

DBL1600

По вопросам продаж и поддержки обращайтесь:

| | | | |
|-----------------------------|---------------------------------|--------------------------------|---------------------------|
| Алматы (7273)495-231 | Казань (843)206-01-48 | Новокузнецк (3843)20-46-81 | Смоленск (4812)29-41-54 |
| Архангельск (8182)63-90-72 | Калининград (4012)72-03-81 | Новосибирск (383)227-86-73 | Сочи (862)225-72-31 |
| Астрахань (8512)99-46-04 | Калуга (4842)92-23-67 | Омск (3812)21-46-40 | Ставрополь (8652)20-65-13 |
| Барнаул (3852)73-04-60 | Кемерово (3842)65-04-62 | Орел (4862)44-53-42 | Сургут (3462)77-98-35 |
| Белгород (4722)40-23-64 | Киров (8332)68-02-04 | Оренбург (3532)37-68-04 | Тверь (4822)63-31-35 |
| Брянск (4832)59-03-52 | Краснодар (861)203-40-90 | Пенза (8412)22-31-16 | Томск (3822)98-41-53 |
| Владивосток (423)249-28-31 | Красноярск (391)204-63-61 | Пермь (342)205-81-47 | Тула (4872)74-02-29 |
| Волгоград (844)278-03-48 | Курск (4712)77-13-04 | Ростов-на-Дону (863)308-18-15 | Тюмень (3452)66-21-18 |
| Вологда (8172)26-41-59 | Липецк (4742)52-20-81 | Рязань (4912)46-61-64 | Ульяновск (8422)24-23-59 |
| Воронеж (473)204-51-73 | Магнитогорск (3519)55-03-13 | Самара (846)206-03-16 | Уфа (347)229-48-12 |
| Екатеринбург (343)384-55-89 | Москва (495)268-04-70 | Санкт-Петербург (812)309-46-40 | Хабаровск (4212)92-98-04 |
| Иваново (4932)77-34-06 | Мурманск (8152)59-64-93 | Саратов (845)249-38-78 | Челябинск (351)202-03-61 |
| Ижевск (3412)26-03-58 | Набережные Челны (8552)20-53-41 | Севастополь (8692)22-31-93 | Череповец (8202)49-02-64 |
| Иркутск (395)279-98-46 | Нижний Новгород (831)429-08-12 | Симферополь (3652)67-13-56 | Ярославль (4852)69-52-93 |
| Россия (495)268-04-70 | Киргизия (996)312-96-26-47 | Казахстан (7172)727-132 | |

DBL 1600

Ladecomputer / Intelligent Charging Computer

Ladecomputer für KFZ Starterbatterien (Bleisäure / Gel / AGM / Vlies / Lithium-Ionen Akkus) / *Intelligent charger for motor vehicles starter battery (Lead acid / Gel / AGM / VRLA / Lithium-Ion Batteries)*



DBL1600-14; Artikel Nr. 107063/2/000 (Standard)

- 100% KFZ Bordnetztauglichkeit, Schutz der Bordelektronik / Airbag
- Einsatz als Ladegerät, Fremdstromversorgung und zur Fahrzeugversorgung im Pufferbetrieb (Unterstützung während der Diagnose / Programmierung)
- Umfangreiche Schutz- und Selbstschutzfunktionen
- Kurzschluss- und Verpolschutz
- Schutzfunktion bei Batteriedefekten
- Sichere Funkenunterdrückung
- Komfortable Menüführung / Ladeparameter konfigurierbar
- Eingebaute Kommunikationsschnittstelle
- Abgedichtetes Gehäuse, geschützt vor innerer Verschmutzung
Gehäuseversion 'B': Vorteilhaft für industrielle Fertigungsstraßen
- Zustandsanzeige über Display und High-Power LEDs
- Menüführung: Deutsch, Englisch, Französisch, Italienisch, Spanisch
- Umfangreiches Zubehör z.B. externe Betriebszustandsanzeige (DBL-SIG-LR Fernindikator), Netz-/Ladekabel, Wandmontagevorrichtung etc.
- Option: Kundenspezifische Ladeparameter
- Option: Tieftemperaturbetrieb bis -40°C
- Option: Batterie Diagnosesystem
- Option: Regenerationsladung bei tiefentladenen Batterien
- Elektrische Sicherheit - Zertifizierungen: EN60335, EN61010, UL1236
- Bei führenden Automobilherstellern im Einsatz



DBL1600-14-B; Artikel Nr. 107068/2/000 (B-Version)

- 100% qualified for motor vehicles on-board electronic system / airbag
- Use as battery charger, power supply and motor vehicles energy supply in buffer mode (support during diagnosis / flash programming)
- Extensive protection functions and self-protection functions
- Short circuit and reverse polarity protection
- Protection against defective batteries
- Reliable sparking suppression
- Comfortable menu navigation / charging parameter configurable
- Built-in communication interface
- Sealed housing, protected against internal pollution
Housing version 'B': Advantageous for industrial production lines
- Status indication via display and high power LEDs
- Menu navigation: English, French, German, Italian, Spanish
- Wide range of accessories e.g. external visualization of operating state (DBL-SIG-LR remote indicator), mains and charging cable, wall mount adapter etc.
- Option: Customized charging parameters
- Option: Operation with low temperature until -40°C
- Option: Battery diagnostic system
- Option: Regeneration charging for deep discharged batteries
- Electrical safety - certifications: EN60335, EN61010, UL1236
- Utilized and approved by well known automotive manufacturers



LADECOMPUTER
INTELLIGENT CHARGING COMPUTER

DBL 1600

| Type | Input voltage | Output voltage | | Output current | | Menu language | Firmware | Cat. No. |
|--------------|---------------|----------------|---------|----------------|-------|---------------|----------|--------------|
| | | Pb | Li | nom. | max. | | | |
| DBL1600-14 | 100-240VAC | 14,4VDC | - | 90A | 105A* | Multi | v1.41 | 107063/2/000 |
| DBL1600-14-B | 100-240VAC | 14,4VDC | - | 90A | 105A* | Multi | v1.41 | 107068/2/000 |
| DBL1600-14 | 100-240VAC | 14,4VDC | 14,0VDC | 90A | 105A* | DE | v1.70 | 107063/2/021 |
| DBL1600-14 | 100-240VAC | 14,4VDC | 14,0VDC | 90A | 105A* | EN | v1.70 | 107063/2/022 |

* siehe technische Daten: Strombegrenzung / refer to description: current limiting

Bestelloption / Order option:

../0/...: Ohne Zubehör / without accessories

../2/...: Mit Zubehör / with accessories

5m Schuko-Netzkabel / power cable (Art.140501)

5m/16qmm Ladekabel / power cable (Art.140708)

Firmware Spezifikation / Firmware specification:

| Firmware | Charging modes | Menu language |
|-----------|---|---------------------------------------|
| v1.41* | AUTOMODE, FSV, LADEN-Pb | Multi: DE, EN, ES, FR, IT |
| v1.42* ** | FSV, LADEN-Pb, LADEN-Li (LFP), Power-Up, Automatic FSV/Pb/LFP Detection | Order option: DE or EN |
| v1.70* | FSV, LADEN-Pb, LADEN-Li (LFP), Power-Up | Order option: DE or EN (see Cat. No.) |

* Kundenspezifische Parametrierungen und universelle Ladeprogramme auf Anfrage (a.A.) /

Customized parameterization and universal charging programs on request (o.R.)

** gemeinsame Projektierung erforderlich/ joint project planning required

1. Eingang / Input

| | |
|--|--|
| Eingangsspannung / | 100-240VAC Weitbereich (Toleranz: 85VAC-265VAC), 45-65Hz |
| <i>Input Voltage</i> | 130-350VDC; ACHTUNG: Für Einsatz in Kombination mit induktiver Energieübertragung spezielle Firmware verwenden! |
| | <i>100-240VAC wide range (tolerance: 85VAC-265VAC), 45-65Hz</i> |
| | <i>130-350VDC; CAUTION: When using inductive power transfer please contact us for a special firmware!</i> |
| Einschaltstromstoß / | 30A bei 264VAC, Temperatur unabhängig |
| <i>Inrush current</i> | Sicherungsautomat: 16A träge (z.B. Charakteristik B) |
| | <i>30A at 264VAC, independent from temperature</i> |
| | <i>Circuit breaker: 16A, time-lag fuse (e.g. characteristic B)</i> |
| Stromaufnahme bei Voll-Last / | <10A (115V/230V) |
| <i>Input Current at nominal load</i> | |
| Leistungsfaktor / Power factor | >0,98 |
| Leerlauf-Leistung / No-load power | typ. 10W bei deaktiviertem Ausgang / with deactivated output |
| Eingangssicherung / | F1 (2x 7A-8A T)/250V (6,3x32mm) |
| <i>Input Fuse</i> | |

LADECOMPUTER
INTELLIGENT CHARGING COMPUTER

DBL 1600

Transientenüberspannungsschutz / Varistor (8kA / 151J)
Transient over voltage protection

Anschluss Eingang / IEC/EN 60320, C14
Plug input

2. Ausgang / Output

Ausgang (Werkseinstellung) /

Anschluss der Ladekabel per Schweißkupplung (Bajonettanschluss); Ausgangsrelais (Lasterkennung/Verpolschutz); Überwachung der Ausgangsspannung mittels OVP (Over Voltage Protection) und vollständige Abschaltung des Ladestromes, falls am Ausgang die eingestellte Ladespannungsgrenze überschritten wird. Umfangreiche Funktionsbeschreibung der Geräteeigenschaften - siehe Bedienungsanleitung.

Output (Factory settings)

Connection of charger leads via welding cable connector (bayonet connector type); Output relay (load detection / reverse polarity protection); Output voltage monitored by OVP (Over Voltage Protection) and complete disable of output current if preset charging voltage limit is exceeded. Extensive functional description of the charger's features - see operating instructions.

Ladung (Werkseinstellung) /

Beim Start der DBL wird die vordefinierte Ladespannung eingestellt (z.B. 14,4VDC / 28,8VDC). Fällt der Ladestrom unter die vordefinierte Schwelle (z.B. 2,5A) so wird die Ladespannung auf Erhaltungsladung (z.B. 13,2VDC / 26,4VDC) zurückgenommen. Steigt der Strombedarf, so erhöht sich die Ladespannung wieder auf den vordefinierten Wert (z.B. 14,4VDC / 28,8VDC).

Charge Mode (Factory settings)

When starting the DBL the predefined charging voltage is set (e.g. 14,4VDC / 28,8VDC). If charging current goes down the predefined limit (e.g. 2,5A) then the charging voltage is reduced to trickle charge (e.g. 13,2VDC / 26,4VDC). If additional current is required, the charger will again increase the charging voltage (to e.g. 14,4VDC / 28,8VDC).

Strombegrenzung /

Die Stromgrenze ist vom Benutzer konfigurierbar. Im Betrieb wird die Strombegrenzung des Ladegerätes automatisch den Betriebsbedingungen angepasst, abhängig von Netzspannung (vgl. Kennlinie auf Seite 5), Betriebstemperatur, Lastcharakteristik etc. Der Maximalwert (siehe Tabelle auf Seite 2) kann für max. 1 Minute dauerhaft mit nachfolgender Abkühlphase für ca. 4 Minuten bereitgestellt werden.

Current limiting

Current limit is user selectable. According to the operation state the current limit is automatically adjusted during operation, depending on mains voltage (see output power curve on page 5), operating temperature, load characteristic etc. The maximum current limit value (see table on page 2) is provided for max. 1 minute continuously followed by a cooling period for approximately 4 minutes.

Anschluss Ausgang /

**Schweiß-Kabelkupplung (Stecker [-] / Buchse [+])
für Kabelquerschnitt 16/25qmm**

Plug output

*Welding cable connector (plug [-] / socket [+])
for wire cross section 16/25qmm*

3. Regelabweichungen Uout / Regulation accuracy Uout

| | |
|--|---|
| Toleranz / Tolerance | +/-2% über alles / +/-2% over all |
| Laständerung / Load regulation | |
| statisch / static (10-90%) | <0,5% typ. 0,05 % |
| dynamisch / dynamic (10-90%) | < 5% 100Hz |
| Ausregelzeit / Recovery time | <1ms |
| Temperaturdrift / Temperature drift | -25°C ... +50°C: < 1% (typ. 0,5%; @0-40°C: typ. 0,4%) |
| Restwelligkeit / Voltage ripple | <50mVpp |
| Schaltspitzen / Switching spike | <300mVpp |

4. EMV (Elektromagnetische Verträglichkeit) / EMC (Electromagnetic Compatibility)

| | |
|--|---|
| Emission / Emission | |
| HF-Emission / | EN55011 Gruppe 1 Klasse B |
| <i>RFI emission</i> | (mit Fernindikator / Schnittstellenanschluss^[*1]: Klasse A) |
| | <i>EN55011 Group 1 Class B</i> |
| | <i>(with signal lamp / interface connection^[*1]: Class A)</i> |
| Primärseitige Stromoberwellen / | EN61000-3-2 |
| <i>Current harmonics</i> | |
| Störfestigkeit / Immunity | EN61000-6-2 |

5. Allgemeine Daten / General Data

| | |
|--|--|
| Arbeitstemperatur / <i>Ambient temperature operating</i> | -25°C...+60°C (automatische Ausgangsleistungsanpassung – vgl. Kühlung); bis –40°C auf Anfrage <i>(automatic output power derating –see cooling); to –40°C on request</i> |
| Lagertemperatur/ <i>Storage temperature</i> | -40°C ~ 85°C |
| Kühlung / <i>Cooling</i> | Eigenkonvektion und interner Lüfter (Lüfterregelung / -überwachung prozessorgesteuert). Automatische Leistungsreduzierung bei zu hoher Temperatur durch unzureichende Konvektion. Bei Lüfterausfall Signalgabe und Leistungsreduktion auf Notlauf-Programm. Abgedichtetes Gehäuse (kein Luftaustausch mit schmutziger Außenluft). <i>Convection cooling and internal fan (fan regulation and monitoring is micro-processor controlled). Automatic power reduction at high temperatures in conditions of inadequate convectional cooling. Fan failure forces alarm signal as well as reduction of output power to emergency level. Sealed housing. No air interchange with polluted air from outside.</i> |
| Luftfeuchtigkeit / <i>Humidity</i> | 95% kein Betrieb bei Betauung, lackierte Leiterplatten <i>95% no operation in presence of dewing, coated PCB by varnish</i> |
| Vibration (nach IEC 68-2-6) / <i>Vibration (acc. IEC 68-2-6)</i> | 10 Hz – 150 Hz, 0,15mm oder 2g, 90 min. in Resonanz <i>10 Hz – 150 Hz, 0,15mm or 2g, 90 min. under resonance</i> |
| Schock (nach IEC 68-2-27) / <i>Shock (acc. IEC 68-2-27)</i> | 30g für 18 ms in 3 Raumrichtungen <i>30g for 18 ms in 3 directions</i> |
| Verschmutzungsgrad / <i>Pollution degree</i> | 2 (EN50178) |
| Klimaklasse / Climatic category | 3K3 (EN60721) |
| Elektrische Sicherheit/Schutzart / <i>Safety/Protective system</i> | UL1236, EN60335, EN61010, Schutzklasse I <i>Protection Class I</i> |
| Isolationsspannung / <i>Isolation voltage</i> | Eingang/Ausgang: 3kV stückgeprüft; Ausgänge/Gehäuse: 500VDC <i>Input/output: 3kV each unit; output/chassis: 500VDC</i> |
| MTBF | > 400 000 IEC 1709 (SN 29 500) |
| Wirkungsgrad / Efficiency | typ. 90% |
| Gehäuse / <i>Case</i> | Metall, ergonomisch auf Einsatz in Fahrzeugfertigung und Instandhaltung abgestimmt. Montage über 6 Schrauben M6, seitlich. <i>Metal, especially designed for car manufacture and service stations. Mounting option via 6 screws size M6 at the side.</i> |
| Abmessungen (TxBxH) / <i>Dimensions (DxWxH)</i> | Standard-Version 340 x 295 x 146,5mm B-Version 355 x 385 x 143mm |

Gewicht / Weight

Standard-Version ca. 8,2 kg

B-Version ca. 8,5 kg
(ohne Kabel, ohne Verpackung / without cables nor package)

6. Schnittstellen / Interface

Interface (25-pol. SUB-D)^{[*1][*2]}

Für verschiedene Zwecke (z.B. pot. freie Relais, Remote ON/OFF etc.)
For various purposes (e.g. floating Relays, Remote ON/OFF etc.)

RS232 (9-pol. SUB-D)^{[*1][*2]}

Zur Kommunikation bzw. Firmware-Update (Standard PC Interface)
For communication or firmware update (standard PC interface)

[*1] **Bitte verwenden Sie zur Anbindung von externem Equipment eine geschirmte Leitung**

For connecting external equipment please use a shielded cable

[*2] **ACHTUNG:**

GND-Pins sind gegenüber dem Leistungsausgang nicht galvanisch getrennt! Bei einer Anbindung des Gerätes an eine externe Steuerung ist zwingend eine galvanische Trennung vorzusehen!

ATTENTION:

GND-Pins not galvanically isolated to the power output! When connecting the device with an external control a galvanic isolation must be provided!

Signalisierung /
Signals

3 leuchtstarke LED für Betriebszustandsanzeige / Alarmgabe
3 high power LED's for operating state indication / alarming

LCD Anzeige /
LCD display

Großformatiges Grafikdisplay
Big sized graphic display

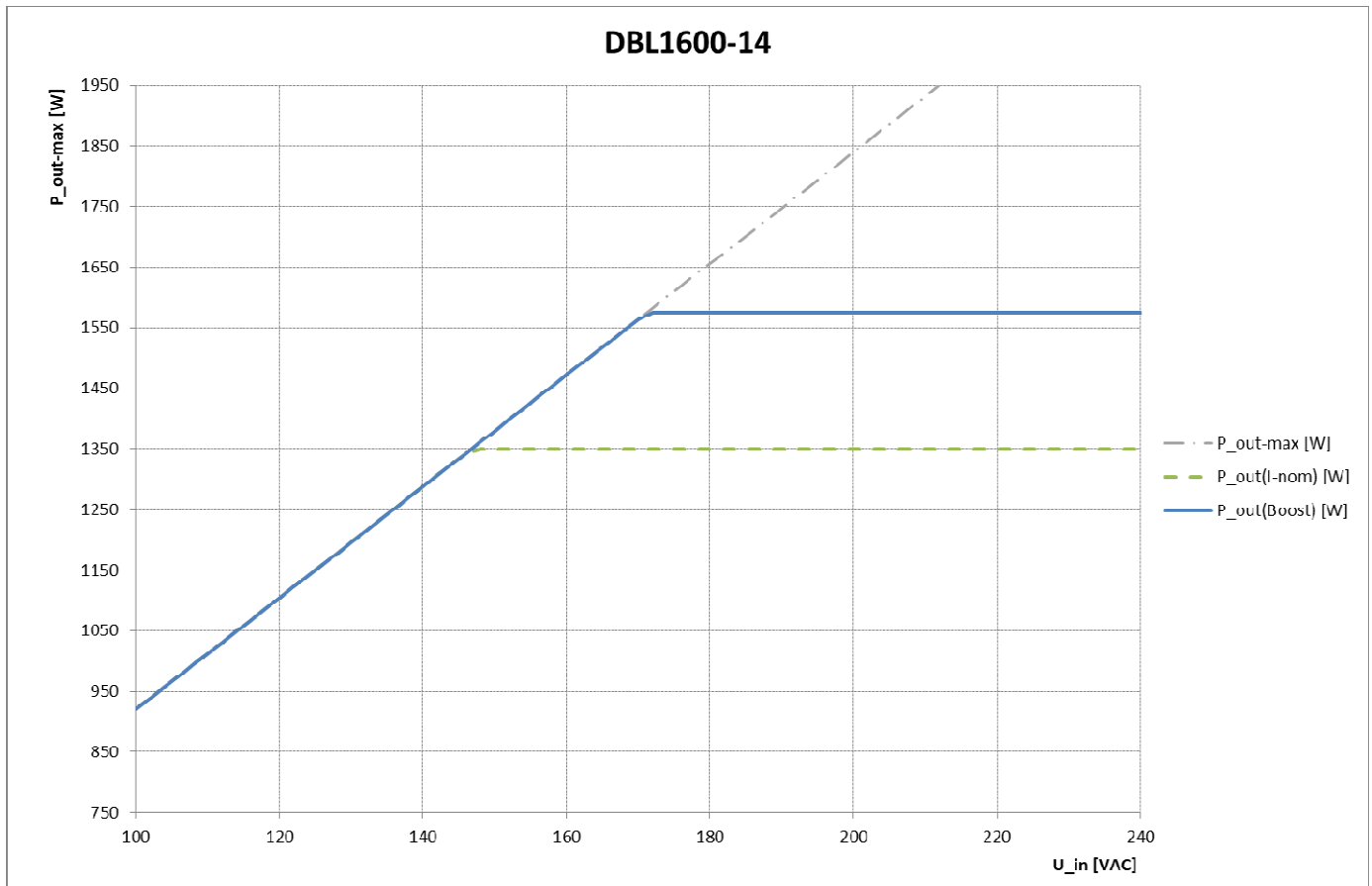
3-Tasten-Bedienfeld /

Menünavigation sowie Konfiguration / Parametrierung der Betriebsart und einzelner Geräteparameter (u.a. Ausgangs-spannung, Stromgrenzen, Sicherheitsparameter, Start-/ Stop-verhalten, Kurzschluss-Reaktion etc.) Umfangreiche Funktionsbeschreibung siehe Bedienungsanleitung

3-key operator panel

Menu navigation as well as configuration / parameterisation of operation mode and individual device parameters (among others output voltage, current limits, security parameters, start / stop behaviour, short circuit reaction etc.) Extensive functional description see operating instructions

7. Ausgangsleistungskennlinie / Output Power Curve



Hinweis: Um die volle Ausgangsleistung abrufen zu können, kann im Falle einer niedrigen Netzspannung (z.B. USA 120VAC) über 2 Phasen angeschlossen werden (240VAC). Der Schutzleiteranschluss ist in jedem Fall sachgerecht und zuverlässig auszuführen.

Note: To reach full output power, it is possible to connect the device across two phases in case of low supply voltage (f.e. USA 120VAC). Protective earth connection has to be properly bonded in any case.

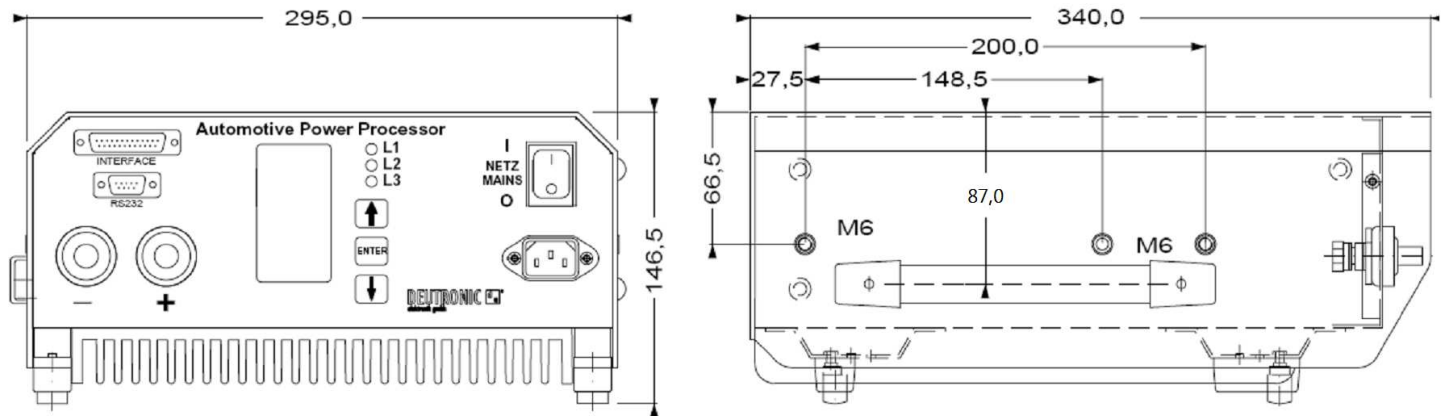
8. Abmessungen / Dimensions

Standard-Gehäuseversion:

Display, Ein-/ Ausschalter, Schnittstellen u. Anschlüsse an der Stirnseite

Standard case version:

Display, main on/off switch, interface and connector on the front

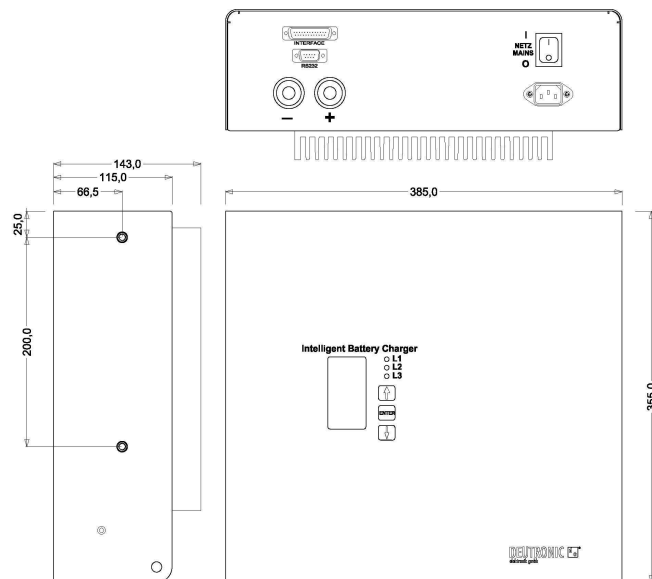


B-Gehäuseversion:

Ein-/ Ausschalter, Schnittstellen u. Anschlüsse an der Stirnseite, Display an der Oberseite.

B case version:

Main on/off switch, interface and connector on the front, display on the top.



**LADECOMPUTER
INTELLIGENT CHARGING COMPUTER**

DBL 1600

Wichtige (Sicherheits-) Hinweise / Important (safety-) notes

Es wird grundsätzlich empfohlen ausschließlich von Deutronic freigegebenes Equipment einzusetzen, da nur so eine entsprechende technische Eignung sowie eine ausreichende Dimensionierung für den professionellen Einsatz gewährleistet ist.

Geräte sowie Zubehör sind entsprechend der Erfordernisse sowie unter Beachtung der geltenden Sicherheitsrichtlinien auszuwählen und zu installieren.

Zur Beachtung:

Netz-/Ladekabel dürfen ausschließlich im vollständig abgerollten Zustand eingesetzt werden, um ausreichend Kühlung zu gewährleisten! Zudem ist auf eine sichere Arretierung am jeweiligen Gerät zu achten, um die Betriebssicherheit zu gewährleisten und Schäden zu vermeiden. Bei Verschleiß müssen Kabel umgehend erneuert werden!

Generally it is recommended to use by Deutronic released equipment, only. Because only in this way an appropriate technical suitability and an adequate dimensioning can be ensured for professional use.

Equipment and accessories have to be selected and installed in accordance with the requirements and under attention of the existing safety guidelines.

Note:

Mains cables / charging cables must be used in completely unrolled condition only, to ensure a sufficient cooling! Moreover pay attention of a safety interlocksystem at the respective device to ensure the operational safety and to avoid damages. If worn, the cables must be replaced immediately!

DBL1600/3W

Intelligent Charging Computer

Intelligent charger for motor vehicles starter battery
(Lead acid / Gel / AGM / VRLA)



Abbildung ähnlich / device similar to figure



- 100% qualified for motor vehicles on-board electronic system / airbag
- Use as battery charger, power supply and motor vehicles energy supply in buffer mode (support during diagnosis / flash programming)
- Extensive protection functions and self-protection functions
- Short circuit and reverse polarity protection
- Protection against defective batteries
- Reliable sparking suppression
- Comfortable menu navigation / charging parameter configurable
- Built-in communication interface
- Housing version 'B': Advantageous for industrial production lines
- Status indication via display and high power LEDs
- Menu navigation: English, French, German, Italian, Spanish
- Electrical safety - certifications: EN60335-1, EN60335-2-29, EN61010, EN62233 UL1236,
- Utilized and approved by well known automotive manufacturers
- Wide range of accessories e.g. external visualization of operating state (DBL-SIG-LR remote indicator), mains and charging cable, wall mount adapter etc.

Option: With mounted heat-sink

Option: Customized charging parameters

Option: Operation with low temperature until -40°C

Option: Battery diagnostic system

Option: Regeneration charging for deep discharged batteries

DBL1600/3W-derivative table

| Type | Input voltage | Output voltage (configurable) | | Output current Nom. / Boost | Cat. No. |
|----------------------|---------------|-------------------------------|--------------------------|--------------------------------|--------------|
| | | FSV | Charge/trickle (typical) | | |
| DBL1600/3W-14-B-HAN | 3AC 380-500V | 14,4VDC | 14,4/13,8VDC | 90A / 105A | 107201/0/000 |
| DBL1600/3W-14-B-HAN* | 3AC 380-500V | 14,4VDC | 14,4/13,8VDC | 90A / 105A | 107140/0/000 |

*Version with alternative pin assignment of the input connection, see fig. 8.2

1 Input

| | | |
|--|-------------------------|--|
| Input voltage AC | nom. 3x 380-500VAC | Tolerance: 320-552VAC TN-S, TN-C, TT, IT systems |
| Input frequency | 50 - 60Hz | Tolerance: 45 - 65Hz |
| Input voltage DC | 450 - 700VDC | Tolerance: 400-780VDC |
| Inrush current | No Inrush current | Active regulated limitation / Option: Values modifiable on request (e.g. mains switch-on time delay etc.) |
| Current consumption at full load | 4,5A | - |
| Power factor | typ. 0,95 | - |
| Hold up time | > 3ms | @ Uout > Uout –10% |
| Input fuse | - | Externally, a 3-pole circuit breaker with characteristic $\geq B$ must be provided. The circuit-breaker must be dimensioned in accordance with the country-specific regulations and to the maximum rated current specification. |
| Transient over voltage protection | Varistor (4,5kA / 71J) | L1, L2, L3; active transient voltage filter (1000V/1.3ms) |
| Input connector | 3-phase mains connector | <p>Connection of 3AC mains cable at the front side of the device with Harting Connector HAN6E/B in two versions:</p> <p>107201: L1(Pin-1), L2(Pin-2), L3(Pin-4), PE(contacts external)</p> <p>107140: L1(Pin-1), L2(Pin-2), L3(Pin-3), PE(contacts external)</p> <p>PIN assignment – see technical drawing 8.2); Connection of N [neutral] is not permitted!</p> <p>HAN: Mains connection via Harting connector HAN6E/B (Note: Mains connection is NOT hot pluggable! Attention: Included in delivery is only the plug on the device side, The mating plug can be ordered from Deutronic cat. no.: 140442)</p> <p>Further optional connector variants on request:</p> <ul style="list-style-type: none"> a) 4-pole, plug-able screw terminal (4x 0.5-4mm²) b) Mains connection kit with protective cover (cat. no.: 140742) c) Fully pre-assembled mains connection kit (protective cover [see b]), CEKON mains plug as well as customized design / length of mains cable) |

2 Output

| | | |
|--------------------------------------|-----------|--|
| Output voltage (configurable) | 2 - 17VDC | For an output voltage > 15,5VDC the default OVP limit must be changed. |
| continuous output current | max. 90A | - |

| | | |
|--|---------------------------------------|--|
| Short-term output current (Boost) | max. 105A | - |
| Boost | Adaptive process | Cooling time depends on boost time (max. 1min). After 1min boost ($I_{out} > 90A$) automatic cooling phase ($I_{out} \leq 90A$) of 4min. |
| Current limiting | typ. $\pm 1\%$ of adjusted value | - |
| Output power | $\leq 1600W$ with boost | Automatic power adjustment depending on input voltage, ambient temperature and load condition |
| Output connector | Welding cable connector | Plug [-] / socket [+] for wire cross section 16 / 25mm ² |
| operating modes | charge- / power supply- / AUTO – mode | Further modes on request |

3 Regulation accuracy

| | | |
|--|-----------------------|---------------------------------|
| Tolerance | $\pm 2\%$ over all | - |
| Load regulation static (10-90%) | < 0,5 % | typ. 0,05% |
| Load regulation dyn. (10-90%) | < 5 % | - |
| Recovery time | < 1 ms | - |
| Temperature drift | -25°C ... +50°C: < 1% | (typ. 0,5%; @0-40°C: typ. 0,4%) |
| Voltage ripple | < 50 mVpp | - |
| Switching spikes | < 300 mVpp | - |

4 EMC (Electromagnetic Compatibility)

| | | |
|-----------------------------------|-----------------|--|
| RF-emission | EN55011 class B | With signal lamp / interface connection: class A |
| Harmonic current emissions | EN61000-3-2 | - |
| Immunity | EN61000-6-2 | - |

5 Enviroment

| | | |
|------------------------------|-----------------------------|---|
| Operating temperature | -25°C...+60°C | Automatic output power derating – see cooling; down to -40°C on request |
| Storage temperature | - 40°C ... + 85°C | - |
| Cooling | Convection and internal fan | Automatic power reduction at too high temperature due to insufficient convection. In case of fan failure, power reduction to emergency program; processor-controlled fan control and monitoring |

| | | |
|-------------------|-----|--|
| Humidity | 95% | No operation during dew; coated PCB by varnish |
| Pollution degree | 2 | EN61010 |
| Climatic category | 3K3 | EN60721 |

6 General data

| | | |
|-------------------|--|---|
| Electrical safety | | UL1236, EN60335-1, EN60335-2-29, EN61010 |
| Protection class | class I | - |
| Isolation voltage | 3000VAC 500VDC | Input / Output Output / Housing |
| Efficiency | typ. 91% | - |
| Housing | | Metal, especially designed for car manufacture and service stations. Mounting option at the devices side via 4 screws, size M6 (height of thread 10mm) |
| Dimensions | 390 x 355 x 118mm 390 x 355 x 143mm | standard-version option with heat-sink see figure 8.1 |
| Weight | ca. 7,7 kg ca. 10 kg | standard-version option with heat-sink (both without cables and package) |

7 Interfaces

| | | |
|---|------|--|
| Interface (25-pol. SUB-D) ^{[*1][*2]} | | For various purposes (e.g. floating Relays, Remote ON/OFF etc.) |
| RS232 (9-pol. SUB-D) ^{[*1][*2]} | | For communication or firmware update (standard PC interface) |
| | [*1] | A shielded cable must be used to connect external equipment. |
| | [*2] | ATTENTION: GND-Pins not galvanically isolated to the power output! When connecting the device with an external control a galvanic isolation must be provided! |
| Signals | | 3 high power LED's for operating state indication / alarming |
| Display | | Big sized graphic display |
| 3-key operator panel | | Menu navigation as well as configuration / parametrization of operation mode and individual device parameters (among others output voltage, current limits, security parameters, start / stop behavior, short circuit reaction etc.) Extensive functional description see operating instructions |

8 Dimensions

All dimensions are given in millimeters and have a general tolerance according to DIN ISO 2768 - m.

B-HAN version: Display on the top, interface and connector on the front - mains connection via Harting connector HAN6E/B (Attention - included in delivery is only the plug on the device side, not the mating plug).

The heat sink shown here on the bottom of the device is a selectable option and is not included in delivery.

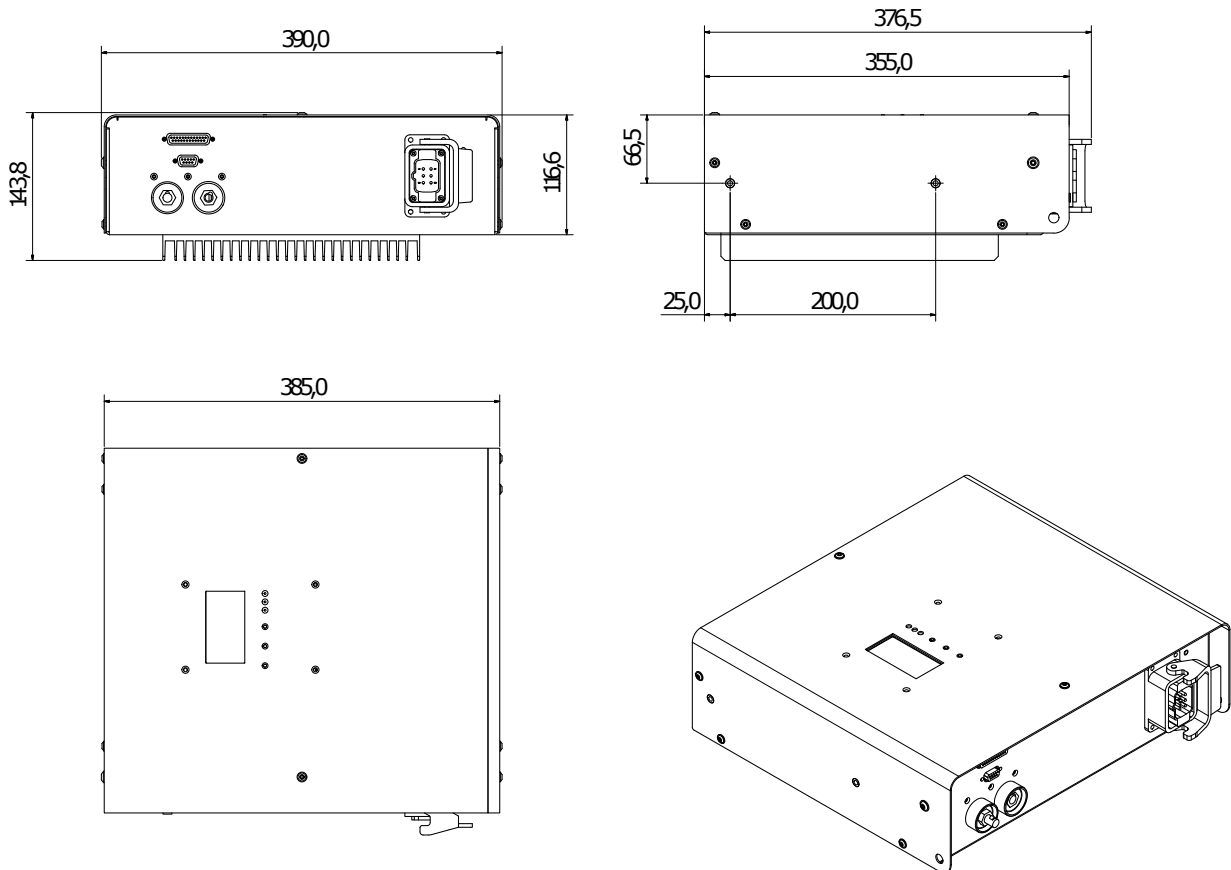


Figure 8.1: dimensions

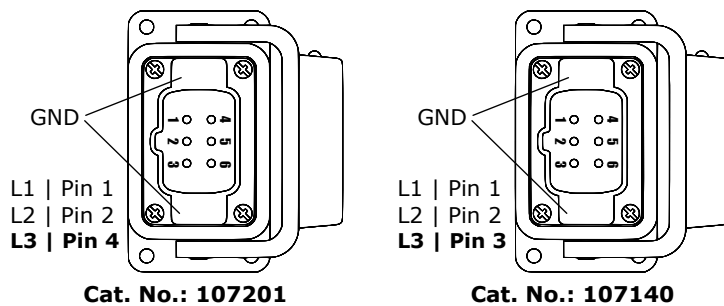


Figure 8.2: pin assignment of the input connection

9 Function description

| | |
|---------------------------------------|--|
| Attributes | load detection, reverse polarity-, short circuit- and over voltage protection (OVP), cable compensation |
| Output (Factory settings) | Output voltage monitored by OVP (Over Voltage Protection) and complete disable of output current if preset charging voltage limit is exceeded. Extensive functional description of the charger's features - see operating instructions. |
| Charge Mode (Factory settings) | When starting the DBL the predefined charging voltage is set (e.g. 14,4VDC). If charging current goes under the predefined limit (e.g. 2,5A) then the charging voltage is reduced to trickle charge (e.g. 13,2VDC). If additional current is required, the charger will again increase the charging voltage (to e.g. 14,4VDC). |
| Current limiting | Current limit is user selectable. According to the operation state the current limit is automatically adjusted during operation, depending on mains voltage operating temperature, load characteristic etc. The maximum current limit value / boost (see table on page 1) is provided for max. 1 minute continuously followed by a cooling period for approximately 4 minutes. |

10 Optional accessories for DBL series chargers

Charging cables (3 and 5 meters), external signal lamp, Ethernet/WLAN adapter, PC software and more accessories you will find on our [webpage](#)
(For DBL series chargers with max. output current >100A we recommend using charging cables with a diameter of at least 25mm²).

11 Installation and safety instructions

The general installation and safety instructions for automotive power processor from the DBL and SC series apply.

Generally it is recommended to use by Deutronic released equipment, only. Because only in this way an appropriate technical suitability and an adequate dimensioning can be ensured for professional use.

Equipment and accessories have to be selected and installed in accordance with the requirements and under attention of the existing safety guidelines.

Note: Mains cables / charging cables must be used in completely unrolled condition only, to ensure a sufficient cooling! Moreover pay attention of a safety interlocksystem at the respective device to ensure the operational safety and to avoid damages. If worn, the cables must be replaced immediately!

По вопросам продаж и поддержки обращайтесь:

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