

Section **20** Diesel Control System (DCS)

DIESEL SHUTDOWN

The purpose of the electronic shutdown system is to prevent the engine running outside of the predetermined safe operating parameters.

The following sensors are fitted to the machine:

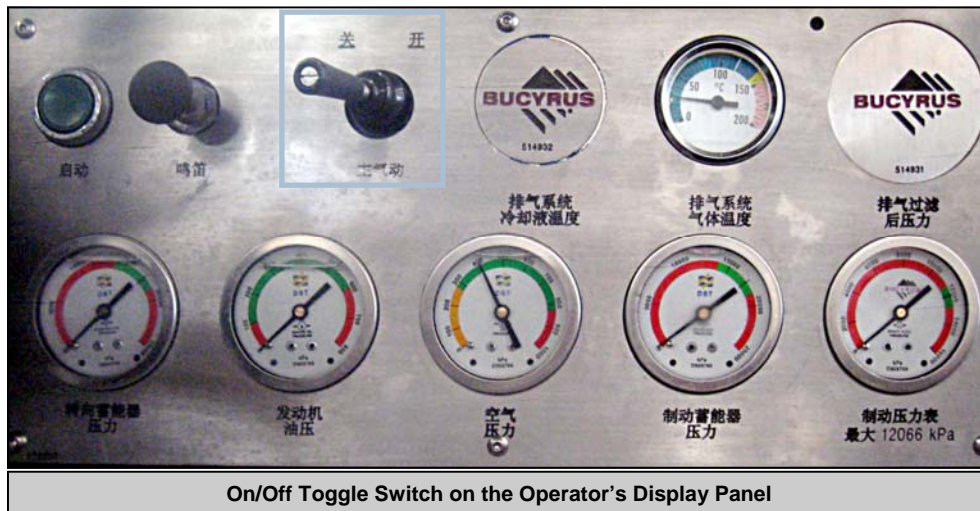
Hi Methane Shutdown (1%)	Shuts engine down
Lo Methane Warning (0.5%)	Warning message
Charge Failure	Warning message/shutdown after 30 minutes
Engine Oil Pressure	Shuts engine down
Engine Coolant Level	Shuts engine down
Hydraulic Oil Level	Warning message
Engine Coolant Temperature	Shuts engine down
Exhaust Scrubber Temperature	Shuts engine down
Exhaust Outlet Temperature	Shuts engine down
Power Up Pressure Switch (PUPS)	System start up
Wet Scrubber Water Level 1	Shuts engine down
Wet Scrubber Water Level 2	Shuts engine down



Operator Display Panel

SYSTEM OPERATION

1. **Toggle the on/off toggle switch to the *on* position:** This will activate the DCS electronics. The system will display "Waiting for methane sensor warm up" and the methane LED will be illuminated. After approximately 20 seconds the screen display will read "Pre run checks" while the DCS checks that the system is ready to start. Once this is completed the screen will display "Waiting for start". The engine can now be started. If the engine is not started within 20 seconds the DCS will shut itself down. To restart the system toggle the on/off toggle switch to *off* then back to *on*.



2. **Start engine:** Activate the engine start button. After the engine has started, the display will read "Engine running".
3. **After starting the engine** if the alternator is not charging the engine will run for a predetermined period of time before shutting down.
4. **Drive machine normally.**
5. **Shutdown:** When finished with the machine, toggle the on/off toggle switch to the *off* position. This will deactivate the DCS electronics, thus cutting power to the solenoid and shutting off pilot air pressure to the fuel shut off cylinder and the engine will stop.
6. **After a shutdown** whether by the operator or an engine trip, if the up or down arrows are pressed the system will return to "Waiting for start".