Engine CANfigurator:

CANLink Tier 4 Engine Display – Cummins Tier 4 Final Compatible

Engine CANfigurator Basics

- Based off of the CL-709-100-10
  - Fully populated 4.3” display
- All Engine CANfigurator part numbers use the same software, difference is in the configuration chart loaded
- Configuration charts are loaded with Application Configurator
- Supports the following languages (menu selection): English, Spanish, German, Italian, French, and Chinese (Mandarin)

Engine CANfigurator Basics cont.

- **CL-709-100-10-HED-05**
  - **Cummins Tier 4 Final approved version**
  - In Cummins documentation listed as: CANLink Tier 4 Engine Display – Cummins Tier 4 Final Compatible
  - Software version and chart are locked down – any changes would require recertification with Cummins

CANLink Tier 4 Engine Display – Cummins Tier 4 Final Compatible

- **Plug-and-play** – connect to the Cummins Engine CAN network and display will begin showing engine data
- Simple 4 pin connection: Power, Ground, CAN-H, and CAN-L

Deutsch 18-Pin DT	
Pin	**Function**
1	NC – No Connect
2	NC – No Connect
3	NC – No Connect
4	NC – No Connect
5	BAT(-) Display – System Ground/Battery -
6	BAT(+) Display – System Power/Battery +
7	NC – No Connect
8	NC – No Connect
9	NC – No Connect
10	NC – No Connect
11	NC – No Connect
12	NC – No Connect
13	CAN-H – Engine CAN network, 250 Kbs
14	CAN-L – Engine CAN network, 250 Kbs
15	NC – No Connect
16	NC – No Connect
17	NC – No Connect
18	NC – No Connect

Main Screen

- 1st Screen after power-up
- Main engine data display screen

1. Battery Voltage gauge (Volts) – progress bar
2. DEF Urea Level gauge (Percentage) – progress bar
3. Engine RPM – needle gauge
4. Engine Coolant Temperature (degrees C) – progress bar
5. Fuel Level (Percentage) – progress bar

Main Screen cont.

6. Active Lamps 1-5
7. Warning/Error Text
8. Active Lamps 6-10
9. Change to Secondary Screen
10. Change to Regeneration/DEF Screen
11. Change to Main Menu
12. Engine Hours display

Main Screen cont.

- 48 different warning/error messages can be displayed based on CAN information from the engine – these are displayed in the “Warning/Error Text” located top and center of the Main Screen and subsequent screens

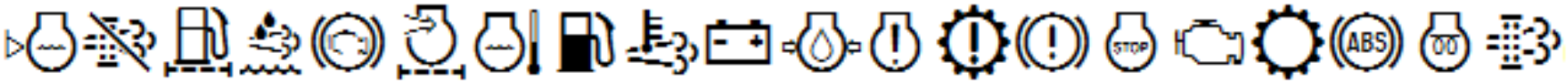
1	Warning: High Engine Speed
2	Warning: Low Engine Speed
3	Warning: High Battery VDC
4	Warning: Low Battery VDC
5	Warning: High Coolant Temp
6	Warning: Low Coolant Temp
7	Warning: High Coolant Level
8	Warning: Low Coolant Level
9	Warning: High Coolant Press
10	Warning: Low Coolant Press
11	Warning: High Oil Temp
12	Warning: Low Oil Temp
13	Warning: High Oil Level
14	Warning: Low Oil Level
15	Warning: High Oil Press
16	Warning: Low Oil Press
17	Warning: High Engine Fuel Level
18	Warning: Low Engine Fuel Level
19	Warning: High Engine Fuel Rate

20	Warning: Low Engine Fuel Rate
21	Warning: High Exhaust Inlet temp
22	Warning: Low Exhaust Inlet Temp
23	Warning: High Exhaust Outlet Temp
24	Warning: Low Exhaust Outlet Temp
25	Warning: High Uria Level
26	Warning: Low Uria Level
27	Warning: High Percent Soot
28	Warning: Low Percent Soot
29	Warning: High Trans Oil Press
30	Warning: Low Trans Oil Press
31	Warning: High Trans Oil Temp
32	Warning: Low Trans Oil Temp
33	Warning: High Hyd Oil Press
34	Warning: Low Hyd Oil Press
35	Warning: High Hyd Oil Temp
36	Warning: Low Hyd Oil Temp
37	Warning: High Percent Torque
38	Warning: Low Percent Torque

39	WAIT TO START
40	Warning: Engine Fault
41	Warning: Transmision Fault
42	Warning: ABS Fault
43	SERVICE: Engine
44	SERVICE: Machine
45	SERVICE: Engine Oil
46	SERVICE: Engine Air Filter
47	SERVICE: Hydraulic Oil
48	SERVICE: Fuel Filter

Main Screen cont.

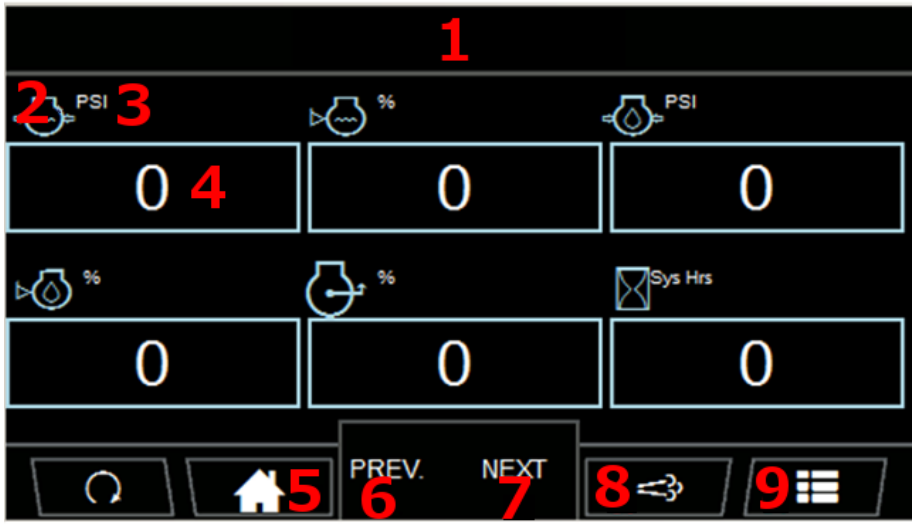
- Displays up to 10 active lamps from the 20 available options based on J1939 CAN data from the engine
- All 20 lamp are enabled by default, but only active lamps are shown
- The lamp color will change based on warning severity
- For lamp symbol and color definition, please consult your engine manual
- Lamps are displayed in the “Active Lamps 1-5” and “Active Lamps 6-10” locations at the top of the Main Screen and subsequent screens



Secondary Screen

- Displays 17 engine data points in numerical format
- 6 data points displayed on the screen at once (Navigation Pad Left and Right is used to cycle through them

1. Active Lamps 1-10 and Warning Text
2. SAE J1939 Symbol for data point
3. Units for data point
4. Numerical value for data point



5. Return to Main Screen
6. Previous set of data points
7. Next set of data points
8. Change to Regeneration/DEF Screen
9. Change to Main Menu

Secondary Screen – cont.

Secondary Screen #1:

1. Engine Coolant Pressure
2. Engine Coolant Level
3. Engine Oil Pressure
4. Engine Oil Level
5. % Torque
6. System Hours

Secondary Screen #2:

1. Transmission Oil Press
2. Transmission Oil temp
3. Hyd Oil Pressure
4. Hyd Oil Temp
5. Current Gear
6. Engine Fuel Rate

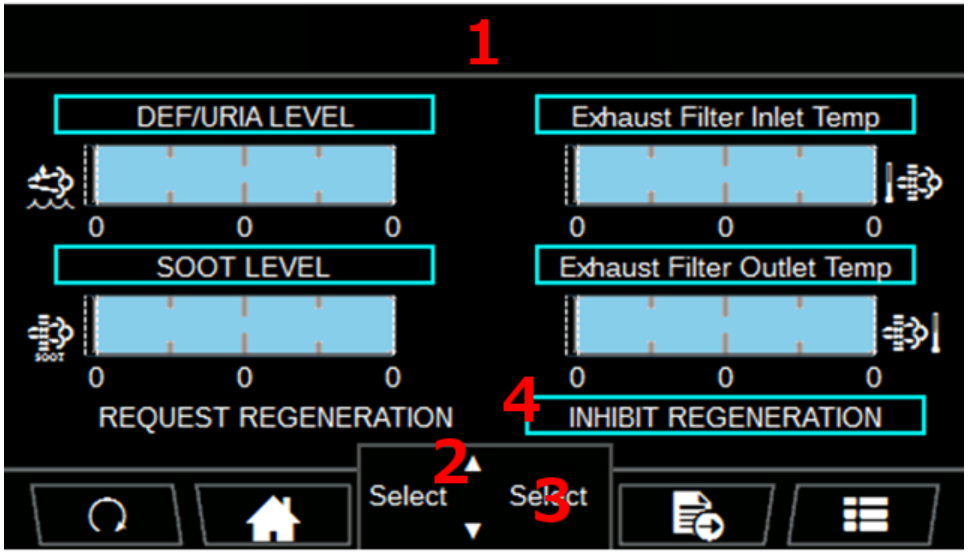
Secondary Screen #3:

1. Engine Intake Manifold Temp
2. Exhaust Filter Inlet Temp
3. Exhaust Filter Outlet Temp
4. Ambient Air Temp
5. Engine Oil Temp

Regeneration/DEF Screen

- Displays DPF/DEF data points
- Allows for requesting or inhibiting regeneration

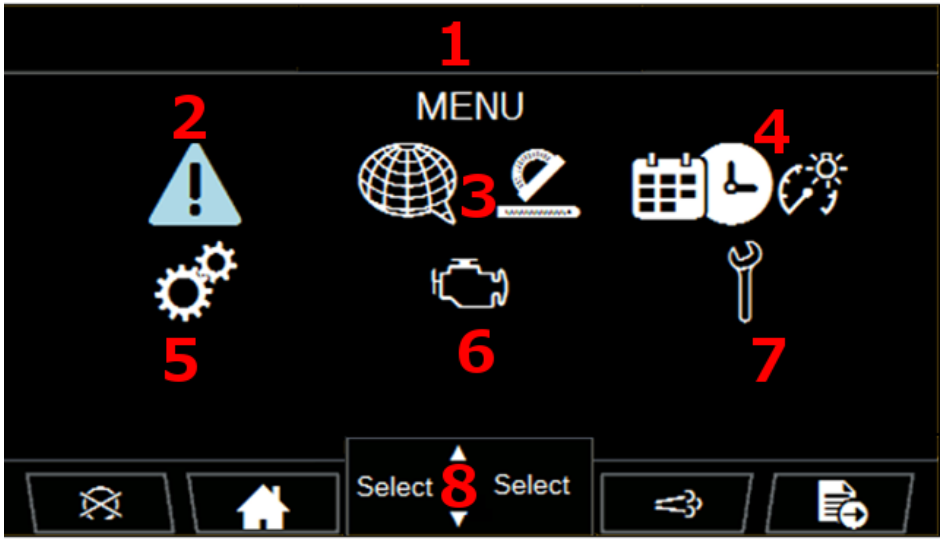
1. Active Lamps 1-10 and Warning Text
2. Cycle between “Request Regen” and “Inhibit Regen”. #4 shows the selection box to denote which regeneration message is selected
3. Send selected regeneration message



Menu Screen

- Allows access to some run-time configurations: Date/Time adjustment, fault code values, unit selection (Standard or Metric), and language selection

1. Active Lamps 1-10 and Warning Text
2. Active fault codes: Display SPN, FMI, and occurrence count data
3. Select Language and Unit screen
4. Set Date/Time screen
5. Engine Droop selection



6. Engine Type selection – has no effect on operation of the display. Type is set in the chart
7. Service Set-up – set and reset maintenance timers
8. Sub-menu navigation: Up/Down to cycle through options; Left/Right to select current option

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Engine CANfigurator Basics cont.

- **CL-709-100-10-HED-02**
  - Standard Engine CANfigurator
  - Base model, no chart loaded – when powered the display shows the “No Chart Loaded” screen
  - Need to create and load a chart to display engine data or control an engine

No Chart Loaded Screen

- Screen appears if a chart is not loaded to the CL-709
- To correct, download the chart with Application Configurator
  - “Cummins_Configuration.acf” is the current Cummins Chart

Software Update Screen

- Enter this screen by holding the outer two buttons (buttons 1 and 4) while the display powers up
- Use the Mode button to select “Check for Program”
- Use “Select” to search for a USB Thumb drive, once found use “Mode” to select “Download” and “Select” to begin loading new software