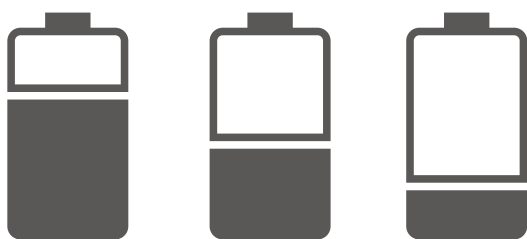


## MANUAL

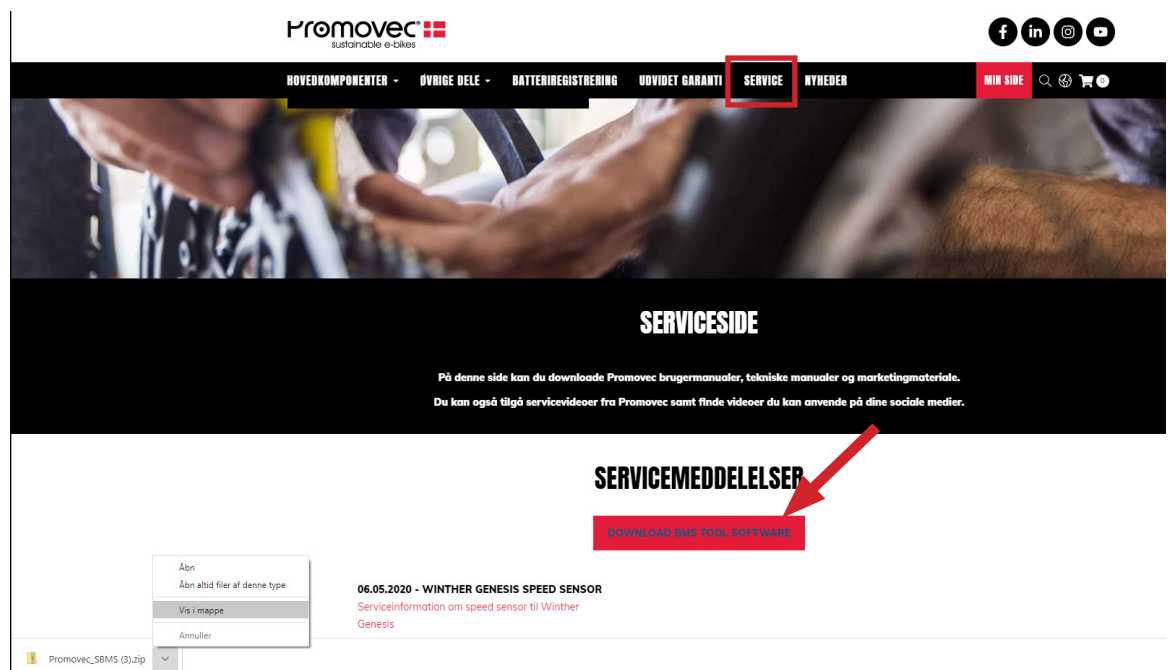
# Readout of battery-data with “BMS Communication Tool”



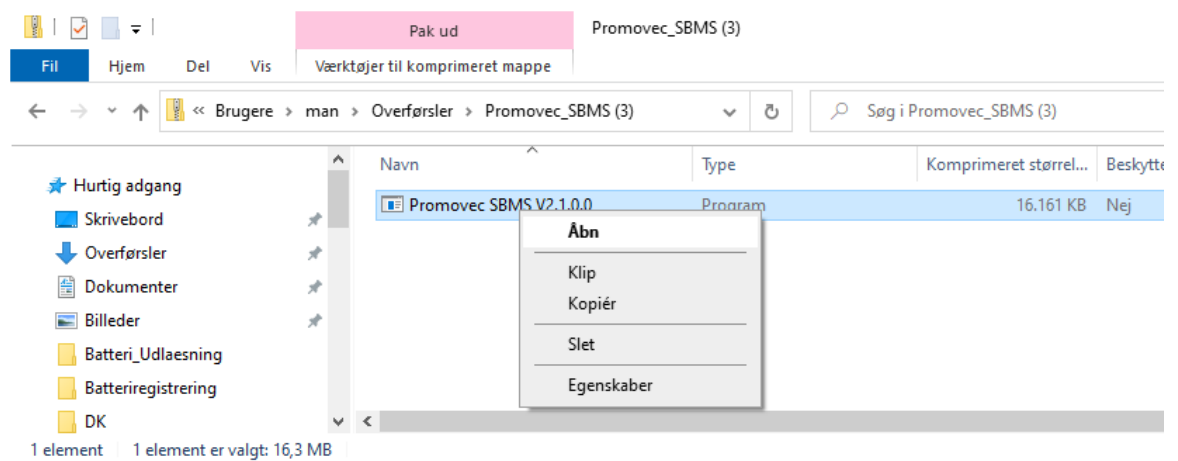
# STEP 1

Download the battery read out software from Promovec's homepage and install it on your PC. Login with your retailer login, select "SERVICE", scroll down and click on "DOWNLOAD BMS TOOL SOFTWARE".

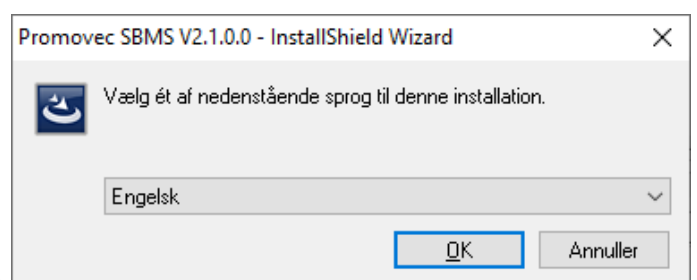
[www.promovec.com](http://www.promovec.com)



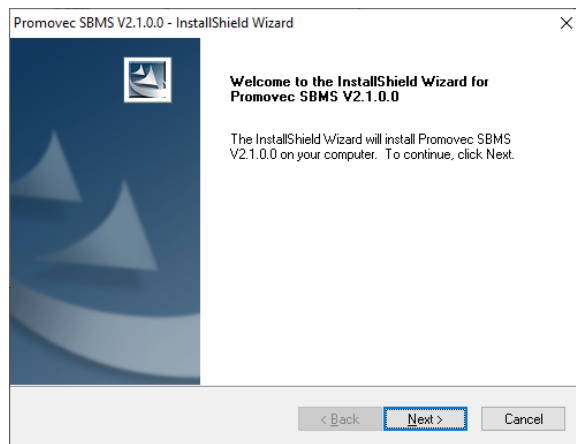
Select "Download BMS TOOL SOFTWARE" -> show in folder



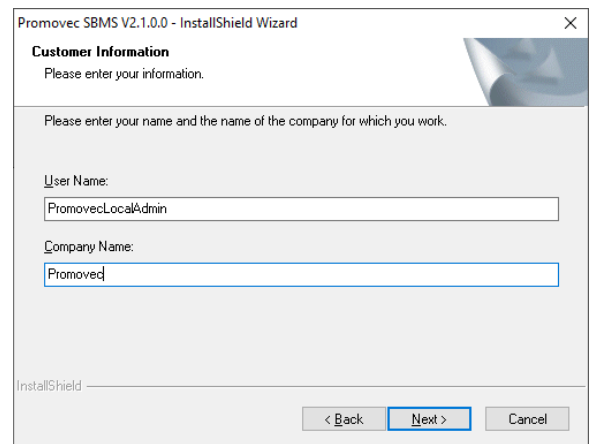
Open "Promovec.SMBS.V2.1.0.0"



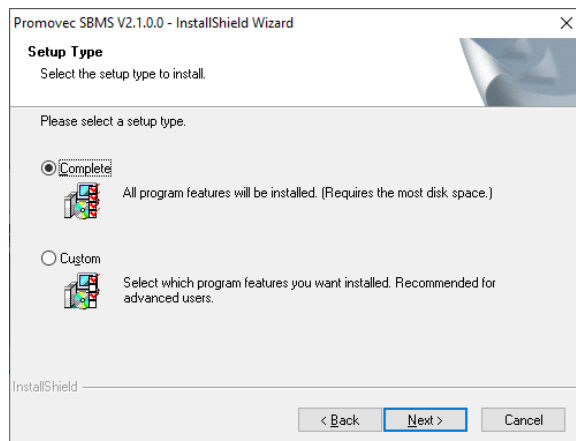
Select language



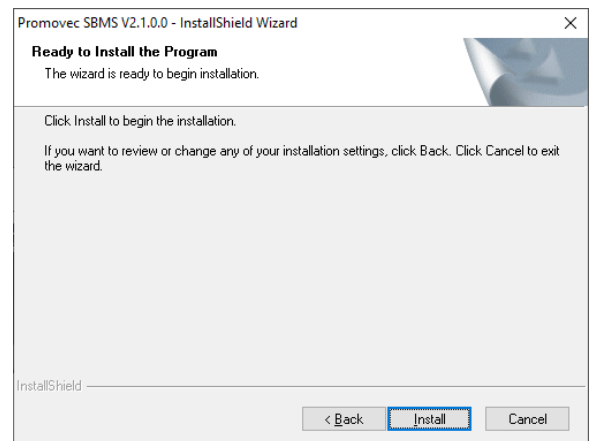
*Select click "Next"*



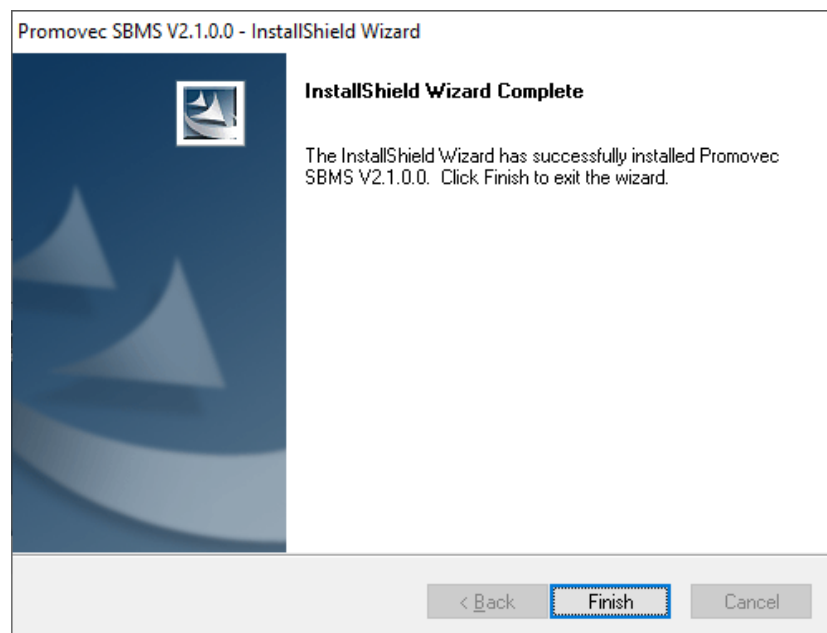
*Add company name and click "Next"*



*Select "Complete" then click "Next"*

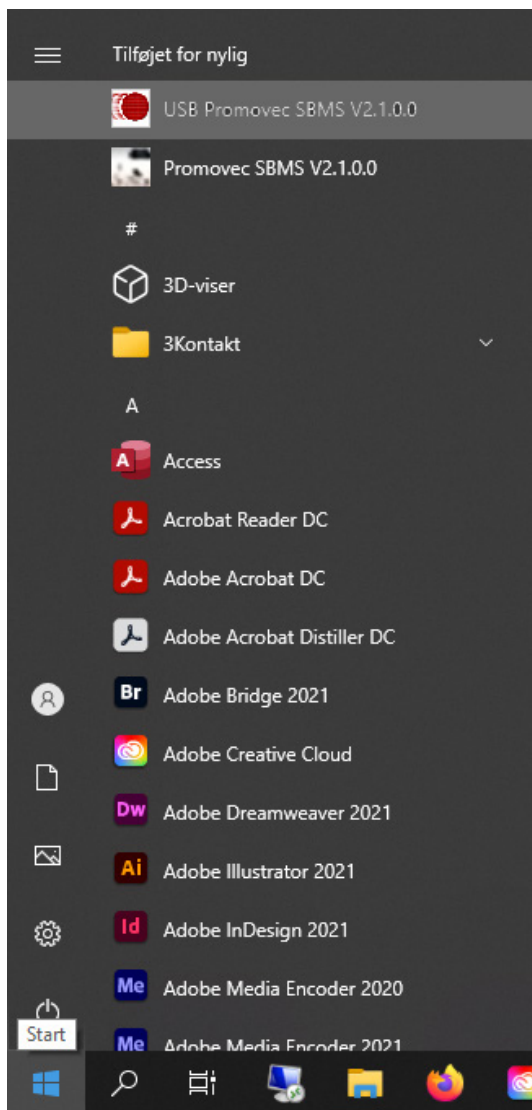


*"Install"*

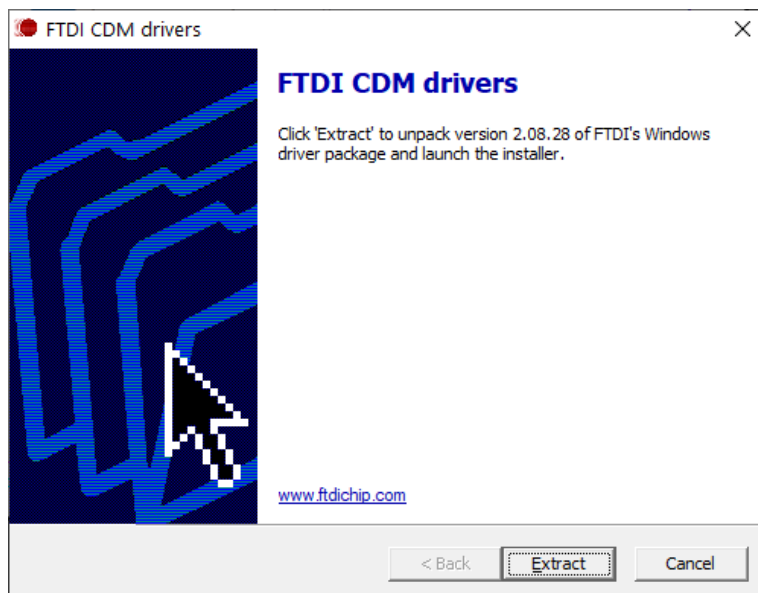


*"Finish"*

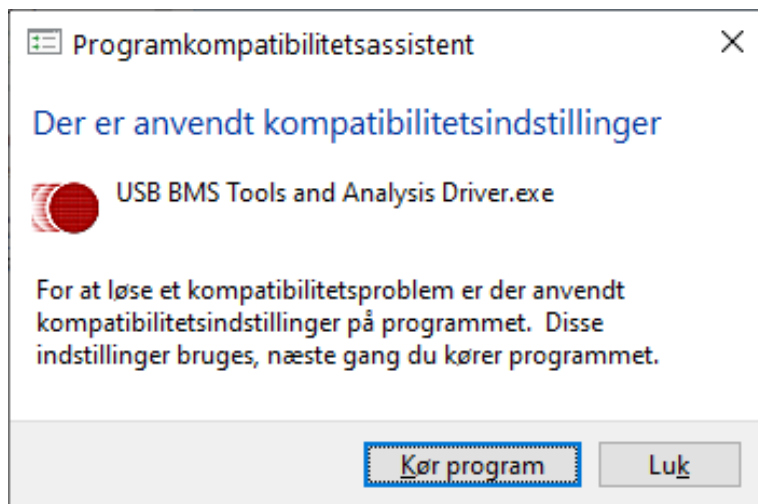
**Important!** Install FTDI Drivers - check next page



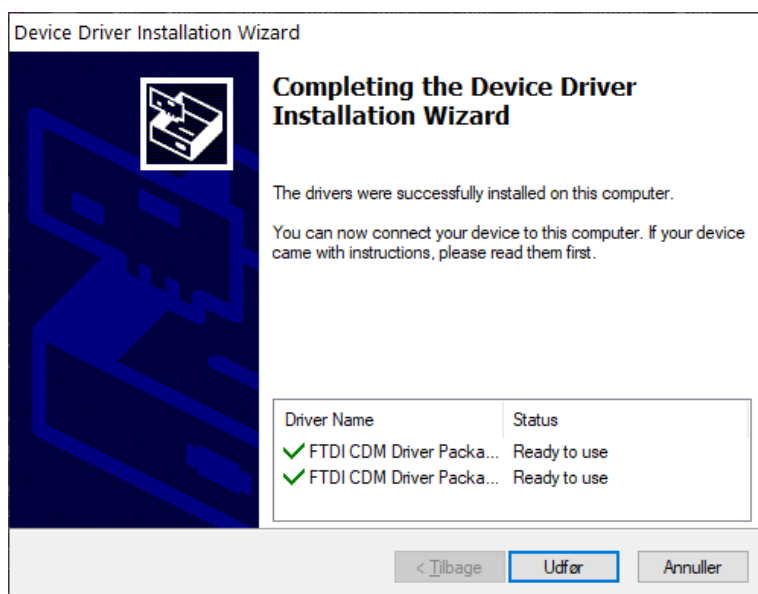
Go to start and locate "USB Promovec SBMS". e.g. USB in the search field.



Click "Extract"



"Run program"



"Complete"

# STEP 2

Open the box with "BMS Communication Tool".



## Parts included in the box

- Readout box (blue)
- Wire with USB connector
- Wire with 4-pin charging connector
- USB-wire for connection between PC and blue read out box
- Read out adaptor for Downtube 1 batteries
- Read out adaptor for Downtube 2 XL batteries

Depending on the battery, use one of the options illustrated below



Wire with 4-pin charging connector



USB connector



USB connector and adaptor for Downtube 1



Read out adaptor for Downtube 2 XL connected to the USB outlet on the blue read out tool



USB inlet

## Note!

- Utilize the USB inlet if available on the battery
- Old batteries with 3-pins charging connectors and no USB inlet, can not be read with the read out tool.



Note how the different solutions must be connected to the read out box!

## STEP 3



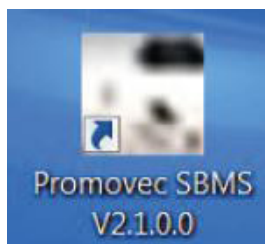
For usb connector and Downtube 2 XL dongle

For 4-pins connector

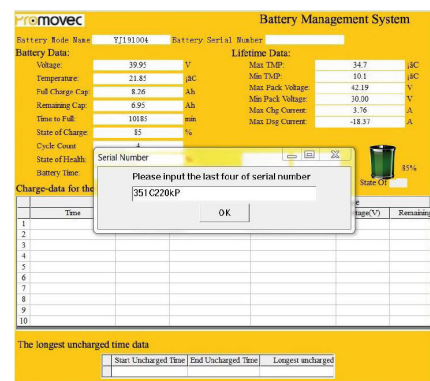
Connect the blue cable to the PC and the read out box.

## STEP 4

Start the program "Promovec SBMS"



If the connection is "Ok", the following screen is displayed.



Some batteries will request a serial number. See step 6





STEP  
5



**CHECK** the label on the battery including the serial number.



STEP  
6

The serial number on the battery must match the serial number stated in "Battery Serial Number".

On some batteries "Battery Serial Number" is not complete. Then a dialog box will open and missing information must be typed in manually.



**Battery Management System**

Battery Mode Name: YJ191004 Battery Serial Number:

**Battery Data:**

Voltage:	39.95	V
Temperature:	21.85	°C
Full Charge Cap:	8.26	Ah
Remaining Cap:	6.95	Ah
Time to Full:	10185	min
State of Charge:	85	%
Cycle Count:	4	
State of Health:		
Battery Time:		

**Lifetime Data:**

Max TMP:	34.7	°C
Min TMP:	10.1	°C
Max Pack Voltage:	42.19	V
Min Pack Voltage:	30.00	V
Max Chg Current:	3.76	A
Max Disg Current:	-18.37	A

Serial Number:

Please input the last four of serial number  
**351C220kP0363**

OK

State Of:  85%

Charge-data for the 10 last charges

	Time	Start Charge Voltage(V)	Remaining Cap(Ah)	Time	End Charge Voltage(V)	Remaining
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						

The longest uncharged time data

	Start Uncharged Time	End Uncharged Time	Longest uncharged

**Battery Management System**

Battery Mode Name: YJ191004 Battery Serial Number: **351C220kP0363**

**Battery Data:**

Voltage:	39.95	V
Temperature:	21.85	°C
Full Charge Cap:	8.26	Ah
Remaining Cap:	6.95	Ah
Time to Full:	10185	min
State of Charge:	85	%
Cycle Count:	4	
State of Health:	98	%
Battery Time:	23-1-2015 15:36	

**Lifetime Data:**

Max TMP:	34.7	°C
Min TMP:	10.1	°C
Max Pack Voltage:	42.19	V
Min Pack Voltage:	30.00	V
Max Chg Current:	3.76	A
Max Disg Current:	-18.37	A

Read Record PRINT

State Of:  85%


Charge-data for the 10 last charges

	Time	Start Charge Voltage(V)	Remaining Cap(Ah)	Time	End Charge Voltage(V)	Remaining
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						

The longest uncharged time data

	Start Uncharged Time	End Uncharged Time	Longest uncharged

Select "Read Record" and information about the last 10 charges will be displayed,



# Battery Management System


Battery Mode Name: 50757-BL-C-4      Battery Serial Number: 967F001PJ0016

### Battery Data:

Voltage:	53.40	V
Temperature:	21.90	°C
Full Charge Cap:	6.33	Ah
Remaining Cap:	6.28	Ah
State of Charge:	100	%
Cycle Count:	46	
State of Health:	100	%
Battery Time:	20-5-2021 10:25	

### Lifetime Data:

Max TMGP:	42.2	°C
Min TMGP:	-7.1	°C
Max Pack Voltage:	54.63	V
Min Pack Voltage:	39.00	V
Max Chg Current:	3.00	A
Max Dis Current:	-18.26	A


100%  
 State Of Charge

[Read Record](#)
[PRINT](#)

[Save Record](#)
[SCAN](#)

### Charge-data for the 10 last charges

	Start Charge			End Charge		
	Time	Voltage(V)	Remaining Cap(Ah)	Time	Voltage(V)	Remaining Cap(Ah)
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						

### The longest uncharged time data

	Start Uncharged Time	End Uncharged Time	Longest uncharged time

**Promovec** Battery Management System

Battery Mode Name: 50757-BL-C-4 Battery Serial Number: M57601TJ0016

**Battery Data:**

Voltage:	53.40	V
Temperature:	21.90	°C
Full Charge Cap:	6.33	Ah
Remaining Cap:	6.23	Ah
State of Charge:	100	%
Cycle Count:	46	
State of Health:	100	%
Battery Time:	20:43:03.163.34	

**Lifetime Data:**

Max TDGP:	42.2	°C
Min TDGP:	-7.1	°C
Max Pack Voltage:	54.63	V
Min Pack Voltage:	39.00	V
Max Chg Current:	3.00	A
Max Dsg Current:	-18.26	A


State Of Charge: 100%

Charge-data for the

Time	Temp	Remaining Cap(Ah)
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

It can take several minutes. Do you want to

Information about the last 10 charges.



# Battery Management System


**Battery Mode Name:** 50757-BL-C-4    
 **Battery Serial Number:** M57F601PJ0016

## Battery Data:

Voltage:	53.40	V
Temperature:	21.90	°C
Full Charge Cap:	6.33	Ah
Remaining Cap:	6.28	Ah
State of Charge:	100	%
Cycle Count:	46	
State of Health:	100	%
Battery Time	20-5-2021 10:25	

## Lifetime Data:

Max TMP:	42.2	°C
Min TMP:	-7.1	°C
Max Pack Voltage:	54.63	V
Min Pack Voltage:	39.00	V
Max Chg Current:	3.00	A
Max Disg Current:	-18.26	A



100% State Of Charge

[Read Record](#)
[PRINT](#)

[Save Record](#)
[SCAN](#)

## Charge-data for the 10 last charges

Start Charge			End Charge				
	Time	Voltage(V)	Remaining Cap(Ah)		Time	Voltage(V)	Remaining Cap(Ah)
1	07-04-2021 09:02	52.98	5.90	7	07-04-2021 10:03	53.98	6.32
2	24-08-2020 10:31	48.44	2.42	24	24-08-2020 13:29	54.05	6.41
3	21-08-2020 17:58	47.67	1.98	21	21-08-2020 21:08	54.18	6.39
4	21-08-2020 15:00	52.09	5.19	21	21-08-2020 16:28	54.04	6.39
5	28-03-2020 18:26	53.30	6.17	28	28-03-2020 18:55	54.09	6.38
6	20-02-2020 11:14	46.58	0.00	20	20-02-2020 15:05	54.13	6.55
7	19-02-2020 19:40	46.71	1.72	19	19-02-2020 23:32	54.13	6.68
8	26-11-2019 15:36	52.03	6.22	26	11-2019 17:10	54.15	7.59
9	05-06-2019 09:48	50.04	4.28	05	06-2019 12:06	54.24	7.70
10	03-06-2019 22:19	49.37	3.55	04	06-2019 00:55	54.29	7.46

## The longest uncharged time data

	Start Uncharged Time	End Uncharged Time	Longest uncharged time
1	24-08-2020 13:29	07-04-2021 09:02	222



# STEP 8

Select "Save Record" to save the data displayed on-screen. Select "Print" if you want a printed report.

**Battery Management System**

Battery Mode Name: YJ191004 Battery Serial Number: 351C315B1067

**Battery Data:**

Voltage:	39.35 V
Temperature:	7.850 °C
Full Charge Cap:	10.38 Ah
Remaining Cap:	7.97 Ah
Time to Full:	11709 min
State of Charge:	77 %
Cycle Count:	0
State of Health:	100 %
Battery Time:	6-1-2015 12:58

**Lifetime Data:**

Max TMP:	35.6 °C
Min TMP:	3.30 °C
Max Pack Voltage:	41.15 V
Min Pack Voltage:	30.00 V
Max Chg Current:	2.99 A
Max Dis Current:	-9.94 A

Buttons: Read Record, PRINT, **Save Record**, SCAN

Charge-data for the 10 last charges

Time	Start Charge Voltage(V)	End Charge Voltage(V)	Remaining Cap(Ah)
1	00-00-2000 00:00	0.00	0.00
2	00-00-2000 00:00	0.00	0.00
3	00-00-2000 00:00	0.00	0.00
4	00-00-2000 00:00	0.00	0.00
5	00-00-2000 00:00	0.00	0.00
6	00-00-2000 00:00	0.00	0.00
7	15-10-2018 23:15	39.75	9.42
8	15-10-2018 01:40	39.66	9.40
9	18-10-2018 00:58	41.78	11.46
10	20-11-2014 09:25	36.27	0.02

"Save Record" - Store data

**Battery Management System**

Battery Mode Name: YJ191004 Battery Serial Number: 351C315B1067

**Battery Data:**

Voltage:	39.35 V
Temperature:	7.850 °C
Full Charge Cap:	10.38 Ah
Remaining Cap:	7.97 Ah
Time to Full:	11709 min
State of Charge:	77 %
Cycle Count:	0
State of Health:	100 %
Battery Time:	6-1-2015 12:58

**Lifetime Data:**

Max TMP:	35.6 °C
Min TMP:	3.30 °C
Max Pack Voltage:	41.15 V
Min Pack Voltage:	30.00 V
Max Chg Current:	2.99 A
Max Dis Current:	-9.94 A

Buttons: Read Record, **PRINT**, Save Record, SCAN

Charge-data for the 10 last charges

Time	Start Charge Voltage(V)	End Charge Voltage(V)	Remaining Cap(Ah)
1	00-00-2000 00:00	0.00	0.00
2	00-00-2000 00:00	0.00	0.00
3	00-00-2000 00:00	0.00	0.00
4	00-00-2000 00:00	0.00	0.00
5	00-00-2000 00:00	0.00	0.00
6	00-00-2000 00:00	0.00	0.00
7	15-11-2014 02:27	39.64	9.41
8	25-11-2014 02:10	39.66	9.40
9	20-11-2014 09:25	36.24	2.03
10	20-11-2014 08:56	36.22	0.02

The longest uncharged time data

Start Uncharged Time	End Uncharged Time	Longest uncharged time
25-11-2014 02:27	06-01-2015 12:58	-

"PRINT" - Print data

## Saved report

OBGG30100129\_28042021 - Notesblok

Number	StartTime	Voltage	RemainingCap	EndTime	Voltage	RemainingCap
1:	26-11-2018 11:01	38.40	5.40	26-11-2018 11:02	38.60	5.41
2:	21-10-2018 11:41	35.55	1.70	21-10-2018 16:16	41.89	8.97
3:	20-10-2018 13:27	34.29	0.41	20-10-2018 15:41	37.06	4.71
4:	18-10-2018 01:40	35.85	2.83	18-10-2018 05:35	41.89	9.13
5:	17-10-2018 22:46	35.35	1.84	18-10-2018 00:58	38.38	6.21
6:	17-10-2018 10:23	35.62	2.16	17-10-2018 12:14	38.14	5.80
7:	15-10-2018 23:15	37.81	6.52	16-10-2018 01:24	41.90	9.31
8:	15-10-2018 01:40	34.75	0.50	15-10-2018 15:10	41.90	9.23
9:	10-10-2018 06:01	34.30	0.32	10-10-2018 11:07	41.89	8.93
10:	08-10-2018 15:34	36.06	3.65	08-10-2018 19:09	41.88	9.13
11:	06-10-2018 09:59	35.50	1.66	06-10-2018 14:23	41.90	9.20
12:	04-10-2018 14:40	34.39	0.72	04-10-2018 19:44	41.91	9.05
13:	03-10-2018 15:42	34.28	0.83	03-10-2018 16:44	36.21	2.85
14:	02-10-2018 22:02	37.45	5.36	03-10-2018 00:33	41.91	9.00
15:	01-10-2018 22:33	33.69	0.14	02-10-2018 03:47	41.92	9.25
16:	27-09-2018 21:07	34.56	0.80	28-09-2018 02:06	41.91	9.04
17:	26-09-2018 12:05	35.05	0.82	26-09-2018 16:45	41.91	8.64
18:	23-09-2018 01:00	34.63	0.77	23-09-2018 05:50	41.90	8.72
19:	20-09-2018 19:22	34.43	0.64	20-09-2018 22:24	38.59	6.53
20:	20-09-2018 10:04	35.94	2.63	20-09-2018 10:26	36.38	3.36
21:	16-09-2018 14:58	34.42	0.56	16-09-2018 20:03	41.77	8.99
22:	13-09-2018 16:19	33.66	0.14	13-09-2018 21:37	41.90	9.22
23:	11-09-2018 21:21	36.12	3.92	12-09-2018 00:50	41.91	9.31
24:	10-09-2018 22:52	35.53	2.24	11-09-2018 03:02	41.90	9.20
25:	10-09-2018 10:36	36.44	4.29	10-09-2018 12:14	39.55	7.52
26:	30-08-2018 06:41	34.07	0.24	30-08-2018 11:38	42.38	8.96
27:	27-08-2018 21:06	35.05	1.47	28-08-2018 01:23	42.38	8.82
28:	26-08-2018 00:09	40.93	8.79	26-08-2018 08:37	41.64	9.14
29:	24-08-2018 00:12	33.27	0.12	24-08-2018 05:32	41.92	9.08
30:	23-08-2018 12:16	32.20	0.04	23-08-2018 13:33	36.14	2.55
31:	20-08-2018 22:56	36.78	5.07	21-08-2018 01:42	41.93	9.02
32:	19-08-2018 20:36	35.63	2.48	20-08-2018 00:44	41.94	9.02
33:	18-08-2018 10:36	34.25	0.40	18-08-2018 14:35	40.49	8.12
34:	16-08-2018 10:50	35.75	2.11	16-08-2018 13:20	39.31	6.99
35:	15-08-2018 12:32	33.80	0.17	15-08-2018 16:02	39.18	6.96
36:	14-08-2018 03:49	36.08	3.24	14-08-2018 07:30	41.95	8.87
37:	13-08-2018 19:50	35.52	1.71	13-08-2018 22:15	38.78	6.41
38:	12-08-2018 05:17	38.77	6.97	12-08-2018 07:03	41.95	9.39
39:	11-08-2018 16:44	34.87	1.01	11-08-2018 21:29	41.97	9.26
40:	11-08-2018 11:57	34.13	0.28	11-08-2018 13:25	36.38	3.17
41:	08-08-2018 05:54	35.69	2.30	08-08-2018 10:04	41.92	9.28
42:	08-08-2018 04:00	35.84	2.38	08-08-2018 05:01	36.80	4.35
43:	06-08-2018 22:11	35.48	1.99	07-08-2018 02:29	41.92	9.28
44:	04-08-2018 13:31	34.94	1.17	04-08-2018 18:20	41.92	9.25
45:	02-08-2018 22:58	36.87	5.36	03-08-2018 01:47	41.92	9.28
46:	01-08-2018 23:05	32.78	0.30	02-08-2018 04:28	41.92	9.18
47:	30-07-2018 22:44	36.53	4.88	31-07-2018 01:44	41.94	9.38

"Save record" example

**Battery Report**

Battery Name: YJ191004  
Battery Serial NO: 351C315B1067  
Data Read Time: 25-01-2015 08:29

**1. Battery Data:**

Voltage:	39.65V	Full Chg Capacity:	8.26Ah	Remaining Capacity:	6.95Ah
Cycle Count:	4	Temperature:	21.85 °C	State Of Health:	98%
State Of Charge:	85%	Battery Time:	23-1-2015 15:36	Time Difference:	7h

**2. Lifetime Data:**

Max Temperature:	34.7 °C	Min Temperature:	10.1 °C	Max Voltage:	42.19V
Min Voltage:	30.00V	Max Chg Current:	-18.37A	Max Dis Current:	3.76A

**3. The Longest Uncharged Time:**

Start from:	09-12-2014 22:10	End at:	22-01-2015 16:10	Longest uncharged time:	42 Days
-------------	------------------	---------	------------------	-------------------------	---------

**4. Record Data (latest 10 times):**

Start Time	Start Voltage	Start Capacity	End Time	End Voltage	End Capacity
22-01-2015 19:16	39.76V	6.81Ah	22-01-2015 19:21	40.21V	7.00Ah
22-01-2015 18:29	38.97V	5.71Ah	22-01-2015 18:55	38.97V	6.63Ah
22-01-2015 18:06	36.86V	4.90Ah	22-01-2015 18:28	38.99V	5.67Ah
22-01-2015 16:10	39.37V	6.49Ah	22-01-2015 17:02	41.85V	8.28Ah
09-12-2014 19:08	38.70V	5.80Ah	09-12-2014 22:10	41.73V	8.30Ah
09-12-2014 17:45	40.40V	7.40Ah	09-12-2014 17:56	40.48V	7.40Ah
09-12-2014 17:04	39.83V	7.37Ah	09-12-2014 17:05	40.43V	7.41Ah
09-12-2014 15:19	39.43V	6.49Ah	09-12-2014 16:47	41.75V	8.25Ah
02-12-2014 17:09	39.83V	6.19Ah	02-12-2014 19:28	41.86V	8.40Ah
02-12-2014 16:17	36.82V	2.67Ah	02-12-2014 17:58	39.83V	6.13Ah

Please send this paper to service@promovec.dk

Print Date: 25-01-2015 08:33

"PRINT" example

# STEP 9

Reading the data displayed in the window. The name and serial number are displayed in the top of the window. The fields under "Battery Data" in the left side represent the state of the battery when it is "Read". The fields to the right under "Lifetime Data" state minimum and maximum values registered.

**Promovec**
**Battery Management System**

Battery Mode Name: 50757-BL-C-4
Battery Serial Number: N57F601PJ0016

**Battery Data:**

① Voltage:	53.40	V
② Temperature:	21.90	°C
③ Full Charge Cap:	6.33	Ah
④ Remaining Cap:	6.28	Ah
⑤ State of Charge:	100	%
⑥ Cycle Count	46	
⑦ State of Health:	100	%
⑧ Battery Time:	20-5-2021 10:25	

**Lifetime Data:**

Ⓐ Max TMP:	42.2	°C
Ⓑ Min TMP:	-7.1	°C
Ⓒ Max Pack Voltage:	54.63	V
Ⓓ Min Pack Voltage:	39.00	V
Ⓔ Max Chg Current:	3.00	A
Ⓕ Max Dsg Current:	-18.26	A

Ⓐ Read Record

Ⓕ Save Record

PRINT

SCAN

Ⓙ 100%

State Of Charge

Ⓛ **Charge-data for the 10 last charges**

	Start Charge			End Charge		
	Time	Voltage(V)	Remaining Cap(Ah)	Time	Voltage(V)	Remaining Cap(Ah)
1	07-04-2021 09:02	52.98	5.90	07-04-2021 10:03	53.98	6.32
2	24-08-2020 10:31	48.44	2.42	24-08-2020 13:29	54.05	6.41
3	21-08-2020 17:58	47.67	1.98	21-08-2020 21:08	54.18	6.39
4	21-08-2020 17:58	47.67	1.98	21-08-2020 21:08	54.18	6.39
5	28-02-2020 18:26	53.30	6.17	28-02-2020 18:55	54.09	6.38
6	20-02-2020 11:14	46.58	0.00	20-02-2020 15:05	54.13	6.55
7	19-02-2020 19:40	46.71	1.72	19-02-2020 23:32	54.13	6.68
8	26-11-2019 15:36	52.03	6.22	26-11-2019 17:10	54.15	7.59
9	05-06-2019 09:48	50.04	4.28	05-06-2019 12:06	54.24	7.70
10	03-06-2019 22:19	49.37	3.55	04-06-2019 00:55	54.29	7.46

**The longest uncharged time data**

Ⓜ	Start Uncharged Time	End Uncharged Time	Longest uncharged time
	24-08-2020 13:29	07-04-2021 09:02	222

## Charge-data decoding and troubleshooting:

- Readings where entries in the "Time" column are close to each other could indicate a BMS error.. Connect a charger to the battery and charge the battery to 100% to verify if there is a problem.
- If the information in the column "Voltage (V) under "End Charge" is less than 41,3 V after the battery has been fully charged, charge the battery with a new/other charger. The output on the charger must be 42 V ± 0,3 V and when fully charged the battery must have a capacity of at least 41,3 V when measured.

See explanation covering the fields in the window above, next page.

Battery Data:	
1	<b>Voltage:</b> Present voltage read
2	<b>Temperature:</b> Present temperature
3	<b>Full Charge Cap:</b> Capacity when fully charged
4	<b>Remaining Cap:</b> Remaining capacity
5	<b>State of Charge:</b> Actual charge state
6	<b>Cycle Count:</b> Number off charge-cycles*
7	<b>State of Health:</b> Battery health
8	<b>Battery Time:</b> Timestamp when battery is read
Charge-data for the last 10 charges	
L	<b>Charge-data for the 10 last charges:</b> Displays the last 10 charge attempts**

Lifetime Data:	
A	<b>Max TMP:</b> Highest temperature registered
B	<b>Min Temp:</b> Lowest temperature registered
C	<b>Max Pack Voltage:</b> The highest voltage level registered
D	<b>Min Pack Voltage:</b> The Lowest voltage level registered
E	<b>Max Chg Current:</b> The highest amount of Amp's the battery has been charged with.
F	<b>Max Dsg Current:</b> The highest amount of amp's the battery has been discharged with.
G	<b>Read Record:</b> The last 10 charge-data attempts are displayed (L).
H	<b>Save Record:</b> Saves Charge-data
I	<b>PRINT:</b> Print a report for the customer or documentation.
L	<b>Charge-data:</b> Charge-data for the last 10 charges.
K	<b>State of Charge:</b> Remaining capacity in percentage.
The longest uncharge time data	
M	The longest period of time the battery has not been charged.

\* One cycle equals:

- 100% discharge + 100% charged
- (50% discharge + 50% charge) 2 times
- (20% discharge + 20% charge) 5 times

\*\* The battery can register up to 800 charges. A full report can be saved to the PC with "Save record"

# STEP 10

## Warranty checklist

- Check that the battery has been registered and is within the warranty period
- "Full charge Capacity" is more than 70% of the capacity stated on the label (See picture below).
- "State of Health" must be more than 70%
- When "Longest uncharged time" is more than 30 days it may result in the warranty not covering.

Item number

Battery capacity



Serial number

## Battery complaint checklist

1. Output on charger is 42V  $\pm 0,3V$
2. Measure the battery, "Step A" page 13
3. The battery has been charged with two different chargers to rule out problems with the charger
4. Check charging inlet and power-on/off lock
5. Fuse and fuseholder are ok, "Step B" page 14

# STEP A

## Measuring the battery (Carrier batterieries)



**Picture 1:** Set the voltage meter to DC-Voltage and measure the battery. When a battery has been fully charged the battery must measure at least 41.3 V.



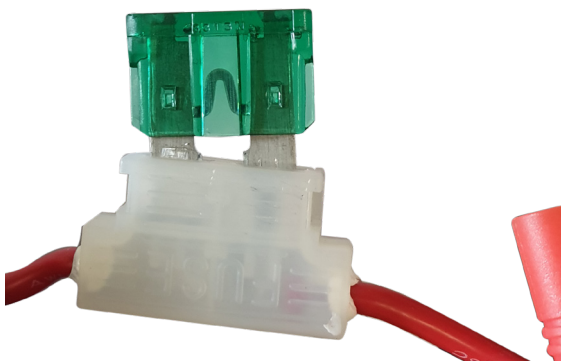
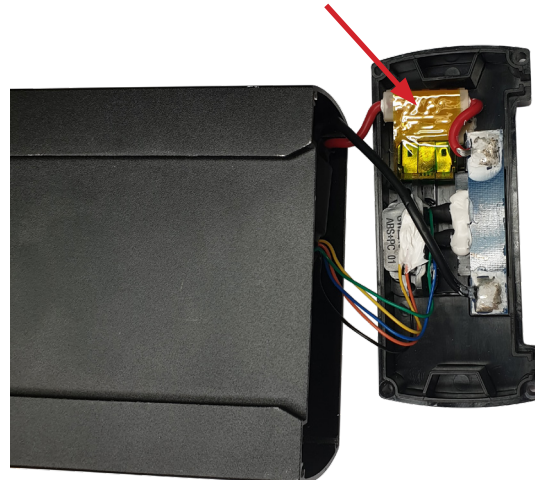
## STEP B

### Fuse holder and fuse

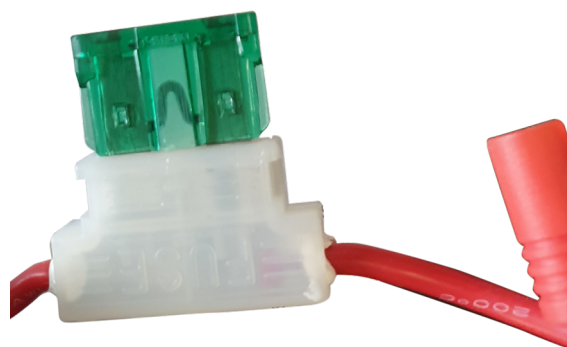
Fuse Holder and fuse sit under the cover in the opposite end of the light. Remove the cover and check that the fuse is not:

- Detached in the fuse holder
- Blown

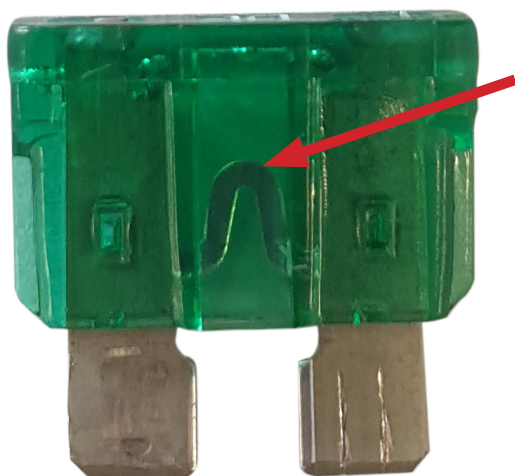
Fuse holder



**Picture 1:** The fuse is not fully inserted in the fuse holder.

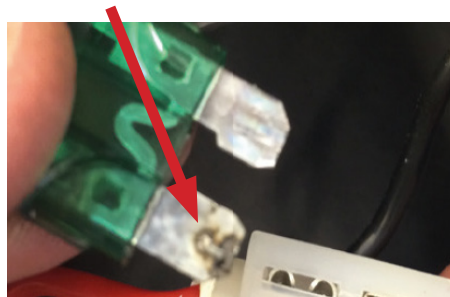


**Picture 2:** The fuse is fully inserted.



**Picture 3 and 4:** Change fuse if:

1. The connection between the two legs are broken
2. There are marks that indicate overheating







## ABOUT PROMOVEC

Promovec is a Danish e-bike manufacturer and developer

Promovec manufactures e-bikes for major international brands and advanced battery solutions for e-bikes

In the production of all Promovec's products we seek sustainable and high-quality solutions to best serve both the planet and our customers.

**For more information about Promovec visit [www.promovec.com](http://www.promovec.com) or drop by one of our social media platforms.**

