and plays a central role in all areas of life. People use this energy in a variety of ways and in various forms of energy, such as kinetic energy, chemical energy or electrical energy. According to the energy conservation law, the total energy of a closed system remains constant over the entire period and can neither be increased nor reduced. In order to use the energy available to us with a maximum possible efficiency, this maximum amount X of energy must be distributed dynamically and intelligently to the individual energy consumers of the system.

The identical functional scheme is used by the highly innovative Olmatic Power Tracking method (short "OPT") based on electrical energy in all electronic systems in industrial and private applications. Insofar as individual components are reduced in terms of energy consumption, the energy they generate must be redistributed to other components in order to achieve maximum efficiency and thereby maximize energy savings. The resulting added value is obvious - further uses of surplus energy in the form of Energy Sharing and enormous cost savings for all electrical consumers. The use of the Olmatic Power Tracking achieves an average of > 30 % energy savings in comparison to conventional methods and, with an optimal design in the use of Regenerative Energy sources, achieves up to 100 % self-sufficiency.

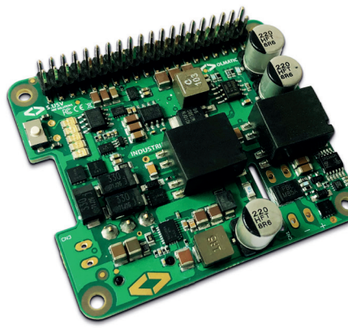
In contrast to conventional Energy Management Systems, it is characterized above all by the additional networking of the Smart Grid at supply level, which enables continuous power regulation (0 – 100 %) and power distribution. Conventional systems can communicate only through the communication interfaces and suffer from higher losses and lack of dynamics due to static on and off based on power hysteresis. Especially in safety-relevant systems, the simple shutdown can lead to enormous security gaps or chaos scenarios, which the OPT method avoids through intelligent and dynamic power regulation and distribution based on prioritization. By individual, customizable versions of the modules, maximum energy savings at low investment costs for the manufacturer / developer can be achieved, which promise low payback periods. For this purpose, the OPT method is linked to existing and market-established Energy Management Modules and Central Control Units of the Olmatic product range, which can be used in combination or independently from each other in all AC and DC current-based energy systems, conventional and regenerative generation:

The following five core functions are implemented in the Olmatic Power Tracking method:

1. Dynamic Load-Displacement
2. Dynamic Prioritization of specific inputs and outputs
3. Dynamic Power Regulation of specific inputs and outputs
4. Dynamic Disconnection and Connection of specific inputs and outputs
5. Dynamic Distribution of existing power to required power

APPLICATIONS

- Smart Grid
- Power To X
- Integrated Energy
- Smart Home
- Energy Sharing
- Demand Management
- E-Mobility



Energy Management Module Olmatic „universal opt“

Central Control Unit Olmatic „wiu opt“

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NEW: CUSTOMIZED LED MODULES

Endrich has enlarged the lighting solutions portfolio with Light Engines from Audax Electronics.

Audax is a Brazilian Company established in 2012, which is specialized on the development on Light Engines with SMD LEDs. Audax has a long-term experience in the lighting industry and is able to create and offer customized Light Engines. Their advantage is that they will develop customized LED modules according to customer´s technical and optical requirements. The Light Engines can be delivered with LEDs of famous brands, like Nichia, Lumileds, Samsung, CREE, OSRAM and other major players. Audax continually enriches their product portfolio with state of the art LED solutions, enabling our customers to rapidly develop and deploy new fixtures with the latest technology. Their standard portfolio includes linear Zhaga modules and also round and rectangular Light Engines.

PART NUMBER	LUM. FLUX	POWER	EFF.	If NOM.	Vf	CCT	CRI	LEDs
ZHAGA LINEAR								
280 x 20 mm, 890 lm (350 mA)								
80152400100	837 lm	6.2 W	134 lm/W	350 mA	17.8 V	3.000 K	80 min	30
80152500100	895 lm	6.2 W	144 lm/W	350 mA	17.8 V	4.000 K	80 min	30
80152600100	897 lm	6.2 W	144 lm/W	350 mA	17.8 V	5.000 K	80 min	30
280 x 20mm, 1.100 lm (350 mA)								
80153000100	1.117 lm	8.3 W	134 lm/W	350 mA	23.7 V	3.000 K	80 min	40
80153100100	1.194 lm	8.3 W	144 lm/W	350 mA	23.7 V	4.000 K	80 min	40
80153200100	1.196 lm	8.3 W	144 lm/W	350 mA	23.7 V	5.000 K	80 min	40
560 x 20 mm, 1.100 lm (350 mA)								
80153600100	1.117 lm	8.3 W	134 lm/W	350 mA	23.7 V	3.000 K	80 min	40
80153700100	1.194 lm	8.3 W	144 lm/W	350 mA	23.7 V	4.000 K	80 min	40
80153800100	1.196 lm	8.3 W	144 lm/W	350 mA	23.7 V	5.000 K	80 min	40
560 x 20 mm, 1.600 lm (350 mA)								
80154200100	1.675 lm	12.5 W	134 lm/W	350 mA	35.6 V	3.000 K	80 min	60
80154300100	1.791 lm	12.5 W	144 lm/W	350 mA	35.6 V	4.000 K	80 min	60
80154400100	1.794 lm	12.5 W	144 lm/W	350 mA	35.6 V	5.000 K	80 min	60

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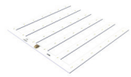
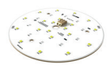
NEW: CUSTOMIZED LED MODULES





PART NUMBER	LUM. FLUX	POWER	EFF.	If NOM.	Vf	CCT	CRI	LEDs
LINEAR: 3 x 11 LEDs								
3R, 3.300 lm								
80049900100	3.406 lm	23.4 W	145 lm/W	350 mA	66.7 V	3.000 K	80 min	33
80050000100	3.458 lm	23.4 W	148 lm/W	350 mA	66.7 V	4.000 K	80 min	33
80050100100	3.535 lm	23.4 W	151 lm/W	350 mA	66.7 V	5.000 K	80 min	33
3R, 6.600 lm								
80063800100	6.812 lm	46.8 W	145 lm/W	700 mA	66.7 V	3.000 K	80 min	66
80063900100	6.915 lm	46.8 W	148 lm/W	700 mA	66.7 V	4.000 K	80 min	66
80064000100	7.069 lm	46.8 W	151 lm/W	700 mA	66.7 V	5.000 K	80 min	66
3R, DMC								
80091100100	9.151 lm	66.5 W	138 lm/W	2100 mA	31.7 V	2.700 K	70 min	33
80091200100	9.610 lm	66.5 W	145 lm/W	2100 mA	31.7 V	4.000 K	70 min	33
80091300100	9.730 lm	66.5 W	146 lm/W	2100 mA	31.7 V	5.000 K	70 min	33
SQUARED								
200 x 200 mm, 2.000 lm								
80090200100	1.879 lm	14.5 W	130 lm/W	700 mA	20.6 V	3.000 K	80 min	42
80090300100	1.919 lm	14.5 W	132 lm/W	700 mA	20.6 V	4.000 K	80 min	42
80090400100	1.999 lm	14.5 W	138 lm/W	700 mA	20.6 V	5.000 K	80 min	42
280 x 280 mm, 2.200 lm								
80090500100	2.148 lm	16.5 W	130 lm/W	700 mA	23.6 V	3.000 K	80 min	48
80090600100	2.193 lm	16.5 W	133 lm/W	700 mA	23.6 V	4.000 K	80 min	48
80090700100	2.284 lm	16.5 W	138 lm/W	700 mA	23.6 V	5.000 K	80 min	48
ROUND								
Ø 79 mm, 900 lm								
80046900100	922 lm	6.1 W	150 lm/W	350 mA	17.5 V	3.000 K	80 min	12
80047000100	970 lm	6.1 W	159 lm/W	350 mA	17.5 V	4.000 K	80 min	12
80047100100	993 lm	6.1 W	163 lm/W	350 mA	17.5 V	5.000 K	80 min	12
Ø 120 mm, 2.400 lm								
80047200100	2,327 lm	17.4 W	133 lm/W	700 mA	24.9 V	3.000 K	80 min	20
80047300100	2,449 lm	17.4 W	140 lm/W	700 mA	24.9 V	4.000 K	80 min	20
80047400100	2,504 lm	17.4 W	144 lm/W	700 mA	24.9 V	5.000 K	80 min	20

APPLICATIONS

- Decorative
- Industrial
- Street Lighting
- Commercial
- Special Projects

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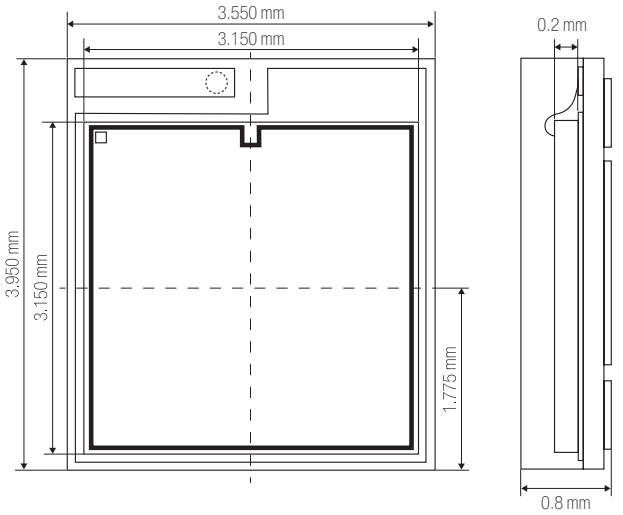
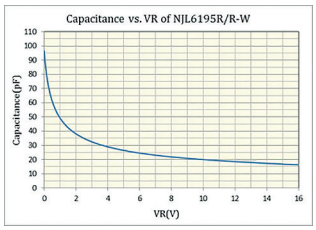
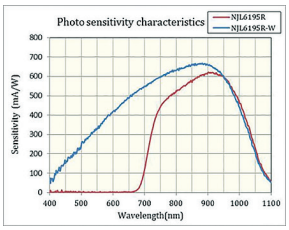
SMD IR LIGHT SENSOR NJL6195R

HAVE A LOOK

NJL6195R is a SMD Si Photo Diode that is covering a wide wavelength range. Due to its large active area and speed it is suitable for a variety of applications such as optical switches, IR remote controls and various kinds of safety systems like light barriers and light curtains.







APPLICATIONS

- Optical switches
- IR remote controls
- Light curtains
- Light barriers
- ToF sensors
- And many more

FEATURES

- Leadless surface mount type: 3.55 x 3.95 x 0.8 mm
  Active area: 2.98 x 2.98 mm
- Wavelength of peak sensitivity: 900 nm
- Mold resin with visible light filtering function
  (Optional clear mold type [NJL6195R-W] is also available.)
- Pb free solder re-flowing permitted
- Pb free, halogen free conformity to RoHS directive

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