



Letrika

Driving innovation



Letrika is the trademark of a global group of companies with the headquarters in Slovenia. Letrika markets its high-quality, innovative and cutting-edge products and services almost in all parts of the world. More than 2600 Letrika's employees put forth their efforts and focus on production, development and sales of starters, alternators, electric drive and mechatronic systems.

Aware of the environment we increasingly aim at the green technologies, offer products from the field of renewable sources of energy and are determined to reduce impacts on the environment.

Our customers are the biggest global producers of agricultural, construction and working machinery, producers of broad range of transportation means, including the automotive industry and the industry of boats and golf cars. Our most important markets are in the Western Europe and the USA. However increasingly important are also the developing markets and the BRIC countries.

In a new trademark called Letrika we have gathered more than 50 years of experience, development, professional achievements and success. We plan to additionally strengthen the relations with our partners, customers and stakeholders also in the future.

A COMPANY WITH CLEAR VISION

MISSION

High quality and innovativeness of our starter motors, alternators and mechatronic systems is a basis of business excellence and sustainable development.

VISION

To be a strategic partner, who co-creates developmental trends of electric systems in the field of green technologies.

Motto: DRIVING INNOVATION



RANGE OF PRODUCTS

STARTER MOTORS & ALTERNATORS

Letrika manufactures starter motors and alternators for vehicles with internal combustion engines. Technical performance and characteristics of these products are a result of long-time relationship with manufacturers of internal combustion engines, their high requirements and expectations and our long-standing experience in development and production. High operating reliability is assured by continuously optimizing the design for use in different operating conditions and numerous validations in Letrika's own laboratories and on vehicles.

Starter motors

This product line includes a great choice of starters designed for all types of internal combustion engines of 0.8 to 19 litre capacity. Starter designs comply with the specific requirements for the installation on passenger and commercial vehicles, tractors, construction machinery, and other vehicles. Different starter families are manufactured in 12 V versions with the outputs from 0.8 kW to 5.5 kW, and in 24 V versions with the outputs from 1.4 kW to 9 kW. With regard to the output powers, the motor part excitation is performed through permanent magnets or electrically through windings. We manufacture directly driven starters as well as modern reduction-gear starters.

Alternators

This product line includes different versions of alternators designed for use on all types of internal combustion engines. Letrika's alternators are used on passenger or commercial vehicles, agriculture, construction and other machinery and are designed to meet a wide range of engineering

specifications and applications. Different solutions of our alternators are defined taking into account the demands of each application and are designed for long life, maintenance free operation under extreme conditions. Alternators product range includes two basic designs considering cooling of the electric machine, compact alternators with internal fans and classic alternators with external fan. Individual families of alternators are available with 14 V and 28 V DC rated voltage, with output current up to 270 A. Special versions of alternators with 48 V, 56 V DC and 110 V, 230 V AC rated voltage are also available.

MECHATRONIC SYSTEMS

Development of mechatronics in the automotive industry dictates increasing demands for reliability, comfort, safety, energy efficiency and ecology. Owing to many years of experience in the field of automotive electrical parts and drive systems, Letrika is becoming an important partner to manufacturers of different mechatronic systems that follow these requirements. High technological and competitive market abilities mark Letrika as a globally established player and development supplier of electric motors for the most demanding segments of the automotive industry.

By overall development and production it is focused mostly on the electric motors that drive different mechatronic systems:

- Motors for Electro Power Steering (EPS)
- Motors for air pumps for Exhaust Gas Treatment (EGT) systems
- Motors for water and other liquid pumps
- Motors for compressors for air conditioning systems

DEVELOPMENT

Our own R&D activities and innovativeness are foundation for our growth and long-term development. We are increasingly focusing on the new green technologies, striving for reduced consumption of fossil fuels and harmful emissions, introduction of clean electric drive systems, and better use of renewable sources of energy.

Innovativeness

We are an innovative company, as we make one third of the sales by completely new products. The strategy of increasing innovativeness is based upon competent people, modern R&D equipment, globalization of research and development and cooperation with educational and scientific institutions.

Technically advanced products

Our products and systems of modern design are made by the use of the

state-of-the-art, environmentally friendly tools. They are characterized by technical exquisiteness, which meets and exceeds the customer requirements in respect of quality, reliability and competitive prices. Tests performed in our own and external laboratories prove reliability of newly developed products, what to a great extent contributes to even greater reliability and competitiveness of products of our business partners.

Continuous improvements

We are all taking care of the process of continuous improvements. New products and technologies are results of cooperation and team-work in an innovative process. In addition, mass innovative activities of the employees continuously improve products, technologies and processes. We wish to optimize the products and processes at the very stage of design and development, thus achieving lower production costs and higher quality.



DRIVE SYSTEMS

By producing different types of electric motors, corresponding controllers and other elements as graphic display and master CAN controller we can offer the market complete battery supplied drive systems. The drive systems are of different configurations defined by the application. They are mainly used as traction systems, electrically assisted steering systems, hydraulic pump drive systems and others.

DC motors

High efficiency DC motors can be used as traction motors, to drive hydraulic pumps for various applications, particularly in material handling and transport industries, and for other applications, such as winches, industrial cleaning machines and marine applications. They are made in both standard versions and to special customer requirements. DC commutator motors with thermal cut-outs, ventilated DC commutator motors and heavy duty versions are also available.

Brushless permanent magnet motors

Brushless permanent magnet motors from Letrika combine high performance and high reliability with a simple and therefore the best price-performance motor design. The motors offer high efficiency over a wide speed range and high torque at low speeds. The motor construction with no commutator and brushes, no slots and windings on the rotor provides very low acoustic noise and torque-ripple. With the addition of an efficient electronic controller already incorporated in the motor construction, the motor and electronics represent a single compact drive unit, which makes this motor type acceptable for many applications.

AC induction motors

Letrika's AC induction motors are four-pole motors with aluminium squirrel cage rotor and three-phase winding on the stator. They are powered and controlled by AC controllers, which convert DC voltage to three-phase voltage at the required amplitude and frequency. AC induction motors with their robust and brushless construction and superior output performance represent the best traction solution for battery supplied electric vehicles such as golf carts, airport luggage carts, smaller electric cars and other applications.

Controllers

Electronic controllers are designed for electric motor drives based on the battery supplied electronically commutated motors, brushless motors with permanent magnets and induction motors. They are designed for use in various drive systems. They are built in the MOSFET technology. Their method of operation is adapted to the operation with various types of motors. Controllers are designed on the basis of processors; therefore a wide setting of functions is possible. They are built for the nominal voltages from 12 V to 80 V and control of load currents up to 800 A.

LETRIKA WORLDWIDE

HEADQUARTERS

Iskra Avtoelektrika d.d.
5290 Šempeter pri Gorici
Polje 15, Slovenia

T: +386 5 33 93 000

F: +386 5 33 93 801

E: info@letrika.com

