

VOLVO PENTA

Engine protection D7
AUX_CLASSIFIABLE

Document No

21378462

Issue Index

06

Sensors Control and Monitoring System							Switches Engine Shutdown System	
Sensors	Signal	Unit	Range	Warning Initial Delay / Warning Delay	Warning Level	Derating Level	Shutdown Initial Delay / Shutdown Delay	Shutdown Level (Tolerance)
Charge air pressure	NA	NA	NA	NA	NA	NA	NA	NA
Charge air temperaure	NA	NA	NA	NA	NA	NA	NA	NA
Coolant level switch	Digital		ON/OFF	30 sec	Low (OFF / Opened)	NA	NA	NA
Coolant temperature	PT100	°C	0 - 200	60 sec from start / 5 sec	105	NA	1 sec	110 (± 2°C) SDU Ch. S1 (NA for EME. Valid for AUX and HBR modes)*
Engine speed fw. MCU 1500+15%	Frequency	rpm	129	Instant	Lost signal	NA	NA	1650 rpm
Engine speed fw. MCU 1800+15%	Frequency	rpm	129	Instant	Lost signal	NA	NA	1980 rpm
Eng. overspeed SDU 1500+15%	Frequency	rpm / Hz	129	Instant	Lost signal	NA	Instant	1725 rpm / 3709 Hz (-1 to 0%)
Eng. overspeed SDU 1800+15%	Frequency	rpm / Hz	129	Instant	Lost signal	NA	Instant	2070 rpm / 4450 Hz (-1 to 0%)
Exhaust gas temperature	NA	NA	NA	NA	NA	NA	NA	NA
Oil level sensor	NA	NA	NA	NA	NA	NA	NA	NA
Oil temperature	PT100	°C	0 - 200	60 sec from start / 5 sec	125	NA	NA	NA
Piston cooling switch	NA	NA	NA	NA	NA	NA	NA	NA
Fuel leakage switch	Digital		ON/OFF	30 sec	OFF / Opened	NA	NA	NA
Water in fuel switch	NA	NA	NA	NA	NA	NA	NA	NA

NA = Not applicable

*Emergency genset modes = EME

Auxiliary genset modes = AUX

Combined genset modes = EME, HBR

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Sensors (rpm dependent)	Signal	Unit	Range	Initial Delay / Delay	Warning Level / Derating Level / Shutdown Level					Switches Shutdown System
					rpm Map					
					0 rpm	600 rpm	1000 rpm	1500 rpm	1800 rpm	
Coolant pressure	4-20 mA	kPa	0 - 1000							
Warning Level		kPa		60 sec from start / 5 sec	NA	0	30	30	30	
Derating Level		kPa		NA	NA	NA	NA	NA	NA	
Shutdown Level (Shutdown Unit Channel S4)	NA	kPa	NA	NA	NA	NA	NA	NA	NA	Shutdown Unit Setting Run detection S4:1300 rpm ±2% 2795 Hz±2% 129 pulses / revolution
Differential oil pressure	NA	kPa	NA							
Warning Level		kPa		NA	NA	NA	NA	NA	NA	
Derating Limit		kPa		NA	NA	NA	NA	NA	NA	
Fuel pressure	4-20 mA	kPa	0 - 1000							
Warning Level		kPa		60 sec from start / 5 sec	NA	200	200	200	200	
Derating Level		kPa		NA	NA	NA	NA	NA	NA	
Oil pressure	4-20 mA	kPa	0 - 1000							
Warning Level		kPa		10 sec from start / 1 sec	NA	200	200	200		
Derating Level		kPa		NA	NA	NA	NA	NA		
Shutdown Level (Shutdown Unit Channel S3)	Digital	kPa	ON/OFF	11 sec ±20% from start / 1sec	NA	NA	120 ±20	120 ±20		Shutdown Unit Setting Run detection S2, S3:1300 rpm ±2% 2795 Hz±2% 129 pulses / revolution (NA for EME. Valid for AUX and HBR modes)*
Seawater pressure	NA	kPa	NA							
Warning Level		kPa		NA	NA	NA	NA	NA	NA	
Derating Level		kPa		NA	NA	NA	NA	NA	NA	

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Engine protection			Engine protection (Shut down)		
Overspeed	1500	rpm	NA	1725±1% (1438Hz)*	1,438 kHz (1,423 to 1,452 kHz)
	1800	rpm	NA	2070±1% (1725Hz) *	1,725 kHz (1,708 to 1,743 kHz)

* 115% of nominal speed (50 pulses / revs)