Mobydic 4930

FMS simulator v.4.00

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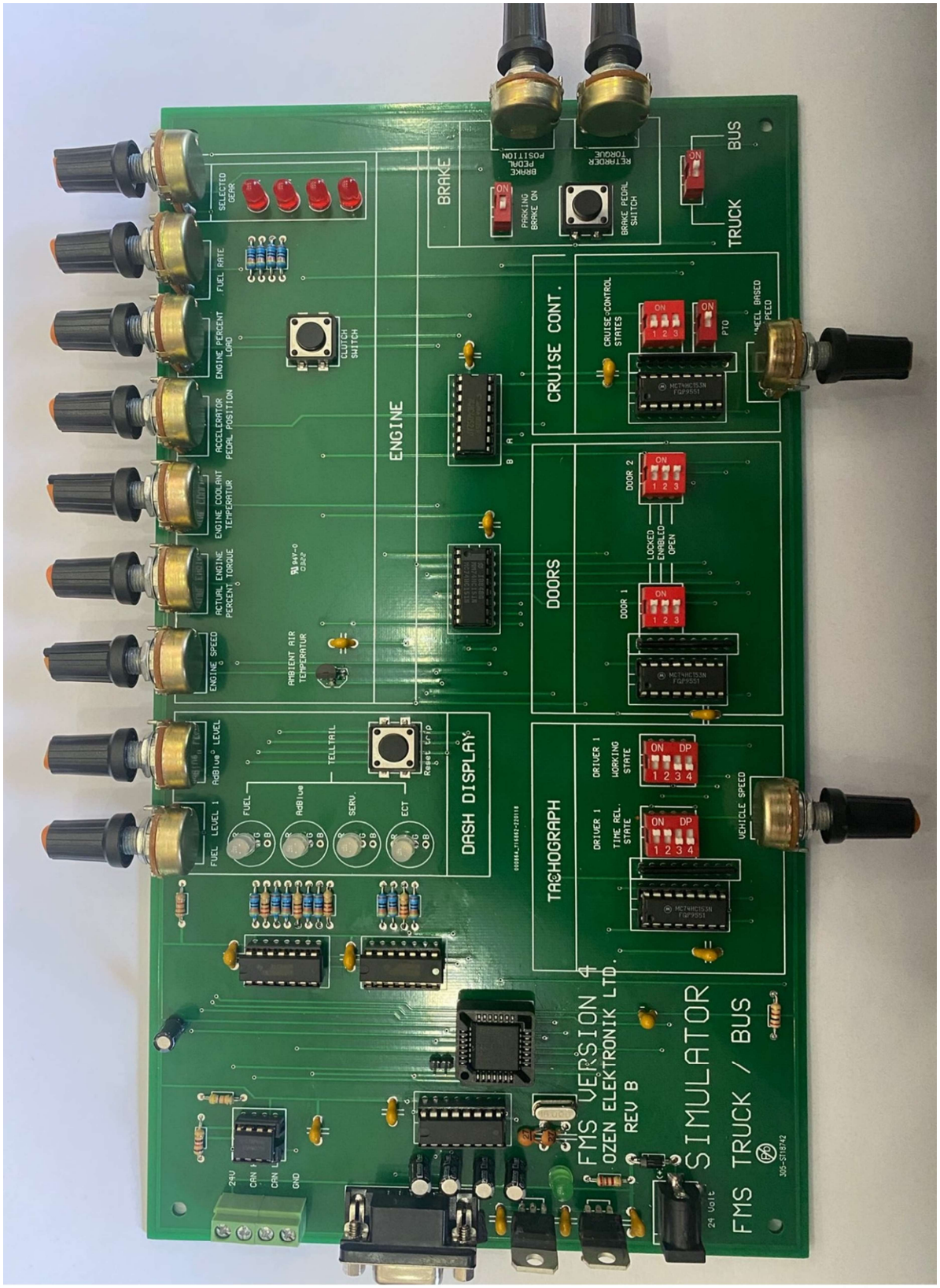
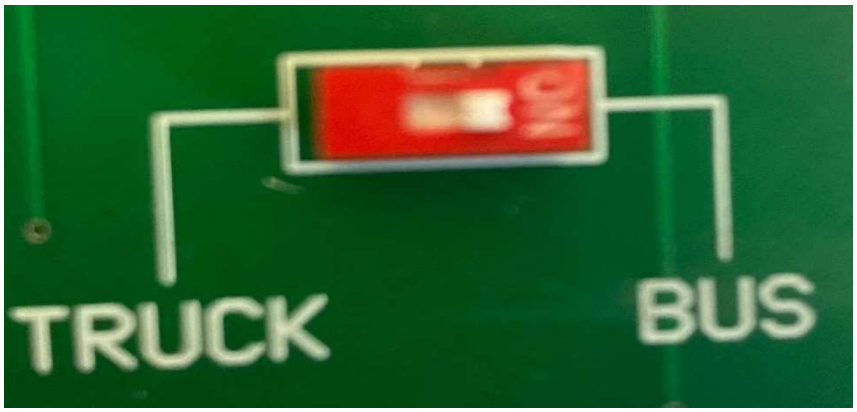

FMS TRUCK / BUS SIMULATOR
FMS VERSION 4
OZEN ELEKTRONIK LTD.
REV B
24 Volt
CAN H
CAN L
GND
24V
DASH DISPLAY
TELLTAIL
Reset Trip
FUEL
AdBlue
SERV.
ECT
FUEL LEVEL 1
AdBlue LEVEL
ENGINE
ENGINE SPEED
ACTUAL ENGINE PERCENT TORQUE
ENGINE COOLANT TEMPERATUR
ACCELERATOR PEDAL POSITION
ENGINE PERCENT LOAD
FUEL RATE
CLUTCH SWITCH
AMBIENT AIR TEMPERATUR
SELECTED GEAR
BRAKE
BRAKE PEDAL POSITION
RETARDER TORQUE
PARKING BRAKE ON
BRAKE PEDAL SWITCH
CRUISE CONT.
CRUISE CONTROL STATES
PTO
WHEEL BASED SPEED
DOORS
DOOR 1
DOOR 2
LOCKED
ENABLED
OPEN
TACHOGRAPH
DRIVER 1 TIME REL. STATE
DRIVER 1 WORKING STATE
VEHICLE SPEED
TRUCK BUS

Mobydic4930 FMS simulator simulates both of Truck and BUS. No need of PC and annoying setup . simple plug and play .

TRUCK / BUS can be selected using the dispswich Truck / BUS on the board. This selection is only valid after power on reset.



CAN baudrate is normally set to 250 kB . By pressing clutch swich at power on , mobydic 4930 switch to 500 kB baudrate.

By pressing Brake pedal switch at power on , Mobydic4930 enters in RS232 communication mode (not yet implemented) . This serial interface can be used for costumer specific setup appications)

1.1 Parameters for Bus and Truck FMS-Standard

1.1.1 Fuel Consumption: LFC

PNG	0x00FEE9						
Rate	1000 mS						
Source	0x00						
DB1	DB2	DB3	DB4	DB5	DB6	DB7	DB8
				Engine total fuel used			

Total Fuel Used: Accumulated amount of fuel used during vehicle operation

It is a calculated value . Computed every second as :

If VSS = 0

Fuel_rate (L / h) value is added to the Engine total fuel used value every hour. Updated every second

If VSS > 0

Fuel_rate (L / km) value is added to the Engine total fuel used value every km. Updated every second

Can be reset with Reset trip pushbutton

1.1.2 Dash Display 1: DD1

PNG	0x00FEFC						
Rate	1000 mS						
Source	0x27						
DB1	DB2	DB3	DB4	DB5	DB6	DB7	DB8
	fuel level 1					Not used	

Fuel Level: Ratio of volume of fuel to the total volume of fuel storage container.

Fuel Level can be adjusted with Fuel level potentiometer. Fuel level 2 value is not used.

Max. value of the potentiometer generates an error (0xFE)

If fuel level potentiometer generates an error (turned to maximum) Fuel level LED on the dashboard will be yellow . after 60 sec. Fuel level LED on the dashboard changes to red . If fuel level potentiometer is turned again into normal values , fuel level led will be off.

1.1.3 Electronic Engine Controller #1: EEC1

PNG	0x00F004						
Rate	20 mS						
Source	0x00						
DB1	DB2	DB3	DB4	DB5	DB6	DB7	DB8
		Torque	Engine speed				

Actual Engine – Percent Torque: The calculated output torque of the engine. The data is transmitted in indicated torque as a percent of reference engine torque . The engine percent torque value includes the torque developed in the cylinders required to overcome friction.

Engine Speed: Actual engine speed which is calculated over a minimum crankshaft angle of 720 degrees divided by the number of cylinders.

Torque value can be adjusted with Torque potentiometer

Engine Speed value can be adjusted with Engine Speed potentiometer

Max. value of the potentiometer generates an error for torque (0xFE) and an error for RPM (0xFE00)

1.1.4 Engine Hours, Revolutions: HOURS

PNG	0x00FEE5
Rate	1000 mS
Source	0x00

DB1	DB2	DB3	DB4	DB5	DB6	DB7	DB8
Engine total hours of Operation							

Accumulated time of operation of engine.

Engine total hours of Operation value is incremented every 3 minute.

Can be reset with Reset trip pushbutton

1.1.5 Vehicle Identification: VI

PNG	0x00FEEC						
Rate	10000 mS						
Source	0x00						
DB1	DB2	DB3	DB4	DB5	DB6	DB7	DB8
Vehicle identification number							

Vehicle identification number: Vehicle Identification Number (VIN) as assigned by the vehicle manufacturer

VIN number WDB9340321L616799 is transmitted using Broadcast Announce Message (BAM) with intermessage time of 100 mS.

1.1.6 FMS-standard Interface Identity / Capabilities: FMS

PNG	0x00FDD1						
Rate	10000 mS						
Source	0x00						
DB1	DB2	DB3	DB4	DB5	DB6	DB7	DB8
	SW version for truck		SW version for Bus				

Information which specifies the capabilities of the Fleet Management System (FMS) - standard interface device.

Both diagnostic and request are not supported . Our 4930 supports both version 4 for truck and Bus . it also sends 04 04 as ASCII

1.1.7 High Resolution Vehicle Distance: VDHR

PNG	0x00FEC1						
Rate	1000 mS						
Source	0xEE						
DB1	DB2	DB3	DB4	DB5	DB6	DB7	DB8
High resolution total vehicle distance							

High resolution total vehicle distance: Accumulated distance travelled by the vehicle during its operation.

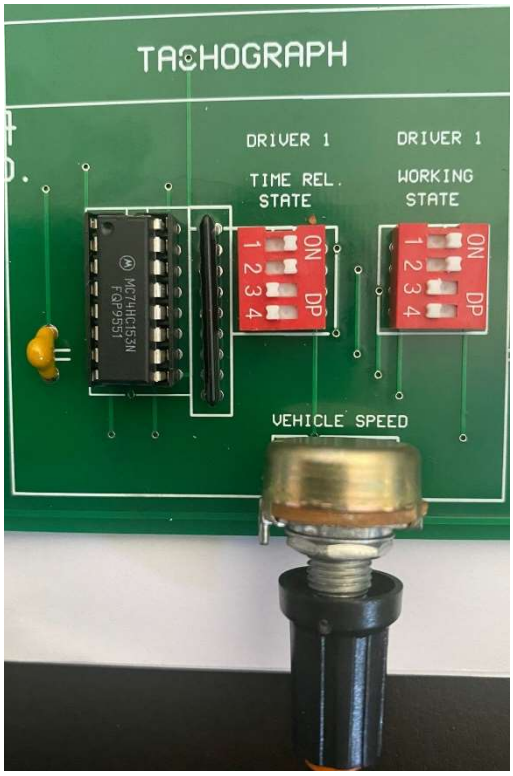
This value is automatically calculated from VSS.

If VSS > 0

This value will be incremented every 5 meter.

1.1.8 Tachograph : TCO1

PNG	0x00FE6C						
Rate	50 mS						
Source	0xEE						
DB1	DB2	DB3	DB4	DB5	DB6	DB7	DB8
see below						Vehicle speed	



Vehicle motion: If tachograf vehicle speed > 0 motion detected status is sent.

Driver 1 Working State: This state can be set with dipswitch

Vehicle Overspeed: Our simulator controls this at 90 km/h

Driver 1 Card: If „Driver available“ is selected using working status dipswitch it is supposed a driver card is present.

Driver 1 Time Related Status: This state can be set with dipswitch

Direction Indicator : Set forward

Tachograph Performance : Set to normal performance

Handling Information: No handling information

System Event : No event

Tachograph Vehicle Speed: Speed of the vehicle registered by the tachograph.

this value can be adjusted with Tacho Speed potentiometer

Max. value of the potentiometer generates an error (0xFE00)

Driver 2 is not implemented.

1.1.9 Engine Temperature 1: ET1

PNG	0x00FEEE						
Rate	1000 mS						
Source	0x00						
DB1	DB2	DB3	DB4	DB5	DB6	DB7	DB8
ECT							

Engine Coolant Temperature: Temperature of liquid found in engine cooling system.

Engine Coolant Temperature can be adjusted with ECT potentiometer.

Max. value of the potentiometer generates an error (0xFE)

1.1.10 Ambient Conditions: AMB

PNG	0x00FEF2						
Rate	100 mS						
Source	0x00						
DB1	DB2	DB3	DB4	DB5	DB6	DB7	DB8
			Ambient air temperature				

Ambient Air Temperature: Temperature of air surrounding vehicle.

Ambient air Temperature is measured with an onboard temperate sensor .

1.1.11 Driver's Identification: DI

PNG	0x00FE6B						
Rate	10000 mS						
Source	0xEE						
DB1	DB2	DB3	DB4	DB5	DB6	DB7	DB8
Driver 1 identification							

If Driver available is selected using working status dipswitch, it is supposed a driver 1 card is present. The simulator sends also TR 7955841495341000 using Broadcast Announce Message (BAM) with intermessage time of 100 mS.

If driver 1 card is not present, the simulator sends only the two delimiters.

1.1.12 Fuel Economy: LFE

PNG	0x00FEF2						
Rate	100 mS						
Source	0x00						
DB1	DB2	DB3	DB4	DB5	DB6	DB7	DB8
Fuel Rate		Instantanous Fuel economy					

Fuel rate: Amount of fuel consumed by engine per unit of time

Instantaneous Fuel Economy: Current fuel economy at current vehicle velocity

If Vss = 0

Fuel rate is adjusted 0..100 l/h using the Fuel rate potentiometer.This value is sent as Fuel rate (Instantaneous Fuel Economy is set to 0)

If Vss > 0

Instantaneous Fuel Economy is adjusted 0..100 L/km using the Fuel rate potentiometer. This value is sent as Instantaneous Fuel Economy (Fuel rate is set to 0)

1.1.13 Air Supply Pressure : AIR1

PNG	0x00FEAE						
Rate	1000 mS						
Source	0x30						
DB1	DB2	DB3	DB4	DB5	DB6	DB7	DB8
		Service Brake air pressure 1	Service Brake air pressure 2				

Service Brake Air Pressure Circuit #1: The pneumatic pressure in the service brake circuit or reservoir #1.

Service Brake Air Pressure Circuit #2: The pneumatic pressure in the service brake circuit or reservoir #2.

Service Brake Air Pressure #1 is set to 800 kPa

Service Brake Air Pressure #2 is set to 1600 kPa

1.1.14 High Resolution Fuel Consumption (Liquid): HRLFC

PNG	0x00FD09						
Rate	1000 mS						
Source	0x00						
DB1	DB2	DB3	DB4	DB5	DB6	DB7	DB8
				High resolution Engine total fuel used			

High resolution engine total fuel used: Accumulated amount of fuel used during vehicle operation. High resolution used for calculations and fleet management systems.

It is a calculated value . Computed every second as :

If VSS = 0

Fuel_rate (L / h) value is added to the High resolution Engine total fuel used Updated every second

If VSS > 0

Fuel_rate (L / km) value is added to the. High resolution Engine total fuel used value every km. Updated every second

Can be reset with Reset trip pushbutton

1.1.15 Aftertreatment 1 Diesel Exhaust Fluid Tank 1 Information: AT1T1I

PNG	0x00FE56						
Rate	1000 mS						
Source	0x00						
DB1	DB2	DB3	DB4	DB5	DB6	DB7	DB8
Aftertreatment 1 Diesel Exhaust Fluid Tank 1 Level							

Ratio of volume of diesel exhaust fluid to the total volume of diesel exhaust fluid storage container.

This value can be adjusted with AdBlue potentiometer.

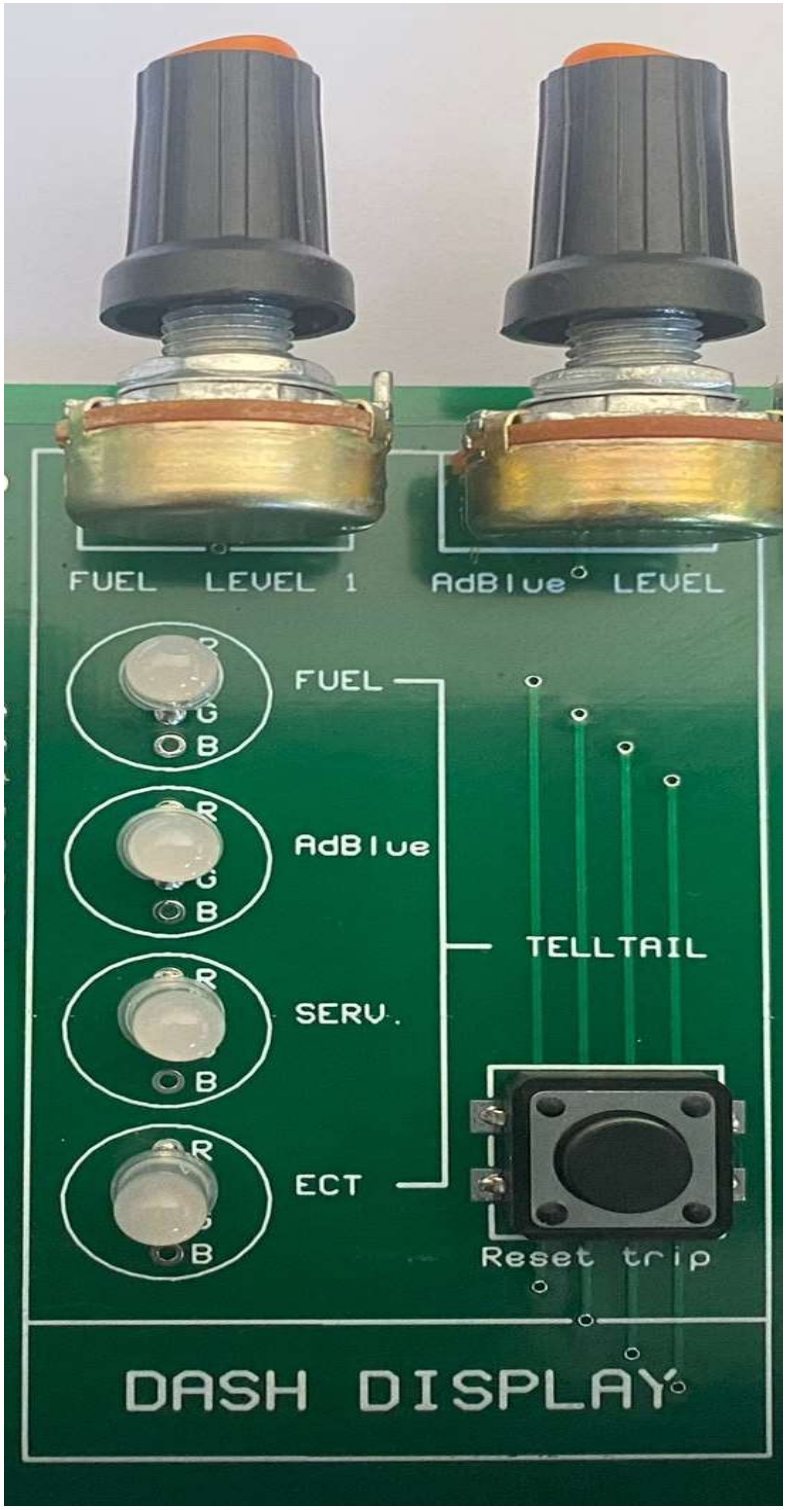
Max. value of the potentiometer generates an error (0xFE)

1.1.16 FMS Tell Tale Status: FMS1

PNG	0x00FD7D						
Rate	1000 mS						
Source	0x17						
DB1	DB2	DB3	DB4	DB5	DB6	DB7	DB8
See below							

Tell Tale Status: The Tell Tale Status information is derived from information displayed to the driver's dashboard.

There are three possible conditions stated: Red ("R"), Yellow ("Y"), Info ("I").The status information is present as long the status is valid


FUEL LEVEL 1
AdBlue LEVEL
FUEL
AdBlue
SERV.
ECT
TELLTAIL
Reset trip
DASH DISPLAY

Blok 0 :

Telltail status 1 = n/a

Telltail status 2 = info

Telltail status 3 = n/a

Telltail status 4 = n/a

Telltail status 5 = red

Telltail status 6 = n/a

Telltail status 7 = if parking brake dipswitch is closed => info

If parking brake dipswitch is not closed => off

Telltail status 8 = n/a

Telltail status 9 = n/a

Telltail status 10 = fuel level

If fuel level potentiometer generates an error (turned to maximum) Fuel level LED and fuel level status will be yellow . after 60 sec. Fuel level LED , fuel level status and MIL status turn to red . If fuel level potentiometer is turned again to normal values , fuel level led , fuel level status and MIL status will be off.

Telltail status 11 = Engine coolant temperature (ECT)

If ECT potentiometer generates an error (turned to maximum) ECT LED and ECT status will be yellow . after 60 sec. ECT LED , ECT status and MIL status turn to red . If ECT potentiometer is turned again to normal values , ECT led , ECT status and MIL status will be off.

Telltail status 12 = n/a

Telltail status 13 = yellow

Telltail status 14 = n/a

Telltail status 15 = n/a

Blok 1 :

Telltail status 1 = n/a

Telltail status 2 = n/a

Telltail status 3 = MIL indicator is red if any error existes

Telltail status 4 = Service

The distance which can be travelled by the vehicle before the next service inspection is required. If this distance < 100 km service led and service status are yellow. A negative distance is transmitted if the service inspection has been passed (service status is yellow and service led is blue) . this distance is set to 5000 km at power on reset.

Telltail status 5 = n/a

Telltail status 6 = n/a

Telltail status 7 = n/a

Telltail status 8 = n/a

Telltail status 9 = n/a

Telltail status 10 = n/a

Telltail status 11 = n/a

Telltail status 12 = n/a

Telltail status 13 = n/a

Telltail status 14 = n/a

Telltail status 15 = n/a

Blok 2 :

Telltail status 1 = n/a

Telltail status 2 = n/a

Telltail status 3 = n/a

Telltail status 4 = n/a

Telltail status 5 = n/a

Telltail status 6 = n/a

Telltail status 7 = n/a

Telltail status 8 = n/a

Telltail status 9 = n/a

Telltail status 10 = n/a

Telltail status 11 = AdBlue level

If Adblue level potentiometer generates an error (turned to maximum) Adblue LED and Adblue level status will be yellow . after 60 sec. Adblue LED , Adblue level status and MIL status turn to red . If Adblue level potentiometer is turned again to normal values , Adblue level led , Adblue status and MIL status will be off.

Telltail status 12 = n/a

Telltail status 13 = n/a

Telltail status 14 = n/a

Telltail status 15 = n/a

Blok 3:

Telltail status 1 = n/a

Telltail status 2 = n/a

Telltail status 3 = n/a

Telltail status 4 = n/a

Telltail status 5 = n/a

Telltail status 6 = n/a

Telltail status 7 = n/a

Telltail status 8 = n/a

Telltail status 9 = n/a

Telltail status 10 = n/a

Telltail status 11 = n/a

Telltail status 12 = n/a

Telltail status 13 = n/a

Telltail status 14 = n/a

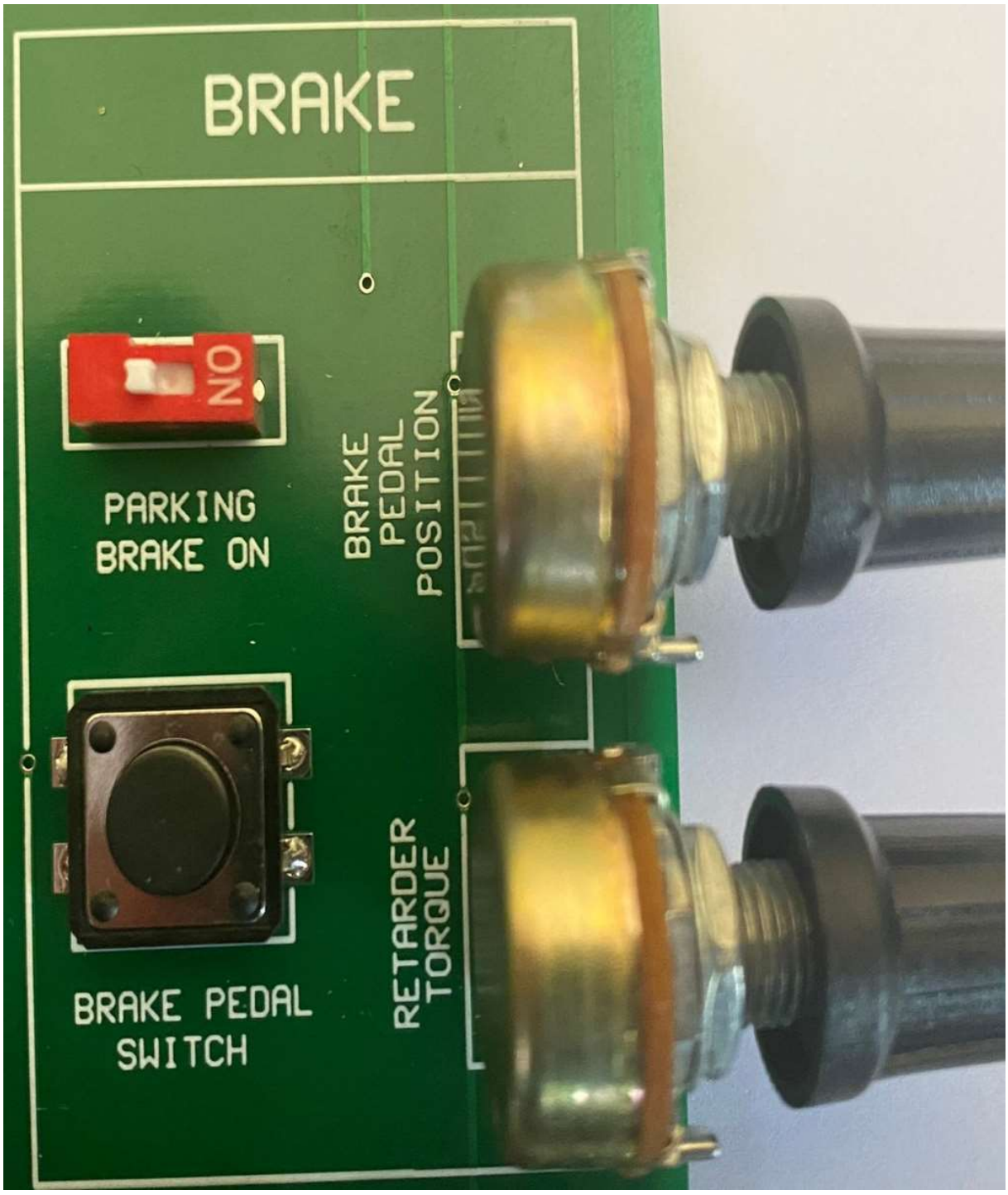
Telltail status 15 = n/a

1.1.17 Electronic Brake Controller 1: EBC1

PNG	0x00F001						
Rate	100 mS						
Source	0x0B						
DB1	DB2	DB3	DB4	DB5	DB6	DB7	DB8
	Brake pedal pos.						

Ratio of brake pedal position to maximum pedal position. Used for electric brake applications. 0% means no braking

This value can be adjusted with Brake pedal position potentiometer. Max. value of the potentiometer generates an error (0xFE)


BRAKE
NO
PARKING
BRAKE ON
BRAKE
PEDAL
POSITION
BRAKE PEDAL
SWITCH
RETARDER
TORQUE

1.1.18 Electronic Engine Controller 14: EEC14

PNG	0x00FDC2						
Rate	10000 mS						
Source	0x00						
DB1	DB2	DB3	DB4	DB5	DB6	DB7	DB8
	.					Fuel type	

Type of fuel currently being utilized by the vehicle . this value is fixed to 4 . (diesel)

1.1.19 Fuel Consumption (Gaseous): GFC

PNG	0x00FEAF						
Rate	1000 mS						
Source	0x00						
DB1	DB2	DB3	DB4	DB5	DB6	DB7	DB8
	.						

Total fuel consumed (trip drive fuel + trip PTO governor moving fuel + trip PTO governor non-moving fuel + trip idle fuel) over the life of the engine . This value is not used by the simulator because a diesel engine is used.

1.1.20 Electronic Retarder Controller 1: ERC1

PNG	0x00F000						
Rate	100 mS						
Source	0x10						
DB1	DB2	DB3	DB4	DB5	DB6	DB7	DB8
Retarder torque mode	actuel retarder percent torque					Retarder selection	

Retarder Torque Mode: State signal which indicates which retarder torque mode is currently generating, limiting, or controlling the torque. Mode 0000b means “No request”: retarder torque = 0 (no braking . if Actual retarder percent potentiometer > 125 retarder torque mode is 0001 . the values < 125 mean no braking (mode 0000)

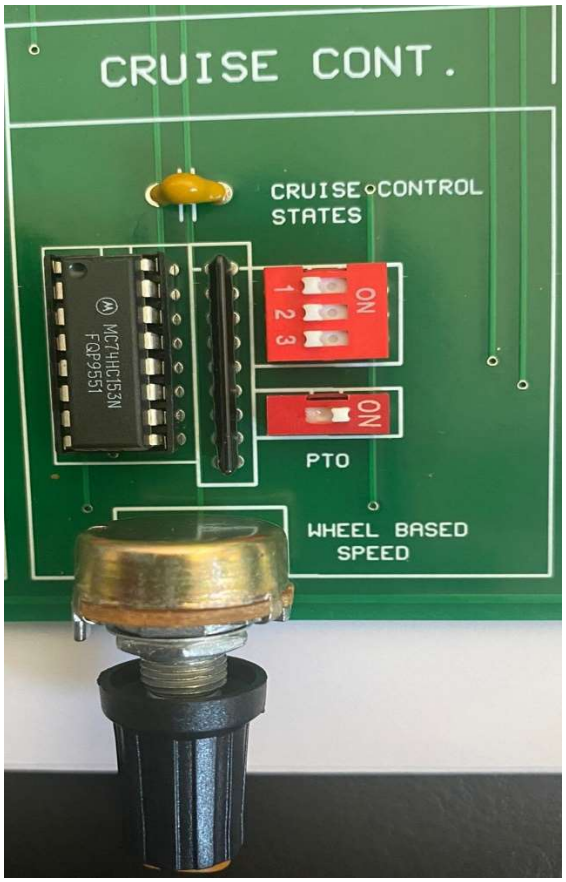
Actual Retarder - Percent Torque: Actual braking torque of the retarder as a percent of retarder configuration reference torque. This value can be adjusted with retarder percent torque potentiometer. Max. value of the potentiometer generates an error (0xFE)

Retarder Selection, non-engine: The “Retarder Selection, non-engine” is the position of the driver’s selector for retarders that are not part of the engine system, expressed as percent and determined by the ratio of current position to the maximum possible position. The physical device may be a lever, rotary dial, combination of switches, or other device that the driver can use to select the type or amount of retardation needed. This value is fixed to 0.

1.2 Parameters for Truck FMS-Standard

1.2.1 Cruise Control/Vehicle Speed 1: CCVS1

PNG	0x00FEF1						
Rate	100 mS						
Source	0x00						
DB1	DB2	DB3	DB4	DB5	DB6	DB7	DB8
See below							



Parking Brake Switch: Switch signal which indicates when the parking brake is set. In general the switch actuated by the operator's park brake control, whether a pedal, lever or other control mechanism. The parking brake dipswitch on the simulator board controls this status.

Wheel Based Speed: Speed of the vehicle as calculated from wheel or tailshaft speed. This value can be adjusted with the wheel speed potentiometer. Max. value of the potentiometer generates an error (0xFE00)

Clutch Switch: Switch signal which indicates that the clutch pedal is being pressed. The clutch switch pushbutton on the simulator board controls this signal.

Brake Switch: Switch signal which indicates that the driver operated brake foot pedal is being pressed. . The brake dipswitch on the simulator board controls this status.

Cruise Control Active: Cruise control is switched on if the cruise control dipswitch are not off position.

Cruise control states: this state can be selected with a dipswitch.

PTO state: This parameter is used to indicate the current state or mode of operation by the power takeoff (PTO) device. This status can be selected with the PTO switch. Off/Disabled 00000b — Used to indicate that the PTO switch is in the off position. Set 00101b — Used to indicate that the PTO switch is in the on position.

1.2.2 Electronic Engine Controller #2: EEC2

PNG	0x00F003						
Rate	50 mS						
Source	0x00						
DB1	DB2	DB3	DB4	DB5	DB6	DB7	DB8
	Accelerator pedal pos.	Engine load					

Accelerator Pedal Position: The ratio of actual position of the analogue engine speed/torque request input device (such as an accelerator pedal or throttle lever) to the maximum position of the input device. This parameter is adjusted with accelerator pedal position potentiometer. Max. value of the potentiometer generates an error (0xFE)

Engine Percent Load At Current Speed

The ratio of actual engine percent torque (indicated) to maximum indicated torque available at the current engine speed, This parameter is adjusted with engine load potentiometer. Max. value of the potentiometer generates an error (0xFE)

1.2.3 Vehicle Weight: VW

PNG	0x00FEEA						
Rate	1000 mS						
Source	0x17						
DB1	DB2	DB3	DB4	DB5	DB6	DB7	DB8
Axle location	Axle weight						

Axle / Tire Location: To identify to which of several similar devices (such as tires or fuel tanks) the information applies. Tire location is not used.

Axel weight 1 : fixed to 8000 kg

Axel weight 2 : fixed to 12000 kg

Axel weight 3 : fixed to 17000 kg

1.2.4 Service Information: SERV

PNG	0x00FEC0						
Rate	1000 mS						
Source	0x00						
DB1	DB2	DB3	DB4	DB5	DB6	DB7	DB8
	Service distance						

Service distance: The distance which can be travelled by the vehicle before the next service inspection is required. A negative distance is transmitted if the service inspection has been passed. If this distance < 100 km service led and service status are yellow. A negative distance is transmitted if the service inspection has been passed (service status is yellow and service led is blue) . this distance is set to 5000 km at power on reset and is decremented every second.

1.2.5 PTO Drive Engagement: PTODE

PNG	0x00FDA4						
Rate	100 mS						
Source	0x00						
DB1	DB2	DB3	DB4	DB5	DB6	DB7	DB8
						PTO	

Information relating to the request for engagement, consent for engagement, and status of engagement of various specific physical PTO drives.This message may be broadcast by one or all controllers involved in the enabling of a given PTO driveAt least one PTO engaged: Indicates that at least one PTO is engaged

PTO state: This parameter is used to indicate the current state or mode of operation by the power takeoff (PTO) device. This status can be selected with the PTO switch. Off/Disabled 00 — Used to indicate that the PTO switch is in the off position. Set 01 — Used to indicate that the PTO switch is in the on position.

1.2.6 Combination Vehicle Weight: CVW

PNG	0x00FE70						
Rate	10000 mS						
Source	0x17						
DB1	DB2	DB3	DB4	DB5	DB6	DB7	DB8
		Gross Combination Vehicle Weight					

The total weight of the truck and all attached trailers. This value is fixed to 32000 kg.

1.3 Parameters for Bus FMS-Standard

1.3.1 Cruise Control/Vehicle Speed: CCVS

PNG	0x00FEF1						
Rate	100 mS						
Source	0x00						
DB1	DB2	DB3	DB4	DB5	DB6	DB7	DB8
See below							

Parking Brake Switch: Switch signal which indicates when the parking brake is set. In general the switch actuated by the operator's park brake control, whether a pedal, lever or other control mechanism. The parking brake dipswitch on the simulator board controls this status.

Wheel Based Speed: Speed of the vehicle as calculated from wheel or tailshaft speed. This value can be adjusted with the wheel speed potentiometer. Max. value of the potentiometer generates an error (0xFE00)

Clutch Switch: Switch signal which indicates that the clutch pedal is being pressed. The clutch switch pushbutton on the simulator board controls this signal.

Brake Switch: Switch signal which indicates that the driver operated brake foot pedal is being pressed. . The brake dipswitch on the simulator board controls this status.

Cruise Control Active: Cruise control is switched on if the cruise control dipswitch are not off position.

Cruise control states: this state can be selected with a dipswitch.

1.3.2 Electronic Engine Controller #2 : EEC2

PNG	0x00F003						
Rate	50 mS						
Source	0x00						
DB1	DB2	DB3	DB4	DB5	DB6	DB7	DB8
	Accelerator pedal pos.						

Accelerator Pedal Position: The ratio of actual position of the analogue engine speed/torque request input device (such as an accelerator pedal or throttle lever) to the maximum position of the input device. This parameter is adjusted with accelerator pedal position potentiometer. Max. value of the potentiometer generates an error (0xFE)

1.3.3 Door Control 1: DC1

PNG	0x00FE4E						
Rate	100 mS						
Source	0xFE						
DB1	DB2	DB3	DB4	DB5	DB6	DB7	DB8
Door status							

Status 2 of doors: Composite indication of all bus door statuses. Enabled means the bus doors are able to be automatically opened or closed. it will be 01 if at least 1 bus door set „enabled“ by the doors dipswitch on the simulator board.

Ramp/Wheel Chair Lift Position: Signal which indicates the actual position of the ramp / wheel chair lift. Fixed to 00 (doors inside bus)

Position of Doors: Signal which indicates the actual position of the doors. it will be 00 if at least 1 bus door set „open“ by the doors dipswitch on the simulator board.

1.3.4 Door Control 2: DC2

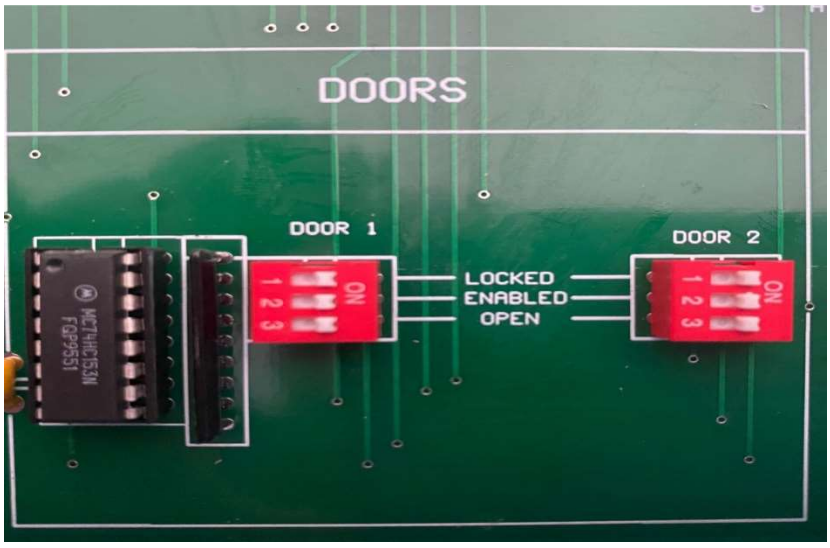
PNG	0x00FDA5						
Rate	100 mS						
Source	0xFE						
DB1	DB2	DB3	DB4	DB5	DB6	DB7	DB8
Door status	Door status						

Lock Status: locked -> doors cannot be operated by the driver or a passenger

Open Status: closed -> door is completely closed unlocked -> door may be operated by the driver or a passenger open -> door is not completely closed

Enable Status: disabled -> door cannot be opened by a passenger enabled -> door can be opened by a passenger

Only door 1 and door 2 are used. These status can be selected by the individual dipswitchs on the simulator board.



1.3.5 Time / Date : TD

PNG	0x00FEE6						
Rate	1000 mS						
Source	0x17						
DB1	DB2	DB3	DB4	DB5	DB6	DB7	DB8
seconds	minutes	hours	Month	days	years		

Seconds: Part of a parameter used to represent time.

Minutes: Part of a parameter used to represent time.

Hours : Part of a parameter used to represent time.

After power on reset , simulator handles a **self made clock .**

Month: Part of a parameter used to represent a calendar date.

Fixed value of January is used.

Day: Part of a parameter used to represent a calendar date.

Fixed value of 14 is used.

Year: Part of a parameter used to represent a calendar date.

Fixed value of 2022 is used.

1.3.6 Alternator Speed : AS

PNG	0x00FED5						
Rate	1000 mS						
Source	0x00						
DB1	DB2	DB3	DB4	DB5	DB6	DB7	DB8
		Alternator status					

Actual alternator 1-4 status is fixed to 0x00011011b

1.3.7 Electronic Transmission Controller 2 : ETC2

PNG	0x00F005						
Rate	100 mS						
Source	0x03						
DB1	DB2	DB3	DB4	DB5	DB6	DB7	DB8
Selected gear			Current gear				

Selected Gear: The gear that the transmission will attempt to achieve during the current shift if a shift is in progress, or the next shift if one is pending

Current Gear : The gear currently engaged in the transmission or the last gear engaged while the transmission is in the process of shifting to the new or selected gear. Transitions toward a destination gear will not be indicated. Once the selected gear has been engaged then Current Gear will reflect that gear.

Selected gear is controlled with a gear potentiometer and visualised with 4 Leds (P,N,R,D) s follow (Current Gear will reflect that gear.)

If parking brake switch is on

P LED is on and 0xFB is transmitted.

If gear potentiometer value < 125

R LED is on

If gear potentiometer value = 125

N LED is on

If gear potentiometer value > 125

D LED is on

1.3.8 Air Suspension Control 4 : ASC4

PNG	0x00FE58						
Rate	100 mS						
Source	0x2F						
DB1	DB2	DB3	DB4	DB5	DB6	DB7	DB8
Front axle left		Front axle right		rear axle left		rear axle right	

Used for bellow pressure information

The 4 fixed values are used as follow

Front axle left 1000 kPa

Front axle right 2000 kPa

real axle left 3000 kPa

rear axle right 4000 kPa

1.3.9 Vehicle Electrical Power #4 : VEP4

PNG	0x00FCB7						
Rate	10000 mS						
Source	0x00						
DB1	DB2	DB3	DB4	DB5	DB6	DB7	DB8
Hybrid Battery Pack Remaining Charge							

Indicates the hybrid battery pack remaining charge.0% means no charge remaining, 100% means full charge remaining.

After power on this value is set to 100% and will be decremented every 8 sec.

Pressing trip reset button sets this value again to 100%.

1.3.10 Vehicle Dynamic Stability Control 2 : VDC2

PNG	0x00F009						
Rate	100 mS						
Source	0x00						
DB1	DB2	DB3	DB4	DB5	DB6	DB7	DB8
Steering Wheel Angle							

The main operator`s steering wheel angle (on the steering column, not the actual wheel angle). The vehicle being steered to the left (counterclockwise) results in a positive steering wheel angle. This is the yaw angle of the steering wheel with the z-axis along the centerline of the steering column. This parameter is defined according to a Z-Up axis system and the sign of the value is in accordance to the right-hand rule, as specified in SAE J670. As specified in SAE J670, a Z-Up Axis System has positive X directed forward, positive Y to the left, and positive Z directed up.

This value is set to about 10 radian.