

Message in instrument cluster in yellow "Battery Symbol – Start Engine. See Owner's Manual"

Topic number	LI54.10-P-065969
Version	2
Design group	54.10 Battery, power supply, voltage converter
Date	05-26-2017
Validity	BR205/253 up to production date 12/2016 Implementation
Reason for change	Analysis completed and remedy described
Reason for block	

Complaint:

When the engine is started after a long idle time, the instrument cluster displays a message in yellow "Start Engine. See Owner's Manual" and/or "Connect Me" telediagnosis indicates that the charge level of the battery is low. However, the vehicle can be started. Due to the missing on-board electrical system data, a stop inhibit for "ECO start/stop" occurs after the engine has started. The battery is indicated as inhibiting the stop. The on-board electrical system data indicate a stationary phase with high discharge (30-50 Ah).

The current before/after the opening of the no-load current switch is OK. No CAN buses are active and vehicle is locked. In the subsequent driving phase, the vehicle is started with a very low state of charge (SOC) of the battery, and it takes no appreciable charge.

Important information in attachment: Examples of on-board electrical system data in the attachment ("Error in the calculation of the charge balance").

Attachments	
File	Description
Error in the calculation of the loading balance.pdf	Error in the calculation of the charge balance

Cause:

Error in the calculation of the charge balance and the state of charge of the battery that is causing an unjustified message in the instrument cluster display.

Note: This only affects vehicles with battery sensors manufactured by Hyundai Mobis - object number A 000 905 0554 for RHD vehicles and A 000 905 0454 for LHD vehicles.

Remedy:

1. Create an Initial Quick Test report with Freeze Frame Data and a control unit log of N10/6 (SAM-F). Save these documents as PDF files (Important: Do not scan them in).
2. Complete plausibility check of actual values of battery sensor.

Note: Read out current actual values of battery sensor using XENTRY or call them up in the Workshop menu (instrument cluster) under menu item "Vehicle data".

XENTRY TIPS

The plausibility check of the actual value read in by the battery sensor is performed by measuring the voltage (V) of the battery with a digital multimeter directly at the starter battery. The plausibility of the actual values for the current (A) read in by the IBS must be checked using a current clamp. Document measurements with photos.

3. Replace battery sensor [see Parts].

4. Ship battery sensor to the QEC with the following documentation for evaluation:

- Printout of battery sensor tests
- Photos of both current and voltage values measured at the starter battery
- Complete N10/9 (SAM-F) Control Unit Log

Important: If the installation of the new battery sensor does not resolve the complaint, create a PTSS case with the following information attached to the case:

1. Control unit log of N10/6
2. Xentry Quick test Photos of current and voltage measurements taken at the starter battery with ignition both "ON" and "OFF"
3. Midtronics test results of starter battery.

Additionally, after gathering the documentation listed above complete the following measures and document results in the PTSS case:

1. Ensure starter battery has received a full charge.
2. Clear all faults following a full charge cycle of the 12V battery. Do any faults return? Document any returning faults in case.
3. Inspect LIN connections for looseness, corrosion, pin tightness and measure LIN wire resistance between B95 (Battery Sensor) and N10/9 (SAM-F). Document results in case.
4. Inspect R62 Voltage Dip Limiter wiring and connections. Verify R62 wiring is landed according the associated wiring schematic. Document any relevant findings.
5. Document the date/time the vehicle entered the workshop.
6. Document previous visits to workshop, dates/times, and any associated work completed. Include any relevant Repair Order(s) in the case attachments.

You may be provided with further guidance after reviewing the case data.

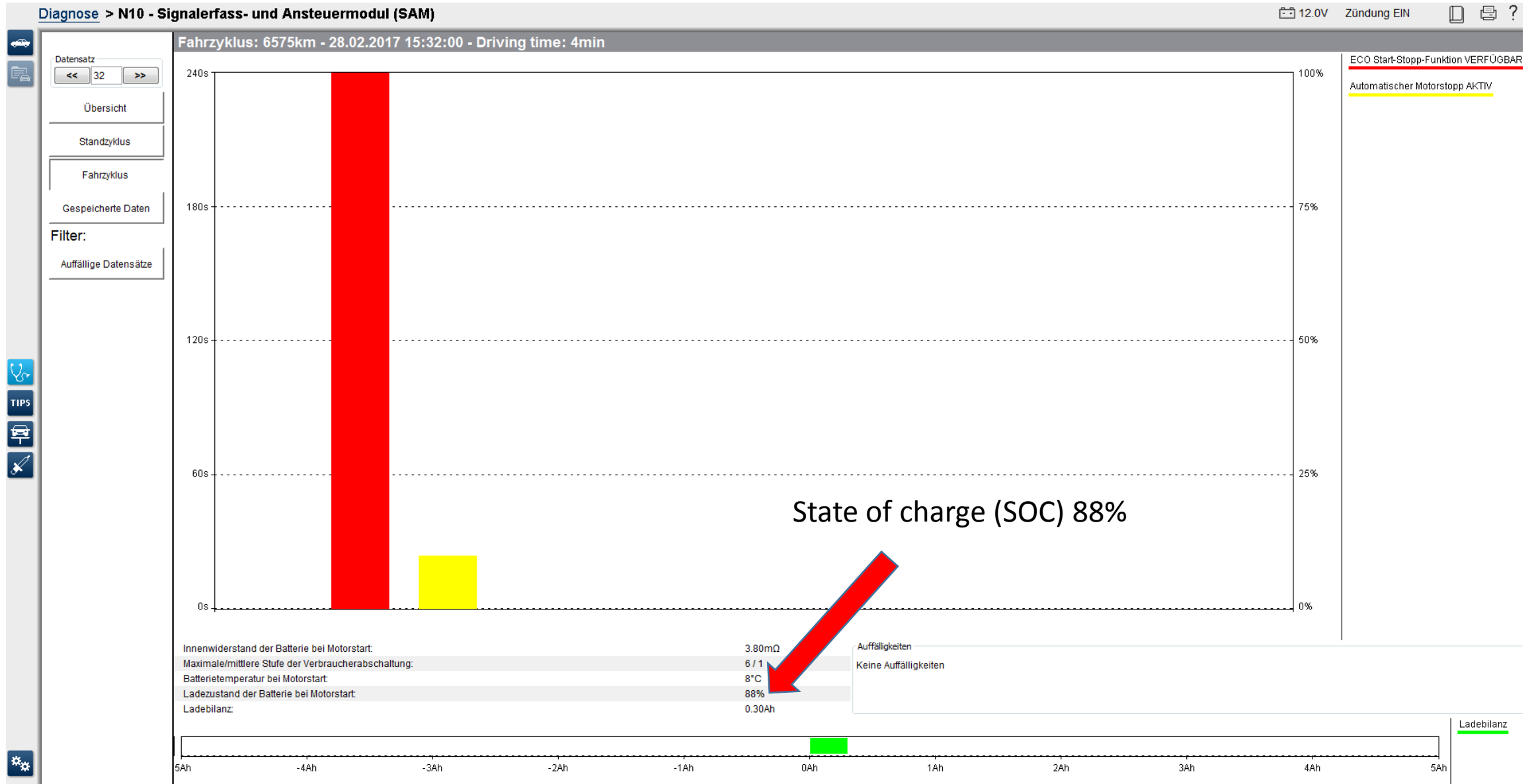
Symptoms						
Overall vehicle / Power supply / Battery/On-board electrical system / Battery/on-board electrical system indicator lamp / Battery charge indicator/consumer shutoff / Illuminates white						
Overall vehicle / Power supply / Battery/On-board electrical system / Battery/on-board electrical system display message / Low voltage Charge battery						
Parts						
Part number	ES1	ES2	Designation	Quantity	Note	EPC
A 000 905 64 07			Battery sensor	1	Battery sensor, LHD vehicles	X
A 000 905 65 07			Battery sensor	1	Battery sensor, RHD vehicles	X

Operation numbers/damage codes

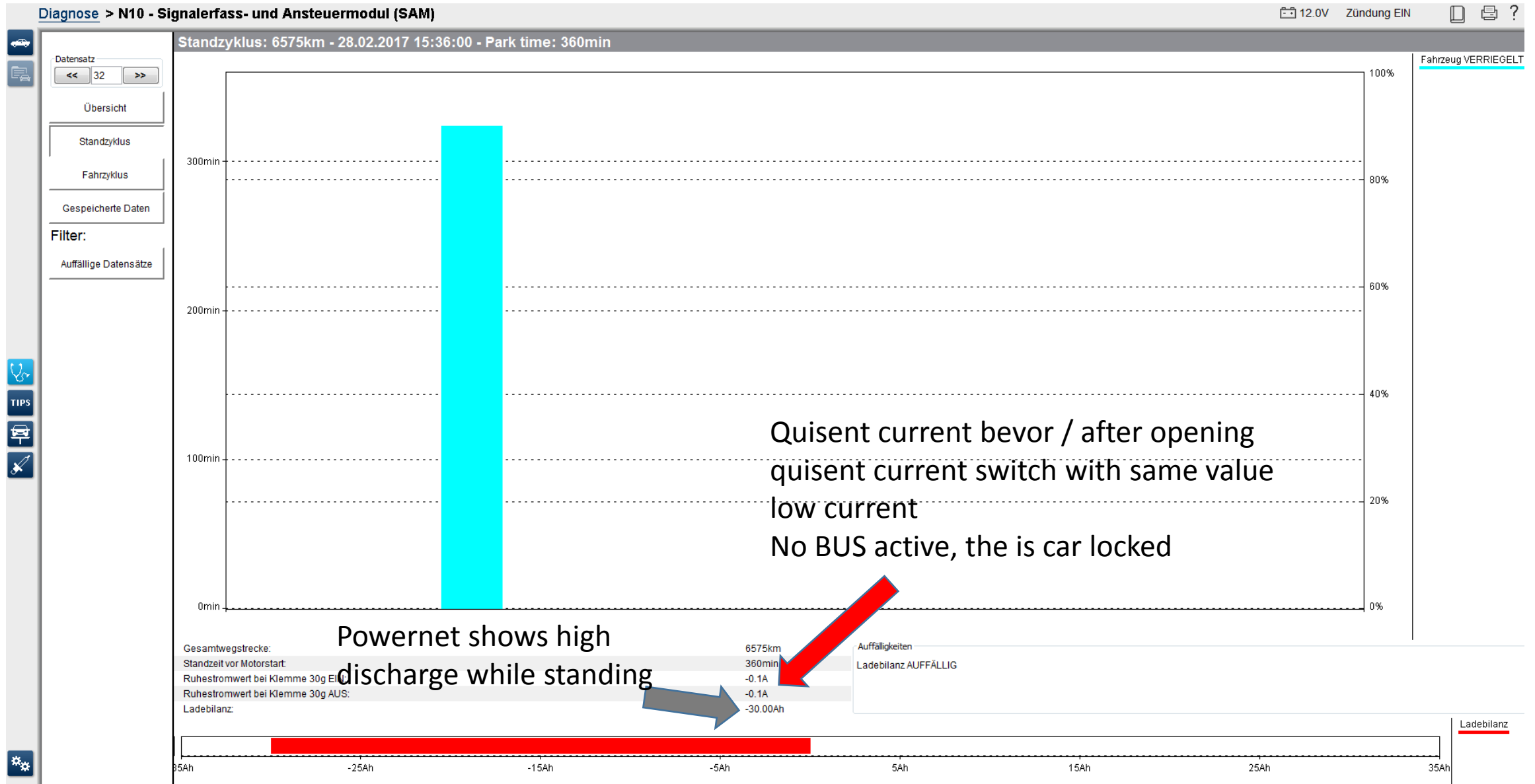
XENTRY TIPS

Op. no.	Operation text	Time	Damage code	Note
54-0650	12V		53020 73	
54-1011	QUICK TEST			
54-7989	GROUND LINE			
54-1111	REPLACE BATTERY SENSOR (AFTER CHECK)			

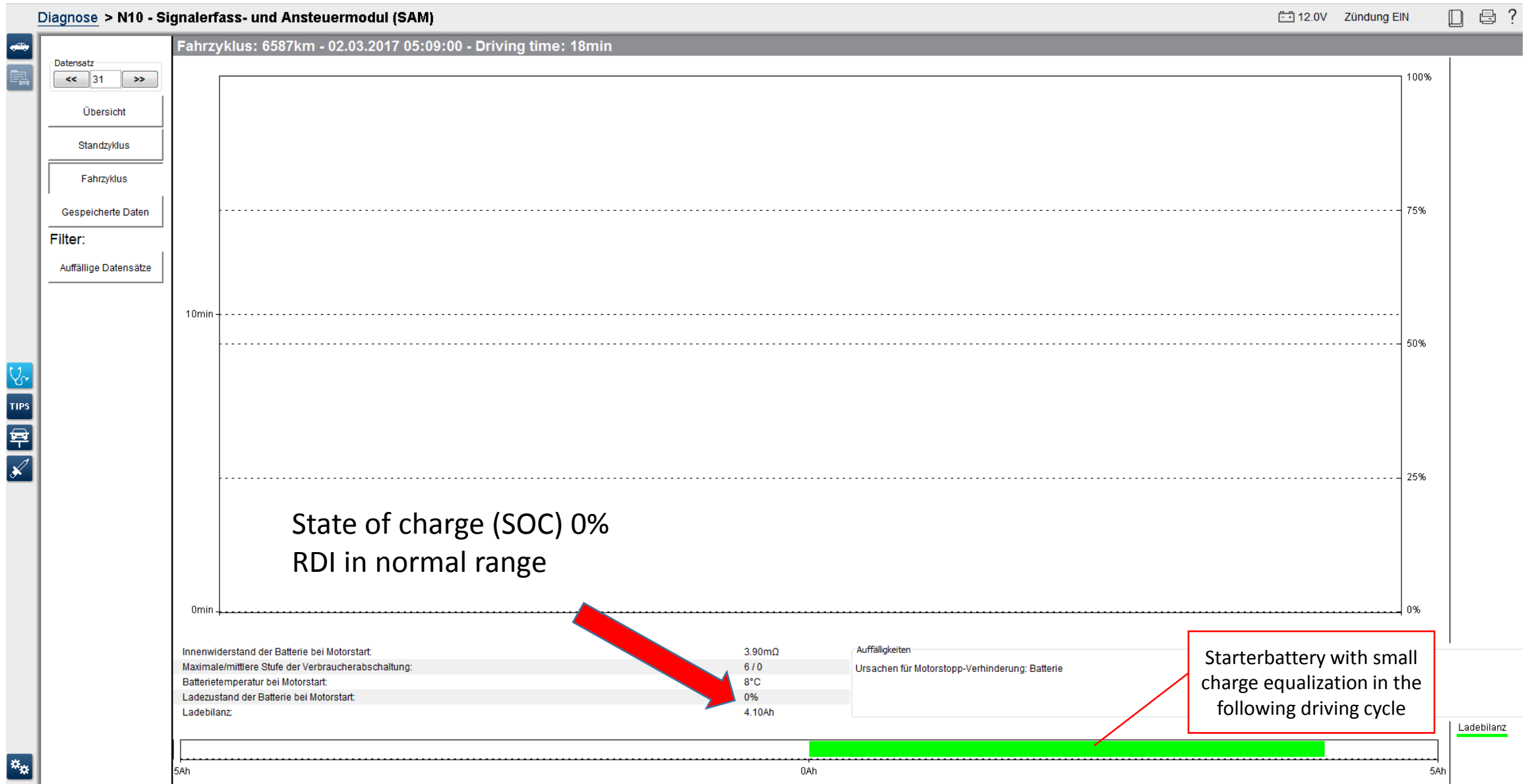
Measurement Driving cycle



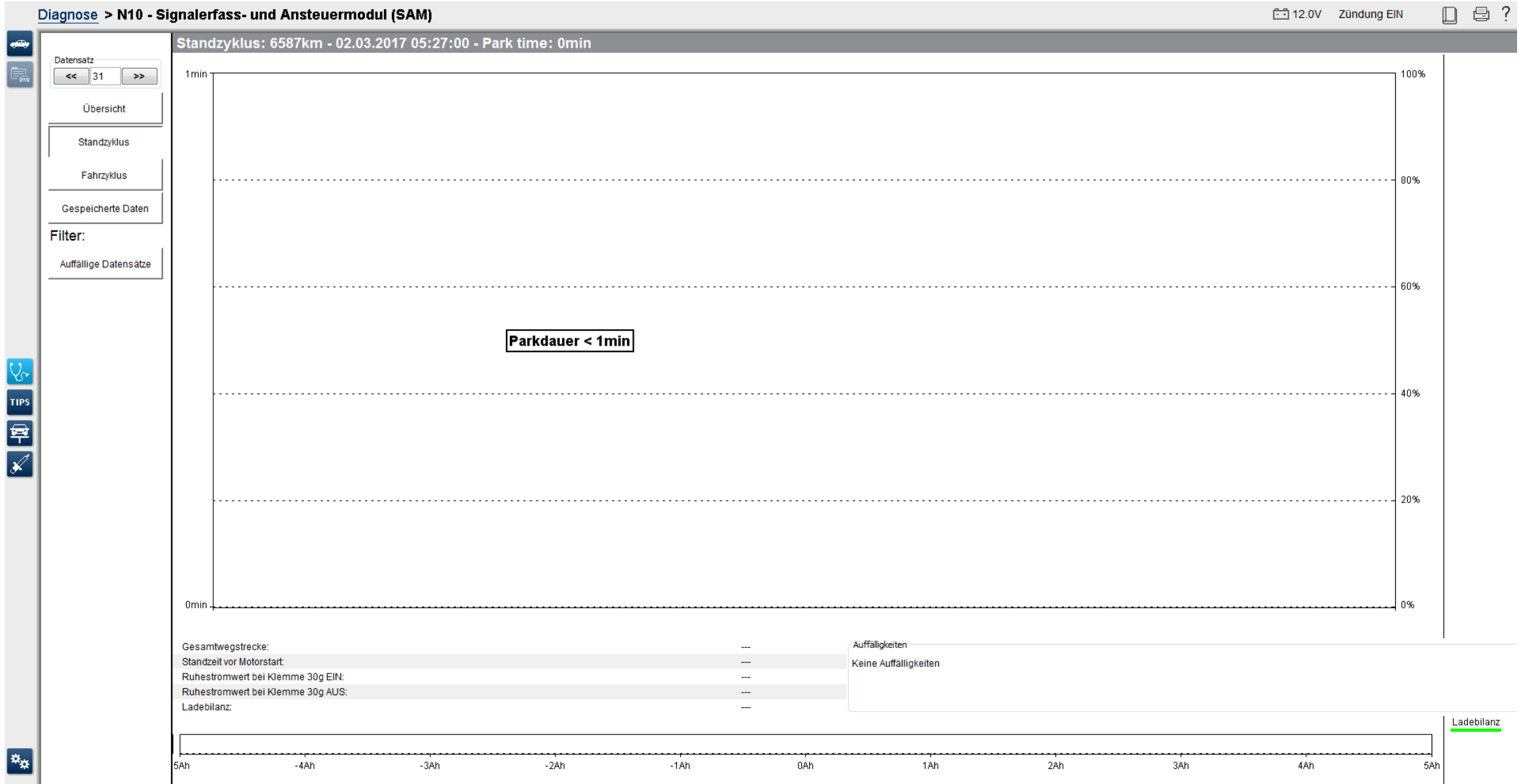
Measurement Engine OFF cycle



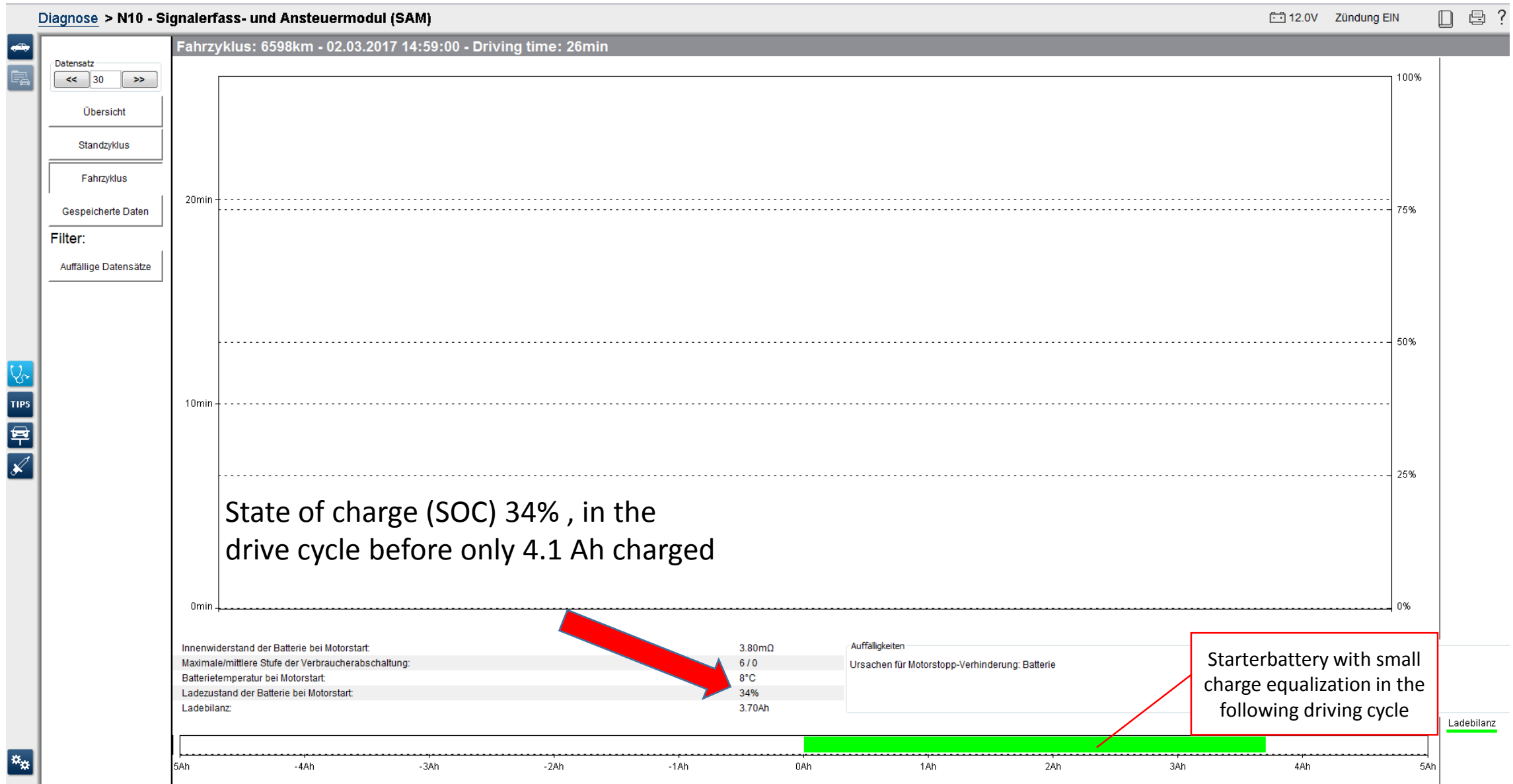
Measurement Driving cycle



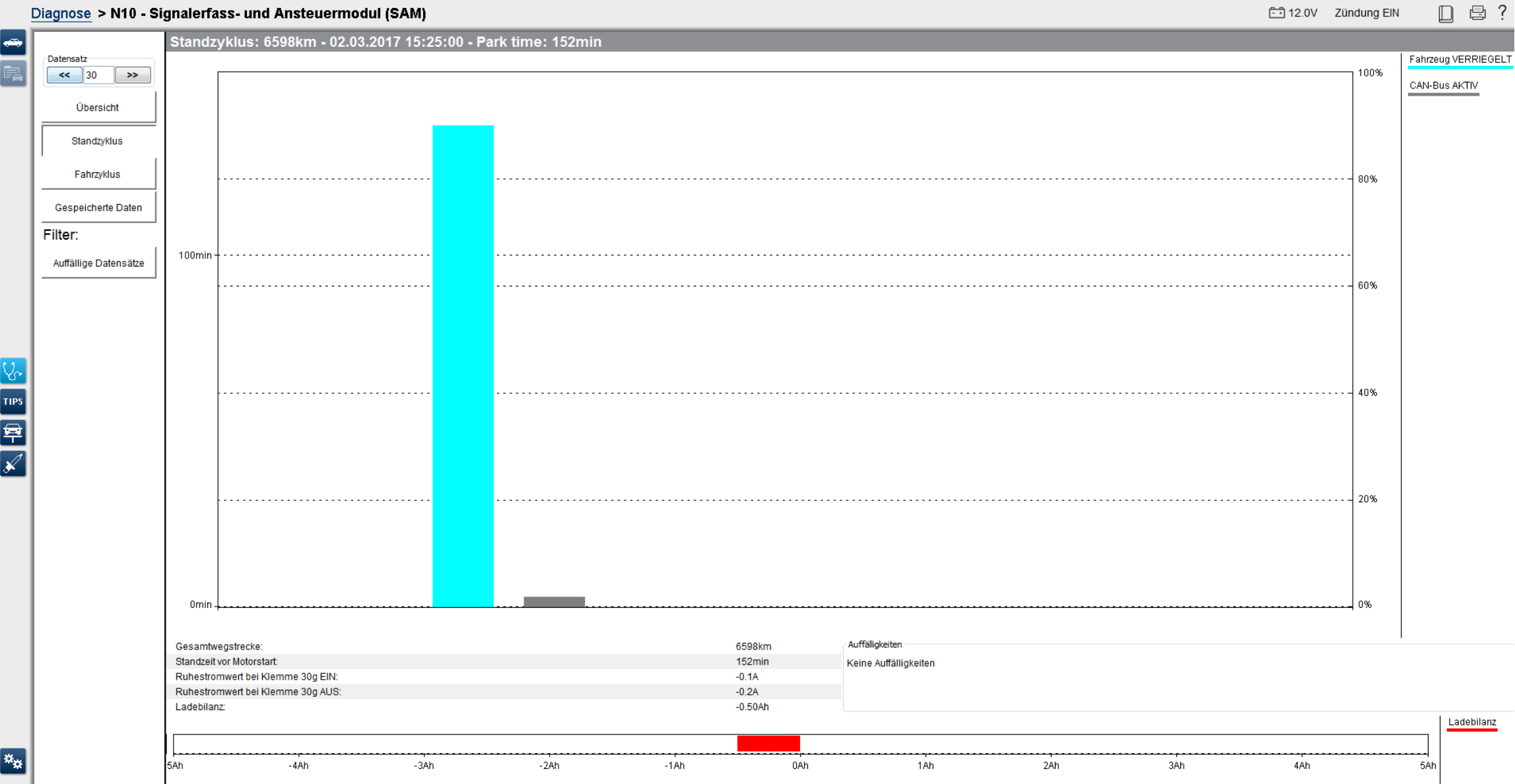
Measurement Engine OFF cycle



Measurement Driving cycle



Measurement Engine OFF cycle



Measurement Driving cycle

