

NPP YEARBOOK
NEW POWER 2021



safety equipment can operate on 12 V in the event of a power failure. The dc-dc converter also includes noise reduction and interference rejection so there is no interference between the unit and vehicle electronics.

durability, scalable and sealed battery chargers, all with IP67 and IP6K9K protection rating, covering voltages up to 1000 V, easy to be integrated in buses, trucks and vans, underground vehicles and more. These components are all built to resist harsh environments and can be installed in any rugged application.

The latest development regarding OBCs is the HPC series, which is the result of two years of research and development by EDN's R&D team to deploy a new conversion technology that improves power density and specific

All on-board battery chargers by EDN are certified with IP67 and IP6K9K protection ratings.

power. A further step is the new BHP series, based on the HPC technology and able to work both in "charger mode" and "export power mode" (bidirectional operations) to perform vehicle-to-grid (V2G) and vehicle-to-load (V2L) applications. HPC and BHP series both feature a galvanic isolation ensuring a definitive safety separation between the vehicle and the grid.

An 80% share of EDN belongs to MTA SpA and this allows the two companies to provide global OEMs with complete power electronic solutions.

EDN

www.edngroup.com

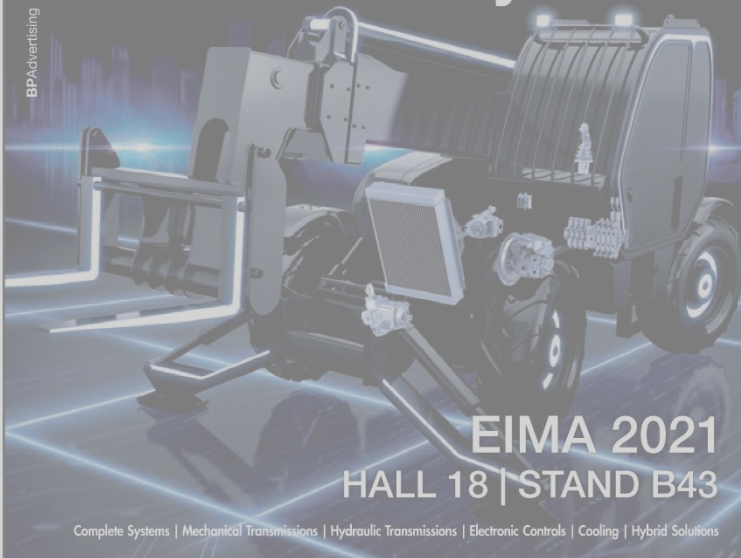
PRODUCT LINE

Power electronics for electric and hybrid vehicles: On-board battery chargers.

EDN develops and produces prime

Intelligent Integrated Power Systems

BPAdvising



EIMA 2021
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Complete Systems | Mechanical Transmissions | Hydraulic Transmissions | Electronic Controls | Cooling | Hybrid Solutions

Bondioli & Pavesi's solutions are driven by function

From simple systems to advanced drive trains with electronic controls our mission is to supply the right integrated solution for your machine.

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bondioli-pavesi.com



FLASH BATTERY

www.flashbattery.tech

PRODUCT LINE

Flash Battery Customised (LFP) Lithium Battery from 7 to 300 kWh.

COMPANY NEWS

Flash Battery designs and manufacture lithium batteries for industrial machines and electric vehicles with strong needs for customisation.

Flash Battery has established itself in the industrial market in just under ten years, forging partnerships and building a customer base from a variety of sectors, including AVGs/LGVs for material handling, vehicles for deliveries in old town centres, construction machinery, agricultural machines, GSE, aerial platforms, and industrial sweepers.

The company offers over 500 customised lithium battery models. The process, from preliminary consultancy to final testing, is the result of a series of one-to-one steps with the customers to understand their needs and create 100% customised products.

The company has developed its own battery balancing system which it calls the Flash Balancing System that acts both in active and passive mode with a much higher balancing power (20A) and not only at the end of the cycle, but also actively during discharge.

Another aspect of Flash Battery lithium batteries is the automatic remote control system. The Flash Battery Data Center, makes it possible to remotely monitor how every battery installed in each machine or electric vehicle is working and identify well in advance when action is needed.



electro-mechanical power split. The company claim that the drive is more efficient and wear-free compared to conventional CVTs, with another feature being the provision of up to 100 kW of electrical power for external consumption.

KOHLER ENGINES

www.kohlerengines.com

Products Kohler Engines develops and manufactures diesel and gasoline engines, alternative fuel engines (propane, natural gas, flex fuel and tri-fuel), marine engines, and hybrid solutions.

COMPANY NEWS

Kohler Engines offers its K-HEM parallel hybrid solution for engines between 19- and 56-kW power output. The hybrid system is based on Kohler's KDI range of diesel units that are combined with an electric motor. According to the company the hybrid solution is particularly interesting for the 19 and 56 kW power nodes above which the cost and complexity of a pure diesel solution with exhaust aftertreatment might be a complicated option for manufacturers and users. The addition of an electric generator in this power bands suits applications with intermittent power requirements and where there is a potential for energy recuperation.

Kohler Engines said that K-HEM is a solution for machines that don't need peak power for long periods of time; typical applications for K-HEM are forklift trucks, telescopic handlers, excavators, cable tensioners, chip grinders, and welding equipment.

LIEBHERR COMPONENTS AG

www.liebherr.com/components

e-mail: components@liebherr.com

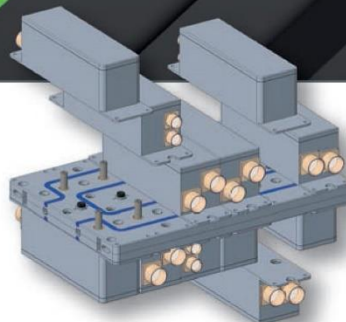
PRODUCTS

Fuel injection systems and controls, hydraulic cylinders, power units and piston accumulators, hydraulic pumps and motors, e-motors and generators, power electronics and complete e-powertrain systems.

COMPANY NEWS

Liebherr said it has developed "climate friendly" injection solutions designed for use with hydrogen and synthetic fuels. As the internal combustion engine is still the

The new piston accumulator range by Liebherr covers the 250- and 350-bar pressure area.



dominant form of mobile propulsion, Liebherr-Components said it sees it as a logical step to further develop the internal combustion engine and make it able to use CO₂-neutral fuels.

Liebherr is working on solutions for direct hydrogen injection that it said will be ready for series production to meet upcoming CO₂ emissions targets.

Liebherr said it has expanded its portfolio of hydraulic components with a piston accumulator series-production range in the 250 and 350 bar pressure area. The solutions are applicable in both vertical and horizontal assembly situations in a variety of mobile and stationary applications. The products optimally match other hydraulic components by Liebherr and can, therefore, be used as a complete hydraulic system.

MERITOR

www.meritor.com

PRODUCT LINE

Modular electric axles and complete electric drivetrain system.

Meritor produces scalable and modular solutions across its Blue Horizon ePowertrain platforms. These are configured for medium- and heavy-duty vehicles by integrating an electric motor and transmission within the axle. The ePowertrain family consist of 12Xe type optimised for Class 4 & 5; 14Xe type optimized for Class 5-8; and 17Xe type designed for heavy duty 4x2 and 6x2 configuration.

Meritor's ePowertrains ensure efficiency with the motor as the transmission is tuned to keep the motor in the most efficient range. An easy installation is available on current vehicle platforms whilst offering weight savings typically between 272-363 kg, allowing Meritor's platforms to meet medium- and heavy-duty performance requirements.

MTA SPA

www.mta.it

PRODUCTS

Fuses, fuse holders, power distribution units (PDUs),

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battery junction boxes and connectors, for 48 V up to 850 V applications, dashboards, displays and electronic control units.

The latest developments for high voltage heavy duty applications include a modular PDU with integrated passive cooling systems which is flexible and adaptable to several platforms. It is made of aluminum plates and an internal resin layer insures Ingress Protection (IP) and electrical isolation.

The company offers a series of PDUs with integrated electronic components that can manage the communication protocols for the electric recharge stations: an Aux PDU, a Front PDU and a Rear Junction box. These components are equipped with a 12 V safety circuit and the rear junction box includes an additional safety circuit which interrupts the current flow when the box cover is opened.

The recent acquisition of 80% share of Italy-based EDN, allows the company to offer also on-board battery chargers and power converters, thus providing OEMs with complete power electronic solutions.

PMP INDUSTRIES GROUP

www.pmp-industries.com

e-mail: info@pmp-industries.com

PRODUCTS

PMP Industries' range integrates advanced technologies in mechanical, hydraulic and electric transmissions to deliver solutions for several fields of application: construction, material handling, earth moving, agriculture and forestry. PMP Industries designs and manufactures electric traction systems.

Its PMS series gearboxes have become a standard in the market of electric forklifts and electric tractors. The company developed high-speed integrated electric motors (up to 10 000 rev/min), with low copper content and with low-noise. The compact design of the transmissions by PMP Industries led to the internal development of the control units. They include integrated speed sensors and several new functionalities that are optimised for industrial vehicles. Among the latest developments: integrated electric transmission solutions which include transmission, electric motor and controller; and the DigiMix digital control system for truck-mounted concrete mixers. DigiMix adds advanced functionalities to the mixer, including IoT features, without structural