

Deutronic Intelligent Charging Computer for Lead Acid / AGM / VRLA Batteries

DBL300 / DBL500 / DBL700 / DBLW1200

- Brief Description -



- Extensive protection functions and self-protection functions
- Short circuit and reverse polarity protection
- Switchable option to power supply mode
- Protection of on board electronic system
- Protective functions against defect batteries
- Reliable sparking suppression



Type	Input Voltage	Output Voltage	Output Current
DBL300-14	100-240VAC	14,4/13,2VDC	20A *
DBL300-28	100-240VAC	28,8/26,4VDC 14,4/13,2VDC	10A *
DBL500-14	100-240VAC	14,4/13,2VDC	36A *
DBL500-28	100-240VAC	28,8/26,4VDC 14,4/13,2VDC	18A *
DBL700-14	100-240VAC	14,4/13,2VDC	45A *
DBL700-28	100-240VAC	28,8/26,4VDC 14,4/13,2VDC	25A *
DBLW1200-14	100-240VAC	14,4/13,2VDC	60A / 80A *
DBLW1200-28	100-240VAC	28,8/26,4VDC 14,4/13,2VDC	30A / 40A *

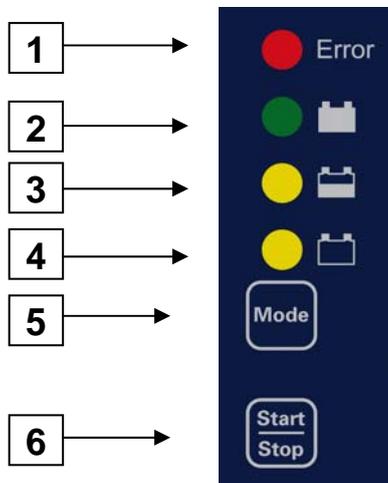
***) Current limit description:** Current limiting is performance related and temperature dependent

28VDC DBL variant: Charging mode with auto select circuit for 12VDC or 24VDC lead batteries (detects and supplies both battery types), 'Power Supply Mode' ONLY for 24VDC on-board electrical systems!

Important note: Do not use the charger in applications for which the device was not originally designed! Read operation instructions carefully and in any case pay attention to the guidelines of the battery manufacturer!

1) Control Elements

Afterwards the control elements of the DBL300 / DBL500 / DBL700 / DBLW1200 are given (incl. LEDs and push-button):



[1] ERROR (red LED)

[2] End of charging process / trickle charge (green LED)

[3] BAT half full (yellow LED)

[4] BAT empty (yellow LED)

[5] MODE push-button to select operation mode

Note: Operation mode can only be changed after the STOP button has been pressed

[6] START/ STOP push-button

2) Initial Operation / Handling

After the DBL is attached to the mains supply, the internal functions of the device are checked immediately. If the battery charger is technical alright, the integrated microcontroller switches to ready for operation and the DBL is now ready to start the charging process immediately - this is signalled via the blinking of the yellow LED [4].

Battery Charge Mode - Operation State / Functions:

If the clamps on the output of the DBL are connected to a technical irreproachable lead acid-/AGM-/VRLA battery then this is recognized from the internal load detection circuit of the DBL. The charging process can be started after the security functions of the DBL are executed and the accumulator among other things is checked on deep discharge and reverse polarity.

LED 1 (red), ON	- Battery connected with reverse polarity
LED 1 (red), blinking	- Internal device error
LED 2 (green), ON	- Charging process finished - The micro-controller circuit of the DBL is permanently checking the state of the connected accumulator and controls the switching to trickle charge mode (in this operation mode the charging voltage is reduced to a safe value).
LED 3 (yellow), ON	- The connected lead battery is 'half full' (charging process is continued) - The current consumption of the battery is declining (charging process with voltage 'U ₀ ')
LED 4 (yellow), ON	- The connected battery was detected and the internal security check concerning proper connection, reverse polarity, deep discharge etc. has been finished - The lead battery is empty ('discharged') - Charging process is working with 'I-const' at the output current threshold
LED 4 (yellow), blinking	- Ready to charge a battery (as soon as a battery is connected the charging process is ready to start) - Internal security check of the DBL has detected a defective battery (e.g. deep discharged battery)

Standby Battery Charge Mode - Operation State / Functions:

By pressing the DBL's START/ STOP push-button the operation mode is changing from 'Charge Mode' to 'Standby Battery Charge Mode', which is signalled with a synchronous blinking of the three operation LEDs (1x green / 2x yellow).

LED 2/3/4 (green / 2x yellow), blinking synchronous	- The DBL charging computer has been stopped and is now in operation state 'Standby Battery Charge Mode'
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Change of Operation Mode - Standby Battery Charge / Standby Power Supply Mode:

If the DBL is now in state 'Standby Battery Charge Mode' the operation mode can be changed by pressing the MODE push-button. The operation mode 'Standby Power Supply' is signalled via an asynchronous blinking of the three operation LEDs (green/yellow, yellow).

LED 2/4 (green / yellow) and LED 3 (yellow), alternate blinking	- The DBL has been stopped and is now in operation state 'Standby Power Supply'
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Changeover from Standby to Power Supply Mode - Operation State / Functions:

If the DBL charger is in operation state 'Standby Power Supply', the operation in 'Power Supply Mode' can be started by pressing the START/ STOP push-button. After the load detection circuit of the DBL has recognized the connection to a resistive load, the DBL switches on and puts out constant voltage.

ATTENTION! Important Notes:

Batteries must not be connected while working in operation mode 'Power Supply'. Any connected battery might put out gas, be destroyed or even explode due to over charge.



The 'Power Supply Mode' of the 28VDC DBL variants is only designed for 24VDC on-board electrical systems - in this operation mode no vehicle with a different nominal on-board voltage may be connected! The same also applies for the 'Power Supply' operation mode of the 14VDC DBL variants - it is only designed for 12VDC on-board electrical systems. Please be aware that as a consequence of any non-compliance a considerable damage could happen!

LED 2/3/4 (green / 2x yellow), alternate blinking (ticker mode: yellow / yellow / green)	- The DBL charger is in operation mode 'Power Supply' - ATTENTION! Batteries must not be connected while working in operation mode 'Power Supply'
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3) GENERAL SAFETY INSTRUCTIONS

- The battery charger contains components which are likely to generate electric arcs and sparks, thus the device has to be placed during operation in a special housing or in a room provided a for this purpose.
- Warning: When charging batteries explosive gases may occur. As a fact of that avoid fire, open light and spark formation.
- Only charge batteries in well ventilated places.
- The charger might only be utilised for the appointed applications, it is designed for professional applications for motor vehicle manufacturers and garages.
- Depending on the type of charger it is only allowed to contact lead (Pb) batteries with 12 Volt respectively 24 Volt nominal voltage.
- The battery which has to be charged must have a nominal capacity of 1Ah at minimum.
- It is not possible and not allowed to charge non rechargeable batteries with this device.
- Not on any account it is permitted to charge batteries in operation mode 'POWER SUPPLY'.
- Charging of fresh filled or defective batteries is explicitly forbidden.
- In any case pay attention to the guidelines of the battery manufacturer!
- Mains cables must always be in a proper state, renew defective cables immediately.
- The device mustn't be opened because as well the test certification as the warranty expires.

No liability:

The customer is responsible for the use of the device according to the specifications. Regardless of the type, Deutronic is not liable for any damage incurred through the use of the device.

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DC Nr. 33467

All data at nominal input, full load and 25°C ambient temperature, if not marked otherwise.

Technical modifications and mistakes reserved.

Products are described by information contained in catalogue and data-sheets. It is not be considered as assured qualities. Stresses listed under „Maximum Rating“ (one at a time) may be applied to devices without resulting in permanent damage. The operation of the equipment for extended periods under maximum rating may affect device reliability. Limiting value tolerance are subject to usual fluctuation margins.