Querom

Innovative Power Solutions

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DDL4848-48

Centrally organised performance management for mobile applications.

COMPACT
182*138*45mm³

EFFICIENT
typ. 97% efficiency

INTELLIGENT
real-time system parameters

FLEXIBLE
configurable parameter

POWER	**5 kW**
PORT A	**≤ 55 VDC**
PORT B	**≤ 55 VDC**
INTERFACE	**CAN 2.0**

Detailed technical data and explanations of the ports can be found on page 3.

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Product benefits for use in mobile applications.

RECUPERATION

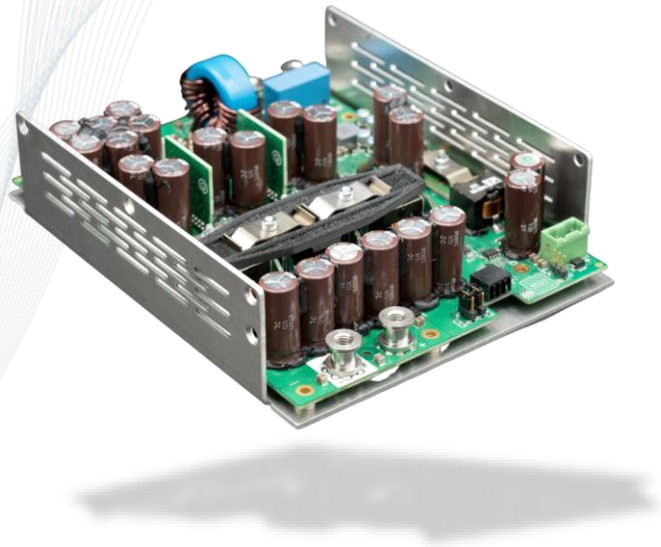
The DC/DC converter controls the energy flow in both directions with up to 100A. **Bidirectionality** allows energy to be fed back during braking or discharging processes and increases the efficiency of the application.

BATTERY CHARGE

Due to the **controllable current-limited charging function** of the converter, various battery storage systems or supercap modules can be optimally charged and discharged.

SUPPLY OF CONTROL ELECTRONICS

An additional 24VDC output with 150W power can be used to supply connected **control units, fans or sensors**.



ENERGY-SAVING

The converter has a configurable **sleep mode function** to minimise the energy requirement during maintenance work or rest periods.

CONTROLLABLE

The **CAN bus system is fully configurable** by the user and allows all parameters to be set and all measured values and status messages to be queried.

SAFETY

The converter is **overtemperature, open-circuit and short-circuit proof**. In addition, an energy storage device can be monitored using sense lines and the energy flow can be adjusted accordingly.

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Technical Data.

Description

The DDL4848-48 is a non-isolated high-power DC/DC Converter handling energy transfer between two ports (Port A and Port B) in either direction. During power transfer from Port A to Port B, the converter operates in buck mode and provides a reduced voltage level at Port B. In the reverse direction, the converter works in boost mode and increases the voltage level on port A.

The dedicated input Port C in parallel to Port A is equipped with a circuitry limiting the inrush current. Therefor a connected power supply is prevented from high current load during startup.

An additional +24V constant voltage output features a power supply for a lot of applications. With the CAN interface, a variety of parameters can be set individually. Several safety functions e.g., overvoltage, overcurrent and overtemperature protection are integrated.

Specification

The following parameters are valid for operation at 25°C and under nominal conditions, unless specifically stated otherwise. Nominal condition includes in particular UC > UB, UA > UB and UA > 20V.

Port A

Input Current Limit	100 A
Output Voltage Setpoint	20 … 55 VDC
Output Current Limit	33 A
Output Power Limit	300 … 3000 W
Output Efficiency	typ. 95 %

Port B

Input Current Setpoint	15 … 85 A
Output Voltage Setpoint	6 … 55 VDC
Output Current Setpoint	15 … 100 A
Output Power Limit	500 … 5000 W
Output Efficiency	typ. 97 %
Dropout Voltage	< 2 V

Port C

Input Voltage	20 … 55 VDC
Current Limit	nom. 100 A

+24V Output

Output Voltage	24 V
Voltage Tolerance	+/-0.72 V
Output Current	up to 8 A
Output Power	nom. 150 W
Output Efficiency	>95 %

Monitoring

Sense Resolution	12 Bit
Sense Bandwidth	50 Hz

Certifications

Safety	EN62368-1
Emission	EN61000-6-4
Immunity*	EN61000-6-2
*Basic standards	EN61000-4-2; -4-3; -4-4; -4-5; -4-6; -4-8; -4-11

Communication

CAN2.0A und B	Compatible
Bandwidth	max. 1 Mbit/s

Environment

Ambient Temp.	0 … 80 °C
Baseplate Temp.	0 … 55 °C
Humidity	20 … 95 %

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