SGC Mk II

4189341401-B

SGC x20 Mk II

CAN bus engine communication



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1. About this manual

1.1 Intended users of the Engine communication manual

This manual is for the designer or the commissioning engineer, who configures the controller with an ECU. The manual includes information about the supported protocols, supported engine types, and other information.

CAUTION



Read this manual

Read this manual before you configure your system. Failure to do this may result in personal injury and/or damage to the equipment.

1.2 Disclaimer

DEIF A/S reserves the right to change any of the contents of this document without prior notice.

The English version of this document always contains the most recent and up-to-date information about the product. DEIF does not take responsibility for the accuracy of translations, and translations might not be updated at the same time as the English document. If there is a discrepancy, the English version prevails.

1.3 Copyright

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2. About engine interface communication

2.1 How it works

The controller communicates with an ECU over the CAN bus. It can use information received from the ECU as input to controller functions, display values, alarms, and values transmitted through Modbus.

Most of the engine communication protocols are based on the SAE J1939 standard. The controller supports the parts of J1939 that are relevant to engine communication and implemented by each ECU manufacturer.

You can read the engine data from the SGC Mk II over Modbus.

NOTE See the **Modbus tables** to see how the controller data is mapped to the Modbus addresses.

Controller	Modbus tables
SGC 120 Mk II	www.deif.com/documentation/sgc-120-mk-ii/
SGC 320 Mk II	www.deif.com/documentation/sgc-320-mk-ii/
SGC 420 Mk II	www.deif.com/documentation/sgc-420-mk-ii/

General default values

Unless otherwise specified, the following default values apply:

- The protocol is based on J1939.
- The CAN bus baud rate is 250 kb/s.

2.2 Software versions

The information in this document relates to the following software and firmware versions:

Table 2.1

Controller	Firmware version	Smart Connect Mk II software version
SGC 120 Mk II	R19	2.2.0.0
SGC 320 Mk II	R20	2.2.0.0
SGC 420 Mk II	R20	2.2.0.0

2.3 Supported engines

The following table shows the engine manufacturers and generic protocols supported by each controller.

Manufacturer	SGC 120 Mk II	SGC 320 Mk II	SGC 420 Mk II
Angle	●	●	●
Baudouin	●	●	●
Bosch	●	●	●
Caterpillar	●	●	●
Cummins	●	●	●
DCEC	●	●	●
Detroit Diesel	●	●	●

Manufacturer	SGC 120 Mk II	SGC 320 Mk II	SGC 420 Mk II
Deutz	●	●	●
Doosan	●	●	●
FPT Industrial	●	●	●
Hatz Diesel	●	●	●
Isuzu	●	●	●
Iveco	●	●	●
JCB	●	●	●
Jichai	●	●	●
Jing Guan	●	●	●
John Deere	●	●	●
King Bang	-	●	●
Kohler	●	●	●
Kubota	●	●	●
MAN	●	●	●
Motorpal	●	●	●
MTU	●	●	●
Perkins	●	●	●
PSI/Power Solutions	●	●	●
Scania	●	●	●
SDEC	●	●	●
Steyr	●	●	●
Volvo Eicher	●	●	●
Volvo Penta	●	●	●
Weichai	●	●	●
Xichai	●	●	●
YANMAR	●	●	●
Yuchai United	●	●	●
Yunnei	●	●	●

Generic	SGC 120 Mk II	SGC 320 Mk II	SGC 420 Mk II
Generic J1939	●	●	●
Generic CPCB IV	●	●	●

2.4 J1939 and other protocols

J1939-based protocols

The SGC Mk II supports communication with a range of engine control units (ECUs). See *J1939 ECUs and engines* for the supported ECUs, engine types, and available functions.

If your ECU is listed in *J1939 ECUs and engines*, use the specified engine interface protocol and the supported functions documented for that ECU.

If your ECU is not listed, you can use the J1939 functions that are supported by both the SGC Mk II and the ECU.

The CAN J1939 Configurator can be used to configure custom J1939 communication or extend an existing engine protocol.

NOTE See **Configure J1939 communication** for more information.

Relationship between the SGC Mk II and ECU for J1939

The following table describes how the SGC Mk II handles J1939 information and additional engine-specific communication.

Information	Communication	Included in the SGC Mk II J1939	Not included in the SGC Mk II J1939	J1939 ECUs and engines
Alarms	The ECU broadcasts the information as an SPN+FMI combination.	The SGC Mk II has an alarm text for some SPN +FMI combinations.	The SGC Mk II displays the SPN +FMI. The user can look up the SPN in the J1939 standard. The SGC Mk II also displays the text "N/A" and uses the FMI to add text like "High" or "Most severe".	The SGC Mk II assigns texts to the proprietary alarms listed in this document. Controllers can also display special proprietary text for SPN/FMI combinations. Some ECUs use proprietary alarm systems. For example, Scania uses KWP2000.
Statuses	The ECU broadcasts the information as a PGN number, with each status defined by a bit.	The SGC Mk II treats the information like a digital input.	The SGC Mk II ignores the information.	The SGC Mk II has custom functions for the additional/proprietary statuses listed in this document.
Measurements	The ECU broadcasts the CAN ID, with a priority and the information as a PGN number, with each measurement defined by a byte or 2.	The SGC Mk II treats the information like an analogue input. The measurements can activate alarms.	The SGC Mk II ignores the information.	The SGC Mk II has custom functions for the additional/proprietary measurements listed in this document.
Commands	The SGC Mk II sends a telegram with the command.	The SGC Mk II can send the telegram. If the ECU supports the command, it responds accordingly.	The SGC Mk II will not send the telegram.	The SGC Mk II can send the additional telegrams listed in this document.
Set points	The SGC Mk II sends a telegram with the set point at regular intervals. Set points are mostly used for speed regulation. Some ECUs allow idle speed and frequency regulation.	The SGC Mk II can send the telegram. If the ECU supports the set point, it responds accordingly.	The SGC Mk II will not send the telegram.	The SGC Mk II can send the additional telegrams listed in this document.

NOTE The **MTU J1939 Smart Connect, ECU8 and ECU9** protocols are based on J1939.

Other engines and controllers

If you have an engine or controller that is not listed in this document, contact DEIF.

3. Configure J1939 communication

Use the CAN J1939 Configurator in Smart Connect Mk II to configure communication between the controller and the engine control unit (ECU). You can create a custom engine configuration or extend an existing engine protocol.

The configuration defines the messages transmitted and received, the signals contained in each message, and how the signal values are scaled and used in controller logic.

NOTE Applicable for SGC 320 Mk II and SGC 420 Mk II with firmware R20.

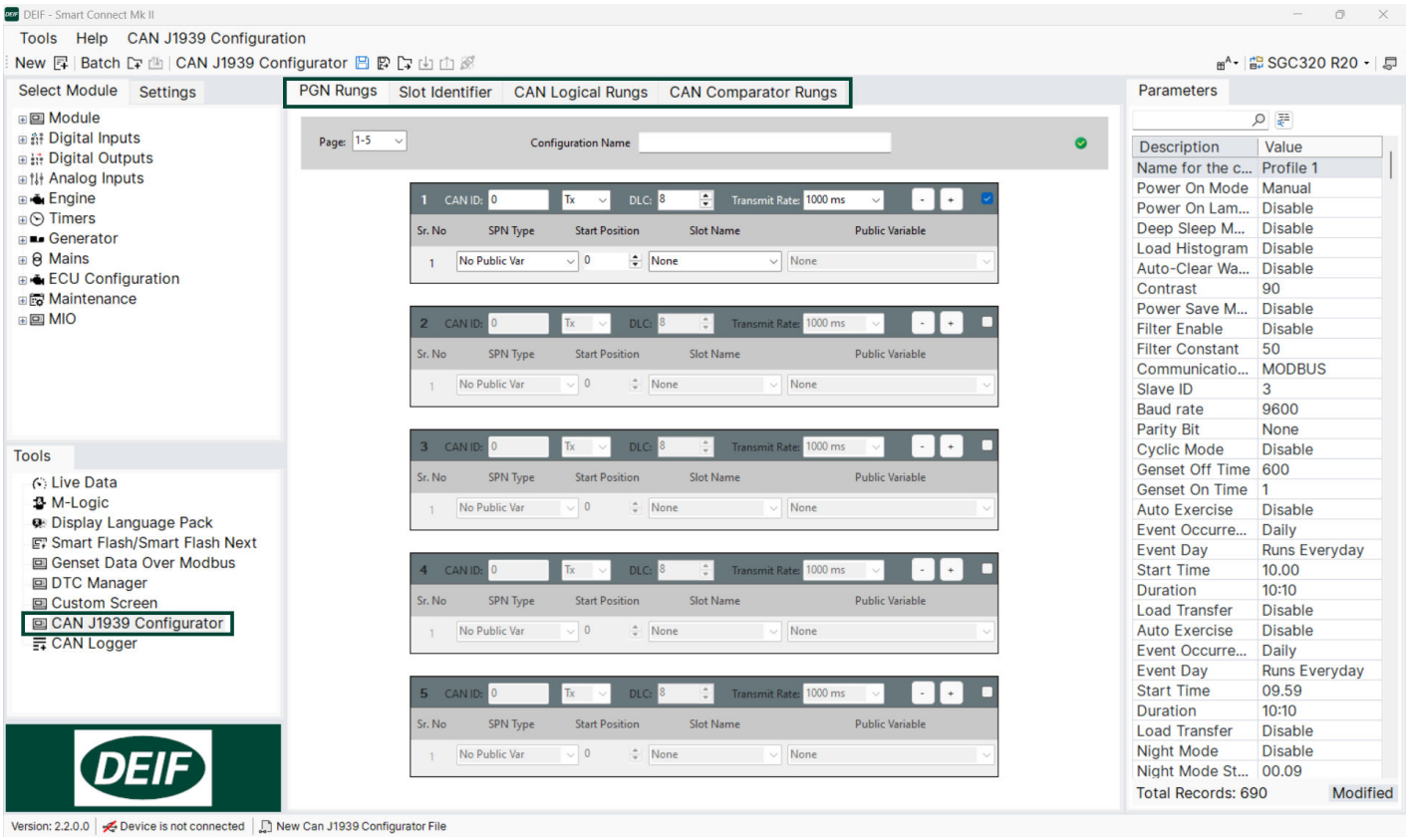
3.1 CAN J1939 Configurator

Before you start

Obtain the ECU communication specification before configuring messages. For each message and signal, identify the CAN identifier, message length, signal start position, signal length and scaling.

Configure the required slots first. Then configure the PGNs and assign a slot to each SPN. Add logical or comparator rungs only when the application requires additional conditions.

In Smart Connect Mk II, select *CAN J1939 Configurator* under *Tools*.



The configurator contains the following tabs:

Tab	Purpose
PGN Rungs	Configure transmitted and received messages and the signals contained in each message.
Slot Identifier	Define signal length, scaling, and value limits.

Tab	Purpose
CAN Logical Rungs	Connect CAN-related public variables* to Boolean logic.
CAN Comparator Rungs	Compare public variables with configured values.

NOTE * Public variables are controller values available for use in configured CAN messages and controller logic.

The configuration uses parameter group numbers (PGNs) to identify messages and suspect parameter numbers (SPNs) to identify individual signals.

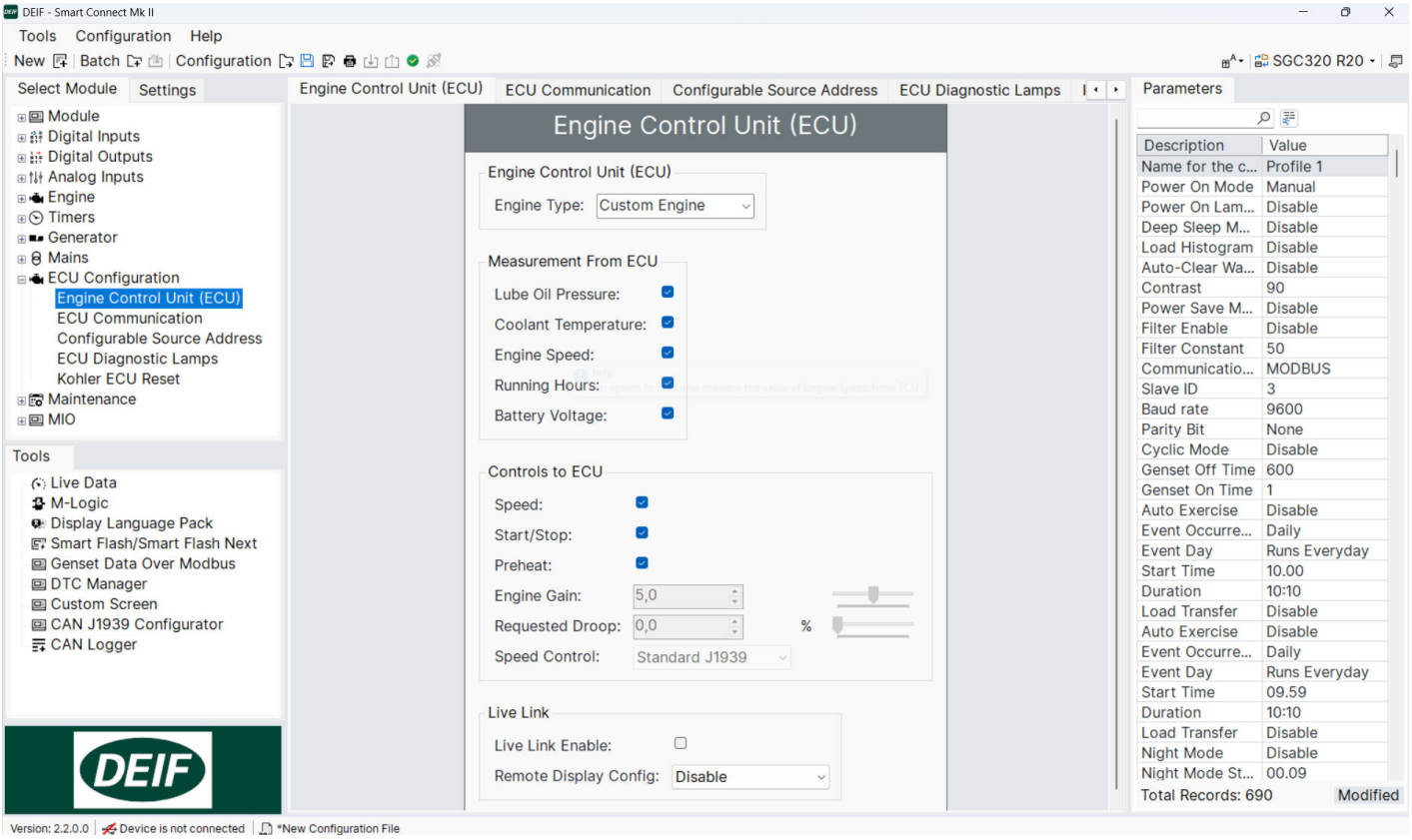
Select a starting protocol

The *Engine Type* setting determines the starting configuration for the CAN J1939 Configurator.

In Smart Connect Mk II, open *ECU Configuration → Engine Control Unit (ECU)*. Under *Engine Type*, select:

- *Custom Engine* to define the required custom communication.
- *An existing engine protocol* to use its predefined communication and add the required PGNs.

Then open *CAN J1939 Configurator* under *Tools* to configure the additional or custom messages.



The following table shows what you need to configure for each starting point.

Configuration	Custom protocol	Existing protocol
Engine Type	Select *Custom Engine*.	Select an existing engine protocol.
Receive PGNs	Configure the required receive PGNs, except for the ECU measurements already provided by the controller.	The controller receives the messages defined by the selected protocol. Use the configurator to add receive PGNs.

Configuration	Custom protocol	Existing protocol
Transmit PGNs	Configure the required transmit PGNs.	The controller transmits the messages defined by the selected protocol. Use the configurator to add transmit PGNs.
Configuration scope	Define the required custom communication.	Add communication to the selected protocol.

NOTE The CAN J1939 Configurator adds messages to an existing engine protocol. It does not edit the protocol's predefined messages.

More information
See **J1939 ECUs and engines** for the available predefined protocols and their supported functions.

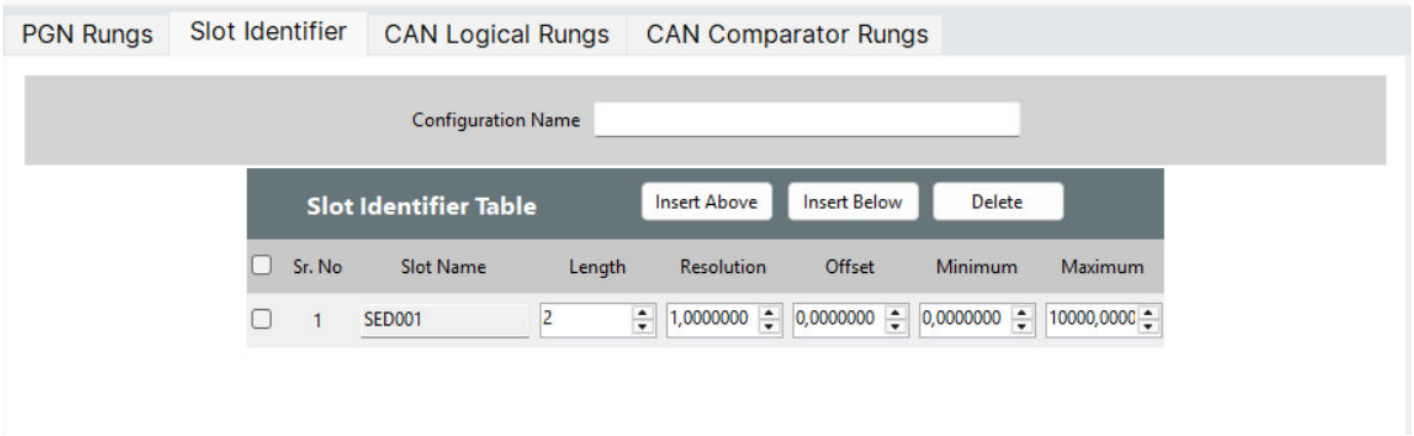
3.2 Configure communication

Configure the required PGNs and SPNs in the *PGN Rungs* tab. Configure reusable scaling definitions in the *Slot Identifiers* tab.

3.2.1 Slot Identifier

A slot defines the signal length and scaling used to convert between a raw CAN value and an engineering value.

A slot can be reused by multiple SPNs when their signal length, resolution, offset and value limits match. The slot number does not determine the signal length; the configured *Length* does. Use a separate slot when a signal requires different scaling. Changing a shared slot affects every SPN assigned to it.



The slot converts the raw CAN value to an engineering value, such as temperature in °C or pressure in bar: `Engineering value = Raw value × Resolution + Offset`

Configure the signal length, scaling and value limits using the following settings.

Setting	Description
Length	Signal length, from 1 to 64 bits.
Resolution	Factor applied to the raw value.
Offset	Value added after scaling.
Minimum Value	Minimum engineering value.
Maximum Value	Maximum engineering value.

Use the following controls to select, add or delete slots.

Control	Function
Select All	Selects or clears all slots.
Row checkbox	Selects an individual slot.
Insert Above / Insert Below	Adds a slot above or below the selected slot.
Delete	Deletes the selected slot.

Slot names, such as *SED001* and *SED002*, are predefined and cannot be changed.

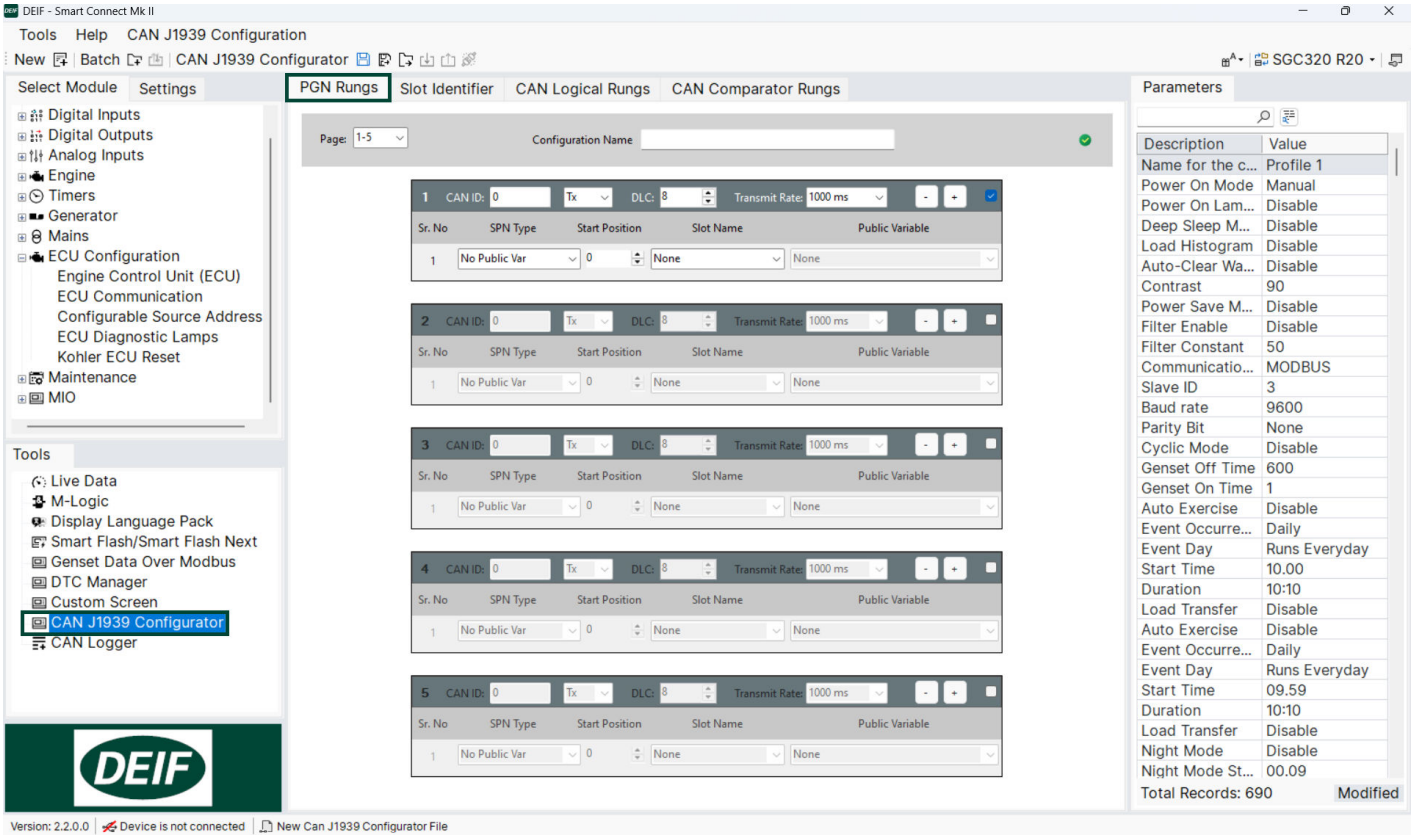
To configure and assign a slot:

1. Open *Slot Identifier*.
2. Use an unused slot, or select a row and select *Insert Above* or *Insert Below*.
3. Set *Length* according to the ECU's signal specification.
4. Set *Resolution* and *Offset* according to the specified scaling.
5. Set *Minimum Value* and *Maximum Value*.
6. Open *PGN Rungs* and select the slot in the applicable SPN row's *Slot Name* field.

3.2.2 PGN Rungs

Each PGN rung defines one CAN message. The SPN rows within the rung define the signals carried by that message.

Use *Page* to select the required group of rungs. *Configuration Name* identifies the complete configuration. Select the *Green check mark* at the top right of the *PGN Rungs* tab to validate the configuration.



PGN rung settings

The following settings define the message identifier, direction, length and transmission interval.

Setting or control	Notes
Enable checkbox	Enables or disables the complete PGN rung.
CAN ID	29-bit hexadecimal CAN identifier from which the PGN is derived.
Message type selector	**Tx:** Controller to ECU. **Rx:** ECU to controller. **Tx_C:** Time-critical transmission from controller to ECU.
DLC	Number of data bytes in the message: 1 to 8.
Transmit Rate	Transmission interval for **Tx** and **Tx_C** messages: 10, 20, 50, 100, 250, 500, 1000, 2000 or 5000 ms.
+	Adds an SPN row at the end of the PGN rung.
–	Deletes the last SPN row in the PGN rung.

SPN row settings

Configure one SPN row for each signal in the message. The following settings define how the signal is positioned, scaled and connected to a controller variable.

Setting	Notes
SPN Type	Determines how the signal value is generated or mapped. See the next table for details.
Start Position	Starting bit position of the signal within the message, from 0 to 63.
Slot Name	Selects the signal length and scaling defined in *Slot Identifier*.
Public Variable	Selects the controller variable associated with the signal. For counter and checksum SPN types, select the CAN public variable that stores the calculated value. For *Constant Value*, enter the constant in this field.

Calculate the start position

Start Position is the zero-based bit position within the complete message. If the ECU documentation numbers both bytes and bits starting from **1**, calculate it as follows:

```
Start Position = (Byte number − 1) × 8 + (Bit number − 1)
```

For example:

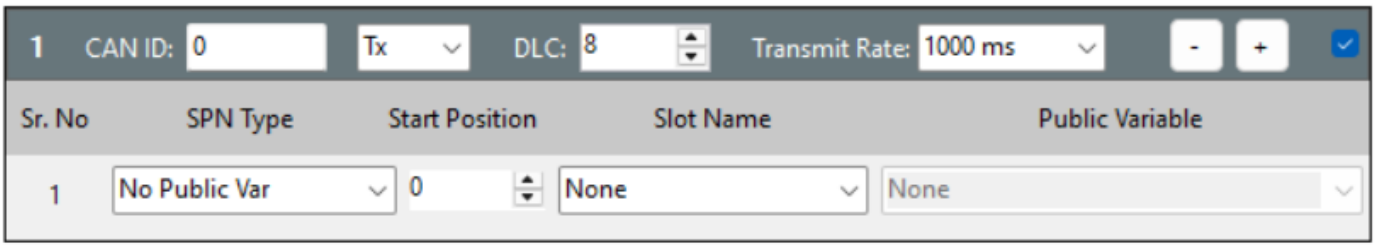
- Byte 1, bit 1 corresponds to *Start Position 0*.
- Byte 8, bit 5 corresponds to *Start Position 60*.

SPN types

Select the SPN type according to how the signal value must be generated or mapped.

SPN type	Function
No Public Var	Does not map the signal to a public variable. For transmission, the signal bits are filled with `0xFF`.
Direct Mapping	Maps the signal to the selected public variable.
Constant Value	Transmits a fixed value.
Counter 0–7	Transmits a rolling counter from 0 to 7. The counter increments with each transmission and restarts at 0 after reaching 7.
Counter 0–15	Transmits a rolling counter from 0 to 15. The counter increments with each transmission and restarts at 0 after reaching 15.
Message Checksum	Calculates a checksum for the message payload on each transmission.

NOTE For *Counter 0–7*, *Counter 0–15* and *Message Checksum*, select a CAN public variable in *Public Variable*. The controller first writes the calculated counter or checksum value to the selected variable, then includes that value in the transmitted CAN message.



Configure the required slots in *Slot Identifier* before assigning them to SPNs.

1. Open *PGN Rungs* and select the required page.
2. Enter a *Configuration Name*.
3. Select the enable checkbox to enable the PGN rung.
4. Enter the *CAN ID* in an unused rung.
5. Select the message type: **Tx**, **Rx** or **Tx_C**.
6. Set **DLC** to the number of data bytes in the message, from *1 to 8*.
7. For **Tx** or **Tx_C**, select *Transmit Rate*.
8. Use **+** to add the required SPN rows.
9. For each signal:
   - Select *SPN Type*.
   - Enter *Start Position*.
   - Select *Slot Name*.
   - Select the *Public Variable*, or enter the constant for *Constant Value*, as applicable.
10. Repeat for the remaining PGNs.
11. Select the *green check mark* to validate the configuration.

NOTE Multi-packet messages are not supported. Each configured message must fit within one CAN frame of 1 to 8 bytes.

3.3 CAN logic and public variables

The CAN J1939 Configurator provides additional logical and comparator rungs for connecting J1939 communication to controller logic. The rungs use public variables to exchange values with the messages configured in *PGN Rungs*.

An additional logic rung is not always required. A value already calculated by the controller can be mapped directly to a transmitted signal. Use CAN logical or comparator rungs when the application requires additional conditions or output values.

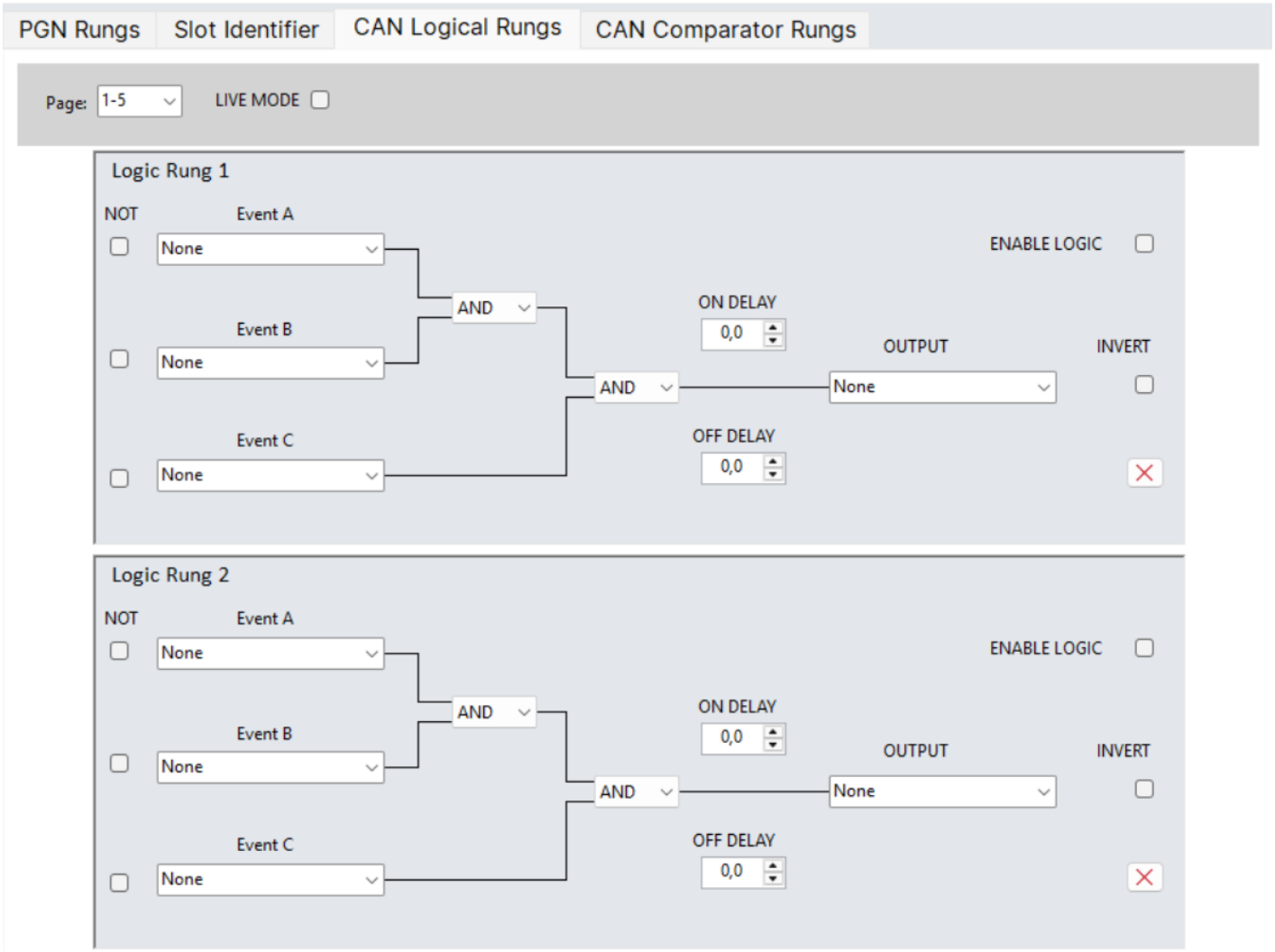
CAN logical and comparator rungs

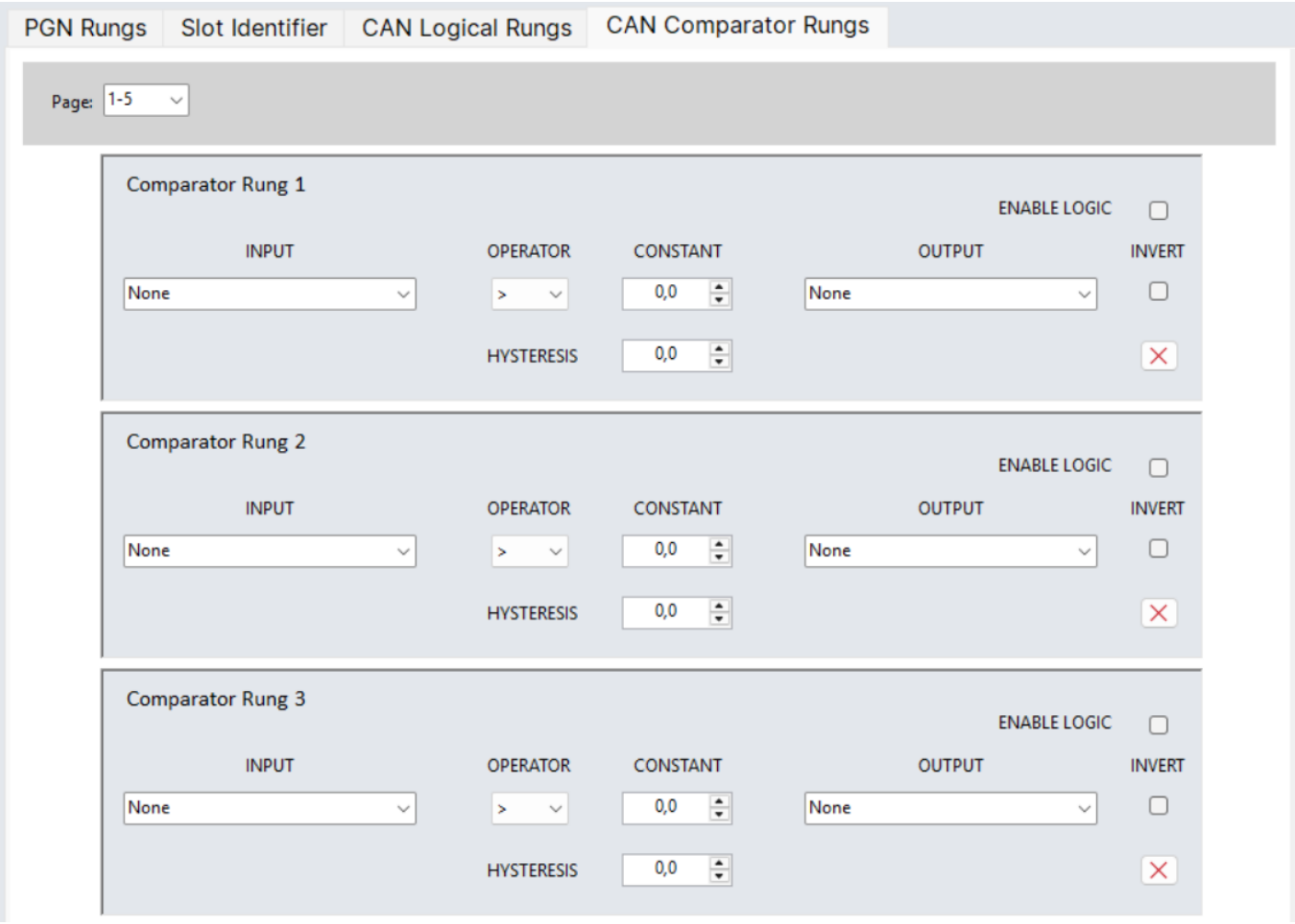
Use *CAN Logical Rungs* to combine input events. Use *CAN Comparator Rungs* to compare a public-variable value with a configured constant.

The following table describes the available rungs and their inputs and outputs.

Rung type	Quantity	Inputs and conditions	Output
CAN Logical Rung	40	Up to three events, optional NOT for each event, AND/OR logic, ON delay and OFF delay.	An existing controller public variable or a CAN J1939 Configurator public variable.
CAN Comparator Rung	40	One public variable, a comparison operator, a constant and hysteresis.	An existing controller public variable or a CAN J1939 Configurator public variable.

Both rung types support output inversion. A rung is active only when *ENABLE LOGIC* is selected.





For general instructions on logical operators, inversion, delays and comparisons, see *M-Logic* in the applicable SGC user manual.

CAN J1939 Configurator public variables

Public variables connect the CAN message configuration to controller logic. A public variable can be selected in a *Direct Mapping* SPN row and in a CAN logical or comparator rung.

The configurator provides the following additional public variables:

Type	Quantity	Variable names	Use
Boolean	150	*CJC Boolean Var 01* to *CJC Boolean Var 150*	On/off signals.
Numeric, integer	100	*CJC Num Var 01* to *CJC Num Var 100*	Numeric signals.

When logic is used to generate a value for transmission, the data flow is:

1. A CAN logical or comparator rung writes a value to a public variable.
2. A *Direct Mapping* SPN in a **Tx** PGN uses the selected public variable.
3. The controller transmits the public-variable value to the ECU in the configured message.

SPN public variables

Some public variables provide access to SPN values already calculated by the controller. These values can be mapped directly to signals in a transmitted PGN, without an additional logic rung.

The following SPNs are available.

Message	Available SPNs
TSC1	898: Requested engine speed
PGN 64915	3542, 3567 and 3568
PGN 65350	2551: Frequency select

To map an existing SPN value to a transmitted message:

1. Open *PGN Rungs*.
2. In the applicable SPN row of a **Tx** PGN, select *Direct Mapping* as the *SPN Type*.
3. In *Public Variable*, select the required variable.
4. Configure *Start Position* and *Slot Name* for the signal.

On each transmission, the controller places the selected internal value in the configured SPN.

Lamp public variables

Lamp public variables represent J1939 indicator lamps and emissions warnings. They can contain the status reported by the ECU or be controlled by configured logic.

The following table groups the lamp public variables by function.

Group	Lamps
General warning	Red lamp, Yellow (Amber) lamp, Malfunction lamp (MIL), Limit lamp
Engine	High coolant temperature, Low oil pressure, Cold start, Oil change, Exhaust high temperature
Filters and fuel	Air filter clogging, Fuel filter clogging, Water in fuel
DPF	DPF Particulate Filter Restricted (High/Very high/Critical), DPF Inhibit
DEF/AdBlue	DEF lamp, DEF warning, DEF shutdown, AdBlue lamp, DEF Level: Operator Warning, DEF Level: Mid Level Inducement, DEF Level: Severe Inducement, Inducement lamp
Emissions system	Engine Emissions System Failure, Emission system failure warning (Low/High)

Configure a lamp trigger

Use a CAN logical or comparator rung to control a lamp according to configured conditions. The available lamp states are *Lamp Off*, *Lamp On*, *Lamp Flash* and *Lamp Fast Flash*.

1. Open *CAN Logical Rungs* or *CAN Comparator Rungs*.
2. Configure the required inputs and conditions.
3. In *OUTPUT*, select the lamp public variable.
4. Select the required lamp state.
5. Select *ENABLE LOGIC*.

Logic versus ECU priority

- **Lamp variable used as a rung output** in M-Logic, CAN Logical Rungs or CAN Comparator Rungs: The rung controls the lamp, and the ECU-reported status is ignored.
- **Lamp variable used only as an input, or not used in logic:** The ECU-reported status is stored in the variable as normal.

3.4 Request PGNs from the ECU

Use a J1939 Request (RQST) message to request PGNs from the ECU. The request message uses **PGN 59904 (`0xEA00`)**. Specify each PGN to request in a *Constant Value* SPN row.

Configure the request message

In *PGN Rungs*, configure a transmit message using the following settings.

Setting	Configuration
CAN ID	A CAN identifier that encodes PGN 59904.
Message type	**Tx**
DLC	3 bytes
Transmit Rate	Interval between successive requests, in ms.
SPN Type	*Constant Value*
Public Variable	Decimal number of the PGN to request. For *Constant Value*, this field contains the value rather than a public-variable selection.
Start Position	Ignored for the request message.
Slot Name	Select a valid slot. The slot scaling is ignored for the request message.

Add one *Constant Value* SPN row for each PGN to request. When several PGNs are configured, the controller requests one PGN per transmission, following the SPN row order. After the last row, the sequence repeats.

Example

The following configuration requests PGNs **61444**, **61443** and **61442**.

Setting	Value
CAN ID	`18EA00EA`
Message type	**Tx**
DLC	3
Transmit Rate	500 ms
SPN row 1	Constant Value: 61444
SPN row 2	Constant Value: 61443
SPN row 3	Constant Value: 61442

The controller sends the requests in this order:

1. Request PGN 61444.
2. After 500 ms, request PGN 61443.
3. After another 500 ms, request PGN 61442.
4. After another 500 ms, request PGN 61444 and repeat the sequence.

Requests with Generic J1939

If *Generic J1939* is selected as the *Engine Type* and a request message is configured in the CAN J1939 Configurator, only the configurator's request is transmitted. The predefined Generic J1939 request is ignored.

3.5 Configuration rules and limits

The CAN J1939 configuration must meet the following rules. Smart Connect Mk II prevents the configuration from being saved or flashed while a validation rule is not met.

Configuration rules

Configuration	Rule
Tx_C	Only one PGN in the configuration can use **Tx_C**.
SPN position and length	Each SPN must fit within bits 0 to 63 of the message payload.
SPN overlap	SPNs in the same PGN rung must not overlap.
J1939 Request message	A message using PGN 59904 must have *DLC = 3*.
Slot minimum and maximum	*Minimum Value* must be less than *Maximum Value*.
Slot resolution	*Resolution* must be less than or equal to *Maximum Value – Minimum Value*.

If a slot value is entered outside its permitted range, Smart Connect Mk II automatically sets the value to the nearest limit.

Capacity limits

The following limits apply to each CAN J1939 configuration.

Item	Maximum
PGN rungs	50
Payload per PGN	8 bytes in a single CAN frame
Tx_C PGNs	1
Slots	125
CAN logical rungs	40
CAN comparator rungs	40
Boolean CJC public variables	150
Integer CJC public variables	100

NOTE Multi-packet messages are not supported.

Validate and transfer the configuration

Validate the completed configuration before writing it to the controller. The controller must be in programming mode to receive the configuration.

1. In *PGN Rungs*, enter a *Configuration Name* to identify the configuration.
2. Select the *green check mark* to validate the configuration. Correct any reported errors.
3. Connect the controller to the computer through USB.
4. Put the controller in programming mode.
5. Write the CAN J1939 configuration to the controller using Smart Connect Mk II.
6. On the controller, open *File Info 3* and check that the displayed configuration name matches the name entered in step 1.

NOTE The configuration name identifies the transferred configuration. It does not confirm that communication with the ECU works correctly. You can also save the configuration as an *XML file* for sharing.

4. J1939 ECUs and engines

4.1 Generic CPCB IV

4.1.1 Generic CPCB IV

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
		Generic CPCB IV

EIC control		
Start ●	Stop ●	Speed control ●
Default speed control address 3	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override -	J1939 message: TSC1, GC1, TD	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration -	Inhibit regeneration -

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.2 Generic J1939

4.2.1 Generic J1939

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
		Generic J1939

EIC control		
Start ●	Stop ●	Speed control ●
Default speed control address 3	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override -	J1939 message: TSC1, GC1	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration -	Inhibit regeneration -

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.3 Angle

4.3.1 Angle

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
		Angle

EIC control		
Start ●	Stop ●	Speed control ●
Default speed control address 3	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override -	J1939 message: TSC1, GC1	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration -	Inhibit regeneration -

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.4 Baudouin

4.4.1 Baudouin Gas

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
		Baudouin Gas

EIC control		
Start ●	Stop ●	Speed control ●
Default speed control address 3	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override -	J1939 message: TSC1, CM1, GC1	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration ●	Inhibit regeneration ●

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.4.2 Baudouin Wise10B

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
Wise 10B		Baudouin Wise10B

EIC control		
Start ●	Stop ●	Speed control ●
Default speed control address 3	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override -	J1939 message: TSC1, CM1, GC1	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration ●	Inhibit regeneration ●

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.4.3 Baudouin Wise15

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
Wise 15		Baudouin Wise15

EIC control		
Start ●	Stop ●	Speed control ●
Default speed control address 3	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override -	J1939 message: TSC1, GC1	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration -	Inhibit regeneration -

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.5 Bosch

4.5.1 Bosch EDC17CVC54

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
EDC17		Bosch EDC17CVC54

EIC control		
Start ●	Stop ●	Speed control ●
Default speed control address 3	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override -	J1939 message: TSC1, GC1	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration -	Inhibit regeneration -

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.5.2 Bosch MD1CE101

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
		Bosch MD1CE101

EIC control		
Start ●	Stop ●	Speed control ●
Default speed control address 3	Idle mode ●	50/60 Hz frequency selection -
Shutdown override -	J1939 message: TSC1, GC1	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V -	Force regeneration -	Inhibit regeneration -

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.6 Caterpillar

4.6.1 Caterpillar ADEM3

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
ADEM3		Caterpillar ADEM3

EIC control		
Start ●	Stop ●	Speed control ●
Default speed control address 0	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override -	J1939 message: TSC1, GC1, CM1, ETC3	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration ●	Inhibit regeneration ●

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.6.2 Caterpillar ADEM4

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
ADEM4		Caterpillar ADEM4

EIC control		
Start ●	Stop ●	Speed control ●
Default speed control address 0	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override -	J1939 message: TSC1, GC1, CM1, ETC3	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration ●	Inhibit regeneration ●

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.6.3 Caterpillar ADEM6

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
ADEM6		Caterpillar ADEM6

EIC control		
Start ●	Stop ●	Speed control ●
Default speed control address 3	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override -	J1939 message: TSC1, CM1, GC1, EBC1, CM2	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration ●	Inhibit regeneration ●

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.6.4 Caterpillar ADEM Generic

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
		Caterpillar ADEM Generic

EIC control		
Start ●	Stop ●	Speed control ●
Default speed control address 0	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override -	J1939 message: TSC1, GC1, CM1, ETC3	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration ●	Inhibit regeneration ●

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.7 Cummins

4.7.1 Cummins Generic

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
CM 500, CM 558, CM 570, CM 850, CM 2150 and CM 2250		Cummins Generic

EIC control		
Start -	Stop -	Speed control ●
Default speed control address 220	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override ●	J1939 message:	Proprietary message(s): Cummins Gain, Cummins Droop

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration -	Inhibit regeneration -

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.7.2 Cummins CM 500

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
CM 500		Cummins CM500

EIC control		
Start -	Stop -	Speed control ●
Default speed control address 220	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override ●	J1939 message:	Proprietary message(s): Cummins Gain, Cummins Droop

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration -	Inhibit regeneration -

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.7.3 Cummins CM 558

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
CM 558	QSL, QSB5, QSX15 and 7, QSM11, QSK 19/23/50/60	Cummins CM558

EIC control		
Start -	Stop -	Speed control ●
Default speed control address 220	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override ●	J1939 message:	Proprietary message(s): Cummins Gain, Cummins Droop

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration -	Inhibit regeneration -

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.7.4 Cummins CM 570

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
CM 570	QSL, QSB5, QSX15 and 7, QSM11, QSK 19/23/50/60	Cummins CM570

EIC control		
Start -	Stop -	Speed control ●
Default speed control address 220	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override ●	J1939 message:	Proprietary message(s): Cummins Gain, Cummins Droop

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration -	Inhibit regeneration -

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.7.5 Cummins CM 850

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
CM 850	QSL, QSB5, QSX15 and 7, QSM11, QSK 19/23/50/60	Cummins CM850

EIC control		
Start -	Stop -	Speed control ●
Default speed control address 220	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override ●	J1939 message:	Proprietary message(s): Cummins Gain, Cummins Droop

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration -	Inhibit regeneration -

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.7.6 Cummins CM 2150

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
CM 2150	QSL, QSB5, QSX15 and 7, QSM11, QSK 19/23/50/60	Cummins CM2150

EIC control		
Start -	Stop -	Speed control ●
Default speed control address 220	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override ●	J1939 message:	Proprietary message(s): Cummins Gain, Cummins Droop

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration -	Inhibit regeneration -

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.7.7 Cummins CM 2250

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
CM 2250	QSL, QSB5, QSX15 and 7, QSM11, QSK 19/23/50/60	Cummins CM2250

EIC control		
Start -	Stop -	Speed control ●
Default speed control address 220	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override ●	J1939 message:	Proprietary message(s): Cummins Gain, Cummins Droop

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration -	Inhibit regeneration -

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.7.8 Cummins CM 2350

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
CM 2350		Cummins CM2350

EIC control		
Start -	Stop -	Speed control ●
Default speed control address 220	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override ●	J1939 message:	Proprietary message(s): Cummins Gain, Cummins Droop

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration -	Inhibit regeneration -

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.7.9 Cummins CM 2358

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
CM 2358		Cummins CM2358

EIC control		
Start ●	Stop ●	Speed control ●
Default speed control address 220	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override -	J1939 message: GC2, ACS, GC1 and EES	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration -	Inhibit regeneration -

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.7.10 Cummins CM 2670

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
		Cummins CM 2670

EIC control		
Start -	Stop -	Speed control -
Default speed control address 234	Idle mode ●	50/60 Hz frequency selection -
Shutdown override -	J1939 message: TSC1, CM1	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V -	Force regeneration ●	Inhibit regeneration ●

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.7.11 Cummins CM 2850

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
CM 2850		Cummins CM2850

EIC control		
Start ●	Stop ●	Speed control ●
Default speed control address 234	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override ●	J1939 message: GC2, ACS, GC1 and EES	Proprietary message(s): See Cummins documentation

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration ●	Inhibit regeneration ●

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.7.12 Cummins CM 2880

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
CM 2880		Cummins CM2880

EIC control		
Start -	Stop -	Speed control ●
Default speed control address 220	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override ●	J1939 message:	Proprietary message(s): Cummins Gain, Cummins Droop

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration -	Inhibit regeneration -

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.7.13 Cummins KTA19

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
	KTA19	Cummins KTA19

EIC control		
Start ●	Stop ●	Speed control ●
Default speed control address 220	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override -	J1939 message: GC2, ACS, GC1 and EES	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration -	Inhibit regeneration -

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.8 DCEC Cummins

4.8.1 DCEC Cummins

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
		DCEC Cummins

EIC control		
Start -	Stop ●	Speed control ●
Default speed control address 0	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override -	J1939 message: TSC1, EBC1	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration -	Inhibit regeneration -

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.9 Detroit Diesel

4.9.1 DDEC III

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
DDEC III	Series 50, 60 and 2000	DDEC III

EIC control		
Start -	Stop -	Speed control ●
Default speed control address 3	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override -	J1939 message: TSC1, CM1	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration ●	Inhibit regeneration ●

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.9.2 DDEC IV

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
DDEC IV	Series 50, 60 and 2000	DDEC IV

EIC control		
Start -	Stop -	Speed control ●
Default speed control address 3	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override -	J1939 message: TSC1, CM1	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration ●	Inhibit regeneration ●

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.9.3 DDEC Generic

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
DDEC III		DDEC Generic

EIC control		
Start -	Stop -	Speed control ●
Default speed control address 3	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override -	J1939 message: TSC1, CM1	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration ●	Inhibit regeneration ●

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.10 Deutz

4.10.1 Deutz EMR 2

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
EMR2		Deutz EMR 2

EIC control		
Start -	Stop ●	Speed control ●
Default speed control address 3	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override -	J1939 message: TSC1	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration -	Inhibit regeneration -

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.10.2 Deutz EMR 3

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
EMR3		Deutz EMR 3

EIC control		
Start -	Stop ●	Speed control ●
Default speed control address 3	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override -	J1939 message: TSC1	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration -	Inhibit regeneration -

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.10.3 Deutz EMR 4

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
EMR 4		Deutz EMR 4

EIC control		
Start ●	Stop ●	Speed control ●
Default speed control address 3	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override -	J1939 message: TSC1, GC1	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration -	Inhibit regeneration -

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.10.4 Deutz EMR 5

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
EMR 5		Deutz EMR 5

EIC control		
Start -	Stop ●	Speed control ●
Default speed control address 39	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override -	J1939 message: TSC1, CM1	Proprietary message(s): VCM2ECM, BC2EDC2

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration ●	Inhibit regeneration ●

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.10.5 Deutz EMR 5 Stage V

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
EMR4 Stage V		Deutz EMR 5 Stage V

EIC control		
Start ●	Stop ●	Speed control ●
Default speed control address 3	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override -	J1939 message: TSC1, GC1, CM1	Proprietary message(s): Engine Stop Request, EATCTLRX

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration ●	Inhibit regeneration ●

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.10.6 Deutz EMR Generic

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
EMR2 and EMR3		Deutz EMR Generic

EIC control		
Start -	Stop ●	Speed control ●
Default speed control address 3	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override -	J1939 message: TSC1	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration -	Inhibit regeneration -

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.11 Doosan

4.11.1 Doosan D18

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
		Doosan D18

EIC control		
Start -	Stop ●	Speed control ●
Default speed control address 3	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override -	J1939 message: TTSC1, CM1, CCVS, ETC5	Proprietary message(s): GEN4(65363)

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration ●	Inhibit regeneration ●

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.11.2 Doosan EDC17

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
EDC17		Doosan G2 EDC17

EIC control		
Start ●	Stop ●	Speed control ●
Default speed control address 3	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override -	J1939 message: TSC1, GC1	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration -	Inhibit regeneration -

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.11.3 Doosan MD1

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
MD1		Doosan MD1

EIC control		
Start -	Stop ●	Speed control ●
Default speed control address 39	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override -	J1939 message: TSC1, CM1	Proprietary message(s): VCM2ECM, BC2EDC2

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration ●	Inhibit regeneration ●

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.11.4 Doosan Stage V

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
		Doosan Stage V

EIC control		
Start ●	Stop ●	Speed control ●
Default speed control address 253	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override -	J1939 message: TSC1, GC1, CM1, EOI, CCVS1	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration ●	Inhibit regeneration ●

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.12 FPT Industrial

4.12.1 FPT Industrial EDC 17

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
EDC17		FPT EDC17

EIC control		
Start ●	Stop ●	Speed control ●
Default speed control address 3	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override -	J1939 message: TSC1, GC1	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration -	Inhibit regeneration -

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.12.2 FPT Industrial Stage V

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
		FPT Stage V

EIC control		
Start -	Stop ●	Speed control ●
Default speed control address 39	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override -	J1939 message: TSC1, GM1	Proprietary message(s): VCM2ECM, BC2EDC2

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration ●	Inhibit regeneration ●

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.13 Hatz

4.13.1 Hatz Diesel 3H50TICD, 4H50TICD

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
	3H50TICD, 4H50TICD	Hatz

EIC control		
Start ●	Stop ●	Speed control ●
Default speed control address 3	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override -	J1939 message: TSC1, CM1, GC1	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration ●	Inhibit regeneration ●

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.13.2 Hatz Diesel EDC17

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
EDC17		Hatz EDC17

EIC control		
Start ●	Stop ●	Speed control ●
Default speed control address 3	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override -	J1939 message: TSC1, GC1	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration -	Inhibit regeneration -

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.14 Isuzu

4.14.1 Isuzu

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
		Isuzu

EIC control		
Start ●	Stop ●	Speed control ●
Default speed control address 3	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override -	J1939 message: TSC1, GC1, CM1	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration ●	Inhibit regeneration ●

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.15 Iveco

4.15.1 Iveco CURSOR

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
CURSOR		Iveco CURSOR

EIC control		
Start ●	Stop ●	Speed control ●
Default speed control address 3	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override -	J1939 message: TSC1	Proprietary message(s): ENG-CNTRL

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration -	Inhibit regeneration -

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.15.2 Iveco EDC7

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
EDC7		Iveco EDC7

EIC control		
Start ●	Stop ●	Speed control ●
Default speed control address 3	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override -	J1939 message: TSC1	Proprietary message(s): ENG-CNTRL

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration -	Inhibit regeneration -

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.15.3 Iveco NEF

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
NEF		Iveco NEF

EIC control		
Start ●	Stop ●	Speed control ●
Default speed control address 3	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override -	J1939 message: TSC1	Proprietary message(s): ENG-CNTRL

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration -	Inhibit regeneration -

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.15.4 Iveco Bocsh MD1

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
		Iveco Stage V

EIC control		
Start -	Stop -	Speed control ●
Default speed control address 39	Idle mode	50/60 Hz frequency selection -
Shutdown override -	J1939 message: TSC1, CM1	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V -	Force regeneration -	Inhibit regeneration ●

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.15.5 Iveco Vector 8

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
Vector 8		Iveco Vector8

EIC control		
Start ●	Stop ●	Speed control ●
Default speed control address 3	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override -	J1939 message: TSC1	Proprietary message(s): ENG-CNTRL

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration -	Inhibit regeneration -

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.15.6 Iveco Generic

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
		Iveco Generic

EIC control		
Start ●	Stop ●	Speed control ●
Default speed control address 3	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override -	J1939 message: TSC1	Proprietary message(s): ENG-CNTRL

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration -	Inhibit regeneration -

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.16 JCB

4.16.1 JCB

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
		JCB

EIC control		
Start ●	Stop ●	Speed control ●
Default speed control address 3	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override -	J1939 message: TSC1, CM1, GC1	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration ●	Inhibit regeneration ●

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.16.2 JCB 430/448 Stage V

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
		JCB 430/448 Stage V

EIC control		
Start ●	Stop ●	Speed control ●
Default speed control address 3	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override -	J1939 message: TSC1, CM1, GC1	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration ●	Inhibit regeneration ●

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.17 Jichai

4.17.1 Jichai JC15D Weifu

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
		Jichai JC15D Weifu

EIC control		
Start -	Stop -	Speed control -
Default speed control address 129	Idle mode -	50/60 Hz frequency selection -
Shutdown override -	J1939 message: -	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration -	Inhibit regeneration -

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.17.2 Jichai JC15T JG

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
JC15T JG, JC15D-ECU22		Jichai JC15T JG

EIC control		
Start -	Stop -	Speed control -
Default speed control address 129	Idle mode -	50/60 Hz frequency selection -
Shutdown override -	J1939 message: -	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration -	Inhibit regeneration -

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.17.3 Jichai JC190

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
JC190		Jichai JC190

EIC control		
Start -	Stop -	Speed control -
Default speed control address 129	Idle mode -	50/60 Hz frequency selection -
Shutdown override -	J1939 message: -	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration -	Inhibit regeneration -

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.17.4 Jichai WYS

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
JC15D WYS		Jichai WYS

EIC control		
Start -	Stop -	Speed control -
Default speed control address 129	Idle mode ●	50/60 Hz frequency selection -
Shutdown override -	J1939 message: -	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration -	Inhibit regeneration -

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.18 Jing Guan

4.18.1 Jing Guan

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
		Jing guan

EIC control		
Start -	Stop -	Speed control -
Default speed control address 129	Idle mode -	50/60 Hz frequency selection -
Shutdown override -	J1939 message: -	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration -	Inhibit regeneration -

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.19 John Deere

4.19.1 John Deere

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
		John Deere

EIC control		
Start ●	Stop ●	Speed control ●
Default speed control address 3	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override -	J1939 message: TSC1, GC1, CM1	Proprietary message(s): JDEC_SRG

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration ●	Inhibit regeneration ●

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.19.2 John Deere Stage V

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
		John Deere Stage V

EIC control		
Start ●	Stop ●	Speed control ●
Default speed control address 17	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override -	J1939 message: TSC1, GC1, CM1	Proprietary message(s): JDEC_SRG

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration ●	Inhibit regeneration ●

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.20 King Bang

4.20.1 King Bang

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
		King Bang

EIC control		
Start ●	Stop ●	Speed control ●
Default speed control address 3	Idle mode ●	50/60 Hz frequency selection -
Shutdown override -	J1939 message: TSC1, GC1	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V -	Force regeneration -	Inhibit regeneration -

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.21 Kohler

4.21.1 Kohler

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
		Kohler

EIC control		
Start ●	Stop ●	Speed control ●
Default speed control address	Idle mode	50/60 Hz frequency selection

EIC control		
3	●	●
Shutdown override -	J1939 message: TSC1, GC1, CM1	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp	DM1 Red lamp	DM1 Protect	DM1 Malfunction	DM2
●	●	●	●	●

Emissions		
Tier 4/Stage V	Force regeneration	Inhibit regeneration
●	●	●

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.21.2 Kohler KDI 3404

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
		Kohler KDI 3404

EIC control		
Start ●	Stop ●	Speed control ●
Default speed control address 3	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override -	J1939 message: TSC1, GC1	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration -	Inhibit regeneration -

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.22 Kubota

4.22.1 Kubota

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
		Kubota

EIC control		
Start -	Stop ●	Speed control ●
Default speed control address 3	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override -	J1939 message: TSC1, CM1, CCVS, ETC5	Proprietary message(s): GEN4(65363)

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration ●	Inhibit regeneration ●

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.22.2 Kubota Stage V

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
KORD3		Kubota Stage V

EIC control		
Start -	Stop ●	Speed control ●
Default speed control address 3	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override -	J1939 message: TSC1, CM1, CCVS, ETC5	Proprietary message(s): GEN4(65363)

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration ●	Inhibit regeneration ●

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.23 MAN

4.23.1 MAN

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
		MAN

EIC control		
Start ●	Stop ●	Speed control ●
Default speed control address 3	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override -	J1939 message: TSC1, CM1, GC1	Proprietary message(s): KMS

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration ●	Inhibit regeneration ●

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.23.2 MAN EDC17

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
EDC17		MAN EDC17

EIC control		
Start ●	Stop ●	Speed control ●
Default speed control address 3	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override -	J1939 message: TSC1, GC1	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration -	Inhibit regeneration -

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.23.3 MAN EMC Step 2.0

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
EMC 2.0		MAN EMC Step 2.0

EIC control		
Start ●	Stop ●	Speed control ●
Default speed control address 3	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override -	J1939 message: TSC1, CM1, GC1	Proprietary message(s): KMS

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration ●	Inhibit regeneration ●

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.23.4 MAN EMC Step 2.5

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
EMC 2.5		MAN EMC Step 2.5

EIC control		
Start ●	Stop ●	Speed control ●
Default speed control address 3	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override -	J1939 message: TSC1, CM1, GC1	Proprietary message(s): KMS

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration ●	Inhibit regeneration ●

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.24 Motorpal

4.24.1 Motorpal

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
		Motorpal

EIC control		
Start ●	Stop ●	Speed control ●
Default speed control address 3	Idle mode ●	50/60 Hz frequency selection -
Shutdown override -	J1939 message: TSC1, GC1	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration ●	Inhibit regeneration ●

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.24.2 Motorpal 2.1

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
		Motorpal 2.1

EIC control		
Start ●	Stop ●	Speed control ●
Default speed control address 234	Idle mode ●	50/60 Hz frequency selection -
Shutdown override -	J1939 message: TSC1, GC1	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V -	Force regeneration -	Inhibit regeneration -

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.25 MTU

4.25.1 MTU

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
		MTU

EIC control		
Start ●	Stop ●	Speed control ●
Default speed control address 234	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override -	J1939 message: TSC1, GC1, ESS, MSOSC1	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration -	Inhibit regeneration -

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.25.2 MTU ECU8

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
ECU8		MTU ECU8

EIC control		
Start ●	Stop ●	Speed control ●
Default speed control address 234	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override ●	J1939 message: TSC1, RESET, OHECS	Proprietary message(s): Speed Start/Stop, Droop

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration -	Inhibit regeneration -

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.25.3 MTU ECU9

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
ECU9		MTU ECU9

EIC control		
Start ●	Stop ●	Speed control ●
Default speed control address 234	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override ●	J1939 message: TSC1, RESET, OHECS	Proprietary message(s): Speed Start/Stop, Droop

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration -	Inhibit regeneration -

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.25.4 MTU ECU9 Eminox

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
		MTU ECU9 Eminox

EIC control		
Start ●	Stop ●	Speed control ●
Default speed control address 234	Idle mode	50/60 Hz frequency selection -
Shutdown override -	J1939 message:	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V -	Force regeneration -	Inhibit regeneration -

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.25.5 MTU J1939 Smart Connect

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
J1939 Smart Connect, ECU8, ECU9	Series 1600	MTU J1939 Smart Connect

EIC control		
Start ●	Stop ●	Speed control ●
Default speed control address 234	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override ●	J1939 message: TSC1, RESET, OHECS	Proprietary message(s): Speed Start/Stop, Droop

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration -	Inhibit regeneration -

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.26 Perkins

4.26.1 Perkins ADEM3

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
ADEM3		Perkins ADEM3

EIC control		
Start ●	Stop ●	Speed control ●
Default speed control address 0	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override -	J1939 message: TSC1, GC1, CM1, ETC3	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration ●	Inhibit regeneration ●

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.26.2 Perkins ADEM4

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
ADEM4		Perkins ADEM4

EIC control		
Start ●	Stop ●	Speed control ●
Default speed control address 0	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override -	J1939 message: TSC1, GC1, CM1, ETC3	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration ●	Inhibit regeneration ●

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.26.3 Perkins CPCB IV

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
		Perkins CPCB IV

EIC control		
Start ●	Stop ●	Speed control ●
Default speed control address 253	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override -	J1939 message: TSC1, GC1, CM1, CCVS1, EOI	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration ●	Inhibit regeneration ●

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.26.4 Perkins EDC1749

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
EDC17		Perkins EDC1749

EIC control		
Start ●	Stop ●	Speed control ●
Default speed control address 3	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override -	J1939 message: TSC1, GC1	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration -	Inhibit regeneration -

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.26.5 Perkins Stage V

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
	Series 400 and 1200	Perkins Stage V

EIC control		
Start ●	Stop ●	Speed control ●
Default speed control address 3	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override -	J1939 message: TSC1, CM1, CM2, ESR, OHECS, EBC1, ENGSC	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration ●	Inhibit regeneration ●

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.26.6 Perkins Stage V 120xJ

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
		Perkins Stage V 120xJ

EIC control		
Start ●	Stop ●	Speed control ●
Default speed control address 3	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override -	J1939 message: TSC1, CM1, ESR, OHECS, EBC1, GC1, CM2, EESI	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration ●	Inhibit regeneration ●

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.26.7 Perkins StV 400

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
	Series 400 Model IQ IR IW IY IF	Perkins StV 400

EIC control		
Start ●	Stop ●	Speed control ●
Default speed control address 3	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override -	J1939 message: TSC1, CM1, CM2, ESR, OHECS, EBC1, ENGSC	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration ●	Inhibit regeneration ●

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.26.8 Perkins StV 1200

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
	Series 400 Model IQ IR IW IY IF	Perkins StV 1200

EIC control		
Start ●	Stop ●	Speed control ●
Default speed control address 3	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override -	J1939 message: TSC1, CM1, CM2, ESR, OHECS, EBC1, ENGSC	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration ●	Inhibit regeneration ●

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.26.9 Perkins Generic

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
ADEM3, ADEM4	Series 850, 1100, 1200, 1300, 2300, 2500 and 2800	Perkins Generic

EIC control		
Start ●	Stop ●	Speed control ●
Default speed control address 0	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override -	J1939 message: TSC1, GC1, CM1, ETC3	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration ●	Inhibit regeneration ●

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.27 PSI/Power Solutions

4.27.1 PSI/Power Solutions

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
	PSI/Power solutions	PSI

EIC control		
Start ●	Stop ●	Speed control ●
Default speed control address 234	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override -	J1939 message: TSC1, ACS, CM1, GC1	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration ●	Inhibit regeneration ●

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.28 Scania

4.28.1 Scania EMS

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
EMS		Scania EMS

EIC control		
Start ●	Stop ●	Speed control ●
Default speed control address 39	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override -	J1939 message:	Proprietary message(s): 65408, 65527

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration -	Inhibit regeneration -

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.28.2 Scania EMS2 S6

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
EMS2 S6		Scania EMS2 S6

EIC control		
Start ●	Stop ●	Speed control ●
Default speed control address 39	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override -	J1939 message:	Proprietary message(s): 65408, 65527

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration -	Inhibit regeneration -

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.28.3 Scania EMS2 S8

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
EMS2 S8	DC9, DC13, DC16	Scania EMS2 S8

EIC control		
Start ●	Stop ●	Speed control ●
Default speed control address 39	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override ●	J1939 message: CM1, ADC, CCVS	Proprietary message(s): 65408, 65527

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration ●	Inhibit regeneration ●

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.28.4 Scania S8 Industrial

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
		Scania S8 Industrial

EIC control		
Start ●	Stop ●	Speed control ●
Default speed control address 39	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override ●	J1939 message: CM1, ADC, CCVS	Proprietary message(s): 65408, 65527

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration ●	Inhibit regeneration ●

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.29 SDEC

4.29.1 SDEC

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
		SDEC

EIC control		
Start ●	Stop ●	Speed control ●
Default speed control address 3	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override -	J1939 message: TSC1, GC1	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration -	Inhibit regeneration -

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.29.2 SDEC ECTEK F36

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
		SDEC ECTEK F36

EIC control		
Start -	Stop -	Speed control ●
Default speed control address 3	Idle mode ●	50/60 Hz frequency selection -
Shutdown override -	J1939 message: TSC1, CM1	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration ●	Inhibit regeneration ●

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.29.3 SDEC F31

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
		SDEC F31

EIC control		
Start -	Stop -	Speed control ●
Default speed control address 3	Idle mode ●	50/60 Hz frequency selection -
Shutdown override -	J1939 message: TSC1, CM1	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V -	Force regeneration ●	Inhibit regeneration ●

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.30 Steyr

4.30.1 Steyr EDC17

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
EDC17		Steyr EDC17

EIC control		
Start ●	Stop ●	Speed control ●
Default speed control address 3	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override -	J1939 message: TSC1, GC1	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration -	Inhibit regeneration -

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.31 Volvo Eicher

4.31.1 VE E483/E694 CPCB IV

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
		VE E483/E694 CPCB IV

EIC control		
Start -	Stop -	Speed control -
Default speed control address 3	Idle mode -	50/60 Hz frequency selection -
Shutdown override -	J1939 message: TD, CM1	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp	DM1 Red lamp	DM1 Protect	DM1 Malfunction	DM2
●	●	●	●	●

Emissions		
Tier 4/Stage V	Force regeneration	Inhibit regeneration
●	●	●

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.32 Volvo Penta

4.32.1 Volvo Penta CPCB IV

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
		Volvo Penta CPCB IV

EIC control		
Start ●	Stop ●	Speed control -
Default speed control address 17	Idle mode -	50/60 Hz frequency selection ●
Shutdown override -	J1939 message: CM1	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration ●	Inhibit regeneration ●

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.32.2 Volvo Penta EMS2

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
EMS, EMS 2.0 to EMS2.3	D6, D7, D9, D12, D16 (GE and AUX variants only)	Volvo Penta EMS2

EIC control		
Start ●	Stop ●	Speed control
Default speed control address 17	Idle mode	50/60 Hz frequency selection ●
Shutdown override -	J1939 message:	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp	DM1 Red lamp	DM1 Protect	DM1 Malfunction	DM2
●	●	●	●	●

Emissions		
Tier 4/Stage V	Force regeneration	Inhibit regeneration
●	-	-

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.32.3 Volvo Penta EMS2.3

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
EMS2.3		Volvo Penta EMS2.3

EIC control		
Start ●	Stop ●	Speed control
Default speed control address 17	Idle mode	50/60 Hz frequency selection ●
Shutdown override -	J1939 message:	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration -	Inhibit regeneration -

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.32.4 Volvo Penta EMS 2.4

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
EMS2.4		Volvo Penta 2.4

EIC control		
Start ●	Stop ●	Speed control
Default speed control address 17	Idle mode	50/60 Hz frequency selection ●
Shutdown override -	J1939 message:	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration -	Inhibit regeneration -

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.32.5 Volvo Penta 1500

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
		Volvo Penta 1500

EIC control		
Start ●	Stop ●	Speed control
Default speed control address 17	Idle mode	50/60 Hz frequency selection ●
Shutdown override -	J1939 message:	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration -	Inhibit regeneration -

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.32.6 Volvo Penta EDC3 (1500)

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
EDC3		Volvo Penta EDC3 (1500)

EIC control		
Start ●	Stop ●	Speed control
Default speed control address 17	Idle mode	50/60 Hz frequency selection ●
Shutdown override -	J1939 message:	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration -	Inhibit regeneration -

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.32.7 Volvo Penta EDC4 (1500)

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
EDC4		Volvo Penta EDC4 (1500)

EIC control		
Start ●	Stop ●	Speed control
Default speed control address 17	Idle mode	50/60 Hz frequency selection ●
Shutdown override -	J1939 message:	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration -	Inhibit regeneration -

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.32.8 Volvo Penta 1800

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
		Volvo Penta 1800

EIC control		
Start ●	Stop ●	Speed control
Default speed control address 17	Idle mode	50/60 Hz frequency selection ●
Shutdown override -	J1939 message:	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration -	Inhibit regeneration -

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.32.9 Volvo Penta EDC 3 (1800)

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
EDC3		Volvo Penta EDC 3 (1800)

EIC control		
Start ●	Stop ●	Speed control
Default speed control address 17	Idle mode	50/60 Hz frequency selection ●
Shutdown override -	J1939 message:	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration -	Inhibit regeneration -

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.32.10 Volvo Penta EDC 4 (1800)

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
EDC4		Volvo Penta EDC 4 (1800)

EIC control		
Start ●	Stop ●	Speed control
Default speed control address 17	Idle mode	50/60 Hz frequency selection ●
Shutdown override -	J1939 message:	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration -	Inhibit regeneration -

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.32.11 Volvo Stage V

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
		Volvo Stage V

EIC control		
Start ●	Stop ●	Speed control
Default speed control address 17	Idle mode	50/60 Hz frequency selection ●
Shutdown override -	J1939 message:	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration -	Inhibit regeneration -

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.33 Weichai

4.33.1 Weichai Diesel

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
WOODWARD PG+	Diesel	Weichai Diesel

EIC control		
Start ●	Stop ●	Speed control ●
Default speed control address 3	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override -	J1939 message: TSC1, CM1, GC1	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration ●	Inhibit regeneration ●

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.33.2 Weichai e6gas

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
		Weichai e6gas

EIC control		
Start -	Stop -	Speed control ●
Default speed control address 234	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override -	J1939 message: TSC1, GC2, ACS, EBC1, GTACP	Proprietary message(s): 65403

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration -	Inhibit regeneration -

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.33.3 Weichai Gas

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
WOODWARD PG+	Gas	Weichai Gas

EIC control		
Start ●	Stop ●	Speed control ●
Default speed control address 3	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override -	J1939 message: TSC1, CM1, GC1	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration ●	Inhibit regeneration ●

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.33.4 Weichai Wise10B

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
Wise 10B		Weichai Wise10B

EIC control		
Start ●	Stop ●	Speed control ●
Default speed control address 3	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override -	J1939 message: TSC1, CM1, GC1	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration ●	Inhibit regeneration ●

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.33.5 Weichai Wise15

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
Wise 15		Weichai Wise15

EIC control		
Start ●	Stop ●	Speed control ●
Default speed control address 3	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override -	J1939 message: TSC1, CM1, GC1	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration ●	Inhibit regeneration ●

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.33.6 Wise 18B

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
		Wise 18B

EIC control		
Start ●	Stop ●	Speed control ●
Default speed control address 3	Idle mode ●	50/60 Hz frequency selection -
Shutdown override -	J1939 message: TSC1	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V -	Force regeneration -	Inhibit regeneration -

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.34 Xichai

4.34.1 Xichai Gas

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
		Xichai Gas

EIC control		
Start ●	Stop ●	Speed control ●
Default speed control address 3	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override -	J1939 message: TSC1, GC1	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration -	Inhibit regeneration -

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.35 YANMAR

4.35.1 YANMAR EDC17

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
EDC17		YANMAR EDC17

EIC control		
Start ●	Stop ●	Speed control ●
Default speed control address 3	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override -	J1939 message: TSC1, GC1	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration -	Inhibit regeneration -

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.35.2 Yanmar Stage V

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
		Yanmar Stage V

EIC control		
Start -	Stop -	Speed control ●
Default speed control address 3	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override -	J1939 message: TSC1	Proprietary message(s): 65304, 65308

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration -	Inhibit regeneration -

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.36 Yuchai United

4.36.1 Yuchai

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
		Yuchai

EIC control		
Start ●	Stop ●	Speed control ●
Default speed control address 3	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override -	J1939 message: TSC1, GC1, CM1	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration ●	Inhibit regeneration ●

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.36.2 Yuchai BOSCH

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
		Yuchai BOSCH

EIC control		
Start -	Stop ●	Speed control ●
Default speed control address 3	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override -	J1939 message: TSC1, EBC1	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration -	Inhibit regeneration -

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.36.3 Yuchai Diesel

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
YCGCU (Version 4.2)	Diesel	Yuchai diesel

EIC control		
Start ●	Stop ●	Speed control ●
Default speed control address 3	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override -	J1939 message: TSC1, GC1, CM1	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration ●	Inhibit regeneration ●

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.36.4 Yuchai Gas

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
YCGCU (Version 4.2)	Gas	Yuchai gas

EIC control		
Start ●	Stop ●	Speed control ●
Default speed control address 3	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override -	J1939 message: TSC1, GC1, CM1	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration ●	Inhibit regeneration ●

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.36.5 Yuchai YC-BCR

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
YC-BCR		Yuchai YC-BCR

EIC control		
Start ●	Stop ●	Speed control ●
Default speed control address 3	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override -	J1939 message: TSC1, GC1	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration -	Inhibit regeneration -

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.36.6 Yuchai YC-ECU T IV

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
		Yuchai YC-ECU T IV

EIC control		
Start -	Stop -	Speed control ●
Default speed control address 3	Idle mode ●	50/60 Hz frequency selection -
Shutdown override -	J1939 message: TSC1	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V -	Force regeneration -	Inhibit regeneration -

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.36.7 Yuchai YCGCU ECU

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
		Yuchai YCGCU ECU

EIC control		
Start ●	Stop ●	Speed control ●
Default speed control address 3	Idle mode ●	50/60 Hz frequency selection ●
Shutdown override -	J1939 message: TSC1, GC1, CM1	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V ●	Force regeneration ●	Inhibit regeneration ●

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

4.37 Yunnei

4.37.1 Yunnei

ECU(s)	Engine (s)	Engine interface protocol (Engine Type)
		Yunnei

EIC control		
Start -	Stop -	Speed control ●
Default speed control address 3	Idle mode ●	50/60 Hz frequency selection -
Shutdown override -	J1939 message: TSC1	Proprietary message(s): -

Diagnostic messages				
DM1 Yellow lamp ●	DM1 Red lamp ●	DM1 Protect ●	DM1 Malfunction ●	DM2 ●

Emissions		
Tier 4/Stage V -	Force regeneration -	Inhibit regeneration -

Analogue readings			
Engine speed	●	Inlet temperature	●
Percent load	●	Exhaust temperature	●
Oil pressure	●	Fuel pressure	●
Oil temperature	●	Fuel temperature	●
Coolant pressure	●	Water in fuel	●
Coolant temperature	●	Fuel consumption/rate (L/h)	●
Turbo pressure	●	Fuel used (L)	●
Atmospheric pressure	●	Battery voltage	●
Engine hours	●	Battery potential (voltage)	●

5. RDC CAN Communication

5.1 Overview

The SGC Mk II communicates with the Remote Display Controller (RDC) over a CAN bus using the J1939 protocol.

The SGC transmits operational data, including generator, engine, and system values, to the RDC for monitoring and display.

Communication is based on J1939 messages, where each message is identified by a Parameter Group Number (PGN) and contains one or more signals identified by Suspect Parameter Numbers (SPNs).

The RDC receives and interprets these messages to present real-time system information to the user.

5.2 RDC CAN message map

The SGC Mk II transmits RDC data over CAN using fixed communication settings. These settings apply to all RDC CAN signals transmitted on the network.

- Transmission rate: 1000 ms
- Priority: 0x0C
- Source address (SGC): 0xEA

The RDC CAN signals are transmitted in structured groups. Each group corresponds to a CAN message identified by a PGN and contains one or more signals.

The following tables list the RDC CAN signals supported by the SGC Mk II and show how the signals are grouped and transmitted.

PGN 61444 (0xF004)

SPN (Dec)	SPN (Hex)	Signal	Notes
190	0xBE	ENGINE_SPEED	Actual Engine Speed

PGN 64910 (0xFD8E)

SPN (Dec)	SPN (Hex)	Signal	Notes
3593	0xE09	GTACE	Generator Accumulated Energy Export (kVArh)

PGN 64914 (0xFD92)

SPN (Dec)	SPN (Hex)	Signal	Notes
3607	0xE17	Emergency Shutdown Indication	Engine Emergency (Immediate) Shutdown Indication

PGN 65018 (0xFDFA)

SPN (Dec)	SPN (Hex)	Signal	Notes
2468	0x9A4	GTACE	Generator Accumulated Energy Export (kWh)

PGN 65019 (0xFDFB)

SPN (Dec)	SPN (Hex)	Signal	Notes
2459	0x99B	GPCACR	Generator Phase C Reactive Power
2467	0x9A3	GPCACR	Generator Phase C Power Factor

PGN 65020 (0xFDFC)

SPN (Dec)	SPN (Hex)	Signal	Notes
2455	0x997	GPCACP	Generator Phase C Real Power
2463	0x99F	GPCACP	Generator Phase C Apparent Power

PGN 65021 (0xFDFD)

SPN (Dec)	SPN (Hex)	Signal	Notes
2443	0x98B	GPCAC	Generator Phase C Line Line AC RMS Voltage
2447	0x98F	GPCAC	Generator Phase C Line Neutral AC RMS Voltage
2439	0x987	GPCAC	Generator Phase C AC Frequency
2451	0x993	GPCAC	Generator Phase C AC RMS Current

PGN 65022 (0xFDFE)

SPN (Dec)	SPN (Hex)	Signal	Notes
2458	0x99A	GPBACRP	Generator Phase B Reactive Power
2466	0x9A2	GPBACRP	Generator Phase B Power Factor

PGN 65023 (0xFDFF)

SPN (Dec)	SPN (Hex)	Signal	Notes
2454	0x996	GPBACP	Generator Phase B Real Power
2462	0x99E	GPBACP	Generator Phase B Apparent Power

PGN 65024 (0xFE00)

SPN (Dec)	SPN (Hex)	Signal	Notes
2442	0x98A	GPBAC	Generator Phase B Line Line AC RMS Voltage
2446	0x98E	GPBAC	Generator Phase B Line Neutral AC RMS Voltage
2438	0x986	GPBAC	Generator Phase B AC Frequency
2450	0x992	GPBAC	Generator Phase B AC RMS Current

PGN 65025 (0xFE01)

SPN (Dec)	SPN (Hex)	Signal	Notes
2457	0x999	GCAACR	Generator Phase A Reactive Power
2465	0x9A1	GCAACR	Generator Phase A Power Factor

PGN 65026 (0xFE02)

SPN (Dec)	SPN (Hex)	Signal	Notes
2453	0x995	GPAACP	Generator Phase A Real Power
2461	0x99D	GPAACP	Generator Phase A Apparent Power

PGN 65027 (0xFE03)

SPN (Dec)	SPN (Hex)	Signal	Notes
2441	0x989	GPAAC	Generator Phase A Line Line AC RMS Voltage
2445	0x98D	GPAAC	Generator Phase A Line Neutral AC RMS Voltage
2437	0x985	GPAAC	Generator Phase A AC Frequency
2449	0x991	GPAAC	Generator Phase A AC RMS Current

PGN 65028 (0xFE04)

SPN (Dec)	SPN (Hex)	Signal	Notes
2456	0x998	GTACR	Generator Total Reactive Power
2464	0x9A0	GTACR	Generator Overall Power Factor
2518	0x9D6	GTACR	Generator Overall Power Factor Lagging

PGN 65029 (0xFE05)

SPN (Dec)	SPN (Hex)	Signal	Notes
2452	0x994	GTACP	Generator Total Real Power
2460	0x99C	GTACP	Generator Total Apparent Power

PGN 65030 (0xFE06)

SPN (Dec)	SPN (Hex)	Signal	Notes
2440	0x988	GAAC	Generator Average Line Line AC RMS Voltage
2444	0x98C	GAAC	Generator Average Line Neutral AC RMS Voltage
2436	0x984	GAAC	Generator Average AC Frequency
2448	0x990	GAAC	Generator Average AC RMS Current

PGN 65214 (0xFEBE)

SPN (Dec)	SPN (Hex)	Signal	Notes
3671	0xE57	CRANK_ATTEMPTS	Crank Attempt Count on Present Start Attempt

PGN 65253 (0xFEE5)

SPN (Dec)	SPN (Hex)	Signal	Notes
4082	0xFF2	Fuel Pump control	Fuel Pump Primer Control
247	0xF0	ENGINE_HOURS	Engine Total Hours of Operation

PGN 65262 (0xFEEE)

SPN (Dec)	SPN (Hex)	Signal	Notes
110	0x6E	COOLANT_T	Engine Coolant Temperature

PGN 65263 (0xFEEF)

SPN (Dec)	SPN (Hex)	Signal	Notes
100	0x64	Oil Pressure	Engine Oil Pressure

PGN 65271 (0xFEF7)

SPN (Dec)	SPN (Hex)	Signal	Notes
158	0x9E	Charge Alternator System Potential	Key Switch Battery Potential
168	0xA8	Battery Potential	Battery Potential/Power Input 1

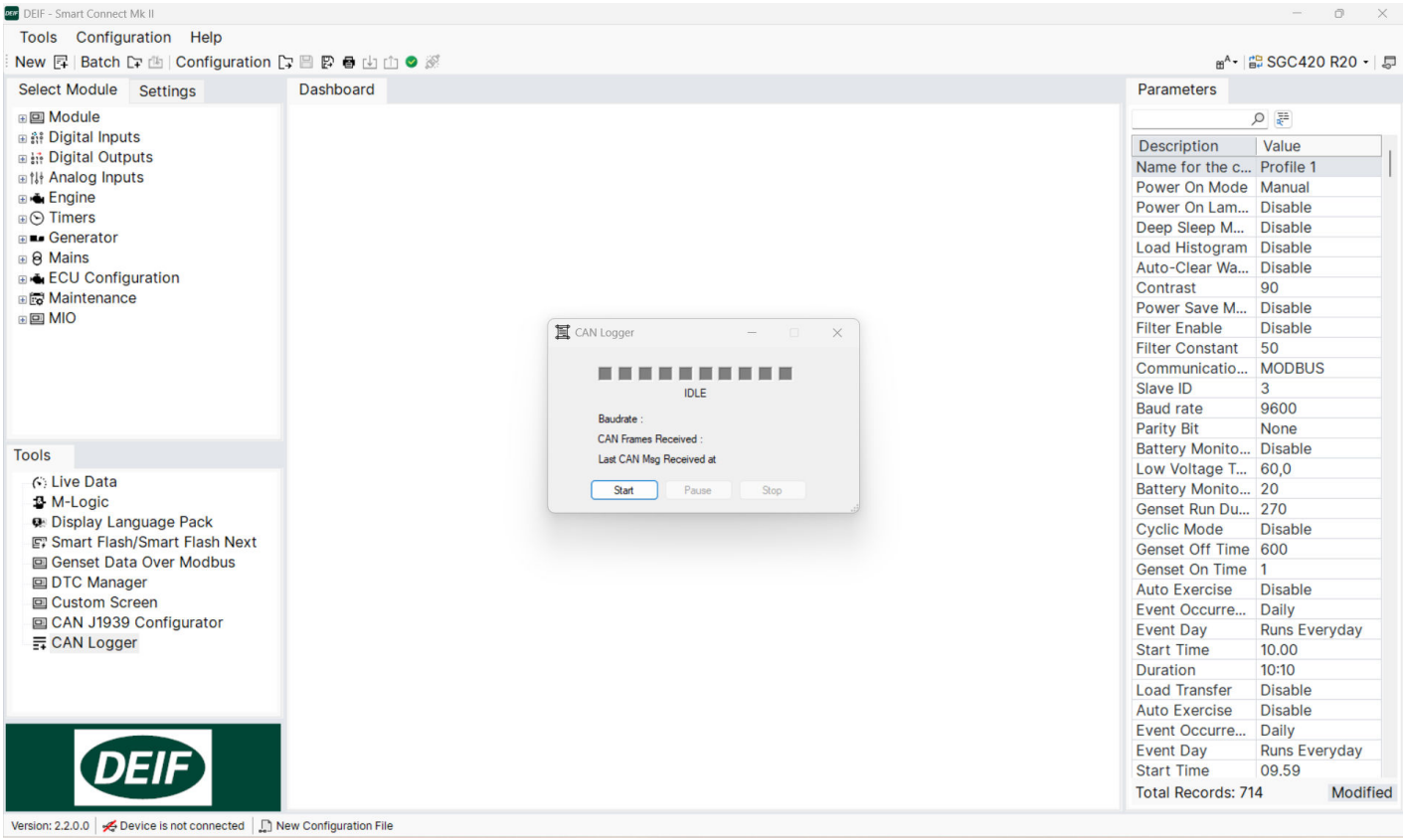
PGN 65276 (0xFEFC)

SPN (Dec)	SPN (Hex)	Signal	Notes
96	0x60	Fuel Level 1	Ratio of volume of fuel to the total volume of fuel storage container

6. CAN logging

Use CAN Logger in Smart Connect Mk II to record CAN bus traffic for troubleshooting and engine integration. CAN Logger captures transmitted (Tx) and received (Rx) CAN/J1939 frames without an external CAN interface.

The controller transfers the captured data to Smart Connect Mk II through USB. Smart Connect Mk II saves the data as a PCAN-compatible `.trc` trace file for analysis or sharing with technical support.



CAN logging cannot run at the same time as other functions that use the USB connection, such as live data supervision. CAN Logger supports CAN bus baud rates of *250 and 500 kb/s*.

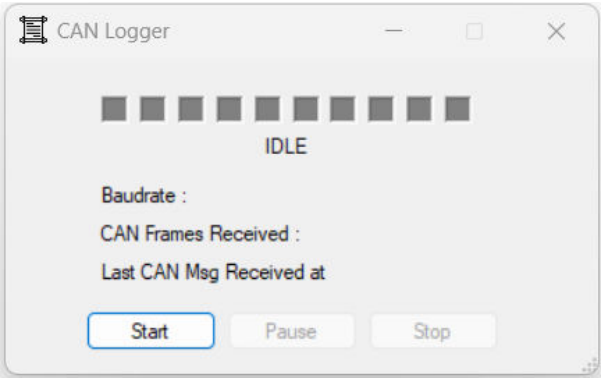
NOTE Applicable for SGC 320 Mk II and SGC 420 Mk II with firmware R20.

6.1 Record CAN communication

Use the **CAN Logger** window to start, pause and stop recording. Monitor the received-frame count and last-message time during capture, then save the recorded communication as a trace file.

Start logging

1. Use a USB cable to connect the controller to the computer.
2. Open Smart Connect Mk II.
3. Under *Tools*, select *CAN Logger*.
4. Select *Start* to begin logging.



Monitor logging

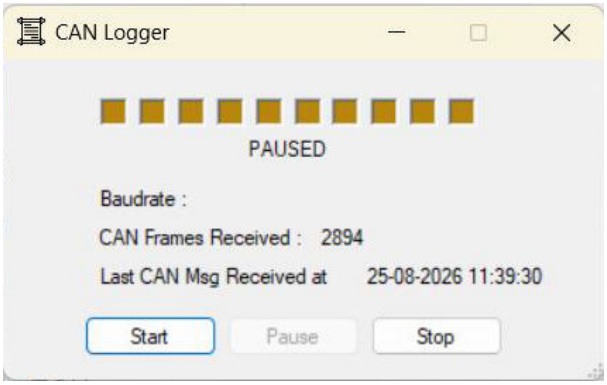
The CAN Logger window displays the following information:

Field	Notes
Status	Current logger state, such as *IDLE* or *PAUSED*.
Baudrate	CAN bus baud rate.
CAN Frames Received	Number of received CAN frames.
Last CAN Msg Received at	Date and time of the last received CAN message.

While CAN traffic is being received, *CAN Frames Received* and *Last CAN Msg Received at* update. If both stop updating unexpectedly, this can indicate a capture or communication problem. CAN Logger does not display a bus-load measurement, so these fields do not establish whether the bus is overloaded.

Pause and resume logging

Select *Pause* to pause logging. The logger displays *PAUSED*. Select *Start* to resume logging.

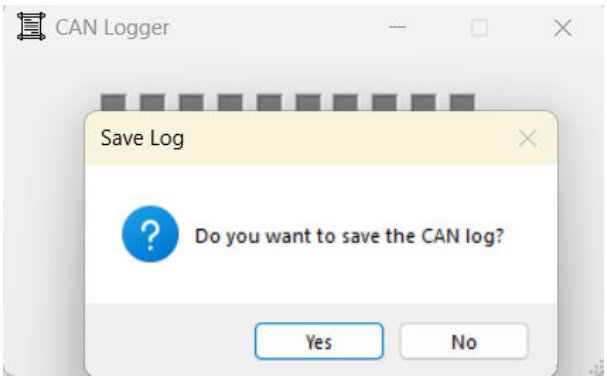


If the controller disconnects and reconnects during logging, logging resumes automatically. The timestamps are adjusted to maintain a continuous trace-file timeline.

Stop logging and save the trace

When the required communication has been recorded:

1. Select *Stop*.
2. In the *Save Log* dialog, select *Yes* to save the CAN log.



6.2 Output file

The saved trace uses *PCAN trace format version 1.3* and has the file extension `.trc`. The file contains the captured CAN messages and their data. It is plain text and can be opened in:

- PCAN Viewer.
- PCAN Explorer.
- A text editor.

```
;$FILEVERSION=1.3
;$STARTTIME=46259.4855039352
;
;   Start time: 25-08-2026 11:39:07.540.0
;   Generated by Smart Connect MK2
;-------------------------------------------------------------------------------
;   Bus Name                         Connection               Protocol  Bit rate
;   1    DEIF - Smart Connect Mk II SGC420@pcan_usb           CAN      250 kbit/s
;-------------------------------------------------------------------------------
;   Message Number
;   |         Time Offset (ms)
;   |         |        Bus
;   |         |        |   Type
;   |         |        |   |       ID (hex)
;   |         |        |   |       |    Reserved
;   |         |        |   |       |    |   Data Length Code
;   |         |        |   |       |    |   |    Data Bytes (hex) ...
;   |         |        |   |       |    |   |    |
;   |         |        |   |       |    |   |    |
;---+-- ------+------- +---+-- ----+--- +- -+-- -+ -- -- -- -- -- -- --
     1)          0.000 1   Tx        0C000003 -   8    F1 E0 2E FF FF FF FF 74
     2)         10.000 1   Tx        0C000003 -   8    F1 E0 2E FF FF FF FF 05
     3)         20.000 1   Tx        0C000003 -   8    F1 E0 2E FF FF FF FF 26
```

Use the trace to analyse the recorded communication, check transmitted messages or share the captured data with technical support for troubleshooting.