Caterpillar CCM - Modbus Communications Panel (CCMM)

ADVANCED POWER TECHNOLOGIES

This panel integrates Caterpillar CCM and converts its output to RS-485 port with Modbus RTU or ASCII protocol. Modbus RTU protocol allows for easy integration into customers SCADA, DSC or other computerized monitoring systems.

Features and options:
- Fully integrated NEMA 1 wall mounted panel.
- Standard terminal points for field connected 120 VAC and 24 VDC power, CAT data link and RS-485 connections.
- Jumper selectable 2 wire or 4 wire RS-485 connection.
- 16 additional 24 VDC inputs for monitoring additional field devices such as fuel, oil and coolant level and spill switches, circuit breaker positions, etc.
- 16 optional 24 VDC digital outputs for controlling louvers, circuit breakers, start/stop, etc.
- All 24 VDC inputs and outputs are readable and writeable via Modbus port.
- Custom register mapping is available.

Modbus register list:

Holding register address.	Register Name	Holding register address.	Register Name
			ENGINE WARNING STATUS (ECM) word 1.
40615	Engine Speed (RPM)		
40616	Coolant temperature	40637, bit 1	High exhaust temperature
40617	Atmospheric pressure	40637, bit 2	Not used
40618	Filtered engine oil pressure	40637, bit 3	Air filter plugged
40619	Boost pressure	40637, bit 4	Engine overspeed
40620	Engine operating hours	40637, bit 5	Low coolant temperature
40621	Aftercooler Temperature	40637, bit 6	High coolant temperature
40622	Battery voltage	40637, bit 7	Low oil pressure,
40623	Oil filter differential pressure	40637, bit 8	Low battery voltage
40624	Fuel filter differential pressure	40637, bit 9	Not used
40625	Right exhaust temperature	40637, bit 10	Not used
40626	Left exhaust temperature	40637, bit 11	Not used
40627	Filtered fuel pressure	40637, bit 12	Not used
40628	Right air filter restriction	40637, bit 13	High aftercooler coolant temperature
40629	Left air filter restriction	40637, bit 14	High crankcase pressure
40630	Fuel consumption rate	40637, bit 15	Fuel filter plugged
40631	Total fuel the engine has burned, word 1(LSW)	40637, bit 16	Oil filter plugged
40632	Total fuel the engine has burned, word 2(MSW)		
			ENGINE WARNING STATUS (ECM) word 2.
	ENGINE SHUTDOWN STATUS (ECM), word 1.	40636, bit 1	Not used
40634, bit 1	Not used	40636, bit 2	Not used
40634, bit 2	Not used	40636, bit 3	Not used
40634, bit 3	Not used	40636, bit 4	Not used
40634, bit 4	Overspeed	40636, bit 5	Not used
40634, bit 5	Not used	40636, bit 6	Not used
40634, bit 6	High coolant temperature	40636, bit 7	Not used
40634, bit 7	Low oil pressure	40636, bit 8	Not used
40634, bit 8	Not used	40636, bit 9	Not used
40634, bit 9	Not used	40636, bit 10	Not used

Register	Description
40634, bit 10	Not used
40634, bit 11	Not used
40634, bit 12	Not used
40634, bit 13	High aftercooler coolant temperature
40634, bit 14	High crankcase pressure
40634, bit 15	Not used
40634, bit 16	Not used

ENGINE SHUTDOWN STATUS (ECM), word 2.

Register	Description
40633, bit 1	Not used
40633, bit 2	Not used
40633, bit 3	Not used
40633, bit 4	Not used
40633, bit 5	Not used
40633, bit 6	Not used
40633, bit 7	Not used
40633, bit 8	Not used
40633, bit 9	Not used
40633, bit 10	Not used
40633, bit 11	Not used
40633, bit 12	Not used
40633, bit 13	Not used
40633, bit 14	Not used
40633, bit 15	Not used
40633, bit 16	Not used

ENGINE STATUS (ECM).

Register	Description
40635, bit 1	No engine speed
40635, bit 2	Not used
40635, bit 3	Not used
40635, bit 4	Not used
40635, bit 5	Not used
40635, bit 6	Not used
40635, bit 7	Not used
40635, bit 8	Not used
40635, bit 9	Not used
40635, bit 10	Not used
40635, bit 11	Not used
40635, bit 12	Fuel injection disabled
40635, bit 13	Emergency stop shutdown*
40635, bit 14	Not used
40635, bit 15	Not used
40635, bit 16	Not used

* Not available on version
C ECM, Caterpillar
p/n 7X-6321.

Register	Description
40636, bit 11	Not used
40636, bit 12	Not used
40636, bit 13	Not used
40636, bit 14	Not used
40636, bit 15	Not used
40636, bit 16	Not used

GSC SHUTDOWN STATUS.

Register	Description
40638, bits 1&2	Diagnostic code shutdown
40638, bits 3&4	Coolant loss (not applicable)
40638, bits 5&6	Emergency stop
40638, bits 7&8	Spare fault
40638, bits 9&10	High coolant temperature
40638, bits 11&12	Low oil pressure,
40638, bits 13&14	Overcrank
40638, bits 15&16	Overspeed
40639	GSC ECS position

GSC+ generator output electrical metering parameters.

Register	Description
40640	Active Power, word1 (LSW)
40641	Active Power, word2 (MSW)
40642	Reactive Power, word1 (LSW)
40643	Reactive Power, word2 (MSW)
40644	Power Factor
40645	Power Factor Lead/Lag status
40646	Voltage, Phase A-B
40647	Voltage, Phase B-C
40648	Voltage, Phase C-A
40649	Current, Phase A
40650	Current, Phase B
40651	Current, Phase C
40652	Frequency
40653	Active Energy, word1 (LSW)
40654	Active Energy, word2 (MSW)
40655	Reactive Energy, word1 (LSW)
40656	Reactive Energy, word2 (MSW)

24 VDC digital inputs.

Register	Description
10001	Digital input 1
10002	Digital input 2
10003	Digital input 3
10004	Digital input 4
10005	Digital input 5
10006	Digital input 6
10007	Digital input 7
10008	Digital input 8
10009	Digital input 9
10010	Digital input 10
10011	Digital input 11
10012	Digital input 12
10013	Digital input 13
10014	Digital input 14
10015	Digital input 15
10016	Digital input 16