


# INSTALLATION MANUAL

EN

Battery-protection "BAT BREAKER"  
suitable for the PV energy storage system

type 10011587



1 x  Sunny Island (all types)

If a different battery inverter/charger is aimed to use: Please clarify the technical capability in accordance with BMZ GmbH who keeps the responsibility for the system!

power storage system:

2 x "ESS .7.0"

respectively

2 x "ESS 9.0"



## TABLE OF CONTENTS

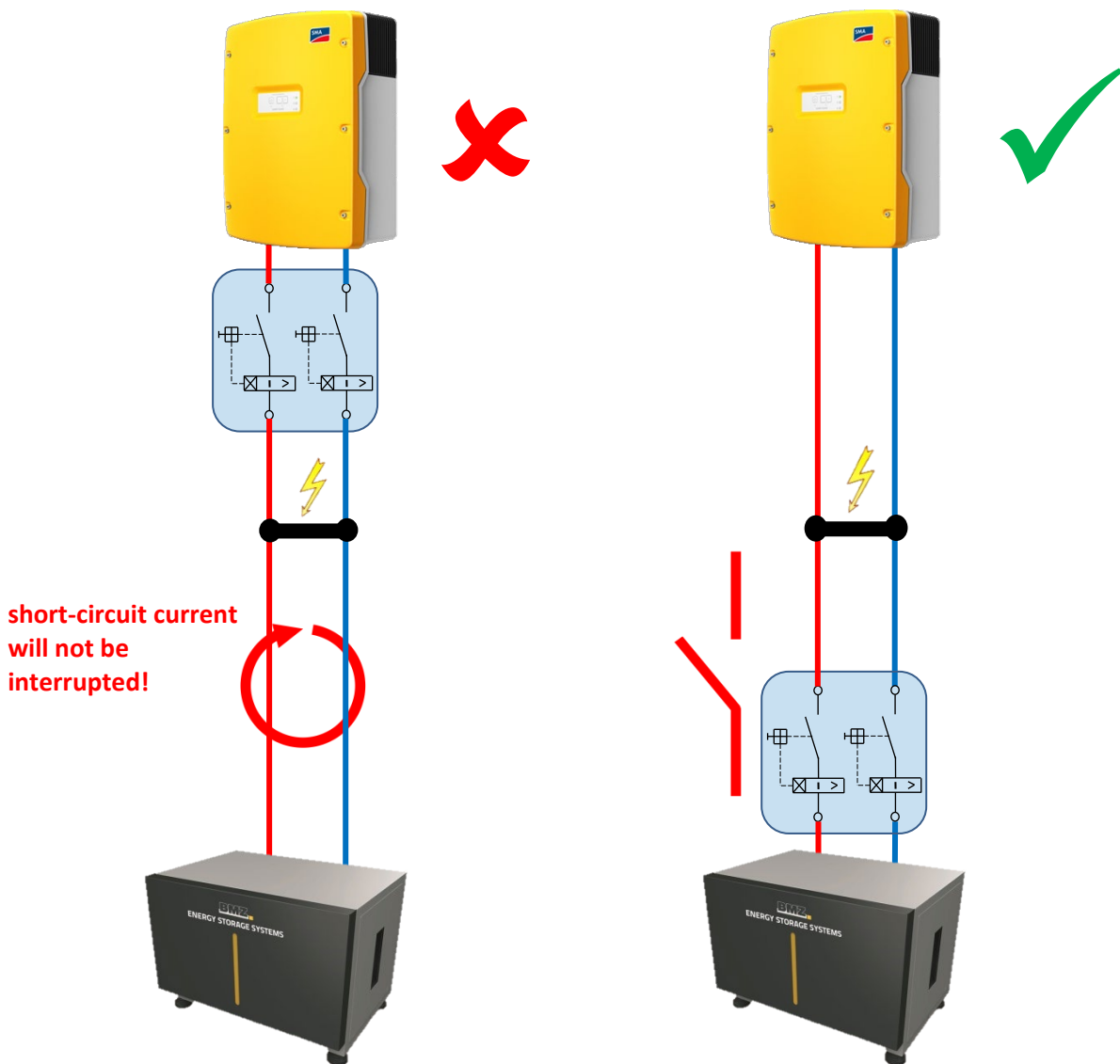
1. Scope of application and appropriate usage.....	3
2. Scope of delivery .....	4
3. Mounting the BAT BREAKER.....	5
3.1 Selecting the mounting location.....	5
3.2 Minimum distances/dimension/mounting method .....	6
4. Electrical connecting .....	7
5. Maintenance and cleaning .....	8
6. How to stock the BAT BREAKER .....	8
7. Disposal.....	8
8. Specification in detail .....	9
8.1 Tripping characteristic .....	9
8.2 Technical data BAT BREAKER type 10011587 .....	10

# 1. Scope of application and appropriate usage

You may use enwitec's battery-protection series "BAT BREAKER" in general for stationary or even mobile battery storage systems within different technologies (Lead, Lithium...) as a protection against overcurrent and short-circuit current. The voltage for charging/discharging is limited to max. 75V DC. The circuit breaker's nominal current-values are matching the BMZ-GmbH Systems requirements and making the maximum safety and availability for the system feasible.

If you observe a releasing of circuit breakers there must be a failure in the system! Before switching on again the circuit breaker you have to ensure the system's error-free performance!

The BAT-BREAKER should be installed in close distance to the energy-storage unit. This provides the best protection for the system and cabling!



## 2. Scope of delivery



position	quantity	component
A	1	BAT BREAKER type 10011587
B	6	Cable gland M32 x 1,5
C	6	Locknut M32

### 3. Mounting the BAT BREAKER

#### 3.1 Selecting the mounting location



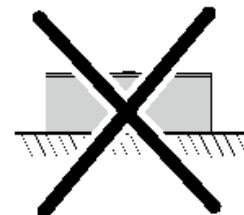
**DANGER**

**risk of explosion or fire**

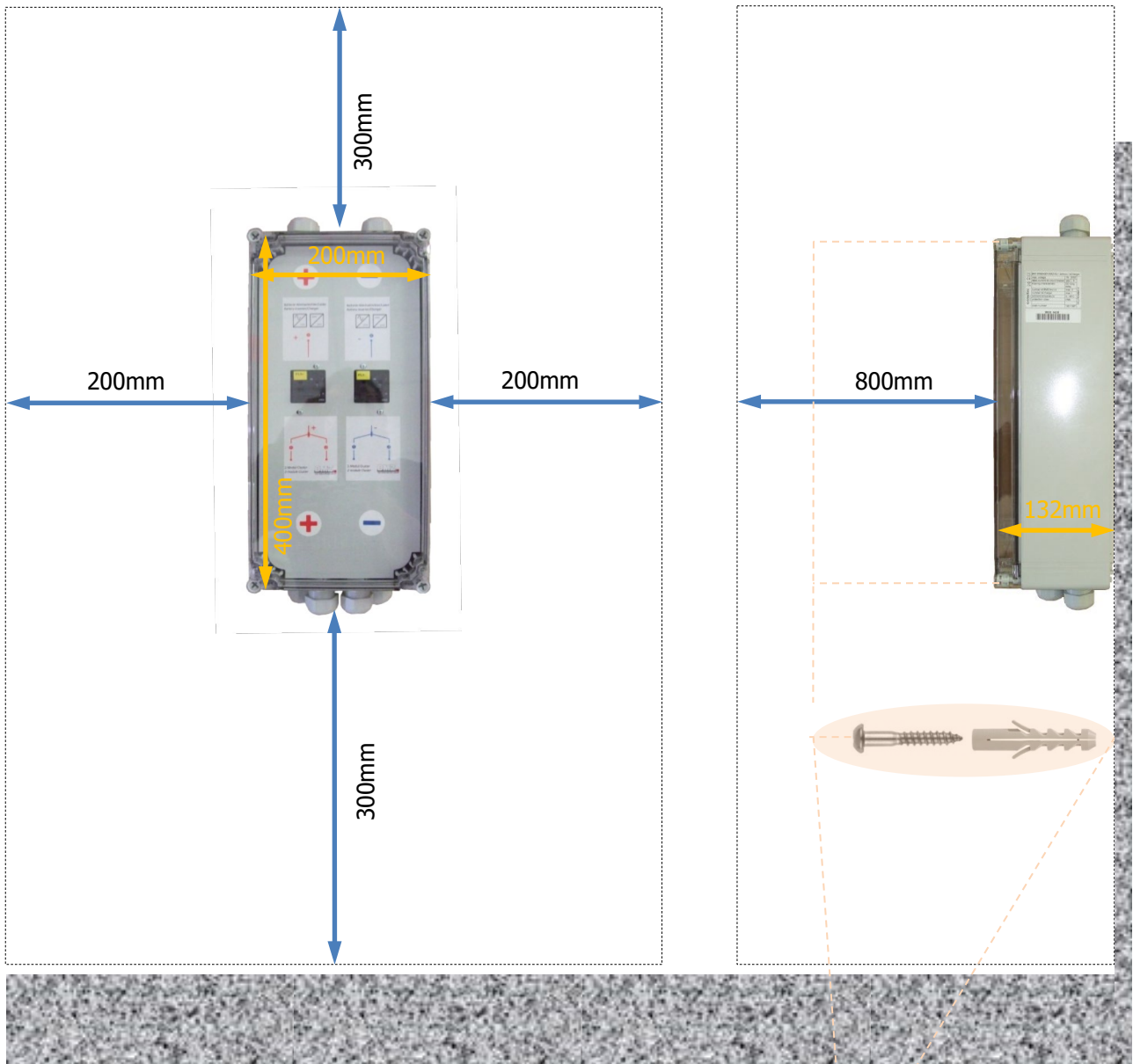
- do not mount the BAT BREAKER on flammable construction materials!
- do not mount the BAT BREAKER near highly flammable materials!
- do not mount the BAT BREAKER in potentially explosive areas!

- mount on a solid surface
- the mounting location and method must be suitable for the weight and dimension
- the mounting location must be accessible at all times
- climatic conditions must be in compliance with the specification
- the device may not be exposed to direct sunlight and weather
- the mounting location has to be protected against splashing water

**installation position**



### 3.2 Minimum distances/dimension/mounting method



Select the correct mode of mounting, **depending on the mounting surface**, for example 4 x expansion anchor "S8"+ 4 x chipboard screw Ø5.0



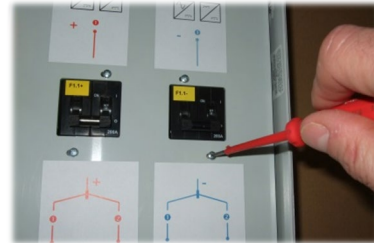
**ATTENTION:** Max. diameter head of bolt: Ø10mm!

Do not forget the cable catch rail!

## 4. Electrical connecting



previously remove the cover!



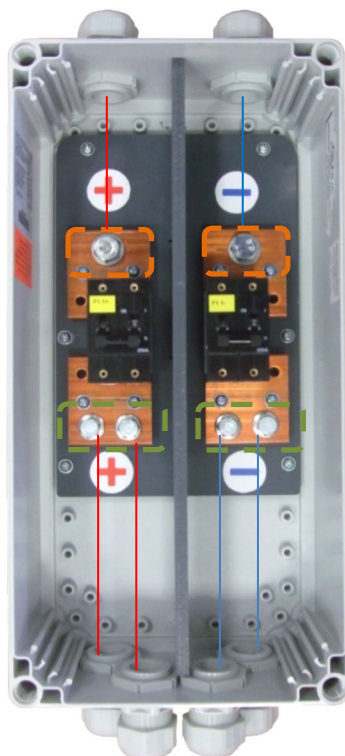
**M32** Ø13-21mm



**TOP:** max. 1 x charger/inverter



F1.1+ F1.1-



- ↳ cable lug M10
- ↳ max. cross section (litz wire): 95mm<sup>2</sup>
- ↳ range of tightening torque: 23-28Nm



- ↳ cable lug M8
- ↳ max. cross section (litz wire): 50mm<sup>2</sup>
- ↳ range of tightening torque: 13-18Nm



**BOTTOM:** 2 x "ESS 7.0" respectively 2 x "ESS 9.0"



## 5. Maintenance and cleaning

You should do a frequent short inspection of your BAT BREAKER for keeping a long durability and avoidance of an operational system's breakdown.

Please also consider your national standards and provisions regarding the requirements of battery- and/or PV power installations and their equipment. Potentially, you have to do an electrical test procedure once a year as it is to adduce in some european countries, e.g. Germany.

### Visual inspection

Depending on the installation side and the environmental conditions you have to expect some pollution on the device's surface. Clean carefully with the help of a moist cloth! During this time do not open the case of the device under any circumstances!

## 6. How to stock the BAT BREAKER

Demands:

- dry conditions
- ambient air temperature ranges from -25°C up to +55°C
- for a maximum of 24 hours: temperature might get higher up to +70°C

## 7. Disposal

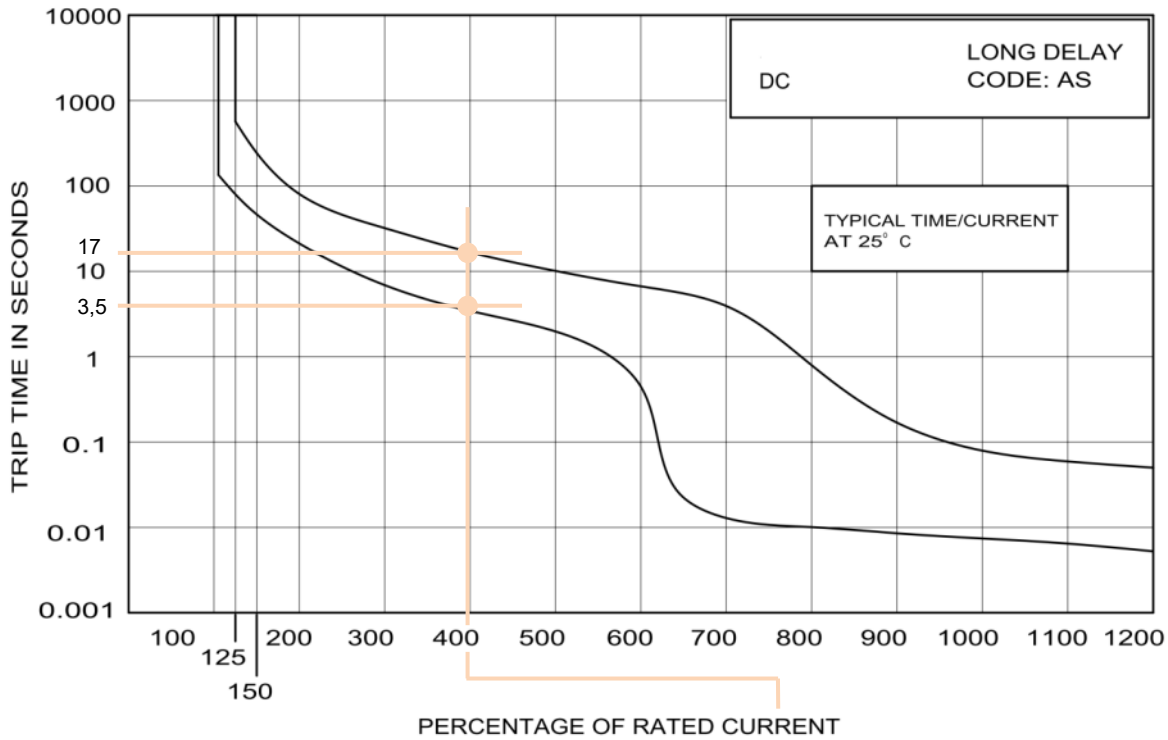
Disposal is due to your national/local regulations. The BAT BREAKER is to classify as "electronic waste" (it is no "household waste"!).

Take care of that and protect the environment!



## 8. Specification in detail

### 8.1 Tripping characteristic



PERCENTAGE OF RATED CURRENT	100%	125%	200%	400%	600%	800%	1000%	1200%
MINIMUM TRIP TIME IN SECONDS	NO TRIP	80	21	3.5	0.45	0.01	0.0075	0.005
MAXIMUM TRIP TIME IN SECONDS	NO TRIP	560	80	17	6.8	0.8	0.08	0.05



for example: circuit breaker - rated current 200A:  
 overcurrent of 800A (= 400% of rated current 200A)  
 trip time between 3.5s und 17s  
 (axis of ordinates: log. scale - trip time [s] )

## 8.2 Technical data BAT BREAKER type 10011587

Artikel-Nr.	<b>10011587</b>
designation (match-code)	<b>BAT BREAKER-Spec. BMZ-EU -2x Accu -1x Charger</b>
<b>electrical data</b>	
max.number of battery charger/inverter	1
confirmed manufacturer and device-type	SMA - Sunny Island (all types)
max.number of accu parallel-connect	2
max. DC-voltage	75V
rated current of circuit breaker -charger/inverter/accu	200A per potential
max. permitted occurring current	compatible to "BMZ Energy Storage System"
tripping characteristic	DC - "long delay" - CBI Circuit Breaker
max. short circuit breaking capacity	10kA
<b>electrical connection (ready for cable-lugs)</b>	
<i>towards - charger/inverter</i>	
cable lug	1 x M10 per potential
max. cross section of litz wire	
* cable lug fits through the opening of the cable glands (cable lug is already pre-crimped)	50mm <sup>2</sup>
* cable lug must be crimped after inserting the litz wire	70..95mm <sup>2</sup>
<i>towards - accu (2 x)</i>	
cable-lug	1 x M8 per potential
max. cross section of litz wire	50mm <sup>2</sup>
<b>cabinet</b>	
IP protection class	IP65
protection class against electric shock	II
dimensions (WxHxD)	200x400x132(mm) - without cable glands-
plastic material	polycarbonate - base part in grey -RAL7035-; cover clear
installation type	wall mounting
cable inlets (plastic metric cable glands)	M32 (all)
<b>environmental conditions for operation</b>	
humidity	up to 85%, non-condensing
ambient temperature range	0°...45°C
<b>miscellaneous</b>	
weight	approx. 3,7 Kg

