

MF4 Can Data Extraction

First Runs file mf4files which compiles all the data from the MF4 file time. Then it extracts it and puts it into time table so it can be plotted.

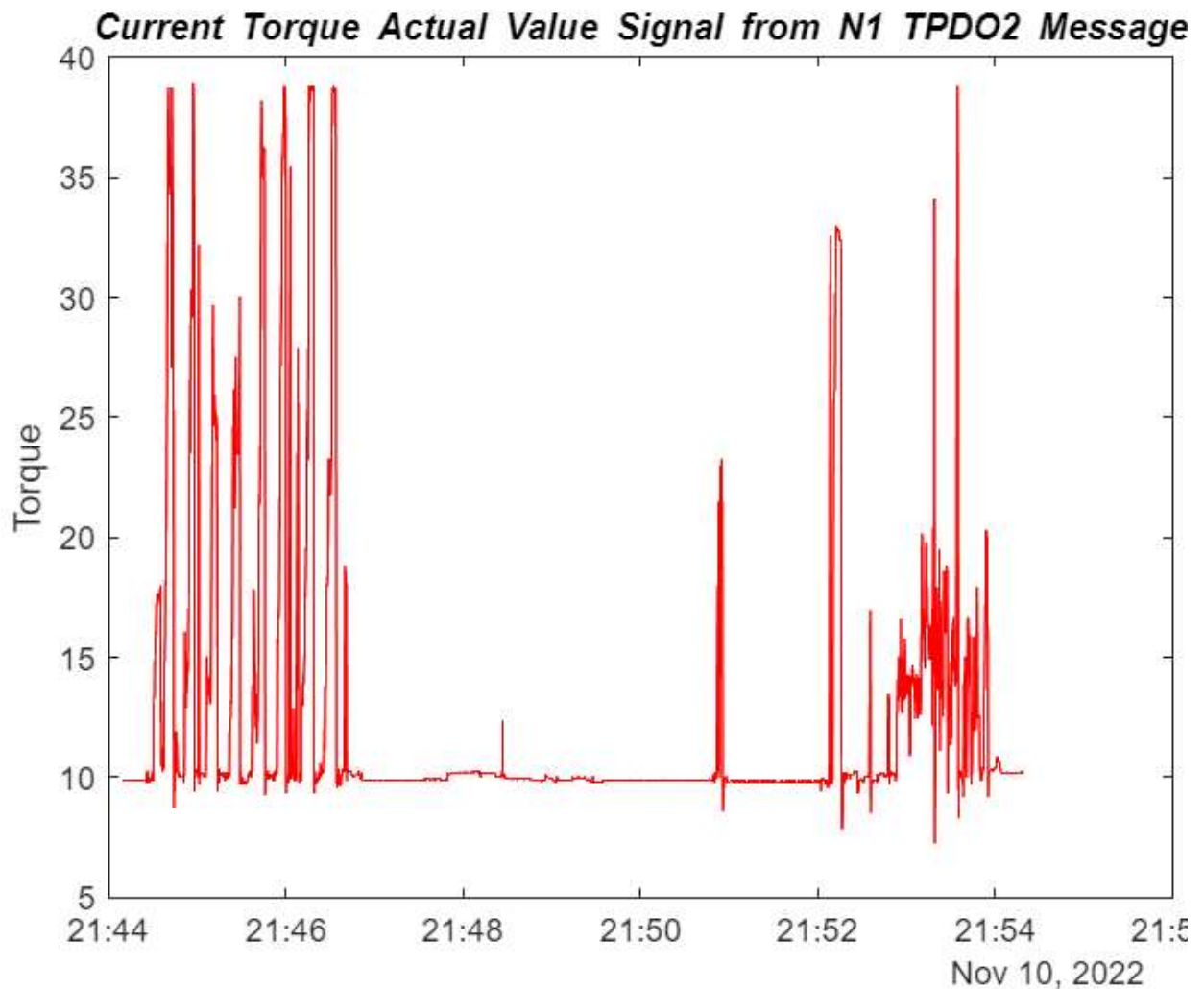
```
mf4files
```

Warning: Source file already finalized. Source file unchanged.

```
data_min_max
```

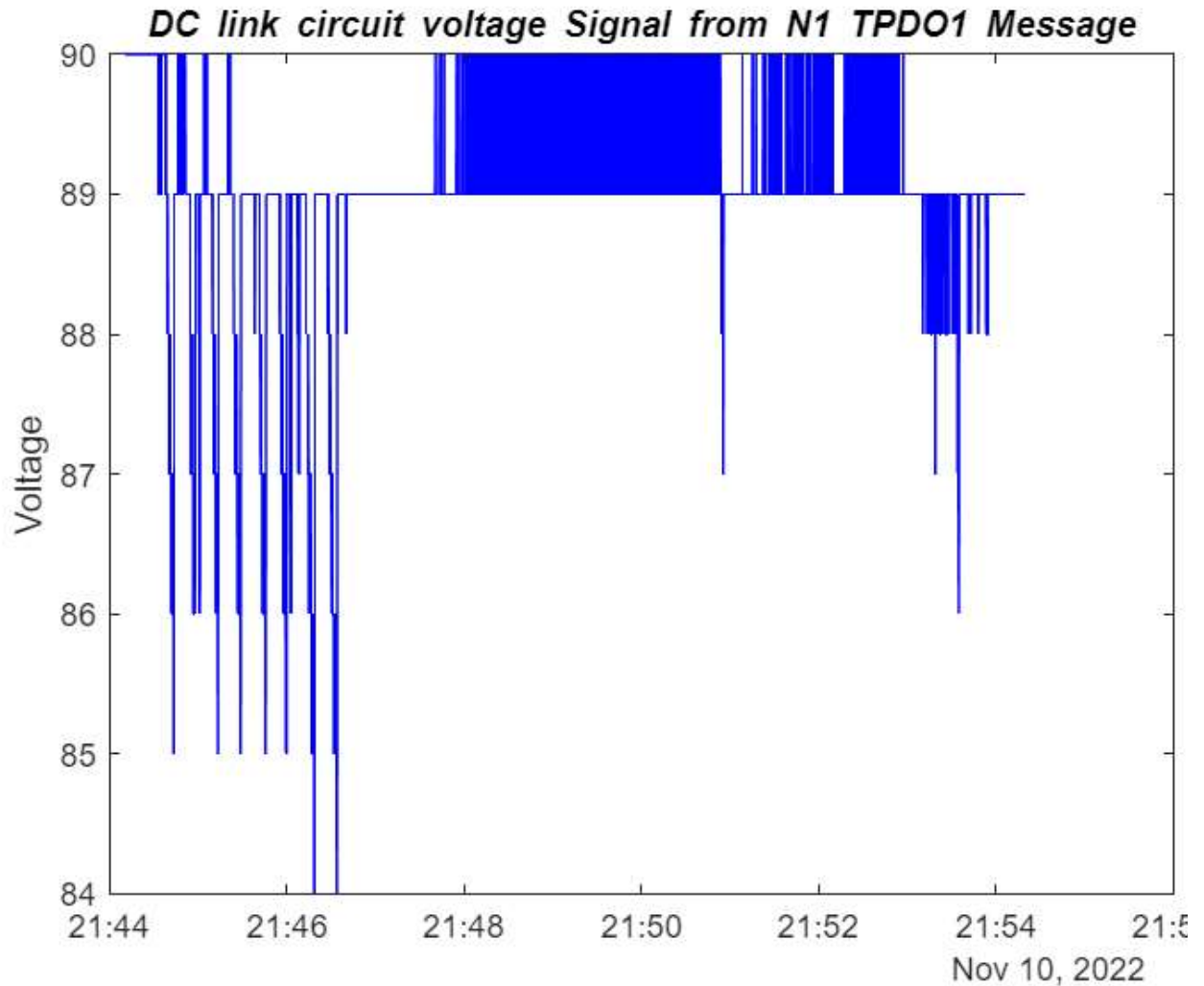
Below are the plots for all the data that was extracted from the MF4 file.

```
figure
% subplot(2, 1, 1)
plot(signalTimetable1.Time, signalTimetable1.Current_Torque_Actual_Value/100, "r")
title("\itCurrent Torque Actual Value} Signal from {\itN1 TPD02} Message", "FontWeight", "bold")
% xlabel("Timestamp")
ylabel("Torque")
```

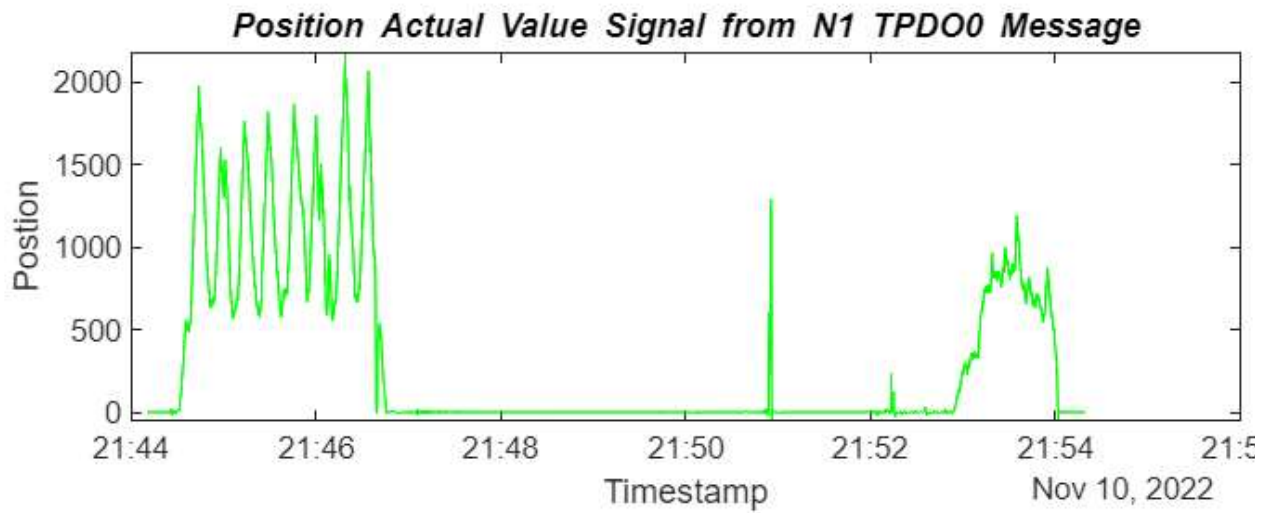


```
% subplot(2, 1, 2)
figure
plot(signalTimetable2.Time, signalTimetable2.DC_link_circuit_voltage/10, "b")
title("\itDC link circuit voltage} Signal from {\itN1 TPD01} Message", "FontWeight", "bold")
```

```
% xlabel("Timestamp")
ylabel("Voltage")
```



```
figure
subplot(2, 1, 1)
plot(signalTimetable1.Time, signalTimetable1.Electrical_angle, "y")
title("\itElectrical angle Signal from {\itN1 TPDO2} Message", "FontWeight", "bold")
xlabel("Timestamp")
ylabel("Angle")
subplot(2, 1, 1)
plot(signalTimetable3.Time, signalTimetable3.Position_actual_value, "g")
title("\itPosition Actual Value Signal from {\itN1 TPDO0} Message", "FontWeight", "bold")
xlabel("Timestamp")
ylabel("Postion")
```



This is all data captured from the Inverter

minmaxtable1

```
minmaxtable1 = 9x4 string
"Unit"      "Time"      "Value"      ""
"Torque"    "2022-11-10 21:44:57.35130..." "3890"      "Max"
""          "2022-11-10 21:53:19.18675..." "722"       "Min"
"Voltage"   "2022-11-10 21:44:10.33480..." "900"       "Max"
""          "2022-11-10 21:46:18.58055..." "840"       "Min"
"Angle"     "2022-11-10 21:44:42.00215..." "17"        "Max"
""          "2022-11-10 21:45:24.44860..." "2"         "Min"
"Postion"   "2022-11-10 21:44:57.16385..." "17"        "Max"
""          "2022-11-10 21:44:39.98680..." "1"         "Min"
```

```
%%
figure
subplot(4, 1, 1)
plot(signalTimetable4.Time, signalTimetable4.Temp_1/1000, "r")
title("\itTemp 1} Signal from {\itN10 TPDO0} Message", "FontWeight", "bold")
% xlabel("Timestamp")
ylabel("Temp")

subplot(4, 1, 2)
plot(signalTimetable4.Time, signalTimetable4.Temp_2/1000, "b")
```

```

title("\itTemp 2} Signal from {\itN10 TPDO0} Message", "FontWeight", "bold")
% xlabel("Timestamp")
ylabel("Temp")

subplot(4, 1, 3)
plot(signalTimetable5.Time, signalTimetable5.Temp_3/1000, "y")
title("\itTemp 3} Signal from {\itN10 TPDO1} Message", "FontWeight", "bold")
% xlabel("Timestamp")
ylabel("Temp")

subplot(4, 1, 4)
plot(signalTimetable5.Time, signalTimetable5.Temp_4/1000, "g")
title("\itTemp 4} Signal from {\itN10 TPDO1} Message", "FontWeight", "bold")
% xlabel("Timestamp")
ylabel("Temp")

```



```
minmaxtable2
```

```
minmaxtable2 = 9x4 string
```

"Unit"	"Time"	"Value"	" "
"Fahrenheit"	"2022-11-10 21:44:06.29505..."	"4294959.922"	"Max"
"Fahrenheit"	"2022-11-10 21:44:06.29505..."	"4294959.922"	"Min"
"Fahrenheit"	"2022-11-10 21:44:06.29505..."	"4294959.922"	"Max"
"Fahrenheit"	"2022-11-10 21:44:06.29505..."	"4294959.922"	"Min"
"Fahrenheit"	"2022-11-10 21:54:18.34580..."	"23.218"	"Max"
"Fahrenheit"	"2022-11-10 21:46:37.54090..."	"1.813"	"Min"
"Fahrenheit"	"2022-11-10 21:52:14.44205..."	"22.723"	"Max"
"Fahrenheit"	"2022-11-10 21:52:26.31560..."	"1.911"	"Min"

This is all temperture readings captured from the tempture sensors

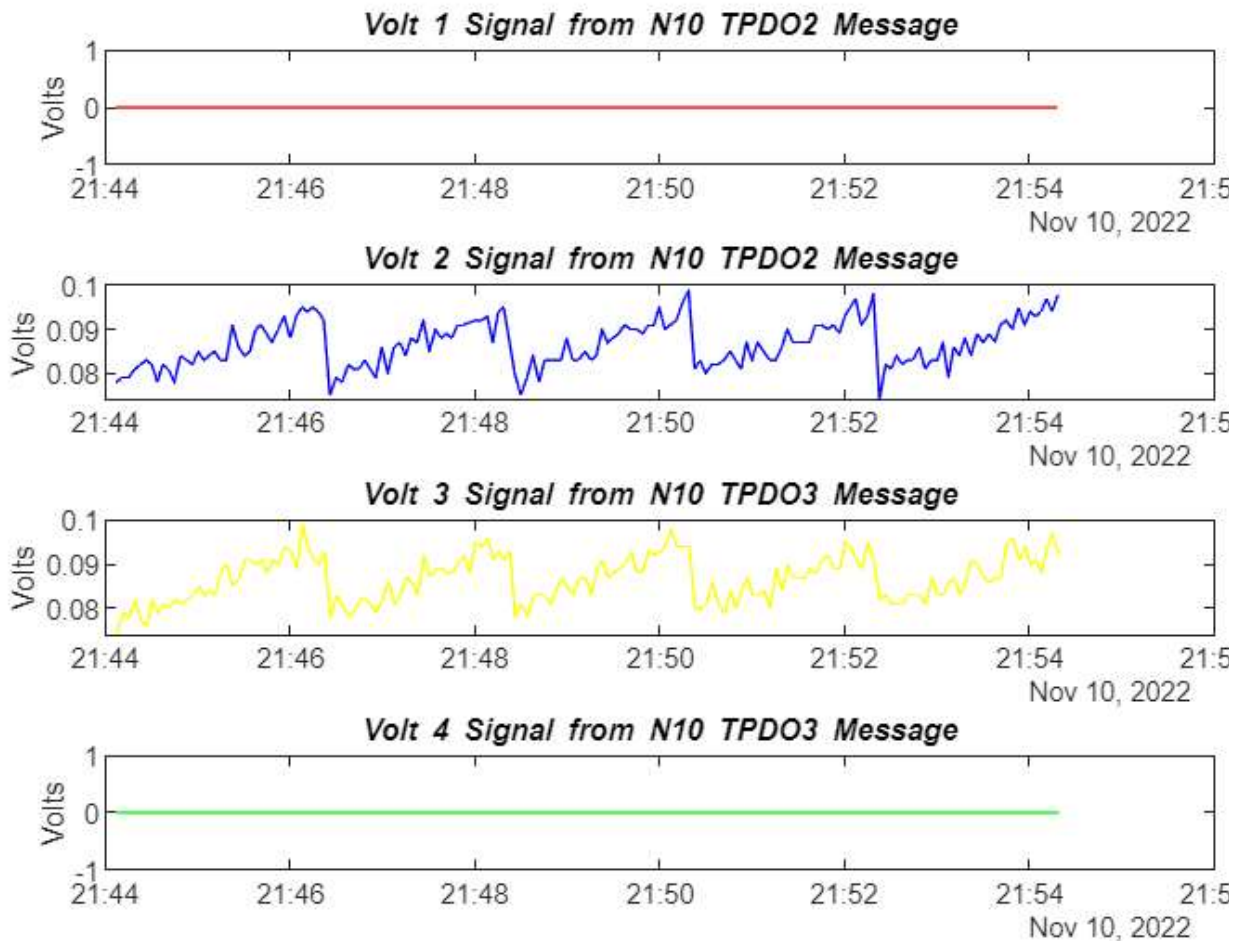
```
%%%
```

```
figure
subplot(4, 1, 1)
plot(signalTimetable6.Time, signalTimetable6.Volt_1/1000, "r")
title("\itVolt 1} Signal from {\itN10 TPD02} Message", "FontWeight", "bold")
% xlabel("Timestamp")
ylabel("Volts")

subplot(4, 1, 2)
plot(signalTimetable6.Time, signalTimetable6.Volt_2/1000, "b")
title("\itVolt 2} Signal from {\itN10 TPD02} Message", "FontWeight", "bold")
% xlabel("Timestamp")
ylabel("Volts")

subplot(4, 1, 3)
plot(signalTimetable7.Time, signalTimetable7.Volt_3/1000, "y")
title("\itVolt 3} Signal from {\itN10 TPD03} Message", "FontWeight", "bold")
% xlabel("Timestamp")
ylabel("Volts")

subplot(4, 1, 4)
plot(signalTimetable7.Time, signalTimetable7.Volt_4/1000, "g")
title("\itVolt 4} Signal from {\itN10 TPD03} Message", "FontWeight", "bold")
% xlabel("Timestamp")
ylabel("Volts")
```



```
minmaxtable3
```

```
minmaxtable3 = 9x4 string
"Unit"      "Time"      "Value"      ""
"Volts"     "2022-11-10 21:44:07.08720..." "0"          "Max"
"Volts"     "2022-11-10 21:44:07.08720..." "0"          "Min"
"Volts"     "2022-11-10 21:50:18.84810..." "0.099"      "Max"
"Volts"     "2022-11-10 21:52:22.75370..." "0.074"      "Min"
"Volts"     "2022-11-10 21:46:08.24395..." "0.099"      "Max"
"Volts"     "2022-11-10 21:44:07.48329..." "0.074"      "Min"
"Volts"     "2022-11-10 21:44:07.48329..." "0"          "Max"
"Volts"     "2022-11-10 21:44:07.48329..." "0"          "Min"
```

This is all voltage readings captured from the tempture sensors

```
figure
subplot(3, 1, 1)
plot(signalTimetable3.Time, signalTimetable3.Statusword, "r")
title("\itstatusword 1} Signal from {\itN1 TPDO2} Message", "FontWeight", "bold")
% xlabel("Timestamp")
ylabel("")

subplot(3, 1, 2)
plot(signalTimetable2.Time, signalTimetable2.Motor_temperature, "b")
title("\itMotor Temperature} Signal from {\itN1 TPDO1} Message", "FontWeight", "bold")
```

```

% xlabel("Timestamp")
ylabel("Degrees Celsius")

subplot(3, 1, 3)
plot(signalTimetable2.Time, signalTimetable2.Controller_temperature, "y")
title("\itController Temperature} Signal from {\itN1 TPDO2} Message", "FontWeight", "bold")
% xlabel("Timestamp")
ylabel("Degrees Celsius")

```

