

# Battery Connecting Cable BAK\_U

For connecting any 12V gel or AGM battery (typically referred to as a “motorcycle battery”) as an auxiliary external battery to the HFE59B and devices of the NFA Series.

## Notes on selecting the battery

A combination of HF59B and NFA should never be powered together by just ONE external battery because the effect of such a so-called “current loop” is not predictable.

Resist the temptation of using a power bank or other lithium-based rechargeable battery solutions! Despite its compact design (even taking into account its higher price). We’ve spent a lot of effort and money in thoroughly testing a variety of lithium-based rechargeable batteries, only to return to the well-tried gel or fleece / AGM battery mentioned above. Main problem Powerbank: these produce Dirty Power to an extreme extent and the capacity reaches only a fraction of its specification. Main problem RC-model battery: These are typically delivered without integrated protective circuit and thus are easily deeply discharged in long-term logs. If you find something more suitable than the solution suggested by us, we are happy to publish it for the benefit of all.

## Exemplary calculations for run times of external batteries of different capacities

Nominal capacity external battery	(Ah)	6	12	24
In reality often only ¾ of the specs is reached		4,5	9,0	18,0
= mAh	(mAh)	4500	9000	18000
Capacity internal battery NFA	(mAh)	2600	2600	2600
Capacity internal battery HF59	(mAh)	620	620	620

**Maximum log time** (taking into account that typically only ¾ of the specified capacity is reached in real life)

	hours	40	109	178	317
NFA1000 in Log mode					
HF59B <sub>Max</sub> + UBB27	(20,000µW/m²)	6	47	87	169
HF59B <sub>Max</sub> + UBB27 + HV10	(2,000µW/m²)	4	37	69	133
HF59B <sub>Med</sub> + UBB27	(200.0µW/m²)	5	38	71	138
HF59B <sub>Min</sub> + UBB27	(20.00µW/m²)	5	38	71	138
HF59B <sub>Max</sub> +UBB27+HV10+FF10bb	(2,000µW/m²)	2	20	38	74

## Conclusions:

The HFE59B plus external 5Ah battery has roughly the same running time as an NFA with internal battery.

The HFE59B requires about the 3 to 4-fold external battery capacity versus the NFA in order to reach roughly the same running time.

General rule: RATHER CHOOSE AN OVERSIZED BATTERY than be disappointed by lost data.

**Search terms** for battery and charger: „AGM battery 12V“ and „charger 12V motorcycle battery“.