

Excellent Technology, Efficiency and Quality



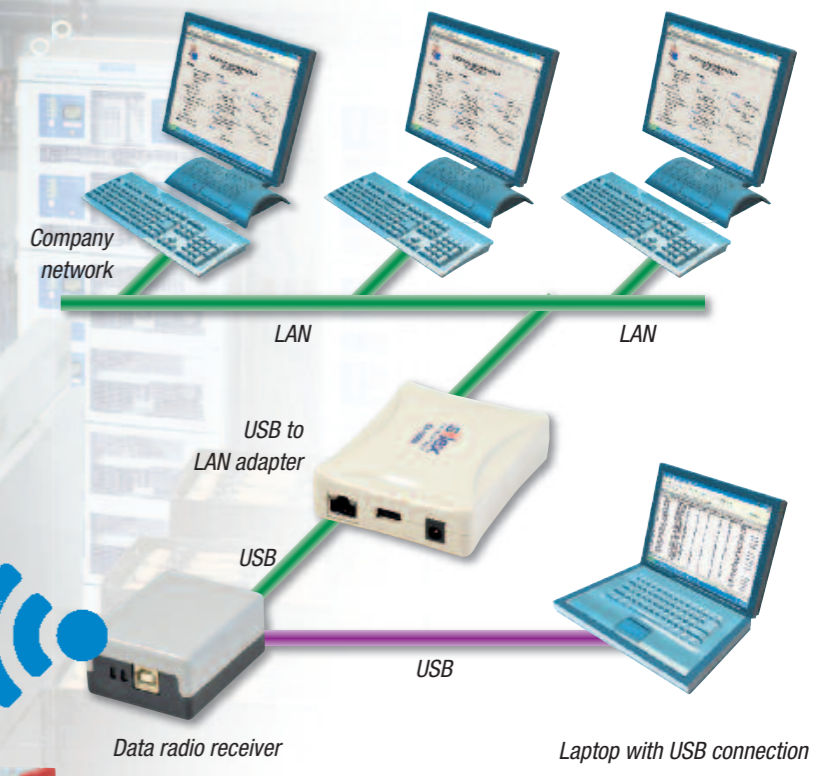
## **BATCOM plus**

Battery controller with radio transmission





# Record and analyse the status and utilisation level of your battery fleet



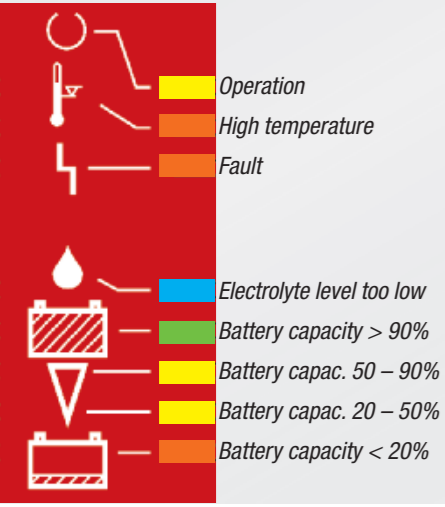
**Fig. 2: Options for further processing of stored data**

- Read out using radio interface with USB connection
- Transmit data to a laptop/PC with WIN 7
- or a customer LAN network

## BATCOM plus batteries Battery controller with radio transmission

It is essential for battery-powered forklifts to have a good availability level these days in order to operate reliably and efficiently.

**Fig. 1: LED indicators in the housing of the BATCOM plus signal the following operating statuses:**



Monitoring of the charging and discharging behaviour of the drive batteries and the battery temperatures and electrolyte levels is important for maximising the operational status of the vehicle fleet. The recording of battery data and monitoring of the battery status are also extremely important in the continuously expanding leasing and rental business with long operating period assurances. With the BATCOM plus battery controller with radio communication it is possible to record, store and query the relevant operating data that is communicated between the forklift, the drive battery and the charger.

## Diagnostic and maintenance instructions by means of coloured LED indicators

The BATCOM plus battery controller has an extremely robust housing and can be fitted to the top of lead-acid batteries without using special tools.

The LED indicators in the housing of the BATCOM plus also signal the following: Operation, high battery temperature, fault, low electrolyte level and current charge status (Fig. 1).

In order to record the battery current, the BATCOM plus has a current measuring head which can be opened and fitted to any cell connector or a bypass cable. The voltage measurement with automatic voltage detection (range 18-120V DC) is carried out at the pole terminals of respective drive battery.

The sensors for battery temperature and electrolyte level monitoring are connected to the BATCOM plus using cables. The temperature probe is inserted between the middle cells of the drive battery, and the sensor for monitoring the electrolyte level is installed through a cell cover with appropriate hole.

The memory of the BATCOM plus battery controller has the capacity to store 2000 sets of discharge / charge information together with the date, the time and the duration.

## The following data is stored:

- Sum total data:**
- Number of charging cycles
  - Number of intermediate charging cycles
  - Frequency and duration of low electrolyte level
  - Frequency and duration of high and low temperature levels
  - Frequency and duration of deep discharging

## The following are displayed with the date and time:

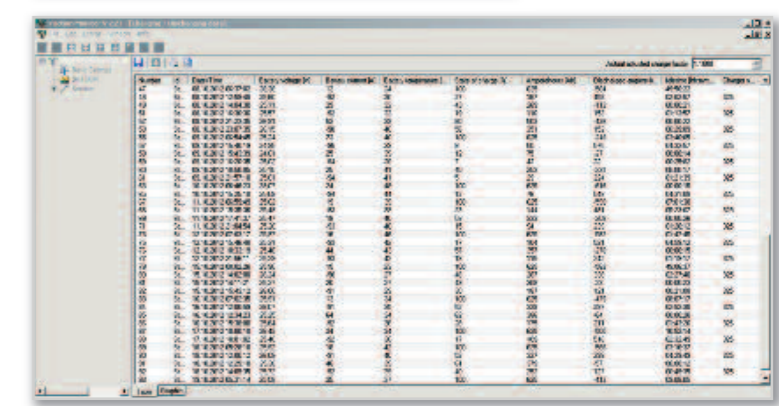
- Charging/discharging data
- High and low temperature
- Low electrolyte level
- Deep discharging
- Amount of current loaded and removed (Ah) during the respective charging and discharging cycles

Fig. 2 shows options for further processing of the data stored in the BATCOM plus.

The battery data can be prepared in tables and analysed using the optional Traction Monitor Software (figs. 3 and 4).



**Fig. 3: Battery report**



**Fig. 4: Event list**



**BENNING worldwide****Austria**

Benning GmbH  
Elektrotechnik und Elektronik  
Eduard-Klinger-Str. 9  
3423 ST. ANDRÄ-WÖRDERN  
Tel.: +43 (0) 22 42 / 3 24 16-0  
Fax: +43 (0) 22 42 / 3 24 23  
E-mail: info@benning.at

**Belarus**

1000 BENNING  
ul. Belorusskaya, 51-25  
224025, BREST, REPUBLIK BELARUS  
Tel.: +375 (0) 1 62 / 97 47 82  
Fax: +375 (0) 1 62 / 29 33 77  
E-mail: info@benning.brest.by

**Belgium**

Benning Belgium  
Power Electronics  
Z. 2 Essenestraat 16  
1740 TERNAT  
Tel.: +32 (0) 2 / 5 82 87 85  
Fax: +32 (0) 2 / 5 82 87 69  
E-mail: info@benning.be

**Croatia**

Benning Zagreb d.o.o.  
Trnjanska 61  
10000 ZAGREB  
Tel.: +385 (0) 1 / 6 31 22 80  
Fax: +385 (0) 1 / 6 31 22 89  
E-mail: info@benning.hr

**Czech Republic**

Benning CR, s.r.o.  
Zahradní ul. 894  
293 06 KOŠMONOSY  
(Mladá Boleslav)  
Tel.: +420 / 3 26 72 10 03  
Fax: +420 / 3 26 72 25 33  
E-mail: odbyt@benning.cz

**France**

Benning  
conversion d'énergie  
43, avenue Winston Churchill  
B.P. 418  
27404 LOUVIERS CEDEX  
Tel.: +33 (0) / 2 32 25 23 94  
Fax: +33 (0) / 2 32 25 13 95  
E-mail: info@benning.fr

**Germany**

Benning Elektrotechnik und Elektronik  
GmbH & Co. KG  
Factory I: Münsterstr. 135-137  
Factory II: Robert-Bosch-Str. 20  
46397 BOCHOLT  
Tel.: +49 (0) 28 71 / 93-0  
Fax: +49 (0) 28 71 / 932 97  
E-mail: info@benning.de

**Great-Britain**

Benning Power Electronics (UK) Ltd.  
Oakley House  
Hogwood Lane  
Finchampstead  
BERKSHIRE  
RG 40 4QW  
Tel.: +44 (0) 1 18 / 9 73 15 06  
Fax: +44 (0) 1 18 / 9 73 15 08  
E-mail: info@benninguk.com

**Hungary**

Benning Kft.  
Power Electronics  
Rákóczi út 145  
2541 LÁBATLAN  
Tel.: +36 (0) 33 / 50 76 00  
Fax: +36 (0) 33 / 50 76 01  
E-mail: benning@vnet.hu

**Italy**

Benning Conversione di Energia S.r.l.  
Via 2 Giugno 1946, 8/B  
40033 CASALECCHIO DI RENO (BO)  
Tel.: +39 0 51 / 75 88 00  
Fax: +39 0 51 / 6 16 76 55  
E-mail: info@benningitalia.com

**Netherlands**

Benning NL  
Power Electronics  
Peppelkade 42  
3992 AK HOUTEN  
Tel.: +31 (0) 30 / 6 34 60 10  
Fax: +31 (0) 30 / 6 34 60 20  
E-mail: info@benning.nl

**Poland**

Benning Power Electronics Sp. z o.o.  
Korczyńska 30  
05-503 GŁOSKÓW  
Tel.: +48 (0) 22 / 7 57 84 53  
Fax: +48 (0) 22 / 7 57 84 52  
E-mail: biuro@benning.biz

**P. R. China**

Benning Power Electronics (Beijing) Co., Ltd.  
Tongzhou Industrial Development Zone  
1-B BeiEr Street  
101113 BEIJING  
Tel.: +86 (0) 10 / 61 56 85 88  
Fax: +86 (0) 10 / 61 50 62 00  
E-mail: info@benning.cn

**Russian Federation**

Russian Federation  
000 Benning Power Electronics  
Schelkovskoye chausse 5  
105122 MOSCOW  
Tel.: +7 4 95 / 9 67 68 50  
Fax: +7 4 95 / 9 67 68 51  
E-mail: benning@benning.ru

**Serbia**

Benning Power Electronics doo  
Srbija  
Kornelija Stankovića 19  
11000 BEOGRAD  
Tel.: +381 (0) 11 / 3 44 20 73  
Fax: +381 (0) 11 / 3 44 20 73  
E-mail: info@benning.co.rs

**Slovakia**

Benning Slovensko, s.r.o.  
Kukuríčná 17  
83103 BRATISLAVA  
Tel.: +421 (0) 2 / 44 45 99 42  
Fax: +421 (0) 2 / 44 45 50 05  
E-mail: benning@benning.sk

ISO  
9001ISO  
14001

SCC

**South East Asia**

Benning Power Electronics Pte Ltd  
85, Defu Lane 10  
#05-00  
SINGAPORE 539218  
Tel.: +65 / 68 44 31 33  
Fax: +65 / 68 44 32 79  
E-mail: sales@benning.com.sg

**Spain**

Benning Conversión de Energía S.A.  
C/Pico de Santa Catalina 2  
Pol. Ind. Los Linares  
28970 HUMANES, MADRID  
Tel.: +34 91 / 6 04 81 10  
Fax: +34 91 / 6 04 84 02  
E-mail: benning@benning.es

**Sweden**

Benning Sweden AB  
Box 990, Hovslagarev. 3B  
19129 SOLLENTUNA  
Tel.: +46 (0) 8 / 6 23 95 00  
Fax: +46 (0) 8 / 96 97 72  
E-mail: power@benning.se

**Switzerland**

Benning Power Electronics GmbH  
Industriestrasse 6  
8305 DIETLIKON  
Tel.: +41 (0) 44 / 8 05 75 75  
Fax: +41 (0) 44 / 8 05 75 80  
E-mail: info@benning.ch

**Turkey**

Benning GmbH  
Türkiye İrtibat Bürosu  
Can Sokak No: 7/B  
34742-KOZYATAĞI  
Kadıköy/İstanbul - Turkey  
Tel.: +90 (0) 2 16 / 4 45 71 46  
Fax: +90 (0) 2 16 / 4 45 71 47  
E-mail: b.dinler@benning.de

**Ukraine**

Benning Power Electronics  
3 Sim'yi Sosnykh str.  
03148 KYIV  
Tel.: +380 (0) 44 / 5 01 40 45  
Fax: +380 (0) 44 / 2 73 57 49  
E-mail: info@benning.ua

**U.S.A.**

Benning Power Electronics, Inc.  
1220 Presidential Drive  
RICHARDSON, TEXAS 75081  
Tel.: +1 2 14 / 5 53 14 44  
Fax: +1 2 14 / 5 53 13 55  
E-mail: sales@benning.us

**BENNING**