

PowerView™ – Modbus Registers (Ver 3.2)

PowerView Modbus Holding Registers*

Register	Description	Decimal Places	Units	Range per Bit	Resolution Available	Value for data not available
40001	Accelerator Pedal Position	1	%	0.0 – 100.0	0.4%	FFFFh, -1d
40002	Percent Load	0	%	0 – 250	1%	FFFFh, -1d
40003	Actual Engine Percent Torque	0	%	-125 – 125	1%	7FFFh, 32767d
40004	Engine Speed	0	RPM	0 – 8031	1 RPM	FFFFh, -1d
40005	Trip Distance LSB	0	M	0 – 326885152	1 Mile	FFFFFFFFh, -1d
40006	Trip Distance MSB					
40007	Total Vehicle Distance LSB	0	M	0-326885152	1 Mile	FFFFFFFFh, -1d
40008	Total Vehicle Distance MSB					
40009	Total Engine Hours LSB	1	HRS	0.0 – 210554048.0	0.1 Hours	FFFFFFFFh, -1d
40010	Total Engine Hours MSB					
40011	Trip Fuel LSB	1	GAL	0.0 – 214748400.0	0.1 Gallons	FFFFFFFFh, -1d
40012	Trip Fuel MSB					
40013	Total Fuel Used LSB	1	GAL	0.0 – 214748400.0	0.1 Gallons	FFFFFFFFh, -1d
40014	Total Fuel Used MSB					
40015	Engine Coolant Temperature	0	F	-40 – 410	1 deg. F	7FFFh, 32767d
40016	Fuel Temperature	0	F	-40 – 410	1 deg. F	7FFFh, 32767d
40017	Engine Oil Temperature	0	F	-459 – 3154	1 deg. F	7FFFh, 32767d
40018	Engine Intercooler Temperature	0	F	-40 – 410	1 deg. F	7FFFh, 32767d
40019	Fuel Delivery Pressure	0	PSI	0 – 145	1 PSI	FFFFh, -1d

* Slave Active Mode

Register	Description	Decimal Places	Units	Range per Bit	Resolution Available	Value for data not available
40020	Engine Oil Level	0	%	0 – 100	1%	FFFFh, -1d
40021	Engine Oil Pressure	0	PSI	0 – 145	1 PSI	FFFFh, -1d
40022	Coolant Pressure	0	PSI	0 – 72	1 PSI	FFFFh, -1d
40023	Coolant Level	0	%	0 – 100	0.01	FFFFh, -1d
40024	Wheel Base Vehicle Speed	0	MPH	0 – 155	1 MPH	FFFFh, -1d
40025	Fuel Rate	1	G/HR	0.0 – 848.1	0.1 Gallon/H	FFFFh, -1d
40026	Instantaneous Fuel Economy	1	M/G	0.0 – 295.0	0.1 Mile/Gallon	FFFFh, -1d
40027	Average Fuel Economy	1	M/G	0.0 – 295.0	0.1 Mile/Gallon	FFFFh, -1d
40028	Barometric Pressure	0	PSI	0 – 18	1 PSI	FFFFh, -1d
40029	Air Inlet Temperature	0	F	-40 – 410	1 deg. F	7FFFh, 32767d
40030	Boost Pressure	0	PSI	0 – 72	1 PSI	FFFFh, -1d
40031	Intake Manifold Temperature	0	F	-40 – 410	1 deg. F	7FFFh, 32767d
40032	Air Filter Differential Pressure	2	PSI	0 – 1.80	.01 PSI	FFFFh, -1d
40033	Exhaust Gas Temperature	0	F	-459 – 3154	1 deg. F	7FFFh, 32767d
40034	Alternator Potential (Voltage)	1	VDC	0.0 – 3212.7	0.1 Volts	FFFFh, -1d
40035	Electrical Potential (Voltage)	1	VDC	0.0 – 3212.7	0.1 Volts	FFFFh, -1d
40036	Battery Potential (Voltage)	1	VDC	0.0 – 3212.7	0.1 Volts	FFFFh, -1d
40037	Transmission Oil Pressure	0	PSI	0 – 580	1 PSI	FFFFh, -1d
40038	Transmission Oil Temperature	0	F	-459 – 3154	1 deg. F	7FFFh, 32767d
40039	Injector Metering Rail 1 Pressure	0	PSI	0 – 36403	1 PSI	FFFFh, -1d
40040	Injector Metering Rail 2 Pressure	0	PSI	0 – 36403	1 PSI	FFFFh, -1d
40041	Fan Drive	0	%	0 – 100	1%	FFFFh, -1d
40042	Auxiliary Temperature	0	F	-40 – 410	1 deg. F	7FFFh, 32767d

Register	Description	Decimal Places	Units	Range per Bit	Resolution Available	Value for data not available
40043	Auxiliary Pressure	0	PSI	0 – 580	1 PSI	FFFFh, -1d
40044	Selected Gear	0	NA	-125 – 125,251	1 Gear, Park	7FFFh, 32767d
40045	Current Gear	0	NA	-125 – 125,251	1 Gear, Park	7FFFh, 32767d
40046	Output Shaft Speed	0	RPM	0 – 8031	1 RPM	FFFFh, -1d
40047	Input Shaft Speed	0	RPM	0 – 8031	1 RPM	FFFFh, -1d
40048	Torque Converter Lockup	0	NA	ON/OFF	Digital ON/OFF	FFFFh, -1d
40049	Machine Hours LSB	1	HRS	0.0 – 429496729.4	0.1 Hours	FFFFFFFFh, -1d
40050	Machine Hours MSB					
40051 – 40100	Future Use					
40101	Accelerator Pedal Position	1	%	0.0 – 100.0	0.4%	FFFFh, -1d
40102	Percent Load	0	%	0 – 250	1%	FFFFh, -1d
40103	Actual Engine Percent Torque	0	%	-125 – 125	1%	7FFFh, 32767d
40104	Engine Speed	0	RPM	0 – 8031	1 RPM	FFFFh, -1d
40105	Trip Distance LSB	0	Km	0 – 526385120	1 Kilometers	FFFFFFFFh, -1d
40106	Trip Distance MSB					
40107	Total Vehicle Distance LSB	0	Km	0 – 526385120	1 Kilometers	FFFFFFFFh, -1d
40108	Total Vehicle Distance MSB					
40109	Total Engine Hours LSB	1	HRS	0.0 – 210554048.0	0.1 Hours	FFFFFFFFh, -1d
40110	Total Engine Hours MSB					
40111	Trip Fuel LSB	1	L	0.0 – 214748352.0	0.1 Liters	FFFFFFFFh, -1d
40112	Trip Fuel MSB					
40113	Total Fuel Used LSB	1	L	0.0 – 214748352.0	0.1 Liters	FFFFFFFFh, -1d

Register	Description	Decimal Places	Units	Range per Bit	Resolution Available	Value for data not available
40114	Total Fuel Used MSB					
40115	Engine Coolant Temperature	0	C	-40 – 210	1 deg. C	7FFFh, 32767d
40116	Fuel Temperature	0	C	-40 – 210	1 deg. C	7FFFh, 32767d
40117	Engine Oil Temperature	0	C	-273 – 1734	1 deg. C	7FFFh, 32767d
40118	Engine Intercooler Temperature	0	C	-40 – 210	1 deg. C	7FFFh, 32767d
40119	Fuel Delivery Pressure	0	kPa	0 – 1000	1 Kilopascals	FFFFh, -1d
40120	Engine Oil Level	0	%	0 – 100	1%	FFFFh, -1d
40121	Engine Oil Pressure	0	kPa	0 – 1000	1 Kilopascals	FFFFh, -1d
40122	Coolant Pressure	0	kPa	0 – 500	1 Kilopascals	FFFFh, -1d
40123	Coolant Level	0	%	0 – 100	1%	FFFFh, -1d
40124	Wheel Based Vehicle Speed	0	Km/H	0 – 250	1 km/Hour	FFFFh, -1d
40125	Fuel Rate	1	L/HR	0.0 – 3212.7	0.1 Liters/Hour	FFFFh, -1d
40126	Instantaneous Fuel Economy	1	Km/L	0.0 – 125.4	0.1 km/Liter	FFFFh, -1d
40127	Average Fuel Economy	1	Km/L	0.0 – 125.4	0.1 km/Liter	FFFFh, -1d
40128	Barometric Pressure	0	kPa	0 – 125	1 Kilopascals	FFFFh, -1d
40129	Air Inlet Temperature	0	C	-40 – 210	1 deg. C	7FFFh, 32767d
40130	Boost Pressure	0	kPa	0 – 500	1 Kilopascals	FFFFh, -1d
40131	Intake Manifold Temperature	0	C	-40 – 210	1 deg. C	7FFFh, 32767d
40132	Air Filter Differential Pressure	2	kPa	0 – 12.5	.05 Kilopascals	FFFFh, -1d
40133	Exhaust Gas Temperature	0	C	-273 – 1734	1 deg. C	7FFFh, 32767d
40134	Alternator Potential (Voltage)	1	VDC	0.0 – 3212.7	0.1 Volts	FFFFh, -1d
40135	Electrical Potential (Voltage)	1	VDC	0.0 – 3212.7	0.1 Volts	FFFFh, -1d
40136	Battery Potential (Voltage)	1	VDC	0.0 – 3212.7	0.1 Volts	FFFFh, -1d

Register	Description	Decimal Places	Units	Range per Bit	Resolution Available	Value for data not available
40137	Transmission Oil Pressure	0	kPa	0 – 4000	1 Kilopascals	FFFFh, -1d
40138	Transmission Oil Temperature	0	C	-273 – 1734	1 deg. C	7FFFh, 32767d
40139	Injector Metering Rail 1 Pressure	0	MPa	0 – 250	1 Megapascals	FFFFh, -1d
40140	Injector Metering Rail 2 Pressure	0	MPa	0 – 250	1 Megapascals	FFFFh, -1d
40141	Fan Drive	0	%	0 – 100	1%	FFFFh, -1d
40142	Auxiliary Temperature	0	C	-40 – 210	1 deg. C	7FFFh, 32767d
40143	Auxiliary Pressure	0	kPa	0 – 4000	1 Kilopascals	FFFFh, -1d
40144	Selected Gear	0	NA	-125 – 125,251	1 Gear, Park	7FFFh, 32767d
40145	Current Gear	0	NA	-125 – 125,251	1 Gear, Park	7FFFh, 32767d
40146	Output Shaft Speed	0	RPM	0 – 8031	1 RPM	FFFFh, -1d
40147	Input Shaft Speed	0	RPM	0 – 8031	1 RPM	FFFFh, -1d
40148	Torque Converter Lockup	0	NA	ON/OFF	Digital ON/OFF	FFFFh, -1d
40149	Machine Hours LSB	1	HRS	0.0 – 429496729.4	0.1 Hours	FFFFFFFFh, -1d
40150	Machine Hours MSB					
40151 – 40200	Future Use					
41001	Number of Sets of Active Fault Codes	0	NA	0 – 255	1 Fault	FFFFh, -1d
41002	Malfunction Indicator Lamp Status	0	NA	0 = OFF 1 = ON 3 = NOT SUPPORTED	OFF ON NOT SUPPORTED	FFFFh, -1d
41003	Red Stop Lamp Status	0	NA	0 = OFF 1 = ON 3 = NOT SUPPORTED	OFF ON NOT SUPPORTED	FFFFh, -1d

Register	Description	Decimal Places	Units	Range per Bit	Resolution Available	Value for data not available
41004	Amber Warning Lamp Status	0	NA	0 = OFF 1 = ON 3 = NOT SUPPORTED	OFF ON NOT SUPPORTED	FFFFh, -1d
41005	Protect Lamp Status	0	NA	0 = OFF 1 = ON 3 = NOT SUPPORTED	OFF ON NOT SUPPORTED	FFFFh, -1d
41006	Active SPN 1 LSB	0	NA	0 – 524287	1	FFFFFFFFh, -1d
41007	Active SPN 1 MSB					
41008	Active FMI 1	0	NA	0 – 31	1	FFFFh, -1d
41009	Active Occurrence Count 1	0	NA	0 – 127	1	FFFFh, -1d
41010	Active SPN 2 LSB	0	NA	0 – 524287	1	FFFFFFFFh, -1d
41011	Active SPN 2 MSB					
41012	Active FMI 2	0	NA	0 – 31	1	FFFFh, -1d
41013	Active Occurrence Count 2	0	NA	0 – 127	1	FFFFh, -1d
41222	Active SPN 55 LSB	0	NA	0 – 524287	1	FFFFFFFFh, -1d
41223	Active SPN 55 MSB					
41224	Active FMI 55	0	NA	0 – 31	1	FFFFh, -1d
41225	Active Occurrence Count 55	0	NA	0 – 127	1	FFFFh, -1d
41226 – 43000	Future Use					
43001	Number of Sets of Stored Fault Codes	0	NA	0 – 255	1 Fault	FFFFh, -1d
43002	Stored SPN 1 LSB	0	NA	0 – 524287	1	FFFFFFFFh, -1d
43003	Stored SPN 1 MSB					
43004	Stored FMI 1	0	NA	0 – 31	1	FFFFh, -1d

Register	Description	Decimal Places	Units	Range per Bit	Resolution Available	Value for data not available
43005	Stored Occurrence Count 1	0	NA	0 – 127	1	FFFFh, -1d
43006	Stored SPN 2 LSB	0	NA	0 – 524287	1	FFFFFFFFh, -1d
43007	Stored SPN 2 MSB					
43008	Stored FMI 2	0	NA	0 – 31	1	FFFFh, -1d
43009	Stored Occurrence Count 2	0	NA	0 – 127	1	FFFFh, -1d
43218	Stored SPN 55 LSB	0	NA	0 – 524287	1	FFFFFFFFh, -1d
43219	Stored SPN 55 MSB					
43220	Stored FMI 55	0	NA	0 – 31	1	FFFFh, -1d
43221	Stored Occurrence Count 55	0	NA	0 – 127	1	FFFFh, -1d
43222 – 45000	Future Use					

PowerView – Slave Active Mode* (RS485 Modbus RTU Slave)

Modbus Function Codes Supported		
Code 3	Reading Holding Registers	(maximum response: 50 registers)

Modbus Exception Codes Supported		
Code 01	Illegal Function	(sent in response to a Master device use of a Function Code other than Code 3)
Code 02	Illegal Data Address	(sent in response to a Master device query outside of the allowable register range)
Code 03	Illegal Data Value	(sent in response to a Master device query of more than 50 registers)

*PowerView Model PV101 software version Murphy 3.1 & 3.2

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