

up to 2400 Watt
3100 Watt 1s

Battery charger
isolated



- Temperature regulated charging PT 1000
- From low voltage to low voltage 24V - 110V
- Charging of high current starter batteries
- 4 mm air and creepage distances
- EMC/disturbances EN50121-3-2 (EN 55011.A)
- Shock/vibration EN 61373 Kat. 1, cl. B
- Fire protection DIN 5510 / EN 45545
- CAN interface floating
- Functional monitoring with controller
- Minimum power loss (option SR³⁾)

- for mobile Applications
- rolling stock
- vehicles
- special technology



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Serie BLG.H6

Battery charger from low voltage level

Main points:

Input:

- 24 / 36 / 72 / 110V battery
- EMC / disturbances EN50121-3-2
- Sleepmode <1mA
- no load power approx. 20W
- Inhibit 10 - 154V / 2mA = ON (open = OFF) floating-, no polarity, burst/surge proof
- Turn-on hysteresis 0,7/0,6 Unom time-delayed
- Fuse / circuit breaker customer sided
- Reverse connection protection ¹⁾ (reverse connection causes defect!)
- Integrale power run-up
- Connections:
Power: X20: Würth screw terminal M8
Sum-Inhibit: X4: Phoenix MC 1,5/5-GF-3,81

Output:

- Auxiliary supply 24V/0,5A isolated for external loads (X2)¹⁾
- Uout = f(TBat) with temp.-Sensor PT1000¹⁾ (X7)
- Option: Uout fixed voltage= Series FE.H6⁴⁾
- EMC / disturbances EN 50121-3-2
- no load-, over load, short circuit proof
- Tolerance $\pm 1,5\% = f(U_{in}/I_{out}/T_a)$
- Uout -7% at Uin = <0,7 x Unom ²⁾
- Regulation offset $\Delta I = 40-90\% < 500mV / < 3ms$
- Basic load 4% Iout-nom (otherwise ripple approx. 1% Uout)
- Failure-Signal (Relais X4/X8)
- Connections:
Power X10: Würth screw terminal M8
Auxiliary out X2: Phoenix MC 1,5/3-GF-3,81
Power good X3: Phoenix MC 1,5/3-GF-3,81
Fan error: X4: Phoenix MC 1,5/4-GF-3,81
not applicable X5
Temp.Sensor X7: Phoenix MC 1,5/2-GF-3,81
Failure relay X8: Phoenix MC 1,5/3-GF-3,81

In General:

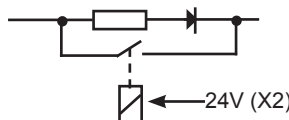
- LEDs: Uin = OK / Power good
- RS232-Schnittstelle potentialgetrennt X6
- Option: CAN interface D-Sub 9-pin (X6)
- Efficiency up to >93% (25...100% load/Uin)³⁾
- air/creepage distances / isolation test voltage:
Input - output: 4mm / 1,5 kV_{AC} 1 min
Input - ground: 3mm / 1,5 kV_{AC} 1 min
output - ground: 3mm / 1,5 kV_{AC} 1 min
Input/Output - signals: 3mm / 1,5 kV_{AC} 1 min
24V (X2) - restl.Sign. 3mm / 1,5 kV_{AC} 1 min
- Ambient temperature Ta: -25/+65°C
Option: -40/+85°C
Derating without SR >60°C: 1,5%/°C
with SR >70°C: 1,5%/°C
- MTBF on request
- EMC according to EN50121-3-2
- Shock/vibration acc. EN61373, kat. 1, cl. B
- 50m/s²-30ms / 7,9m/s² all directions
- Weight: ca. 11 kg
- Dimension: (510 x 380 x 168)mm
- Ground connection: M5 thread bolt

Input	Series FE.H6				Model number
U _i -range	U _o nom	U _o ⁴⁾	U _o range	I _o contin.	
V DC	V DC	V DC	V DC	A	
16,8 - 32	24	24	24 - 30	81	BLG.H6.24.24.81
14,4 - 34 dyn. ²⁾		36	36 - 45	54	BLG.H6.24.36.54
		72	72 - 90	27	BLG.H6.24.72.27
		110	110 - 137	18	BLG.H6.24.10.18
25 - 47	36	24	24 - 30	88	BLG.H6.36.24.88
21,6 - 51 dyn. ²⁾		36	36 - 45	58	BLG.H6.36.36.58
		72	72 - 90	29	BLG.H6.36.72.29
		110	110 - 137	19	BLG.H6.36.10.19
50 - 94	72	24	24 - 30	88	BLG.H6.72.24.88
43 - 101 dyn. ²⁾		36	36 - 45	58	BLG.H6.72.36.58
		72	72 - 90	29	BLG.H6.72.72.29
		110	110 - 137	19	BLG.H6.72.10.19
77 - 143	110	24	24 - 30	88	BLG.H6.10.24.88
66 - 154 dyn. ²⁾		36	36 - 45	58	BLG.H6.10.36.58
		72	72 - 90	29	BLG.H6.10.72.29
		110	110 - 137	19	BLG.H6.10.10.19
Single projection costs:					on request
Modification costs of possible changes above values:					on request
Adaptation electrical / mechanical:					on request
High voltage output level up to 50V optional					on request

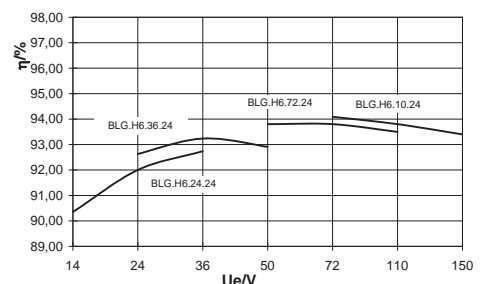
4 Temperature regulated charging

The charging end-voltage characteristic curve [UA=f(TBat)] can be adapted as „three point curve“ in steepness by RS232 interface with an optional Software (temperature sensor is not part of delivery). Optionally the output can be modified to a fixed or analogue changeable level. Over temperature or broken wires at the temperature sensor sets the output level to the nominal value.

1) Soft start/rev. polarity: values on request



Efficiency ³⁾ increase of efficiency SR +2%



2) for increase of efficiency

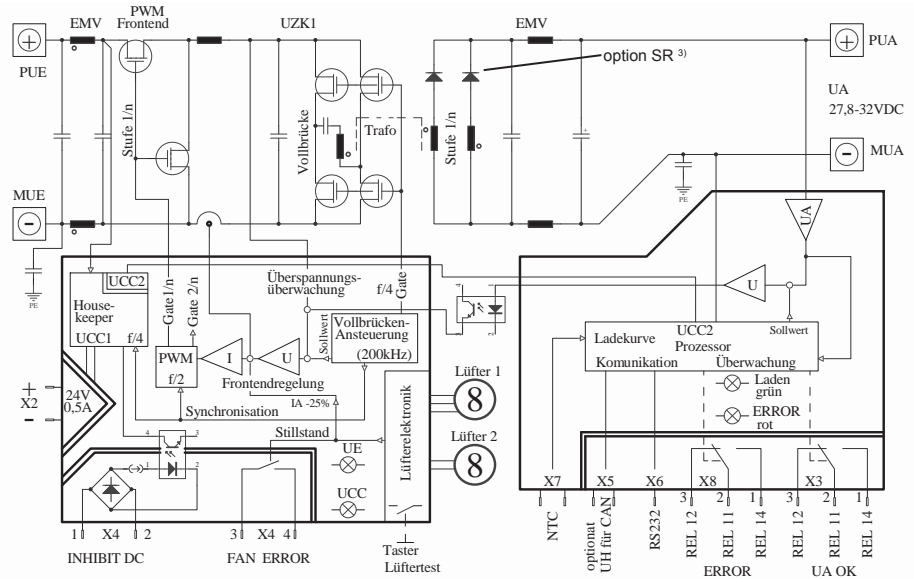
up to 2400 Watt
3100 Watt 1s

Battery charger
isolated



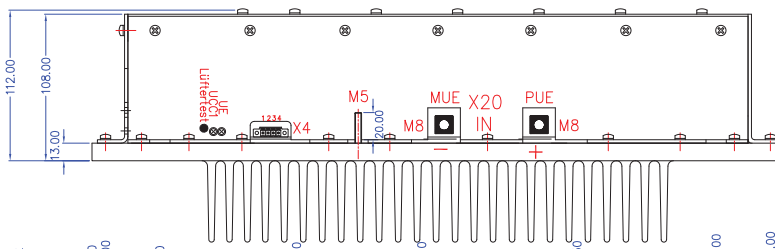
The **BLG.H6** series is designed for intelligent, temperature regulated charging of low voltage batteries such as batteries or DC intermediate circuits in railway, ship and vehicle applications. The chosen switching concept results very high and constant efficiencies over the input voltage range and can optionally be increased about 2% (>30% lower power loss) by the SR technology.

This charger's system capability is shown by the facts of an isolated, regulated, short circuit proof, regulated 24V auxiliary output (inactive when sleep mode). Errors are signalled with relay contact. When sleep mode is activated the input current (IN) is reduced to <1mA and a signal of 10-154V/2 mA wakes up the converter. This signal input is polarity independent and surge proof.



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LEDs signal the applied input voltage in the allowed range and internal UCC auxiliary level. Optionally fan operation is available from >55°C up to 65°C without derating to improve the MTBF figure. By loss of fan operation at <80% of nominal speed an error signal is given at X4. Fan operation can be tested with a test button. An optional isolated RS232-interface allows the read out of actual parameters and the programming of parameters with SYKO's software application. An internal house keeper auxiliary supply powers all functional areas before the main power is activated. The battery can be charged even from a discharged state of 33%. Over current capability of additional 12,5% for 20s is possible. The mechanical build up und thermal management as well as use of foil and ceramic capacitors make this converter series ideal for the use in mobile areas with high requirements.



Mechanic shown:
Optional version with ribbed heat sink

