

EMCP 4 Modbus Registers - 4.3 Prod Software

Parameter Name	R/W	Holding Register	Ct	Description	Scaling (Resolution)	Offset	Limits (Ranges)	Sec Lvl	4.2	4.3	4.4	
<p>R= Read Only W= Write Only</p> <p>Column D= Address in Decimal (1-based, may need to add 40000) Column E= Address in Hexadecimal (0-based, as transmitted) NOTE: For detailed information on addressing offset refer to EMCP 4 SCADA Data Links Manual (LEBE0010)</p> <p>Number of Registers this parameter spans (if more than 1, the lowest register is most significant)</p> <p>Value= Raw Data * Scaling + Offset</p> <p>Values outside of these Limits are Error or Unavailable</p> <p>Security Level</p>												
Generator Average Line-Line AC RMS Voltage	R	100	0x0063	1	Average Line to Line RMS voltage measured at the generator output.	1 V / bit	0 V	0 to 64255 V	0	●	●	●
Generator Average AC RMS Current	R	101	0x0064	1	Average RMS current measured at the generator output.	1 A / bit	0 A	0 to 64255 A	0	●	●	●
Generator Average AC RMS Frequency	R	102	0x0065	1	Average AC frequency measured at the generator output.	1/128 Hz / bit	0 Hz	0 to 501.9922 Hz	0	●	●	●
Generator Overall Power Factor	R	103	0x0066	1	The average Power Factor of the generator.	1/16384 / bit	-1.0	-1.0 to 1.0	0	●	●	●
Generator Overall Power Factor Lagging	R	104	0x0067	1	Lead/lag status for generator average Power Factor.	0 = Power factor leading 1 = Power factor lagging			0	●	●	●
Generator Total Percent kW	R	105	0x0068	1	Total real power delivered by the generator, as a percentage of generator rated power.	0.0078125 % / bit	-251 %	-251 to 250.99 %	0	●	●	●
Generator Total Real Power	R	106	0x0069	2	Total real power delivered by the generator.	1 W / bit	-2000000000 W	-2000000000 to +2211081215 W	0	●	●	●
Generator Phase A Line-Line AC RMS Voltage	R	108	0x006B	1	Line to Line RMS voltage measured at the generator phase AB output.	1 V / bit	0 V	0 to 64255 V	0	●	●	●
Generator Phase B Line-Line AC RMS Voltage	R	109	0x006C	1	Line to Line RMS voltage measured at the generator phase BC output.	1 V / bit	0 V	0 to 64255 V	0	●	●	●
Generator Phase C Line-Line AC RMS Voltage	R	110	0x006D	1	Line to Line RMS voltage measured at the generator phase CA output.	1 V / bit	0 V	0 to 64255 V	0	●	●	●
Generator Phase A AC RMS Current	R	111	0x006E	1	RMS current measured at the generator phase A output.	1 A / bit	0 A	0 to 64255 A	0	●	●	●
Generator Phase B AC RMS Current	R	112	0x006F	1	RMS current measured at the generator phase B output.	1 A / bit	0 A	0 to 64255 A	0	●	●	●
Generator Phase C AC RMS Current	R	113	0x0070	1	RMS current measured at the generator phase C output.	1 A / bit	0 A	0 to 64255 A	0	●	●	●
Generator Phase A Line-Neutral AC RMS Voltage	R	114	0x0071	1	Line to Neutral RMS voltage measured at the generator phase A output.	1 V / bit	0 V	0 to 64255 V	0	●	●	●
Generator Phase B Line-Neutral AC RMS Voltage	R	115	0x0072	1	Line to Neutral RMS voltage measured at the generator phase B output.	1 V / bit	0 V	0 to 64255 V	0	●	●	●
Generator Phase C Line-Neutral AC RMS Voltage	R	116	0x0073	1	Line to Neutral RMS voltage measured at the generator phase C output.	1 V / bit	0 V	0 to 64255 V	0	●	●	●
Generator Phase A Real Power	R	117	0x0074	2	The real power delivered by phase A of the generator.	1 W / bit	-2000000000 W	-2000000000 to +2211081215 W	0	●	●	●
Generator Phase B Real Power	R	119	0x0076	2	The real power delivered by phase B of the generator.	1 W / bit	-2000000000 W	-2000000000 to +2211081215 W	0	●	●	●
Generator Phase C Real Power	R	121	0x0078	2	The real power delivered by phase C of the generator.	1 W / bit	-2000000000 W	-2000000000 to +2211081215 W	0	●	●	●
Generator Phase A Apparent Power	R	123	0x007A	2	The apparent power delivered by phase A of the generator.	1 VA / bit	-2000000000 VA	-2000000000 to +2211081215 VA	0	●	●	●
Generator Phase B Apparent Power	R	125	0x007C	2	The apparent power delivered by phase B of the generator.	1 VA / bit	-2000000000 VA	-2000000000 to +2211081215 VA	0	●	●	●
Generator Phase C Apparent Power	R	127	0x007E	2	The apparent power delivered by phase C of the generator.	1 VA / bit	-2000000000 VA	-2000000000 to +2211081215 VA	0	●	●	●
Generator Phase A Reactive Power	R	129	0x0080	2	The reactive power delivered by phase A of the generator.	1 VAr / bit	-2000000000 VAr	-2000000000 to +2211081215 VAr	0	●	●	●
Generator Phase B Reactive Power	R	131	0x0082	2	The reactive power delivered by phase B of the generator.	1 VAr / bit	-2000000000 VAr	-2000000000 to +2211081215 VAr	0	●	●	●
Generator Phase C Reactive Power	R	133	0x0084	2	The reactive power delivered by phase C of the generator.	1 VAr / bit	-2000000000 VAr	-2000000000 to +2211081215 VAr	0	●	●	●
Generator Phase A Power Factor	R	135	0x0086	1	The Power Factor of phase A of the generator.	1/16384 / bit	-1.0	-1.0 to 1.0	0	●	●	●
Generator Phase B Power Factor	R	136	0x0087	1	The Power Factor of phase B of the generator.	1/16384 / bit	-1.0	-1.0 to 1.0	0	●	●	●
Generator Phase C Power Factor	R	137	0x0088	1	The Power Factor of phase C of the generator.	1/16384 / bit	-1.0	-1.0 to 1.0	0	●	●	●
Generator Total Apparent Power	R	138	0x0089	2	The total apparent power delivered by the generator.	1 VA / bit	-2000000000 VA	-2000000000 to +2211081215 VA	0	●	●	●

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Generator Total Percent Apparent Power	R	140	0x008B	1	The total apparent power delivered by the generator, as a percentage of generator rated apparent power.	0.0078125 % / bit	-251 %	-251 to 250.99 %	0	●	●	●
Generator Total Reactive Power	R	141	0x008C	2	The total reactive power delivered by the generator.	1 VAr / bit	-2000000000 VAr	-2000000000 to +2211081215 VAr	0	●	●	●
Generator Total Percent Reactive Power	R	143	0x008E	1	The total reactive power delivered by the generator, as a percentage of generator rated reactive power.	0.0078125 % / bit	-251 %	-251 to 250.99 %	0	●	●	●
Generator Total Real Energy Exported	R	144	0x008F	2	The total kilowatt-hours that have been exported by the generator.	1 kWh / bit	0 kWh	0 to 4211081215 kWh	0	●	●	●
Generator Total Reactive Energy Exported	R	146	0x0091	2	The total kilovar-hours that have been exported by the generator.	1 kVArh/bit	0 kVArh	0 to 4211081215 kVArh	0	●	●	●
Generator Average Line-Neutral AC RMS Voltage	R	148	0x0093	1	The average Line to Neutral AC RMS voltage measured at the generator output.	1 V / bit	0 V	0 to 64255 V	0	●	●	●
Generator Front Bearing Temperature from Data Link	R	149	0x0094	1	Temperature of the bearing inside the alternator. This is the right or front bearing.	0.03125 C / bit	-273 C	-273 to 1735 C	0	●	●	●
Generator Rear Bearing Temperature from Data Link	R	150	0x0095	1	Temperature of the bearing inside the alternator. This is the left or rear bearing.	0.03125 C / bit	-273 C	-273 to 1735 C	0	●	●	●
Generator Phase A Winding Temperature from Data Link	R	151	0x0096	1	Temperature of the Phase A winding inside the alternator.	0.03125 C / bit	-273 C	-273 to 1735 C	0	●	●	●
Generator Phase B Winding Temperature from Data Link	R	152	0x0097	1	Temperature of the Phase B winding inside the alternator.	0.03125 C / bit	-273 C	-273 to 1735 C	0	●	●	●
Generator Phase C Winding Temperature from Data Link	R	153	0x0098	1	Temperature of the Phase C winding inside the alternator.	0.03125 C / bit	-273 C	-273 to 1735 C	0	●	●	●
Generator Phase A Power Factor Lagging	R	159	0x009E	1	Lead/lag status for generator phase A Power Factor.	0 = Power factor leading 1 = Power factor lagging			0	●	●	●
Generator Phase B Power Factor Lagging	R	160	0x009F	1	Lead/lag status for generator phase B Power Factor.				0	●	●	●
Generator Phase C Power Factor Lagging	R	161	0x00A0	1	Lead/lag status for generator phase C Power Factor.				0	●	●	●
Generator Rear Bearing Temperature from I/O Pin	R	162	0x00A1	1	For legacy support only. For new applications, use register 150.	0.03125 C / bit	-273 C	-273 to 1735 C	0	●	●	●
Generator Average Line-Line AC RMS Voltage Percent	R	163	0x00A2	1	Average Line to Line RMS voltage at the generator, as a percentage of nominal generator voltage.	0.0078125 % / bit	-251 %	-251 to 250.99 %	0	●	●	●
Bus Average Line-Line AC RMS Voltage	R	164	0x00A3	1	Average Line to Line RMS voltage measured at the load side of the generator circuit breaker.	1 V / bit	0 V	0 to 64255 V	0			●
Bus Average AC RMS Frequency	R	165	0x00A4	1	Average AC frequency measured at the Bus output.	1/128 Hz / bit	0 Hz	0 to 501.9922 Hz	0			●
Bus Phase A Line-Line AC RMS Voltage	R	166	0x00A5	1	Line to Line RMS voltage measured at the phase AB output of the load side of the generator circuit breaker.	1 V / bit	0 V	0 to 64255 V	0			●
Bus Phase B Line-Line AC RMS Voltage	R	167	0x00A6	1	Line to Line RMS voltage measured at the phase BC output of the load side of the generator circuit breaker.	1 V / bit	0 V	0 to 64255 V	0			●
Bus Phase C Line-Line AC RMS Voltage	R	168	0x00A7	1	Line to Line RMS voltage measured at the phase CA output of the load side of the generator circuit breaker.	1 V / bit	0 V	0 to 64255 V	0			●
Bus Phase A Line-Neutral AC RMS Voltage	R	169	0x00A8	1	Line to Neutral RMS voltage measured at the phase A output of the load side of the generator circuit breaker.	1 V / bit	0 V	0 to 64255 V	0			●
Bus Phase B Line-Neutral AC RMS Voltage	R	170	0x00A9	1	Line to Neutral RMS voltage measured at the phase B output of the load side of the generator circuit breaker.	1 V / bit	0 V	0 to 64255 V	0			●
Bus Phase C Line-Neutral AC RMS Voltage	R	171	0x00AA	1	Line to Neutral RMS voltage measured at the phase C output of the load side of the generator circuit breaker.	1 V / bit	0 V	0 to 64255 V	0			●
Bus Average Line-Neutral AC RMS Voltage	R	172	0x00AB	1	The average Line to Neutral AC RMS voltage of the load side of the generator circuit breaker.	1 V / bit	0 V	0 to 64255 V	0			●
Bus Average Line-Line AC RMS Voltage Percent	R	173	0x00AC	1	Average Line to Line RMS voltage at the bus, as a percentage of nominal bus voltage.	0.0078125 % / bit	-251 %	-251 to 250.99 %	0			●
Generator Total Percent Current	R	174	0x00AD	1	Rated current is Rated Apparent Power divided by Rated Voltage	0.0078125 % / bit	-251 %	-251 to 250.99 %	0	●	●	●
Generator Desired Power Factor Command (NOTE 1)	W	175	0x00AE	1	SCADA command used to set the desired Power Factor level when in Power Factor control mode.	1/16384 / bit	-1.0	0.4 to 1.0	0	●	●	●
Desired Base Load Command (NOTE 1)	W	176	0x00AF	2	SCADA command used to set the desired real power base load Factor level when in real load control mode.	1 W / bit	-2000000000 W	-2000000000 to +2211081215 W	0			●
Generator Desired Power Factor	R	178	0x00B1	1	Read Desired Power Factor Level based on setpoint Analog Input or SCADA command.	1/16384 / bit	-1.0	-1.0 to 1.0	0	●	●	●
Desired Base Load	R	179	0x00B2	2	Read Desired Base Load Level based on setpoint Analog Input or SCADA command.	1 W / bit	-2000000000 W	-2000000000 to +2211081215 W	0			●

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Load Share Line Total Percent kW	R	181	0x00B4	1	Shows the Load Share Line Total Percent kW	0.0078125 % / bit	-251 %	-251 to 250.99 %	0			●
Load Share Line Total Percent kVA	R	182	0x00B5	1	Shows the Load Share Line Total Percent kVA	0.0078125 % / bit	-251 %	-251 to 250.99 %	0			●
Generator Average AC RMS Frequency Percent	R	183	0x00B6	1	Phase average frequency, as a percent of rated frequency.	0.0078125 % / bit	-251 %	-251 to 250.99 %	0	●	●	●
Fuel Level	R	198	0x00C5	1	Fuel level, as read from i/o pin.	0.0078125 % / bit	-251 %	-251 to 250.99 %	0	●	●	●
Engine Oil Temperature	R	199	0x00C6	1	Oil temp, independent of source. I/o pin (if configured) takes precedence over datalink.	0.03125 C / bit	-273 C	-273 to 1735 C	0	●	●	●
Engine Oil Pressure	R	200	0x00C7	1	Gauge pressure of oil in engine lubrication system as provided by oil pump.	0.125 kPa / bit	0 kPa	0 to 8031.875 kPa	0	●	●	●
Engine Coolant Temperature	R	201	0x00C8	1	Temperature of liquid found in engine cooling system.	0.03125 C / bit	-273 C	-273 to 1735 C	0	●	●	●
Battery Voltage	R	202	0x00C9	1	Shows the Battery Voltage, as read at the input to the EMCP 4.	0.05 V / bit	0 V	0 to 3212.75 V	0	●	●	●
Engine rpm	R	203	0x00CA	1	Engine rotational speed calculated in revolutions per minute.	0.125 rpm / bit	0 rpm	0 to 8031.875 rpm	0	●	●	●
Engine Operating Hours	R	204	0x00CB	2	Accumulated time that the engine is running.	0.05 hour / bit	0 hr	0 to 210554060.75 hour	0	●	●	●
Automatic Start/Stop State	R	206	0x00CD	1	Current state of the Automatic Start/Stop sequence. Either read from engine (if ADEM controls start/stop) or determined by EMCP 4.				0	●	●	●
Spare Analog Input Percent	R	207	0x00CE	1	Always Unavailable (0xFFFF). For legacy support only. For new applications, use registers related to the parameter for which the analog input is configured.	n/a						
Spare Analog Input Temperature	R	208	0x00CF	1	Reads temperature represented by Analog Input #3. If Analog Input #3 is not configured for a temperature, reads Unavailable. For legacy support only. For new applications, use registers related to the parameter for which the analog input is configured.	0.03125 C / bit	-273 C	-273 to 1735 C				
Spare Analog Input Pressure	R	209	0x00D0	1	Reads pressure represented by Analog Input #3. If Analog Input #3 is not configured for a pressure, reads Unavailable. For legacy support only. For new applications, use registers related to the parameter for which the analog input is configured.	0.125 kPa / bit	0 kPa	0 to 8031.875 kPa				
Service Maintenance Interval Hours Remaining	R	210	0x00D1	1	Maximum time in operation until the next service inspection is required. This number is negative if a service inspection is overdue.	1 hr / bit	-32127 hr	-32127 to 32128 hr	0	●	●	●
Service Maintenance Interval Days Remaining	R	212	0x00D3	1	Maximum calendar days until the next service inspection is required. This number is negative if a service inspection is overdue.	1 day / bit	-32127 days	-32127 to 32128 days	0	●	●	●
Number of Crank Attempts	R	213	0x00D4	2	Accumulated number of crank attempts made by the engine.	1 / bit	0	0 to 4211081215	0	●	●	●
Number of Successful Starts	R	215	0x00D6	2	Accumulated number of successful starts of the engine.	1 / bit	0	0 to 4211081215	0	●	●	●
Engine Oil Pressure from Data Link	R	217	0x00D8	1	Gauge pressure of oil in engine lubrication system as broadcast on the CAN Data Link. For legacy support only. For new applications, use register 200.	0.125 kPa / bit	0 kPa	0 to 8031.875 kPa	0	●	●	●
Engine Coolant Temperature from Data Link	R	219	0x00DA	1	Temperature of liquid found in engine cooling system, as broadcast on the CAN Data Link. For legacy support only. For new applications, use register 201.	0.03125 C / bit	-273 C	-273 to 1735 C	0	●	●	●
Cylinder #1 Exhaust Port Temperature from Data Link	R	221	0x00DC	1	Temperature at the cylinder exhaust port of the engine, as received from another module on the CAN Data Link.	0.03125 C / bit	-273 C	-273 to 1735 C	0	●	●	●
Cylinder #2 Exhaust Port Temperature from Data Link	R	222	0x00DD	1	Temperature at the cylinder exhaust port of the engine, as received from another module on the CAN Data Link.	0.03125 C / bit	-273 C	-273 to 1735 C	0	●	●	●
Cylinder #3 Exhaust Port Temperature from Data Link	R	223	0x00DE	1	Temperature at the cylinder exhaust port of the engine, as received from another module on the CAN Data Link.	0.03125 C / bit	-273 C	-273 to 1735 C	0	●	●	●
Cylinder #4 Exhaust Port Temperature from Data Link	R	224	0x00DF	1	Temperature at the cylinder exhaust port of the engine, as received from another module on the CAN Data Link.	0.03125 C / bit	-273 C	-273 to 1735 C	0	●	●	●

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Cylinder #5 Exhaust Port Temperature from Data Link	R	225	0x00E0	1	Temperature at the cylinder exhaust port of the engine, as received from another module on the CAN Data Link.	0.03125 C / bit	-273 C	-273 to 1735 C	0	●	●	●
Cylinder #6 Exhaust Port Temperature from Data Link	R	226	0x00E1	1	Temperature at the cylinder exhaust port of the engine, as received from another module on the CAN Data Link.	0.03125 C / bit	-273 C	-273 to 1735 C	0	●	●	●
Cylinder #7 Exhaust Port Temperature from Data Link	R	227	0x00E2	1	Temperature at the cylinder exhaust port of the engine, as received from another module on the CAN Data Link.	0.03125 C / bit	-273 C	-273 to 1735 C	0	●	●	●
Cylinder #8 Exhaust Port Temperature from Data Link	R	228	0x00E3	1	Temperature at the cylinder exhaust port of the engine, as received from another module on the CAN Data Link.	0.03125 C / bit	-273 C	-273 to 1735 C	0	●	●	●
Cylinder #9 Exhaust Port Temperature from Data Link	R	229	0x00E4	1	Temperature at the cylinder exhaust port of the engine, as received from another module on the CAN Data Link.	0.03125 C / bit	-273 C	-273 to 1735 C	0	●	●	●
Cylinder #10 Exhaust Port Temperature from Data Link	R	230	0x00E5	1	Temperature at the cylinder exhaust port of the engine, as received from another module on the CAN Data Link.	0.03125 C / bit	-273 C	-273 to 1735 C	0	●	●	●
Cylinder #11 Exhaust Port Temperature from Data Link	R	231	0x00E6	1	Temperature at the cylinder exhaust port of the engine, as received from another module on the CAN Data Link.	0.03125 C / bit	-273 C	-273 to 1735 C	0	●	●	●
Cylinder #12 Exhaust Port Temperature from Data Link	R	232	0x00E7	1	Temperature at the cylinder exhaust port of the engine, as received from another module on the CAN Data Link.	0.03125 C / bit	-273 C	-273 to 1735 C	0	●	●	●
Cylinder #13 Exhaust Port Temperature from Data Link	R	233	0x00E8	1	Temperature at the cylinder exhaust port of the engine, as received from another module on the CAN Data Link.	0.03125 C / bit	-273 C	-273 to 1735 C	0	●	●	●
Cylinder #14 Exhaust Port Temperature from Data Link	R	234	0x00E9	1	Temperature at the cylinder exhaust port of the engine, as received from another module on the CAN Data Link.	0.03125 C / bit	-273 C	-273 to 1735 C	0	●	●	●
Cylinder #15 Exhaust Port Temperature from Data Link	R	235	0x00EA	1	Temperature at the cylinder exhaust port of the engine, as received from another module on the CAN Data Link.	0.03125 C / bit	-273 C	-273 to 1735 C	0	●	●	●
Cylinder #16 Exhaust Port Temperature from Data Link	R	236	0x00EB	1	Temperature at the cylinder exhaust port of the engine, as received from another module on the CAN Data Link.	0.03125 C / bit	-273 C	-273 to 1735 C	0	●	●	●
Cylinder #17 Exhaust Port Temperature from Data Link	R	237	0x00EC	1	Temperature at the cylinder exhaust port of the engine, as received from another module on the CAN Data Link.	0.03125 C / bit	-273 C	-273 to 1735 C	0	●	●	●
Cylinder #18 Exhaust Port Temperature from Data Link	R	238	0x00ED	1	Temperature at the cylinder exhaust port of the engine, as received from another module on the CAN Data Link.	0.03125 C / bit	-273 C	-273 to 1735 C	0	●	●	●
Cylinder #19 Exhaust Port Temperature from Data Link	R	239	0x00EE	1	Temperature at the cylinder exhaust port of the engine, as received from another module on the CAN Data Link.	0.03125 C / bit	-273 C	-273 to 1735 C	0	●	●	●
Cylinder #20 Exhaust Port Temperature from Data Link	R	240	0x00EF	1	Temperature at the cylinder exhaust port of the engine, as received from another module on the CAN Data Link.	0.03125 C / bit	-273 C	-273 to 1735 C	0	●	●	●
Exhaust Manifold #1 (Left) Temperature from Data Link	R	241	0x00F0	1	Temperature of combustion byproducts within the left engine exhaust manifold, as received from another module on the CAN Data Link.	0.03125 C / bit	-273 C	-273 to 1735 C	0	●	●	●
Exhaust Manifold #2 (Right) Temperature from Data Link	R	242	0x00F1	1	Temperature of combustion byproducts within the right engine exhaust manifold, as received from another module on the CAN Data Link.	0.03125 C / bit	-273 C	-273 to 1735 C	0	●	●	●
Intake Manifold #1 Temperature from Data Link	R	243	0x00F2	1	Temperature of pre-combustion air found in intake manifold #1 of engine air supply system, as received from another module on the CAN Data Link.	0.03125 C / bit	-273 C	-273 to 1735 C	0	●	●	●
Intake Manifold #2 Temperature from Data Link	R	244	0x00F3	1	Temperature of pre-combustion air found in intake manifold #2 of engine air supply system, as received from another module on the CAN Data Link.	0.03125 C / bit	-273 C	-273 to 1735 C	0	●	●	●
Engine Oil Temperature from Data Link	R	245	0x00F4	1	Temperature of the engine lubricant, as received from another module on the CAN Data Link.	0.03125 C / bit	-273 C	-273 to 1735 C	0	●	●	●
Engine Fuel Temperature from Data Link	R	246	0x00F5	1	Temperature of the engine fuel as received from another module on the CAN Data Link.	0.03125 C / bit	-273 C	-273 to 1735 C	0	●	●	●
Fuel Pressure from Data Link	R	247	0x00F6	1	Gauge pressure of fuel in system as delivered from supply pump to the injection pump, as received from another module on the CAN Data Link.	0.125 kPa / bit	0 kPa	0 to 8031.875 kPa	0	●	●	●
Crankcase Pressure from Data Link	R	248	0x00F7	1	Gauge pressure inside engine crankcase, as received from another module on the CAN Data Link.	1 / 128 kPa / bit	-250 kPa	-250 to 251.99 kPa	0	●	●	●
Boost Pressure from Data Link	R	249	0x00F8	1	Gauge pressure of air measured downstream on the compressor discharge side of the turbocharger, as received from another module on the CAN Data Link.	0.125 kPa / bit	0 kPa	0 to 8031.875 kPa	0	●	●	●
Oil Filter Differential Pressure from Data Link	R	251	0x00FA	1	Change in engine oil pressure, measured across the filter, due to the filter and any accumulation of solid or semisolid material on or in the filter, as received from another module on the CAN Data Link.	0.5 kPa / bit	0 kPa	0 to 125 kPa	0	●	●	●

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Fuel Filter Differential Pressure from Data Link	R	252	0x00FB	1	Change in fuel delivery pressure, measured across the filter, due to accumulation of solid or semisolid matter on the filter element, as received from another module on the CAN Data Link.	0.125 kPa / bit	0 kPa	0 to 8031.875 kPa	0	•	•	•
Air Filter 1 Differential Pressure from Data Link	R	253	0x00FC	1	Change in engine air system pressure, measured across the filter, due to the filter and any accumulation of solid foreign matter on or in the filter, as received from another module on the CAN Data Link.	1 / 128 kPa / bit	-250 kPa	-250 to 251.99 kPa	0	•	•	•
Total Fuel Consumption from Data Link	R	254	0x00FD	2	Total amount of fuel used by engine, as received from another module on the CAN Data Link.	0.5 L / bit	0 L	0 to 2105540607.5 L	0	•	•	•
Instantaneous Fuel Consumption from Data Link	R	256	0x00FF	1	Amount of fuel used by engine per unit time, as received from another module on the CAN Data Link.	0.05 L/h per bit	0 L/h	0 to 3212.75 L/h	0	•	•	•
Atmospheric Pressure from Data Link	R	257	0x0100	1	Absolute air pressure of the atmosphere, as received from another module on the CAN Data Link.	0.125 kPa / bit	0 kPa	0 to 8031.875 kPa	0	•	•	•
Fuel Level	R	258	0x0101	1	Fuel level, as received from another module on the CAN Data Link. For legacy support only. For new applications, use register 198.	0.0078125 % / bit	-251 %	-251 to 250.99 %	0	•	•	•
Net Battery Current from Data Link	R	259	0x0102	1	Net current flow of battery, as received from another module on the CAN Data Link.	1 A / bit	-125 A	-125 to 125 A	0	•	•	•
Service Maintenance Interval Weeks Remaining	R	299	0x012A	1	The number of full calendar weeks until the next service inspection is required. This number is negative if a service inspection is overdue.	1 week / bit	-125 weeks	-125 to 125 weeks	0	•	•	•
Bypass Cooldown (NOTE 1)	W	300	0x012B	1	Command to bypass remaining cooldown duration and immediately stop engine upon the next soft shutdown request.	00 = FALSE 01 = TRUE			0	•	•	•
Engine Control Switch Position	R	301	0x012C	1	Indicates current position of the Engine Control Switch.	0 = STOP 1 = AUTO 2 = RUN			0	•	•	•
Engine Control Switch Command (NOTE 1)	W	302	0x012D	1	SCADA command to change the position of the Engine Control Switch. Note that if any Digital Inputs are configured for "ECS in Run", "ECS in Auto", or "ECS in Stop" and are active, they will take precedence over this command.	0 = STOP 1 = AUTO 2 = RUN			0	•	•	•
Lamp Test Command (NOTE 1)	W	303	0x012E	1	Commands the control to conduct a lamp/display test of the EMCP GSC, similar to the "Lamp Test" function on the display in the Preferences menu.	00 = FALSE 01 = TRUE			0	•	•	•
Acknowledge All Events Command (NOTE 1)	W	304	0x012F	1	SCADA command to acknowledge all events, similar to pressing the Alarm Acknowledge key on the control.	00 = FALSE 01 = TRUE			0	•	•	•
Auto Start/Stop Fuel Control Enabled	R	307	0x0132	1	Indicates that the fuel control is enabled. On some gensets, there will be a Fuel Control Relay. In that case, this indicates that the relay is active.	00 = FALSE 01 = TRUE			0	•	•	•
Key Press (NOTE 1)	W	310	0x0135	1	Triggers a key press event on the control. For legacy support only.	0 = FALSE 1 = TRUE						
SCR System Check Required Status	R	319	0x013E	1	Indicates whether SCR system check is needed, from CCEM.	0 = FALSE 1 = TRUE 2 = ERROR 3 = DISABLED OR NOT AVAILABLE			0	•	•	•
Fuel Unload Pump Active	R	321	0x0140	1	For the Fuel Transfer feature, indicates that the Transfer Fuel Out command is active.	0 = FALSE 1 = TRUE 2 = ERROR 3 = DISABLED OR NOT AVAILABLE			0	•		•
Fuel Load Pump Active	R	322	0x0141	1	For the Fuel Transfer feature, indicates that the Transfer Fuel In command is active.	0 = FALSE 1 = TRUE 2 = ERROR 3 = DISABLED OR NOT AVAILABLE			0	•	•	•
System Horn Active Status	R	333	0x014C	1	Indicates the status of the system horn (audible alert).	0 = FALSE 1 = TRUE 2 = ERROR 3 = DISABLED OR NOT AVAILABLE			0	•	•	•
System Event Count	R	334	0x014D	1	Number of system events (present or active).	1 / bit	0	0 to 255 events	0	•	•	•

EMCP 4 Modbus Registers - 4.3 Prod Software

Parameter Name	R/W	Holding Register	Ct	Description	Scaling (Resolution)	Offset	Limits (Ranges)	Sec Lvl	4.2	4.3	4.4	
System Event Lamp Status	R	335	0x014E	1	Indicates the status of the amber and red event status lamps on the control.	Bits 3:2 Amber Lamp Status (Boolean) Bits 1:0 Red Lamp Status (Boolean) 5 = Amber and Red lamp active 4 = Amber lamp active 1 = Red lamp active 0 = no lamp active		0	•	•	•	
Forced Idle Command Active	R	337	0x0150	1	Indicates whether the EMCP 4 is commanding the engine to idle. For the actual idle status, read register 1263.	0 = FALSE 1 = TRUE		0	•	•	•	
Generator Excitation Field Voltage from Data Link	R	338	0x0151	1	Generator Excitation Field Voltage, as read from the CDVR module on the Primary CAN Data Link.	0.05 V / bit	-1606.0	-1606.0 to 1606.75 V	0	•	•	•
Generator Excitation Field Current from Data Link	R	340	0x0153	1	Generator Excitation Field Current, as read from the CDVR module on the Primary CAN Data Link.	0.05 A / bit	0 A	0 to 3212.75 A	0	•	•	•
RS-485 Ann Alarm Group 1 Column 1	R	342	0x0155	1	Each bit gives a status of a certain row/event for the "Alarm Group #1" setting, which is ET-configurable.	BIT 15 = ROW 16 BIT 14 = ROW 15 BIT 13 = ROW 14 BIT 12 = ROW 13 BIT 11 = ROW 12 BIT 10 = ROW 11		0	•	•	•	
RS-485 Ann Alarm Group 1 Column 2	R	343	0x0156	1	Each bit gives a status of a certain row/event for the "Alarm Group #1" setting, which is ET-configurable.	BIT 9 = ROW 10 BIT 8 = ROW 9 BIT 7 = ROW 8 BIT 6 = ROW 7 BIT 5 = ROW 6 BIT 4 = ROW 5		0	•	•	•	
RS-485 Ann Alarm Group 1 Horn	R	344	0x0157	1	Each bit gives a status of the horn for a certain row/event for the "Alarm Group #1" setting, which is ET-configurable.	BIT 3 = ROW 4 BIT 2 = ROW 3 BIT 1 = ROW 2 BIT 0 = ROW 1		0	•	•	•	
RS-485 Ann Alarm Group 2 Column 1	R	346	0x0159	1	Each bit gives a status of a certain row/event for the "Alarm Group #2" setting, which is ET-configurable.	BIT 15 = ROW 16 BIT 14 = ROW 15 BIT 13 = ROW 14 BIT 12 = ROW 13 BIT 11 = ROW 12 BIT 10 = ROW 11		0	•	•	•	
RS-485 Ann Alarm Group 2 Column 2	R	347	0x015A	1	Each bit gives a status of a certain row/event for the "Alarm Group #2" setting, which is ET-configurable.	BIT 9 = ROW 10 BIT 8 = ROW 9 BIT 7 = ROW 8 BIT 6 = ROW 7 BIT 5 = ROW 6 BIT 4 = ROW 5		0	•	•	•	
RS-485 Ann Alarm Group 2 Horn	R	348	0x015B	1	Each bit gives a status of the horn for a certain row/event for the "Alarm Group #2" setting, which is ET-configurable.	BIT 3 = ROW 4 BIT 2 = ROW 3 BIT 1 = ROW 2 BIT 0 = ROW 1		0	•	•	•	

EMCP 4 Modbus Registers - 4.3 Prod Software

Parameter Name	R/W	Holding Register		Ct	Description	Scaling (Resolution)	Offset	Limits (Ranges)	Sec Lvl	4.2	4.3	4.4
RS-485 Ann Alarm Group 3 Column 1	R	350	0x015D	1	Each bit gives a status of a certain row/event for the "Alarm Group #3" setting, which is fixed.				0	•	•	•
RS-485 Ann Alarm Group 3 Column 2	R	351	0x015E	1	Each bit gives a status of a certain row/event for the "Alarm Group #3" setting, which is fixed.				0	•	•	•
RS-485 Ann Alarm Group 3 Horn	R	352	0x015F	1	Each bit gives a status of the horn for a certain row/event for the "Alarm Group #3" setting, which is fixed.				0	•	•	•

EMCP 4 Modbus Registers - 4.3 Prod Software

Parameter Name	R/W	Holding Register		Ct	Description	Scaling (Resolution)	Offset	Limits (Ranges)	Sec Lvl	4.2	4.3	4.4
RS-485 Ann Alarm Group 4 Column 1	R	354	0x0161	1	Each bit gives a status of a certain row/event for the "Alarm Group #4" setting, which is fixed.	BIT 15 = Aftertreatment Shutdown Event Active BIT 14 = Air Shutdown Damper Closed Event Active BIT 13 = not used BIT 12 = not used BIT 11 = not used BIT 10 = not used BIT 9 = High Battery Voltage Shutdown Event Active BIT 8 = not used BIT 7 = Low Fuel Level Shutdown Event Active BIT 6 = Low Coolant Level Shutdown Event Active BIT 5 = Overspeed Shutdown Event Active BIT 4 = Low Oil Pressure Shutdown Event Active BIT 3 = not used BIT 2 = High Coolant Temperature Shutdown Event Active BIT 1 = Engine Failure to Start (Overcrank) Shutdown Event Active BIT 0 = Emergency Stop Shutdown Event Active		0	•	•	•	
RS-485 Ann Alarm Group 4 Column 2	R	355	0x0162	1	Each bit gives a status of a certain row/event for the "Alarm Group #4" setting, which is fixed.	BIT 15 = Aftertreatment Warning Event Active BIT 14 = not used BIT 13 = Emergency Power System Supplying Load Condition Active BIT 12 = Battery Charger AC Failure Event Active BIT 11 = Low Cranking Voltage Warning Event Active BIT 10 = Low Battery Voltage Warning Event Active BIT 9 = High Battery Voltage Warning Event Active BIT 8 = Engine Control Switch Not in Automatic Event Active BIT 7 = Low Fuel Level Warning Event Active BIT 6 = Low Coolant Level Warning Event Active BIT 5 = not used BIT 4 = Low Oil Pressure Warning Event Active BIT 3 = Low Coolant Temperature Warning Event Active BIT 2 = High Coolant Temperature Warning Event Active BIT 1 = not used BIT 0 = Emergency Stop Diagnostic Event Active		0	•	•	•	
RS-485 Ann Alarm Group 4 Horn	R	356	0x0163	1	Each bit gives a status of the horn for a certain row/event for the "Alarm Group #4" setting, which is fixed.	BIT 15 = Aftertreatment Event Horn Active BIT 14 = Air Shutdown Damper Closed Event Horn Active BIT 13 = Emergency Power System Supplying Load Condition Horn Active BIT 12 = Battery Charger AC Failure Event Horn Active BIT 11 = Low Cranking Voltage Event Horn Active BIT 10 = Low Battery Voltage Event Horn Active BIT 9 = High Battery Voltage Event Horn Active BIT 8 = Engine Control Switch Not in Automatic Event Horn Active BIT 7 = Low Fuel Level Event Horn Active BIT 6 = Low Coolant Level Event Horn Active BIT 5 = Overspeed Shutdown Event Horn Active BIT 4 = Low Oil Pressure Event Horn Active BIT 3 = Low Coolant Temperature Event Horn Active BIT 2 = High Coolant Temperature Event Horn Active BIT 1 = Engine Failure to Start (Overcrank) Shutdown Event Horn Active BIT 0 = Emergency Stop Shutdown / Diagnostic Horn Active		0	•	•	•	
Aftertreatment #1 Total DEF Used	R	374	0x0175	2	Total exhaust fuel used by aftertreatment device #1 over lifetime as read from the CAN Data Link.	0.5 L / bit	0 L	0 to 2105540607.5 L	0	•	•	•
Aftertreatment #1 DEF Dosing Temperature	R	376	0x0177	1	Diesel Exhaust Fluid Dosing Temperature, as read from the CAN Data Link.	1 C / bit	-40 C	-40 to 210 C	0	•	•	•

EMCP 4 Modbus Registers - 4.3 Prod Software

Parameter Name	R/W	Holding Register		Ct	Description	Scaling (Resolution)	Offset	Limits (Ranges)	Sec Lvl	4.2	4.3	4.4
Urea Tank Level	R	377	0x0178	1	SCR urea tank level, as read from the CAN Data Link.	0.4 % / bit	0%	0 to 100%	0	●	●	●
Aftertreatment #1 SCR Catalyst Reagent Tank #1 Temperature	R	378	0x0179	1	SCR catalyst tank temperature, as read from the CAN Data Link.	1 C / bit	-40 C	-40 to 210 C	0	●	●	●
Urea Injection Air Pressure	R	379	0x017A	1	SCR urea injection air pressure, as read from the CAN Data Link.	0.1 kPa / bit	0 kPa	0 to 6425.5 kPa	0	●	●	●
Catalyst Intake Temperature	R	381	0x017C	1	SCR catalyst intake temperature, as read from the CAN Data Link.	0.03125 C / bit	-273 C	-273 to 1735 C	0	●	●	●
Aftertreatment #1 SCR Catalyst Exhaust Gas Differential Pressure	R	382	0x017D	1	SCR catalyst exhaust diff pressure (intake to exhaust), as read from the CAN Data Link.	0.1 kPa / bit	0 kPa	0 to 6425.5 kPa	0	●	●	●
Aftertreatment #1 SCR System State	R	383	0x017E	1	Operating state of the SCR system, as read from the CAN Data Link	0 = SLEEP MODE 1 = PREPARING 2 = NORMAL 3 = SYSTEM ERROR PENDING 5 = HEAT PROTECTION 6 = COLD PROTECTION 7 = SHUTOFF 8 = DIAGNOSIS 9 = SERVICE MODE, DOSE ALLOWED 10 = SERVICE MODE, DOSE NOT ALLOWED 14 = ERROR 15 = NOT AVAILABLE			0	●	●	●
Time Since Aftertreatment Inducement	R	398	0x018D	1	Time since last aftertreatment inducement.	0.2 hour / bit	0 hours	0 to 12851 hours	0	●		
Time Until Aftertreatment Inducement	R	399	0x018E	1	Time remaining until next aftertreatment inducement.	0.25 hour / bit	0 hours	0 to 62.5 hours	0	●		
Package (Cargo) Ambient Air Temperature	R	422	0x01A5	1	Package (Cargo) Ambient Air Temperature, independent of source. I/O pin (if configured) takes precedence over datalink.	0.03125 C / bit	-273 to 1735 C	-273 C	0		●	●
Engine Oil Priming State - Sufficiently Primed	R	423	0x01A6	1	Indicates the engine is (or has recently been) sufficiently lubricated for starting purposes.	0 = FALSE 1 = TRUE 2 = ERROR 3 = DISABLED OR NOT AVAILABLE			0		●	●
Engine Ventilation Status	R	424	0x01A7	1	Indicates the engine ventailation status.	0 = SUFFICIENTLY VENTED 1 = VENTILATION NEEDED 2 = VENTILATION DELAY 3 = CURRENTLY VENTING 4 = RESERVED 5 = RESERVED 6 = NOT ABLE TO DETERMINE SUFFICIENT VENTING 7 = NOT AVAILABLE			0		●	●
Engine Emergency (Immediate) Shutdown Indication	R	425	0x01A8	1	Indication that the engine control system is immediately shutting the engine down	0 = FALSE 1 = TRUE 2 = ERROR 3 = DISABLED OR NOT AVAILABLE			0		●	●
Engine Turbocharger Compressor Bypass Actuator 1 Position	R	426	0x01A9	1	Position percentage of the turbocharger compressor bypass actuator where 0% represents fully closed and 100% represents bypass fully open.	0.4 % / bit	0%	0 to 100%	0		●	●
Digital Input #1 Active Status	R	600	0x0257	1	Indicates the status of the Digital Input.				0	●	●	●
Digital Input #2 Active Status	R	601	0x0258	1	Indicates the status of the Digital Input.				0	●	●	●
Digital Input #3 Active Status	R	602	0x0259	1	Indicates the status of the Digital Input.				0	●	●	●
Digital Input #4 Active Status	R	603	0x025A	1	Indicates the status of the Digital Input.				0	●	●	●

EMCP 4 Modbus Registers - 4.3 Prod Software

Parameter Name	R/W	Holding Register	Ct	Description	Scaling (Resolution)	Offset	Limits (Ranges)	Sec Lvl	4.2	4.3	4.4
Digital Input #5 Active Status	R	604	0x025B	1	Indicates the status of the Digital Input.	0 = INACTIVE 1 = ACTIVE 3 = DISABLED		0	●	●	●
Digital Input #6 Active Status	R	605	0x025C	1	Indicates the status of the Digital Input.			0	●	●	●
Digital Input #7 Active Status	R	606	0x025D	1	Indicates the status of the Digital Input.			0		●	●
Digital Input #8 Active Status	R	607	0x025E	1	Indicates the status of the Digital Input.			0		●	●
Isolated Digital Input #1 Active Status	R	608	0x025F	1	Indicates the status of the Digital Input.			0		●	●
Isolated Digital Input #2 Active Status	R	609	0x0260	1	Indicates the status of the Digital Input.			0		●	●
Isolated Digital Input #3 Active Status	R	610	0x0261	1	Indicates the status of the Digital Input.			0		●	●
Isolated Digital Input #4 Active Status	R	611	0x0262	1	Indicates the status of the Digital Input.			0		●	●
Dedicated Digital Input #1 (E-Stop) Active Status	R	612	0x0263	1	E-Stop status.	0 = INACTIVE 1 = ACTIVE		0	●	●	●
Dedicated Digital Input #2 (Initiate Command) Active Status	R	613	0x0264	1	Remote Initiate status.			0	●	●	●
Dedicated Digital Input #3 (Gen CB Aux A) Active Status	R	614	0x0265	1	Gen CB Aux A status. True indicates breaker closed.			0			●
Dedicated Digital Input #4 (Gen CB Aux B) Active Status	R	615	0x0266	1	Gen CB Aux B status. True indicates breaker open.			0			●
Relay Output #1 Active Status	R	616	0x0267	1	Indicates the status of the Relay Output.	0 = INACTIVE 1 = ACTIVE 3 = DISABLED		0	●		
Relay Output #2 Active Status	R	617	0x0268	1	Indicates the status of the Relay Output.			0	●		
Relay Output #3 Active Status	R	618	0x0269	1	Indicates the status of the Relay Output.			0	●		
Relay Output #4 Active Status	R	619	0x026A	1	Indicates the status of the Relay Output.			0	●		
Relay Output #5 Active Status	R	620	0x026B	1	Indicates the status of the Relay Output.			0	●		
Relay Output #6 Active Status	R	621	0x026C	1	Indicates the status of the Relay Output.			0	●		
Relay Output #7 Active Status	R	622	0x026D	1	Indicates the status of the Relay Output.			0	●		
Relay Output #8 Active Status	R	623	0x026E	1	Indicates the status of the Relay Output.			0	●		
Digital Output #1 Active Status	R	624	0x026F	1	Indicates the status of the Digital Output.	0 = INACTIVE 1 = ACTIVE 3 = DISABLED		0	●	●	●
Digital Output #2 Active Status	R	625	0x0270	1	Indicates the status of the Digital Output.			0	●	●	●
Digital Output #3 Active Status	R	626	0x0271	1	Indicates the status of the Digital Output.			0		●	●
Digital Output #4 Active Status	R	627	0x0272	1	Indicates the status of the Digital Output.			0		●	●
Digital Output #5 Active Status	R	628	0x0273	1	Indicates the status of the Digital Output.			0		●	●
Digital Output #6 Active Status	R	629	0x0274	1	Indicates the status of the Digital Output.			0		●	●
Digital Output #7 Active Status	R	630	0x0275	1	Indicates the status of the Digital Output.			0		●	●
Digital Output #8 Active Status	R	631	0x0276	1	Indicates the status of the Digital Output.			0		●	●
Digital Output #9 Active Status	R	632	0x0277	1	Indicates the status of the Digital Output.			0		●	●
Digital Output #10 Active Status	R	633	0x0278	1	Indicates the status of the Digital Output.			0		●	●
Digital Output #11 Active Status	R	634	0x0279	1	Indicates the status of the Digital Output.			0		●	●
Digital Output #12 Active Status	R	635	0x027A	1	Indicates the status of the Digital Output.			0		●	●
Digital Output #13 Active Status	R	636	0x027B	1	Indicates the status of the Digital Output.			0		●	●
Digital Output #14 Active Status	R	637	0x027C	1	Indicates the status of the Digital Output.			0		●	●
Digital Output #15 Active Status	R	638	0x027D	1	Indicates the status of the Digital Output.			0		●	●
Digital Output #16 Active Status	R	639	0x027E	1	Indicates the status of the Digital Output.			0		●	●
Digital Output #17 Active Status	R	640	0x027F	1	Indicates the status of the Digital Output.			0			●
Group Start Active Status (DIDI-01)	R	641	0x0280	1	Indicates the status of the Group Start signal (input).	0 = INACTIVE 1 = ACTIVE		0			●
Bell Alarm Active Status (DIDI-02)	R	642	0x0281	1	Indicates the status of the Bell Alarm signal (input).	0 = INACTIVE 1 = ACTIVE		0			●
Gen CB Trip Command Active Status (DIDI-03)	R	643	0x0282	1	Indicates the status of the Gen Breaker Trip Command signal (input).	0 = INACTIVE 1 = ACTIVE		0			●
Gen CB Close Command Active Status (DIDI-04)	R	644	0x0283	1	Indicates the status of the Gen Breaker Close Command signal (input).	0 = INACTIVE 1 = ACTIVE		0			●
Arbitration Relay Active Status (DDO-01)	R	645	0x0284	1	Shows status of Arbitration Relay	0 = INACTIVE 1 = ACTIVE		0			●

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Parameter Name	R/W	Holding Register	Ct	Description	Scaling (Resolution)	Offset	Limits (Ranges)	Sec Lvl	4.2	4.3	4.4	
Gen CB Close Active Status (DDO-02)	R	646	0x0285	1	Shows whether there is a Gen Circuit Breaker Close command active. See registers 614-615 for the actual status of the Gen CB.	0 = INACTIVE 1 = ACTIVE		0			●	
Gen CB Trip Active Status (DDO-03)	R	647	0x0286	1	Shows whether there is a Gen Circuit Breaker Trip command active. See registers 614-615 for the actual status of the Gen CB.	0 = INACTIVE 1 = ACTIVE		0			●	
Analog Input #1 Sensor Value	R	648	0x0287	1	Raw sensor value read from the input (VDC, mA, ohms, or %)	1/16 / bit	-16	-16 to 3999.9375	0	●	●	●
Analog Input #2 Sensor Value	R	649	0x0288	1	Raw sensor value read from the input (VDC, mA, ohms, or %)	1/16 / bit	-16	-16 to 3999.9375	0	●	●	●
Analog Input #3 Sensor Value	R	650	0x0289	1	Raw sensor value read from the input (VDC, mA, ohms, or %)	1/16 / bit	-16	-16 to 3999.9375	0	●	●	●
Analog Input #4 Sensor Value	R	651	0x028A	1	Raw sensor value read from the input (VDC, mA, ohms, or %)	1/16 / bit	-16	-16 to 3999.9375	0			●
Analog Input #1 Data Value	R	652	0x028B	2	Data value as read from the input, in engineering units.	1/256 / bit	-8,224,768	-8,224,768 to 8,224,767.99609375	0	●	●	●
Analog Input #2 Data Value	R	654	0x028D	2	Data value as read from the input, in engineering units.	1/256 / bit	-8,224,768	-8,224,768 to 8,224,767.99609375	0	●	●	●
Analog Input #3 Data Value	R	656	0x028F	2	Data value as read from the input, in engineering units.	1/256 / bit	-8,224,768	-8,224,768 to 8,224,767.99609375	0	●	●	●
Analog Input #4 Data Value	R	658	0x0291	2	Data value as read from the input, in engineering units.	1/256 / bit	-8,224,768	-8,224,768 to 8,224,767.99609375	0			●
Analog Output #1 Data Value	R	660	0x0293	2	Value to be output via analog output, in engineering units.	1/256 / bit	-8,224,768	-8,224,768 to 8,224,767.99609375	0		●	●
Analog Output #2 Data Value	R	662	0x0295	2	Value to be output via analog output, in engineering units.	1/256 / bit	-8,224,768	-8,224,768 to 8,224,767.99609375	0		●	●
Analog Output #3 Data Value	R	664	0x0297	2	Value to be output via analog output, in engineering units.	1/256 / bit	-8,224,768	-8,224,768 to 8,224,767.99609375	0		●	●
PWM Output #1 Data Value	R	672	0x029F	2	Value to be output via PWM output, in engineering units.	1/256 / bit	-8,224,768	-8,224,768 to 8,224,767.99609375	0		●	●
PWM Output #2 Data Value	R	674	0x02A1	2	Value to be output via PWM output, in engineering units.	1/256 / bit	-8,224,768	-8,224,768 to 8,224,767.99609375	0		●	●
Analog Output #1 Data Command	W	681	0x02A8	2	Command a value for the output, if set to SCADA. In arbitrary engineering units.	1/256 / bit	-8,224,768	-50,000 to 50,000	0		●	●
Analog Output #2 Data Command	W	683	0x02AA	2	Command a value for the output, if set to SCADA. In arbitrary engineering units.	1/256 / bit	-8,224,768	-50,000 to 50,000	0		●	●
Analog Output #3 Data Command	W	685	0x02AC	2	Command a value for the output, if set to SCADA. In arbitrary engineering units.	1/256 / bit	-8,224,768	-50,000 to 50,000	0		●	●
PWM Output #1 Data Command	W	687	0x02AE	2	Command a value for the output, if set to SCADA. In arbitrary engineering units.	1/256 / bit	-8,224,768	-50,000 to 50,000	0		●	●
PWM Output #2 Data Command	W	689	0x02B0	2	Command a value for the output, if set to SCADA. In arbitrary engineering units.	1/256 / bit	-8,224,768	-50,000 to 50,000	0		●	●
Write Access Password (NOTE 1)	W	700	0x02BB	8	Modbus register to which the password for the desired Access Level (0, 1, 2, or 3) is written.				none	●	●	●
Level 1 Password (NOTE 1)	W	708	0x02C3	8	Modbus register to which a new Level 1 password is written, to change the password.				1	●	●	●
Level 2 Password (NOTE 1)	W	716	0x02CB	8	Modbus register to which a new Level 2 password is written, to change the password.				2	●	●	●
SCADA Password (NOTE 1)	W	724	0x02D3	8	Modbus register to which a new SCADA password is written, to change the password.				2	●	●	●
Current Security Level	R	732	0x02DB	1	Current security level of the SCADA Data Link.	1 / bit	0	0 to 64255	0	●	●	●
Set Security Level (NOTE 1)	W	733	0x02DC	1	Write a security level value into this register to drop to a lower security level. To rise to a higher security level, write the corresponding password to "Write Access Password" (700) instead.	1 / bit	0	0 to 64255	0	●	●	●
Level 3 Password Phone In Prompt	R	734	0x02DD	8	Numerical key that needs to be communicated to the factory support operator who can provide a Level 3 password.				0	●	●	●
Number of Engine Cylinders	R	742	0x02E5	1	Number of engine cylinders.	1 / bit	0	0 to 65535	0		●	●
Engine Cylinder #1 Knock Level from Data Link	R	743	0x02E6	1	Indicates the level of knock for engine cylinder #1, where 0% is least level of knock and 100% is most severe level of knock.	1% / bit	0%	0 to 250%	0		●	●
Engine Cylinder #2 Knock Level from Data Link	R	744	0x02E7	1	Indicates the level of knock for engine cylinder #2, where 0% is least level of knock and 100% is most severe level of knock.	1% / bit	0%	0 to 250%	0		●	●

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Parameter Name	R/W	Holding Register		Ct	Description	Scaling (Resolution)	Offset	Limits (Ranges)	Sec Lvl	4.2	4.3	4.4
Engine Cylinder #3 Knock Level from Data Link	R	745	0x02E8	1	Indicates the level of knock for engine cylinder #3, where 0% is least level of knock and 100% is most severe level of knock.	1% / bit	0%	0 to 250%	0		●	●
Engine Cylinder #4 Knock Level from Data Link	R	746	0x02E9	1	Indicates the level of knock for engine cylinder #4, where 0% is least level of knock and 100% is most severe level of knock.	1% / bit	0%	0 to 250%	0		●	●
Engine Cylinder #5 Knock Level from Data Link	R	747	0x02EA	1	Indicates the level of knock for engine cylinder #5, where 0% is least level of knock and 100% is most severe level of knock.	1% / bit	0%	0 to 250%	0		●	●
Engine Cylinder #6 Knock Level from Data Link	R	748	0x02EB	1	Indicates the level of knock for engine cylinder #6, where 0% is least level of knock and 100% is most severe level of knock.	1% / bit	0%	0 to 250%	0		●	●
Engine Cylinder #7 Knock Level from Data Link	R	749	0x02EC	1	Indicates the level of knock for engine cylinder #7, where 0% is least level of knock and 100% is most severe level of knock.	1% / bit	0%	0 to 250%	0		●	●
Engine Cylinder #8 Knock Level from Data Link	R	750	0x02ED	1	Indicates the level of knock for engine cylinder #8, where 0% is least level of knock and 100% is most severe level of knock.	1% / bit	0%	0 to 250%	0		●	●
Engine Cylinder #9 Knock Level from Data Link	R	751	0x02EE	1	Indicates the level of knock for engine cylinder #9, where 0% is least level of knock and 100% is most severe level of knock.	1% / bit	0%	0 to 250%	0		●	●
Engine Cylinder #10 Knock Level from Data Link	R	752	0x02EF	1	Indicates the level of knock for engine cylinder #10, where 0% is least level of knock and 100% is most severe level of knock.	1% / bit	0%	0 to 250%	0		●	●
Engine Cylinder #11 Knock Level from Data Link	R	753	0x02F0	1	Indicates the level of knock for engine cylinder #11, where 0% is least level of knock and 100% is most severe level of knock.	1% / bit	0%	0 to 250%	0		●	●
Engine Cylinder #12 Knock Level from Data Link	R	754	0x02F1	1	Indicates the level of knock for engine cylinder #12, where 0% is least level of knock and 100% is most severe level of knock.	1% / bit	0%	0 to 250%	0		●	●
Engine Cylinder #13 Knock Level from Data Link	R	755	0x02F2	1	Indicates the level of knock for engine cylinder #13, where 0% is least level of knock and 100% is most severe level of knock.	1% / bit	0%	0 to 250%	0		●	●
Engine Cylinder #14 Knock Level from Data Link	R	756	0x02F3	1	Indicates the level of knock for engine cylinder #14, where 0% is least level of knock and 100% is most severe level of knock.	1% / bit	0%	0 to 250%	0		●	●
Engine Cylinder #15 Knock Level from Data Link	R	757	0x02F4	1	Indicates the level of knock for engine cylinder #15, where 0% is least level of knock and 100% is most severe level of knock.	1% / bit	0%	0 to 250%	0		●	●
Engine Cylinder #16 Knock Level from Data Link	R	758	0x02F5	1	Indicates the level of knock for engine cylinder #16, where 0% is least level of knock and 100% is most severe level of knock.	1% / bit	0%	0 to 250%	0		●	●
Engine Cylinder #17 Knock Level from Data Link	R	759	0x02F6	1	Indicates the level of knock for engine cylinder #17, where 0% is least level of knock and 100% is most severe level of knock.	1% / bit	0%	0 to 250%	0		●	●
Engine Cylinder #18 Knock Level from Data Link	R	760	0x02F7	1	Indicates the level of knock for engine cylinder #18, where 0% is least level of knock and 100% is most severe level of knock.	1% / bit	0%	0 to 250%	0		●	●
Engine Cylinder #19 Knock Level from Data Link	R	761	0x02F8	1	Indicates the level of knock for engine cylinder #19, where 0% is least level of knock and 100% is most severe level of knock.	1% / bit	0%	0 to 250%	0		●	●
Engine Cylinder #20 Knock Level from Data Link	R	762	0x02F9	1	Indicates the level of knock for engine cylinder #20, where 0% is least level of knock and 100% is most severe level of knock.	1% / bit	0%	0 to 250%	0		●	●
Cylinder # 1 Ignition Timing from Data Link	R	767	0x02FE	1	The ignition timing or main fuel injection timing of the cylinder #1.	1 / 128 degree / bit	-200 degrees	-200 to 301.99 degrees	0		●	●
Cylinder # 2 Ignition Timing from Data Link	R	768	0x02FF	1	The ignition timing or main fuel injection timing of the cylinder #2.	1 / 128 degree / bit	-200 degrees	-200 to 301.99 degrees	0		●	●
Cylinder # 3 Ignition Timing from Data Link	R	769	0x0300	1	The ignition timing or main fuel injection timing of the cylinder #3.	1 / 128 degree / bit	-200 degrees	-200 to 301.99 degrees	0		●	●
Cylinder # 4 Ignition Timing from Data Link	R	770	0x0301	1	The ignition timing or main fuel injection timing of the cylinder #4.	1 / 128 degree / bit	-200 degrees	-200 to 301.99 degrees	0		●	●
Cylinder # 5 Ignition Timing from Data Link	R	771	0x0302	1	The ignition timing or main fuel injection timing of the cylinder #5.	1 / 128 degree / bit	-200 degrees	-200 to 301.99 degrees	0		●	●
Cylinder # 6 Ignition Timing from Data Link	R	772	0x0303	1	The ignition timing or main fuel injection timing of the cylinder #6.	1 / 128 degree / bit	-200 degrees	-200 to 301.99 degrees	0		●	●
Cylinder # 7 Ignition Timing from Data Link	R	773	0x0304	1	The ignition timing or main fuel injection timing of the cylinder #7.	1 / 128 degree / bit	-200 degrees	-200 to 301.99 degrees	0		●	●
Cylinder # 8 Ignition Timing from Data Link	R	774	0x0305	1	The ignition timing or main fuel injection timing of the cylinder #8.	1 / 128 degree / bit	-200 degrees	-200 to 301.99 degrees	0		●	●
Cylinder # 9 Ignition Timing from Data Link	R	775	0x0306	1	The ignition timing or main fuel injection timing of the cylinder #9.	1 / 128 degree / bit	-200 degrees	-200 to 301.99 degrees	0		●	●
Cylinder #10 Ignition Timing from Data Link	R	776	0x0307	1	The ignition timing or main fuel injection timing of the cylinder #10.	1 / 128 degree / bit	-200 degrees	-200 to 301.99 degrees	0		●	●
Cylinder #11 Ignition Timing from Data Link	R	777	0x0308	1	The ignition timing or main fuel injection timing of the cylinder #11.	1 / 128 degree / bit	-200 degrees	-200 to 301.99 degrees	0		●	●
Cylinder #12 Ignition Timing from Data Link	R	778	0x0309	1	The ignition timing or main fuel injection timing of the cylinder #12.	1 / 128 degree / bit	-200 degrees	-200 to 301.99 degrees	0		●	●

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Parameter Name	R/W	Holding Register		Ct	Description	Scaling (Resolution)	Offset	Limits (Ranges)	Sec Lvl	4.2	4.3	4.4
Cylinder #13 Ignition Timing from Data Link	R	779	0x030A	1	The ignition timing or main fuel injection timing of the cylinder #13.	1 / 128 degree / bit	-200 degrees	-200 to 301.99 degrees	0		●	●
Cylinder #14 Ignition Timing from Data Link	R	780	0x030B	1	The ignition timing or main fuel injection timing of the cylinder #14.	1 / 128 degree / bit	-200 degrees	-200 to 301.99 degrees	0		●	●
Cylinder #15 Ignition Timing from Data Link	R	781	0x030C	1	The ignition timing or main fuel injection timing of the cylinder #15.	1 / 128 degree / bit	-200 degrees	-200 to 301.99 degrees	0		●	●
Cylinder #16 Ignition Timing from Data Link	R	782	0x030D	1	The ignition timing or main fuel injection timing of the cylinder #16.	1 / 128 degree / bit	-200 degrees	-200 to 301.99 degrees	0		●	●
Cylinder #17 Ignition Timing from Data Link	R	783	0x030E	1	The ignition timing or main fuel injection timing of the cylinder #17.	1 / 128 degree / bit	-200 degrees	-200 to 301.99 degrees	0		●	●
Cylinder #18 Ignition Timing from Data Link	R	784	0x030F	1	The ignition timing or main fuel injection timing of the cylinder #18.	1 / 128 degree / bit	-200 degrees	-200 to 301.99 degrees	0		●	●
Cylinder #19 Ignition Timing from Data Link	R	785	0x0310	1	The ignition timing or main fuel injection timing of the cylinder #19.	1 / 128 degree / bit	-200 degrees	-200 to 301.99 degrees	0		●	●
Cylinder #20 Ignition Timing from Data Link	R	786	0x0311	1	The ignition timing or main fuel injection timing of the cylinder #20.	1 / 128 degree / bit	-200 degrees	-200 to 301.99 degrees	0		●	●
Cylinder #13 Ignition Transformer Secondary Output from Data Link	R	791	0x0316	1	Indicates the relative intensity of the secondary output voltage of ignition #13 transformer, as received from another module on the Data Link.	1% / bit	-125%	-125% to 125%	0		●	●
Cylinder #14 Ignition Transformer Secondary Output from Data Link	R	792	0x0317	1	Indicates the relative intensity of the secondary output voltage of ignition #14 transformer, as received from another module on the Data Link.	1% / bit	-125%	-125% to 125%	0		●	●
Cylinder #15 Ignition Transformer Secondary Output from Data Link	R	793	0x0318	1	Indicates the relative intensity of the secondary output voltage of ignition #15 transformer, as received from another module on the Data Link.	1% / bit	-125%	-125% to 125%	0		●	●
Cylinder #16 Ignition Transformer Secondary Output from Data Link	R	794	0x0319	1	Indicates the relative intensity of the secondary output voltage of ignition #16 transformer, as received from another module on the Data Link.	1% / bit	-125%	-125% to 125%	0		●	●
Cylinder #17 Ignition Transformer Secondary Output from Data Link	R	795	0x031A	1	Indicates the relative intensity of the secondary output voltage of ignition #17 transformer, as received from another module on the Data Link.	1% / bit	-125%	-125% to 125%	0		●	●
Cylinder #18 Ignition Transformer Secondary Output from Data Link	R	796	0x031B	1	Indicates the relative intensity of the secondary output voltage of ignition #18 transformer, as received from another module on the Data Link.	1% / bit	-125%	-125% to 125%	0		●	●
Cylinder #19 Ignition Transformer Secondary Output from Data Link	R	797	0x031C	1	Indicates the relative intensity of the secondary output voltage of ignition #19 transformer, as received from another module on the Data Link.	1% / bit	-125%	-125% to 125%	0		●	●
Cylinder #20 Ignition Transformer Secondary Output from Data Link	R	798	0x031D	1	Indicates the relative intensity of the secondary output voltage of ignition #20 transformer, as received from another module on the Data Link.	1% / bit	-125%	-125% to 125%	0		●	●
Engine Oil Temperature from I/O Pin	R	800	0x031F	1	Temperature of the engine lubricant, as measured by the auxiliary analog input. For legacy purposes only. For new applications, use "Engine Oil Temperature" (199) instead.	0.03125 C / bit	-273 C	-273 to 1735 C	0	●	●	●
Exhaust Temperature	R	801	0x0320	1	For legacy support only. For new applications, use register 2086 instead.	0.03125 C / bit	-273 C	-273 to 1735 C	0	●	●	●
Left Manifold Exhaust Temperature	R	802	0x0321	1	For legacy support only. This will read the "Exhaust Temperature" only. For new applications, install thermocouple module and use register 241 instead.	0.03125 C / bit	-273 C	-273 to 1735 C	0	●	●	●
Right Manifold Exhaust Temperature from I/O Pin	R	803	0x0322	1	For legacy support only. This will read the "Exhaust Temperature" only. For new applications, install thermocouple module and use register 242 instead.	0.03125 C / bit	-273 C	-273 to 1735 C	0	●	●	●
Fuel Level from I/O Pin	R	804	0x0323	1	Fuel level, as read from an Analog Input.	0.0078125 % / bit	-251 %	-251 to 250.99 %	0	●	●	●
External Tank Fuel Level from I/O Pin	R	805	0x0324	1	Fuel level of an external fuel storage container, as read from an Analog Input.	0.0078125 % / bit	-251 %	-251 to 250.99 %	0	●	●	●
Engine Oil Level from I/O Pin	R	806	0x0325	1	For legacy support only. Will always read zero. For new applications, use Custom Parameters instead.	0.0078125 % / bit	-251 %	-251 to 250.99 %	0	●	●	●
Engine Coolant Level from I/O Pin	R	807	0x0326	1	For legacy support only. Will always read zero. For new applications, use Custom Parameters instead.	0.0078125 % / bit	-251 %	-251 to 250.99 %	0	●	●	●
Oil Filter Differential Pressure from I/O Pin	R	809	0x0328	1	For legacy support only. Will always read zero. For new applications, use register 251.	0.125 kPa / bit	0 kPa	0 to 8031.875 kPa	0	●	●	●

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Parameter Name	R/W	Holding Register		Ct	Description	Scaling (Resolution)	Offset	Limits (Ranges)	Sec Lvl	4.2	4.3	4.4
Air Filter 1 Differential Pressure from I/O Pin	R	810	0x0329	1	For legacy support only. Will always read zero. For new applications, use register 253.	1 / 128 kPa / bit	-250 kPa	-250 to 251.99 kPa	0	●	●	●
Fuel Filter Differential Pressure from I/O Pin	R	811	0x032A	1	For legacy support only. Will always read zero. For new applications, use register 252.	0.125 kPa / bit	0 kPa	0 to 8031.875 kPa	0	●	●	●
Main Tank Urea Level from I/O Pin	R	812	0x032B	1	Shows the Main Tank Urea Level, as read from Analog Input.	1 % / bit	-125 %	-125 to 125 %	0	●	●	●
Engine Desired Ignition Timing #1 from Data Link	R	814	0x032D	1	Desired ignition timing value specific to engine application, as received from engine ECM on the Data Link.	1 / 128 degree / bit	-200 degrees	-200 to 301.99 degrees	0		●	●
Specific Heat Ratio from Data Link	R	815	0x032E	1	Measured specific heat ratio of the fuel, as received from another module on the Data Link.	0.001 / bit	0	0 to 64.255	0		●	●
Engine Fuel Specific Gravity from Data Link	R	816	0x032F	1	Measured specific gravity of the fuel, as received from another module on the Data Link.	0.0001 / bit	0	0 to 6.4255	0		●	●
Engine Gas Mass Flow Rate #1	R	817	0x0330	1	Gas mass flow rate delivered to the engine (instance #1), as received from another module on the Data Link.	0.05 kg/h per bit	0 kg/h	0 to 3212.75 kg/h	0		●	●
Engine Turbo Charger Boost Pressure from Data Link	R	818	0x0331	1	Gauge pressure of air measured downstream on the compressor discharge side of the turbocharger, as received from another module on the Data Link (See Register #249 for alternate source.)	0.125 kPa / bit	0 kPa	0 to 8031.875 kPa	0		●	●
Engine Gaseous Fuel Correction Factor from Data Link	R	819	0x0332	1	A correction to a predefined gaseous fuel energy content represented as a percentage, as received from another module on the Data Link. (Actual fuel energy used is the product of gaseous fuel correction factor and the energy of the gas)	1 % / bit	0%	0 to 250%	0		●	●
Intake Manifold #1 Absolute Pressure from Data Link	R	820	0x0333	1	Absolute air pressure of the intake manifold (instance #1), as received from another module on the Data Link.	2 kPa / bit	0 kPa	0 to 500 kPa	0		●	●
Engine Pre-filter Oil Pressure from Data Link	R	821	0x0334	1	Gage pressure of the engine oil before the oil reaches the oil filter, as received from another module on the Data Link.	4 kPa / bit	0 kPa	0 to 1000 kPa	0		●	●
Engine Actual Engine Timing from Data Link	R	822	0x0335	1	Actual ignition timing at the current engine conditions, as received from another module on the Data Link.	1 / 128 degree / bit	-200 degrees	-200 to 301.99 degrees	0		●	●
Fuel Valve #1 Position from Data Link	R	823	0x0336	1	Position of a gaseous fuel valve (instance #1) that is metering the fuel flow to the engine, as received from another module on the Data Link. 0% indicates no fuel flow through valve and 100% indicates maximum fuel flow through valve.	0.4 % / bit	0%	0 to 100%	0		●	●
Requested Fuel Valve #1 Position from Data Link	R	824	0x0337	1	Requested position of a gaseous fuel valve (instance #1) that is metering the fuel flow to the engine, as received from another module on the Data Link.	0.4 % / bit	0%	0 to 100%	0		●	●
Aftertreatment 3-Way Catalytic Converter Intake Gas Temp from Data Link	R	825	0x0338	1	Temperature of engine combustion byproducts entering the Three Way Catalyst in exhaust bank #1, as received from another module on the Data Link.	0.03125 C / bit	-273 C	-273 to 1735 C	0		●	●
Aftertreatment 3-Way Catalytic Converter Outlet Gas Temp from Data Link	R	826	0x0339	1	Temperature of engine combustion byproducts leaving the Three Way Catalyst in exhaust bank #1, as received from another module on the Data Link.	0.03125 C / bit	-273 C	-273 to 1735 C	0		●	●
Aftertreatment 3-Way Catalyst Differential Gas Temperature from Data Link	R	827	0x033A	1	Differential engine combustion byproducts gas temperature measured between the intake and outlet of the three way catalyst for exhaust bank #1, as received from another module on the Data Link.	0.03125 C / bit	-273 C	-273 to 1735 C	0		●	●
Exhaust Gas Oxygen Sensor Closed Loop Operation from Data Link	R	828	0x033B	1	Indicates whether the engine is using the Exhaust Gas Oxygen sensor to control the air/fuel ratio, as received from another module on the Data Link.	0 = OPEN LOOP (not using Exhaust Oxygen sensor) 1 = CLOSED LOOP (using Exhaust Oxygen sensor)			0		●	●
Desired Throttle Valve #1 Position from Data Link	R	829	0x033C	1	Read the desired position (as a percentage of full supply) of the Throttle valve (instance #1) that is regulating the fluid (usually air/fuel mixture) to the engine, as received from another module on the Data Link.	0.4 % / bit	0%	0 to 100%	0		●	●
Throttle Position from Data Link	R	830	0x033D	1	Read the actual position (as a percentage of full supply) of the valve used to regulate the supply of a fluid (usually air or fuel/air mixture) to the engine, as received from another module on the Data Link.	0.4 % / bit	0%	0 to 100%	0		●	●

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Parameter Name	R/W	Holding Register		Ct	Description	Scaling (Resolution)	Offset	Limits (Ranges)	Sec Lvl	4.2	4.3	4.4
Fuel Shutoff #1 Control from Data Link	R	831	0x033E	1	Fuel control setting for fuel shutoff (instance #1), as received from another module on the Data Link.	0 = OPEN (fuel supplied to engine) 1 = CLOSED (no fuel supplied to engine) 2 = LOCKED OUT 3 = NOT AVAILABLE			0		●	●
Engine Operating State from ADEM	R	834	0x0341	1	Indicates the current state, or operating mode of the engine, as received from the engine ECM on the Data Link.	0 = STOPPED 1 = PRE START 2 = STARTING 3 = WARM UP 4 = RUNNING 5 = COOLDOWN 6 = STOPPING 7 = POST RUN			0		●	●
Time Remaining in Engine Operating State from ADEM	R	835	0x0342	1	Indicate the time remaining in the current engine operating state as defined by register #834.	1 second / bit	0 seconds	0 to 64255 seconds	0		●	●
Engine Running Flag from ADEM	R	836	0x0343	1	Engine running status, as received from the engine ECM on the Data Link. True indicates the engine is running.	0 = FALSE 1 = TRUE 2 = ERROR 3 = DISABLED OR NOT AVAILABLE			0		●	●
Cylinder #1 Ignition Transformer Secondary Output from Data Link	R	837	0x0344	1	Indicates the relative intensity of the secondary output voltage of ignition #1 transformer, as received from another module on the Data Link.	1% / bit	-125%	-125% to 125%	0		●	●
Cylinder #2 Ignition Transformer Secondary Output from Data Link	R	838	0x0345	1	Indicates the relative intensity of the secondary output voltage of ignition #2 transformer, as received from another module on the Data Link.	1% / bit	-125%	-125% to 125%	0		●	●
Cylinder #3 Ignition Transformer Secondary Output from Data Link	R	839	0x0346	1	Indicates the relative intensity of the secondary output voltage of ignition #3 transformer, as received from another module on the Data Link.	1% / bit	-125%	-125% to 125%	0		●	●
Cylinder #4 Ignition Transformer Secondary Output from Data Link	R	840	0x0347	1	Indicates the relative intensity of the secondary output voltage of ignition #4 transformer, as received from another module on the Data Link.	1% / bit	-125%	-125% to 125%	0		●	●
Cylinder #5 Ignition Transformer Secondary Output from Data Link	R	841	0x0348	1	Indicates the relative intensity of the secondary output voltage of ignition #5 transformer, as received from another module on the Data Link.	1% / bit	-125%	-125% to 125%	0		●	●
Cylinder #6 Ignition Transformer Secondary Output from Data Link	R	842	0x0349	1	Indicates the relative intensity of the secondary output voltage of ignition #6 transformer, as received from another module on the Data Link.	1% / bit	-125%	-125% to 125%	0		●	●
Cylinder #7 Ignition Transformer Secondary Output from Data Link	R	843	0x034A	1	Indicates the relative intensity of the secondary output voltage of ignition #7 transformer, as received from another module on the Data Link.	1% / bit	-125%	-125% to 125%	0		●	●
Cylinder #8 Ignition Transformer Secondary Output from Data Link	R	844	0x034B	1	Indicates the relative intensity of the secondary output voltage of ignition #8 transformer, as received from another module on the Data Link.	1% / bit	-125%	-125% to 125%	0		●	●
Cylinder #9 Ignition Transformer Secondary Output from Data Link	R	845	0x034C	1	Indicates the relative intensity of the secondary output voltage of ignition #9 transformer, as received from another module on the Data Link.	1% / bit	-125%	-125% to 125%	0		●	●
Cylinder #10 Ignition Transformer Secondary Output from Data Link	R	846	0x034D	1	Indicates the relative intensity of the secondary output voltage of ignition #10 transformer, as received from another module on the Data Link.	1% / bit	-125%	-125% to 125%	0		●	●
Cylinder #11 Ignition Transformer Secondary Output from Data Link	R	847	0x034E	1	Indicates the relative intensity of the secondary output voltage of ignition #11 transformer, as received from another module on the Data Link.	1% / bit	-125%	-125% to 125%	0		●	●
Cylinder #12 Ignition Transformer Secondary Output from Data Link	R	848	0x034F	1	Indicates the relative intensity of the secondary output voltage of ignition #12 transformer, as received from another module on the Data Link.	1% / bit	-125%	-125% to 125%	0		●	●

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Parameter Name	R/W	Holding Register	Ct	Description	Scaling (Resolution)	Offset	Limits (Ranges)	Sec Lvl	4.2	4.3	4.4
Engine Starter Mode from Data Link	R	849	0x0350	1	Indicates the current state of the engine starter, as received from the engine ECM on the Data Link.			0		•	•
Engine Oil Priming Pump Switch from Data Link	R	850	0x0351	1	Indicates the status of the switch input for activating the engine oil priming pump, as received from an another module on the Data Link.			0		•	•
Engine Percent Load At Current Speed from Data Link	R	851	0x0352	1	Percentage that represents the ratio of actual engine percent torque to maximum indicated torque available at the current engine speed, as received from another module on the Data Link.	1% / bit	0%	0 to 250%	0	•	•
Engine Throttle Valve Differential Pressure from Data Link	R	852	0x0353	1	Differential pressure between the intake and outlet of the engine throttle valve, as received from another module on the Data Link.	0.1 kPa / bit	0 kPa	0 to 6425.5 kPa	0	•	•
Exhaust Gas Temperature Average from Data Link	R	853	0x0354	1	Average temperature based upon the exhaust port temperature measurements at each of the engine cylinders, as received from another module on the Data Link.	0.03125 C / bit	-273 C	-273 to 1735 C	0	•	•
Exhaust Gas Temperature Average - Bank 1 (Left) from Data Link	R	854	0x0355	1	Average temperature based upon the exhaust port temperature measurements of each of the engine cylinders on the left bank prior to the turbocharger, as received from another module on the Data Link.	0.03125 C / bit	-273 C	-273 to 1735 C	0	•	•
Exhaust Gas Temperature Average - Bank 2 (Right) from Data Link	R	855	0x0356	1	Average temperature based upon the exhaust port temperature measurements of each of the engine cylinders on the right bank before the turbocharger, as received from another module on the Data Link.	0.03125 C / bit	-273 C	-273 to 1735 C	0	•	•
Fuel Valve 1 Inlet Absolute Pressure from Data Link	R	856	0x0357	1	Absolute pressure of gas on the intake side of the first system control valve, as received from another module on the Data Link.	0.1 kPa / bit	0 kPa	0 to 6425.5 kPa	0	•	•
Engine Fuel Valve Differential Pressure from Data Link	R	857	0x0358	1	Differential pressure between the intake and the outlet of a gaseous fuel valve, as received from another module on the Data Link.	0.1 kPa / bit	0 kPa	0 to 6425.5 kPa	0	•	•
Actual Aftertreatment #1 Intake Oxygen Sensor Voltage from Data Link	R	858	0x0359	1	Actual voltage from the Aftertreatment #1 Intake Oxygen sensor mounted at the intake of the Aftertreatment #1 system, as received from another module on the Data Link.	0.5 mV / bit	0 mV	0 to 32127.5 mV	0	•	•
Desired Aftertreatment #1 Intake Oxygen Sensor Voltage from Data Link	R	859	0x035A	1	Desired voltage for the Aftertreatment #1 Intake Oxygen sensor mounted at the intake of the Aftertreatment #1 system, as received from another module on the Data Link.	0.5 mV / bit	0 mV	0 to 32127.5 mV	0	•	•
Actual Aftertreatment #1 Outlet Oxygen Sensor Voltage from Data Link	R	860	0x035B	1	Actual voltage from the Aftertreatment #1 Outlet Oxygen sensor mounted at the outlet of the Aftertreatment #1 system, as received from another module on the Data Link.	0.5 mV / bit	0 mV	0 to 32127.5 mV	0	•	•
Desired Aftertreatment #1 Outlet Oxygen Sensor Voltage from Data Link	R	861	0x035C	1	Desired voltage for the Aftertreatment #1 Outlet Oxygen sensor mounted at the outlet of the Aftertreatment #1 system, as received from another module on the Data Link.	0.5 mV / bit	0 mV	0 to 32127.5 mV	0	•	•

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Parameter Name	R/W	Holding Register	Ct	Description	Scaling (Resolution)	Offset	Limits (Ranges)	Sec Lvl	4.2	4.3	4.4	
Aftertreatment #1 Intake Oxygen Sensor Fuel Trim Percentage from Data Link	R	862	0x035D	1	Percentage adjustment made by the Aftertreatment #1 Intake Oxygen sensor to the fuel actuator control command, as received from another module on the Data Link.	0.01 % / bit	-320 %	-320 to 322.55 %	0		●	●
Aftertreatment #1 Outlet Oxygen Sensor Fuel Trim Percentage from Data Link	R	863	0x035E	1	Percentage adjustment made by the Aftertreatment #1 Outlet Oxygen sensor to the fuel actuator control command, as received from another module on the Data Link.	0.01 % / bit	-320 %	-320 to 322.55 %	0		●	●
Oxygen Sensor Status from Data Link	R	864	0x035F	1	Status of the oxygen sensor that reflects the output commanded by the ECM, as received from another module on the Data Link.	0 = OFF 1 = ON			0		●	●
Engine Fuel Actuator #1 Control Command from Data Link	R	865	0x0360	1	Control command to fuel actuator (instance #1), normalized to percent, where 0% represents fully closed and 100% represents fully open, as received from another module on the Data Link.	0.0025 % / bit	0%	0 to 160.6375 %	0		●	●
Engine Throttle Actuator #1 Control Command from Data Link	R	868	0x0363	1	Control command to throttle actuator (instance #1), normalized to percent, where 0% represents fully closed and 100% represents fully open, as received from another module on the Data Link.	0.0025 % / bit	0%	0 to 160.6375 %	0		●	●
Engine Turbocharger Compressor Control from Data Link	R	869	0x0364	1	Command to a compressor bypass actuator, normalized to percent, where 0% nominally represents fully closed and 100% represents fully open, as received from another module on the Data Link.	0.0025 % / bit	0%	0 to 160.6375 %	0		●	●
Engine Oil to Engine Coolant Differential Temperature from Data Link	R	870	0x0365	1	Engine Oil Temperature minus the Engine Coolant Temperature, as received from another module on the Data Link.	1.0 C / bit	-273 C	-273 to 32767 C	0		●	●
Fuel Energy Content from Data Link	R	871	0x0366	1	Energy content (lower heating value) of the gaseous fuel, as received from another module on the Data Link.	1 / 256 MJ / Nm ³ per bit	0 MJ / Nm ³	0 to 250.996 MJ / Nm ³	0		●	●
Actual Engine Exhaust NOx Level from Data Link	R	872	0x0367	1	Actual level of NOx concentration in the engine exhaust as measured by the NOx Sensor, as received from another module on the Data Link.	0.05 ppm / bit	0 ppm	0 to 3275.15 ppm	0		●	●
Desired Engine Exhaust NOx Level from Data Link	R	873	0x0368	1	Desired level of NOx concentration in the engine exhaust, as received from another module on the Data Link.	0.05 ppm / bit	0 ppm	0 to 3275.15 ppm	0		●	●
Desired Engine Throttle Valve Differential Pressure from Data Link	R	874	0x0369	1	Desired pressure differential across the engine throttle valve, as received from another module on the Data Link.	0.1 kPa / bit	0 kPa	0 to 6550.3 kPa	0		●	●
Engine Intake Manifold <Charge> Mass Flow Rate from Data Link	R	875	0x036A	1	Mass flow rate of the air and fuel through the engine intake manifold, as received from another module on the Data Link.	1.0 kg / hr / bit	0 kg / hr	0 to 65503 kg / hr	0		●	●
Engine Exhaust NOx Level Sensor Status from Data Link	R	876	0x036B	1	Status of the Engine Exhaust NOx Level Sensor, as received from another module on the Data Link.	0 = OFF 14 = ACTIVE 15 = INACTIVE 1004 = HEATING			0		●	●
Actual Air/Fuel Ratio from Data Link	R	877	0x036C	1	Actual air/fuel ratio, as received from another module on the Data Link.	0.1 / bit	0	0.0 to 30.0	0		●	●
Actual Charge Density Factor from Data Link	R	878	0x036D	1	Actual charge density factor of the air/fuel mixture entering the engine, as received from another module on the Data Link.	0.0001 / bit	0	0 to 6.5503	0		●	●
Desired Charge Density Factor from Data Link	R	879	0x036E	1	Desired charge density factor of the air/fuel mixture entering the engine, as received from another module on the Data Link.	0.0001 / bit	0	0 to 6.5503	0		●	●
Engine Intake Manifold #1 Absolute Pressure from Data Link (High Resolution)	R	881	0x0370	1	Absolute pressure measurement of the air intake manifold, as received from another module on the Data Link.	0.1 kPa / bit	0 kPa	0 to 6425.5 kPa	0		●	●
Gearbox Oil Pressure from I/O	R	884	0x0373	1	Gage pressure of lubrication fluid in gearbox, as read from an Analog Input.	0.1 kPa / bit	0 kPa	0 to 6425.5 kPa	0		●	●
Gearbox Oil Temperature from I/O	R	885	0x0374	1	Temperature of lubrication fluid in gearbox, as read from an Analog Input.	0.03125 C / bit	-273 C	-273 to 1735 C	0		●	●
Gas Substitution Status	R	886	0x0375	1	Status of the gas substitution feature.	0 = INACTIVE 1 = ACTIVE 2 = LOCKED INACTIVE			0		●	●

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Parameter Name	R/W	Holding Register		Ct	Description	Scaling (Resolution)	Offset	Limits (Ranges)	Sec Lvl	4.2	4.3	4.4
Maximum Gas Substitution Percentage	R	887	0x0376	1	Maximum gas substitution as a percentage of the maximum gas-to-diesel fuel substitution rate (0% = No substitution of gas - full diesel, 100% = Maximum gas-to-diesel substitution requested).	0.0078125 % / bit	-251 %	-251 to 250.99 %	0		●	●
Actual Gas Substitution Percentage	R	889	0x0378	1	Actual power, as percentage of maximum power, provided by gas to substitute diesel power.	0.0078125 % / bit	-251 %	-251 to 250.99 %	0		●	●
Gas Substitution Reduction Reason	R	891	0x037A	1	Indicates the reason gas substitution mode is not at the requested level.	0 - NO REDUCTION 1 - DIAGNOSTIC ACTIVE 2 - LOW ENGINE LOAD 3 - HIGH TURBO INLET TEMPERATURE 4 - HIGH DETONATION LEVEL 5 - HIGH FUEL VALVE COMMAND			0		●	●
Real Time Clock	R	900	0x0383	3	Clock containing year, month, day, hour, minute, and second information.	Byte 5 = 1 year / bit, 1985 offset Byte 4 = 0.25 days / bit, 0 offset Byte 3 = 1 month / bit, 0 offset Byte 2 = 1 hour / bit, 0 offset Byte 1 = 1 minute / bit, 0 offset Byte 0 = 0.25 seconds / bit, 0 offset			0	●	●	●
Update Real Time Clock Command (NOTE 1)	W	903	0x0386	3	SCADA command to change the real time clock information.				1	●	●	●
Log Entry Index	W	1033	0x0408	1	Selects the index of the genset control event log to be read from Log Entry Modbus register.	1 / bit	0	0 to 39	0	●	●	●
Log Entry	R	1034	0x0409	14	Reads the entry of the Genset Control Log as specified by the Log Entry Index Modbus register.	Register 13 = Log Entry Index, 1 / bit, 0 offset, 0 to 39 Register 12:11 = SPN/FMI (Event ID) Bits 31:24 = not used Bits 23:5 = SPN Bits 4:0 = FMI Register 10 = Flags / Count Bits 15:12 = not used Bits 11:8 = Event Status 0 = Inactive 4 = Active 5 = Present Bits 7:0 = Occurrence Count, 1 / bit, 0 offset, 1 to 99 Register 9:8 = First Hourmeter, 1 second / bit, 0 offset Register 7:6 = Last Hourmeter, 1 second / bit, 0 offset Register 5:3 = First Timestamp Bits 47:40 = 1 year / bit, 1985 offset Bits 39:32 = 0.25 days / bit, 0 offset Bits 31:24 = 1 month / bit, 0 offset Bits 23:16 = 1 hour / bit, 0 offset Bits 15:8 = 1 minute / bit, 0 offset Bits 7:0 = 0.25 seconds / bit, 0 offset Register 2:0 = Last Timestamp (same encoding as First Timestamp)			0	●	●	●
Reset Event (NOTE 1)	W	1048	0x0417	2	SCADA command to reset a single EMCP GSC interval event, identified by the SPN and FMI numbers.	Bits 31:24 = not used Bits 23:5 = SPN Bits 4:0 = FMI			1	●	●	●
Cooldown Duration Remaining	R	1054	0x041D	1	Time remaining in cooldown until engine is stopped. This value is only meaningful while the engine is in the Cooldown state.	1 second / bit	0 seconds	0 to 64255 seconds	0	●	●	●
Remote Initiate Command (NOTE 1)	W	1055	0x041E	1	When the control is in Auto mode, this commands the engine to Start when TRUE and Stop when FALSE.	0 = FALSE 1 = TRUE			0	●	●	●
Emergency Stop Command (NOTE 1)	W	1056	0x041F	1	Will cause the engine to immediately stop without cooling down.	0 = FALSE 1 = TRUE			0	●	●	●
Desired Genset Output Voltage	R	1057	0x0420	1	The desired RMS voltage to be delivered by the genset.	1 V / bit	0 V	0 to 64255 V	0	●	●	●

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Parameter Name	R/W	Holding Register	Ct	Description	Scaling (Resolution)	Offset	Limits (Ranges)	Sec Lvl	4.2	4.3	4.4	
Total Voltage Bias Percent	R	1058	0x0421	1	The bias being applied to the voltage regulator desired output voltage, as a percentage of 40% of rated voltage. This will change by 0.5% when the Voltage Adjust up/down arrow is pressed on the EMCP 4 display.	0.0078125 % / bit	-251 %	-251 to 250.99 %	0	●	●	●
Voltage Bias Percent Increment Command (NOTE 1)	W	1059	0x0422	1	Increases the percentage bias to be applied to the Automatic Voltage Regulator. This increment gets applied to the total voltage bias percent, register 1058.	0.0078125 % / bit	-251 %	-251 to 250.99 %	0	●	●	●
Requested Engine Speed	R	1060	0x0423	1	Engine speed currently being requested by the EMCP 4.	0.125 rpm / bit	0 rpm	0 to 8031.875 rpm	0	●	●	●
Total Speed Bias Percent	R	1061	0x0424	1	The bias being applied to the speed command output, as a percentage of 200 rpm. This will change by 0.5% each time the Speed Adjust left/right arrow is pressed on the EMCP 4 display.	0.0078125 % / bit	-251 %	-251 to 250.99 %	0	●	●	●
Speed Bias Percent Increment Command (NOTE 1)	W	1062	0x0425	1	Increases the percentage bias being applied to the speed command output. This increment gets applied to the total speed bias percent, register 1061.	0.0078125 % / bit	-251 %	-251 to 250.99 %	0	●	●	●
Generator/Bus Phase Difference	R	1064	0x0427	1	Phase difference between gen and bus. May be meaningless if V, Hz not Within Limits or if in Frequency Control.	1 / 128 degree / bit	-200 degrees	-200 to 301.99 degrees	0			●
Generator Circuit Breaker Status	R	1065	0x0428	1	Shows the status of the Generator Circuit Breaker	0 = OPEN 1 = CLOSED 2 = LOCKED OUT 7 = ERROR			0			●
Generator Frequency within Limits	R	1067	0x042A	1	Indicates whether the generator frequency is below the threshold for a generator over frequency shutdown and above the threshold for a generator under frequency shutdown.	0 = FALSE 1 = TRUE			0	●	●	●
Generator Voltage within Limits	R	1068	0x042B	1	Indicates whether the generator voltage is below the threshold for a generator over voltage shutdown and above the threshold for a generator under voltage shutdown.	0 = FALSE 1 = TRUE			0	●	●	●
Bus Voltage within Limits	R	1069	0x042C	1	Indicates whether the bus voltage is below the threshold for a bus over voltage shutdown and above the threshold for a bus under voltage shutdown.	0 = FALSE 1 = TRUE			0			●
Bus Live Status	R	1070	0x042D	1	Indicates whether the bus is live (True).	0 = FALSE 1 = TRUE			0			●
Generator to Bus Frequency Synchronization Mode	R	1087	0x043E	1	Indicates operating mode of the frequency/phase synchronizer.	0 = N/A 1 = Phase Control Mode 2 = Frequency Control Mode 3 = Blended Phase/Frequency Control Mode			0			●
Genset Control Online	R	1090	0x0441	1	Indicates whether the EMCP GSC is on the communication network. This will always be True.	0 = FALSE 1 = TRUE			0	●	●	●
Engine Control Online	R	1091	0x0442	1	Indicates whether the engine ECM is in communication with the EMCP GSC via CAN.	0 = FALSE 1 = TRUE			0	●	●	●
Secondary Engine Control Online	R	1092	0x0443	1	Indicates whether the secondary engine ECM is in communication with the EMCP GSC via CAN.	0 = FALSE 1 = TRUE			0	●	●	●
External I/O #1 Online	R	1093	0x0444	1	Indicates whether the DIO module instance #1 is in communication with the EMCP GSC via CAN.	0 = FALSE 1 = TRUE			0	●	●	●
External I/O #2 Online	R	1094	0x0445	1	Indicates whether the DIO module instance #2 is in communication with the EMCP GSC via CAN.	0 = FALSE 1 = TRUE			0	●	●	●
External I/O #3 Online	R	1095	0x0446	1	Indicates whether the DIO module instance #3 is in communication with the EMCP GSC via CAN.	0 = FALSE 1 = TRUE			0	●	●	●
External I/O #4 Online	R	1096	0x0447	1	Indicates whether the DIO module instance #4 is in communication with the EMCP GSC via CAN.	0 = FALSE 1 = TRUE			0	●	●	●
Digital AVR Online	R	1097	0x0448	1	Indicates whether the digital AVR module is in communication with the EMCP GSC via CAN.	0 = FALSE 1 = TRUE			0	●	●	●
RTD Module Online	R	1098	0x0449	1	Indicates whether the RTD module is in communication with the EMCP GSC via CAN.	0 = FALSE 1 = TRUE			0	●	●	●
Thermocouple #1 Online	R	1099	0x044A	1	Indicates whether the thermocouple module instance #1 is in communication with the EMCP GSC via CAN.	0 = FALSE 1 = TRUE			0	●	●	●

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Parameter Name	R/W	Holding Register	Ct	Description	Scaling (Resolution)	Offset	Limits (Ranges)	Sec Lvl	4.2	4.3	4.4	
Thermocouple #2 Online	R	1100	0x044B	1	Indicates whether the thermocouple module instance #2 is in communication with the EMCP GSC via CAN.	0 = FALSE 1 = TRUE		0	•	•	•	
SCR Module Online	R	1103	0x044E	1	Tells whether this device is communicating on either of the CAN datalinks. For use by display (to show event log) or external customer.	0 = FALSE 1 = TRUE		0	•	•	•	
Sync Mode Switch State	R	1108	0x0453	1	Read the state of the Sync Mode Switch.	0 = OFF 1 = AUTOMATIC 2 = MANUAL 3 = CHECK		0			•	
Hardwired Dead Bus Arbitration State	R	1111	0x0456	1	Reads the state of Hardwired Dead Bus Arbitration.	0 = DBA DISABLED 1 = DBA ENABLED 2 = REQUESTING 3 = CAPTURING 4 = ARB CHECK 5 = CLOSE GRANTED 6 = GEN ONLINE 7 = DBA FAILURE #1 8 = DBA FAILURE #2 9 = DBA FAILURE #3 10 = FAILURE WAIT 11 = MAX FAILURES 12 = LIVE BUS 13 = BRKR CLOSED 14 = LINE FAULT #1 15 = LINE FAULT #2 16 = LINE FAULT #3 17 = DBA FAILURE #1 18 = DBA FAILURE #2 19 = DBA FAILURE #3 20 = DBA FAILURE #4		0			•	
Hardwired Load Sense Load Demand State	R	1120	0x045F	1	Reads the state of Hardwired Load Sense Load Demand.	0 = LSLD OFF 1 = LSLD WAIT 2 = ANALYZING KW 3 = ARBITRATION 4 = RAMP UP 5 = LAST UNIT CHECK 6 = RAMP DOWN 7 = LSLD STANDBY		0			•	
Load Shed Command Active Status	R	1129	0x0468	1	indicates the status of the Load Shed Command output.	0 = INACTIVE 1 = ACTIVE 3 = DISABLED		0		•	•	
Load Shed Command Reset (NOTE 1)	W	1130	0x0469	1	True resets the Load Shed Command output. This works only if the activation conditions are no longer present.	0 = FALSE 1 = TRUE		0		•	•	
Voltage Compensation Bias Percent	R	1136	0x046F	1	Voltage bias as a percentage of nominal applied based on Reactive Droop or Line Loss Compensation settings.	0.0078125 % / bit	-251 %	-251 to 250.99 %	0		•	•

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Parameter Name	R/W	Holding Register	Ct	Description	Scaling (Resolution)	Offset	Limits (Ranges)	Sec Lvl	4.2	4.3	4.4	
Integrated Voltage Regulator Operating State	R	1137	0x0470	1	Indicates the operating state of the Integrated Voltage Regulator feature when configured.	0 = UNDEFINED 1 = VOLTS/Hz 2 = V/Hz + DROOP 3 = V/Hz + LINE LOSS 4 = SOFT START 5 = TRANSIENT RELIEF ACTIVE 6 = SOFT RECOVERY 7 = IVR LOCKED OUT 8 = SYNCHRONIZING 9 = PF CONTROL 10 = kVAr SHARING 11 = STOPPING		0		•	•	
Generator Excitation Command Percentage	R	1138	0x0471	1	Reads the generator excitation command percentage output from the Integrated Voltage Regulator feature (proportional to generator excitation current).	0.0078125 % / bit	-251 %	-251 to 250.99 %	0		•	•
Primary Data Link Status	R	1140	0x0473	1	Indicates any present faults on this datalink.	0 = OK 1 = FAULT			0	•	•	•
Accessory Data Link Status	R	1141	0x0474	1	Indicates any present faults on this datalink.	0 = OK 1 = FAULT			0	•	•	•
RS-485 SCADA Data Link Status	R	1142	0x0475	1	Indicates any present faults on this datalink.	0 = OK 1 = FAULT			0	•	•	•
TCP/IP SCADA Data Link Status	R	1143	0x0476	1	Indicates any present faults on this datalink.	0 = OK 1 = FAULT 3 = DISABLED OR NOT AVAILABLE			0		•	•
RS-485 Annunciator Data Link Status	R	1144	0x0477	1	Indicates any present faults on this datalink.	0 = OK 1 = FAULT			0	•	•	•
CDL Data Link Status	R	1145	0x0478	1	Indicates any present faults on this datalink.	0 = OK 1 = FAULT			0		•	•
Multiple Genset Data Link Status	R	1146	0x0479	1	Indicates any present faults on this datalink.	0 = OK 1 = FAULT			0			•
Utility Total kW from I/O pin	R	1184	0x049F	2	Real power being supplied by utility. Read from Analog Input.	1 W / bit	-2000000000 W	-2000000000 to +2211081215 W	0			•
Utility Total kVAr from I/O pin	R	1186	0x04A1	2	Reactive power being supplied by utility. Read from Analog Input.	1 VAr / bit	-2000000000 VAr	-2000000000 to +2211081215 VAr	0			•
Utility Overall Power Factor from I/O pin	R	1188	0x04A3	1	Power Factor of the utility. Read from Analog Input.	1/16384 / bit	-1.0	-1.0 to 1.0	0			•
Engine Coolant Pressure #2 from Data Link	R	1257	0x04E8	1	Pressure of liquid found in engine cooling system (instance #2) , as received from another module on the CAN Data Link. .	2 kPa / bit	0 kPa	0 to 500 kPa	0		•	•
Engine Coolant Pressure #1 from Data Link	R	1261	0x04E8	1	Pressure of liquid found in engine cooling system (instance #1) , as received from another module on the CAN Data Link. .	0.125 kPa / bit	0 kPa	0 to 8031.875 kPa	0	•	•	•
Low Idle State from ADEM	R	1263	0x04EE	1	Indicates whether the Engine is in low idle state.	0 = FALSE 1 = TRUE 2 = ERROR 3 = DISABLED OR NOT AVAILABLE			0	•	•	•
Engine Protection has Shut Down Engine	R	1275	0x04FA	1	Indicates that the engine protection system has shut down the engine, as opposed to the engine shutting down based on a command from the EMCP 4	0 = FALSE 1 = TRUE 2 = ERROR 3 = DISABLED OR NOT AVAILABLE			0	•	•	•
Control S/N	R	1276	0x04FB	6	Reads the Serial Number of the EMCP 4 GSC.	Each byte is comprised of one character via its ASCII code. First NULL (0x00) character terminates string.			0	•	•	•

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Parameter Name	R/W	Holding Register	Ct	Description	Scaling (Resolution)	Offset	Limits (Ranges)	Sec Lvl	4.2	4.3	4.4	
Desired Engine Speed from ADEM	R	1283	0x0502	1	Indication of the desired engine operating speed as received from the engine ECM on the CAN Data Link.	0.125 rpm / bit	0 rpm	0 to 8031.875 rpm	0	•	•	•
Programmable Cycle Timer 1 Output 3 Status	R	1487	0x05CE	1	Shows status of Output 3 as driven by this timer. Output 3 is used to command the Generator Circuit Breaker to close.	0 = PCT Output 3 is currently not activated by this timer (but is configured). 1 = PCT Output 3 is currently activated by this timer. 2 = PCT Output 3 is not configured to be activated by this timer.		0			•	
Programmable Cycle Timer 2 Output 3 Status	R	1488	0x05CF	1								
Programmable Cycle Timer 3 Output 3 Status	R	1489	0x05D0	1								
Programmable Cycle Timer 4 Output 3 Status	R	1490	0x05D1	1								
Programmable Cycle Timer 5 Output 3 Status	R	1491	0x05D2	1								
Programmable Cycle Timer 6 Output 3 Status	R	1492	0x05D3	1								
Programmable Cycle Timer 7 Output 3 Status	R	1493	0x05D4	1								
Event Log Module Selection	W	1498	0x05D9	1	Write a value to this register to select which module events are accessible via the Module Event Log Entry # parameters (1500 through 1576). Writing a value to this register changes the value of the Event Log Module Selection parameter (register 1499).	0 = GENSET CONTROL 1 = ENGINE CONTROL 2 = SECONDARY ENGINE CONTROL 3 = EXTERNAL I/O #1 4 = EXTERNAL I/O #2 5 = EXTERNAL I/O #3 6 = EXTERNAL I/O #4 7 = DIGITAL AVR 8 = RTD MODULE 9 = THERMOCOUPLE MODULE #1 10 = THERMOCOUPLE MODULE #2 11 = SCR MODULE	0	•	•	•		
Event Log Module Selection	R	1499	0x05DA	1	Read this register to determine which module events are currently accessible via the Module Event Log Entry # parameters (registers 1500 through 1576).	0 = GENSET CONTROL 1 = ENGINE CONTROL 2 = SECONDARY ENGINE CONTROL 3 = EXTERNAL I/O #1 4 = EXTERNAL I/O #2 5 = EXTERNAL I/O #3 6 = EXTERNAL I/O #4 7 = DIGITAL AVR 8 = RTD MODULE 9 = THERMOCOUPLE MODULE #1 10 = THERMOCOUPLE MODULE #2 11 = SCR MODULE	0	•	•	•		
Module Event Log Entry 1	R	1500	0x05DB	14				0	•	•	•	
Module Event Log Entry 2	R	1514	0x05E9	14				0	•	•	•	
Module Event Log Entry 3	R	1528	0x05F7	14				0	•	•	•	
Module Event Log Entry 4	R	1542	0x0605	14				0	•	•	•	
Module Event Log Entry 5	R	1556	0x0613	14				0	•	•	•	
Module Event Log Entry 6	R	1570	0x0621	14				0	•	•	•	

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Parameter Name	R/W	Holding Register	Ct	Description	Scaling (Resolution)	Offset	Limits (Ranges)	Sec Lvl	4.2	4.3	4.4				
Module Event Log Entry 7	R	1584	0x062F	14	Reads the corresponding entry of the Event Log for the module specified in the Event Log Module Selection register.			0	●	●	●				
Module Event Log Entry 8	R	1598	0x063D	14				0	●	●	●				
Module Event Log Entry 9	R	1612	0x064B	14				0	●	●	●				
Module Event Log Entry 10	R	1626	0x0659	14				0	●	●	●				
Module Event Log Entry 11	R	1640	0x0667	14				0	●	●	●				
Module Event Log Entry 12	R	1654	0x0675	14				0	●	●	●				
Module Event Log Entry 13	R	1668	0x0683	14				Register 13 = Log Entry Index, 1 / bit, 0 offset, 0 to 39	0	●	●	●			
Module Event Log Entry 14	R	1682	0x0691	14				Register 12:11 = SPN/FMI (Event ID)	0	●	●	●			
Module Event Log Entry 15	R	1696	0x069F	14				Bits 31:24 = not used	0	●	●	●			
Module Event Log Entry 16	R	1710	0x06AD	14				Bits 23:5 = SPN	0	●	●	●			
Module Event Log Entry 17	R	1724	0x06BB	14				Bits 4:0 = FMI	0	●	●	●			
Module Event Log Entry 18	R	1738	0x06C9	14				Register 10 = Flags / Count	0	●	●	●			
Module Event Log Entry 19	R	1752	0x06D7	14				Bits 15:12 = not used	0	●	●	●			
Module Event Log Entry 20	R	1766	0x06E5	14				Bits 11:8 = Event Status	0	●	●	●			
Module Event Log Entry 21	R	1780	0x06F3	14				0 = Inactive	0	●	●	●			
Module Event Log Entry 22	R	1794	0x0701	14				4 = Active	0	●	●	●			
Module Event Log Entry 23	R	1808	0x070F	14				5 = Present	0	●	●	●			
Module Event Log Entry 24	R	1822	0x071D	14				Bits 7:0 = Occurrence Count, 1 / bit, 0 offset, 1 to 99	0	●	●	●			
Module Event Log Entry 25	R	1836	0x072B	14				Register 9:8 = First Hourmeter, 1 second / bit, 0 offset	0	●	●	●			
Module Event Log Entry 26	R	1850	0x0739	14				Register 7:6 = Last Hourmeter, 1 second / bit, 0 offset	0	●	●	●			
Module Event Log Entry 27	R	1864	0x0747	14				Register 5:3 = First Timestamp	0	●	●	●			
Module Event Log Entry 28	R	1878	0x0755	14				Bits 47:40 = 1 year / bit, 1985 offset	0	●	●	●			
Module Event Log Entry 29	R	1892	0x0763	14				Bits 39:32 = 0.25 days / bit, 0 offset	0	●	●	●			
Module Event Log Entry 30	R	1906	0x0771	14				Bits 31:24 = 1 month / bit, 0 offset	0	●	●	●			
Module Event Log Entry 31	R	1920	0x077F	14				Bits 23:16 = 1 hour / bit, 0 offset	0	●	●	●			
Module Event Log Entry 32	R	1934	0x078D	14				Bits 15:8 = 1 minute / bit, 0 offset	0	●	●	●			
Module Event Log Entry 33	R	1948	0x079B	14				Bits 7:0 = 0.25 seconds / bit, 0 offset	0	●	●	●			
Module Event Log Entry 34	R	1962	0x07A9	14				Register 2:0 = Last Timestamp (same encoding as First Timestamp)	0	●	●	●			
Module Event Log Entry 35	R	1976	0x07B7	14					0	●	●	●			
Module Event Log Entry 36	R	1990	0x07C5	14					0	●	●	●			
Module Event Log Entry 37	R	2004	0x07D3	14					0	●	●	●			
Module Event Log Entry 38	R	2018	0x07E1	14					0	●	●	●			
Module Event Log Entry 39	R	2032	0x07EF	14					0	●	●	●			
Module Event Log Entry 40	R	2046	0x07FD	14					0	●	●	●			
Programmable Cycle Timer 1 Output 1 Status	R	2060	0x080B	1				Shows status of Output 1 as driven by this timer. Output 1 is used to command the Generator Circuit Breaker to close.			0	●	●	●	
Programmable Cycle Timer 2 Output 1 Status	R	2061	0x080C	1							0 = PCT Output 1 is currently not activated by this timer (but is configured).	0	●	●	●
Programmable Cycle Timer 3 Output 1 Status	R	2062	0x080D	1							1 = PCT Output 1 is currently activated by this timer.	0	●	●	●
Programmable Cycle Timer 4 Output 1 Status	R	2063	0x080E	1							2 = PCT Output 1 is not configured to be activated by this timer.	0	●	●	●
Programmable Cycle Timer 5 Output 1 Status	R	2064	0x080F	1								0	●	●	●
Programmable Cycle Timer 6 Output 1 Status	R	2065	0x0810	1								0	●	●	●
Programmable Cycle Timer 7 Output 1 Status	R	2066	0x0811	1		0	●				●	●			
Programmable Cycle Timer 1 Output 2 Status	R	2067	0x0812	1				0	●	●	●				
Programmable Cycle Timer 2 Output 2 Status	R	2068	0x0813	1				0	●	●	●				

EMCP 4 Modbus Registers - 4.3 Prod Software

Parameter Name	R/W	Holding Register	Ct	Description	Scaling (Resolution)	Offset	Limits (Ranges)	Sec Lvl	4.2	4.3	4.4	
Programmable Cycle Timer 3 Output 2 Status	R	2069	0x0814	1	Shows status of Output 2 as driven by this timer. Output 2 is used to command the Generator Circuit Breaker to close.			0	●	●	●	
Programmable Cycle Timer 4 Output 2 Status	R	2070	0x0815	1								
Programmable Cycle Timer 5 Output 2 Status	R	2071	0x0816	1								
Programmable Cycle Timer 6 Output 2 Status	R	2072	0x0817	1								
Programmable Cycle Timer 7 Output 2 Status	R	2073	0x0818	1								
Turbocharger 1 Compressor Inlet Temperature	R	2074	0x0819	1	Temperature of the air entering the compressor side of the turbocharger, as received from another module on the CAN Data Link.	0.03125 C / bit	-273 C	-273 to 1735 C	0	●	●	●
Turbocharger 2 Compressor Inlet Temperature	R	2075	0x081A	1	Temperature of the air entering the compressor side of the turbocharger, as received from another module on the CAN Data Link.	0.03125 C / bit	-273 C	-273 to 1735 C	0	●	●	●
Turbocharger 3 Compressor Inlet Temperature	R	2076	0x081B	1	Temperature of the air entering the compressor side of the turbocharger, as received from another module on the CAN Data Link.	0.03125 C / bit	-273 C	-273 to 1735 C	0	●	●	●
Turbocharger 4 Compressor Inlet Temperature	R	2077	0x081C	1	Temperature of the air entering the compressor side of the turbocharger, as received from another module on the CAN Data Link.	0.03125 C / bit	-273 C	-273 to 1735 C	0	●	●	●
Turbocharger 1 Turbine Inlet Temperature	R	2078	0x081D	1	Temperature of the combustion by-products entering the turbine side of the turbocharger, as received from another module on the CAN Data Link.	0.03125 C / bit	-273 C	-273 to 1735 C	0	●	●	●
Turbocharger 1 Turbine Outlet Temperature	R	2079	0x081E	1	Temperature of the combustion by-products exiting the turbine side of the turbocharger, as received from another module on the CAN Data Link.	0.03125 C / bit	-273 C	-273 to 1735 C	0	●	●	●
Turbocharger 2 Turbine Inlet Temperature	R	2080	0x081F	1	Temperature of the combustion by-products entering the turbine side of the turbocharger, as received from another module on the CAN Data Link.	0.03125 C / bit	-273 C	-273 to 1735 C	0	●	●	●
Turbocharger 2 Turbine Outlet Temperature	R	2081	0x0820	1	Temperature of the combustion by-products exiting the turbine side of the turbocharger, as received from another module on the CAN Data Link.	0.03125 C / bit	-273 C	-273 to 1735 C	0	●	●	●
Turbocharger 3 Turbine Inlet Temperature	R	2082	0x0821	1	Temperature of the combustion by-products entering the turbine side of the turbocharger, as received from another module on the CAN Data Link.	0.03125 C / bit	-273 C	-273 to 1735 C	0	●	●	●
Turbocharger 3 Turbine Outlet Temperature	R	2083	0x0822	1	Temperature of the combustion by-products exiting the turbine side of the turbocharger, as received from another module on the CAN Data Link.	0.03125 C / bit	-273 C	-273 to 1735 C	0	●	●	●
Turbocharger 4 Turbine Inlet Temperature	R	2084	0x0823	1	Temperature of the combustion by-products entering the turbine side of the turbocharger, as received from another module on the CAN Data Link.	0.03125 C / bit	-273 C	-273 to 1735 C	0	●	●	●
Turbocharger 4 Turbine Outlet Temperature	R	2085	0x0824	1	Temperature of the combustion by-products exiting the turbine side of the turbocharger, as received from another module on the CAN Data Link.	0.03125 C / bit	-273 C	-273 to 1735 C	0	●	●	●
Exhaust Temperature from Data Link	R	2086	0x0825	1	Temperature of combustion byproducts leaving the engine, as received from another module over the CAN data link.	0.03125 C / bit	-273 C	-273 to 1735 C	0	●	●	●
Fuel Pump Primer Status	R	2087	0x0826	1	Shows status of the Fuel Primer Pump				0	●	●	●
Manual Fuel Priming Duration Remaining	R	2091	0x082A	1	Time remaining in manual fuel priming, in seconds.	1 second / bit	0 seconds	0 to 64255 seconds	0	●	●	●
Software Build Version	R	2188	0x088B	10	Version of software on the controller. NULL character (0x00) terminates string.				0	●	●	●
Digital Output #1 Command	W	2232	0x08B7	1					0	●	●	●
Digital Output #2 Command	W	2233	0x08B8	1					0	●	●	●
Digital Output #3 Command	W	2234	0x08B9	1					0	●	●	●

EMCP 4 Modbus Registers - 4.3 Prod Software

Parameter Name	R/W	Holding Register	Ct	Description	Scaling (Resolution)	Offset	Limits (Ranges)	Sec Lvl	4.2	4.3	4.4
Digital Output #4 Command	W	2235	0x08BA	1	Command to activate this output. Applies only when Usage Type is set to SCADA.	0 = DEACTIVATE 1 = ACTIVATE		0		●	●
Digital Output #5 Command	W	2236	0x08BB	1				0		●	●
Digital Output #6 Command	W	2237	0x08BC	1				0		●	●
Digital Output #7 Command	W	2238	0x08BD	1				0		●	●
Digital Output #8 Command	W	2239	0x08BE	1				0		●	●
Digital Output #9 Command	W	2240	0x08BF	1				0		●	●
Digital Output #10 Command	W	2241	0x08C0	1				0		●	●
Digital Output #11 Command	W	2242	0x08C1	1				0		●	●
Digital Output #12 Command	W	2243	0x08C2	1				0		●	●
Digital Output #13 Command	W	2244	0x08C3	1				0		●	●
Digital Output #14 Command	W	2245	0x08C4	1				0		●	●
Digital Output #15 Command	W	2246	0x08C5	1				0		●	●
Digital Output #16 Command	W	2247	0x08C6	1				0		●	●
Digital Output #17 Command	W	2248	0x08C7	1				0			●
Relay Output #1 Command	W	2252	0x08CB	1				0	●		
Relay Output #2 Command	W	2253	0x08CC	1				0	●		
Relay Output #3 Command	W	2254	0x08CD	1				0	●		
Relay Output #4 Command	W	2255	0x08CE	1				0	●		
Relay Output #5 Command	W	2256	0x08CF	1				0	●		
Relay Output #6 Command	W	2257	0x08D0	1				0	●		
Relay Output #7 Command	W	2258	0x08D1	1	0	●					
Relay Output #8 Command	W	2259	0x08D2	1	0	●					
MGDL System Total kW	R	2400	0x095F	2	Total real power delivered by all generators connected via the multiple genset data link (MGDL)	1 W / bit	-2000000000 W	-2000000000 to +2211081215 W	0		●
MGDL System Total Percent kW	R	2402	0x0961	1	Total real power delivered by all MGDL generators as a percentage of the total rated power of all generators connected via MGDL.	0.0078125 % / bit	-251 %	-251 to 250.99 %	0		●
MGDL System Dead Bus Status	R	2403	0x0962	1	Indicates the status of the bus as detected by all generators connected via MGDL. Equals false if a single unit on MGDL detects a live bus.	00 = FALSE 01 = TRUE 10 = ERROR 11 = DISABLED OR NOT AVAILABLE			0		●
Generator Real Load Control State	R	2404	0x0963	1	Indicates the mode of the generator real load sharing or real load control.	0 = LOAD SHARE - DISABLED 1 = LOAD SHARE - INACTIVE 2 = LOAD SHARE - SOFT LOAD 3 = LOAD CONTROL - SOFT LOAD 4 = LOAD SHARE - SOFT UNLOAD 5 = LOAD CONTROL - SOFT UNLOAD 6 = LOAD SHARE - FAILSAFE DROOP 7 = LOAD SHARE - FAILSAFE ISOCH 8 = LOAD CONTROL - BASE LOAD 9 = LOAD CONTROL - PF CONTROL 10 = LOAD SHARE - HARD-WIRED 11 = LOAD SHARE - MGDL			0		●

EMCP 4 Modbus Registers - 4.3 Prod Software

Parameter Name	R/W	Holding Register	Ct	Description	Scaling (Resolution)	Offset	Limits (Ranges)	Sec Lvl	4.2	4.3	4.4
Generator Reactive Load Control State	R	2405	0x0964	1	Indicates the mode of the generator reactive load sharing or reactive load control.	0 = LOAD SHARE - DISABLED 1 = LOAD SHARE - INACTIVE 2 = LOAD SHARE - SOFT LOAD 3 = LOAD CONTROL - SOFT LOAD 4 = LOAD SHARE - SOFT UNLOAD 5 = LOAD CONTROL - SOFT UNLOAD 6 = LOAD SHARE - FAILSAFE DROOP 7 = LOAD SHARE - FAILSAFE ISOCH 8 = LOAD CONTROL - BASE LOAD 9 = LOAD CONTROL - PF CONTROL 10 = LOAD SHARE - HARD-WIRED 11 = LOAD SHARE - MGDL		0			●
MGDL Unit Load Sense Load Demand State	R	2406	0x0965	1	Indicates the LSLD state of the individual generator connected via MGDL.	0 = GOING 1 = SETTLING 2 = UNLOADING 3 = LOADING 4 = AVAILABLE 5 = GOING LSLD OFF 6 = UNAVAILABLE		0			●
MGDL System Load Sense Load Demand State	R	2407	0x0966	1	Indicates the overall LSLD state of the generator system (all units) connected via MGDL.	0 = GOING 1 = SETTLING 2 = UNLOADING 3 = LOADING 4 = AVAILABLE 5 = GOING LSLD OFF 6 = UNAVAILABLE		0			●
MGDL Unit Dead Bus Arbitration State	R	2408	0x0967	1	Indicates the DBA state of the individual generator connected via MGDL.	0 = DBA DISABLED 1 = DBA ENABLED 2 = REQUESTING 3 = CAPTURING 5 = CLOSE GRANTED 6 = GEN ONLINE 10 = FAILURE WAIT 11 = MAX FAILURES 12 = LIVE BUS 13 = BRKR CLOSED		0			●
MGDL System Dead Bus Arbitration State	R	2409	0x0968	1	Indicates the overall DBA state of the generator system (all units) connected via MGDL.	0 = DBA DISABLED 1 = DBA ENABLED 2 = REQUESTING 3 = CAPTURING 5 = CLOSE GRANTED 10 = FAILURE WAIT 11 = MAX FAILURES 12 = LIVE BUS 13 = BRKR CLOSED		0			●

EMCP 4 Modbus Registers - 4.3 Prod Software

Parameter Name	R/W	Holding Register	Ct	Description	Scaling (Resolution)	Offset	Limits (Ranges)	Sec Lvl	4.2	4.3	4.4
MGDL System Load Sense Load Demand Sequence Strategy	R	2410	0x0969	1	Indicates the method used for sequencing generators on or off of the bus under MGDL LSLD.		0 = SEQUENCE PRIORITY # 1 = SEQUENCE TOTAL OP HOURS	0			●
MGDL Unit Load Sense Load Demand Load/Unload Sequence	R	2411	0x096A	1	Indicates the sequencing status of the unit operating under MGDL LSLD (use in conjunction with register 2412).		0 = NEXT TO LOAD 1 = NEXT TO UNLOAD	0			●
MGDL Unit Load Sense Load Demand Load/Unload Sequence Order Number	R	2412	0x096B	1	Indicates the order of the sequencing status of the unit operating under MGDL LSLD (use in conjunction with register 2411).	1 / bit	0	0 to 255	0		●
MGDL Dead Bus Grant Unit	R	2414	0x096D	1	Indicates the unit that was granted permission to close to a dead bus while operating under MGDL DBA.	1 / bit	0	0 to 65535	0		●
MGDL Expected Units Online	R	2415	0x096E	1	Indicates the number of generator controllers expected to be communicating on the MGDL network.	1 / bit	0	0 to 65535	0		●
MGDL Actual Units Online	R	2416	0x096F	1	Indicates the actual number of generator controllers communicating on the MGDL network.	1 / bit	0	0 to 65535	0		●
MGDL Load Sense Load Demand System Percent kW	R	2418	0x0971	1	Total real power delivered by all MGDL generators operating under LSLD control as a percentage of the total rated power of all generators connected via MGDL operating under LSLD control.	0.0078125 % / bit	-251 %	-251 to 250.99 %	0		●
Modbus Troubleshooting - Register A	R	2950	0x0B85	1	Troubleshooting Constant Value = 1,234d = 04D2h	N/A	N/A	N/A	0		● ●
Modbus Troubleshooting - Register B	R	2951	0x0B86	1	Troubleshooting Constant Value = 5,546d = 15AAh	N/A	N/A	N/A	0		● ●
Modbus Troubleshooting - Register C	R	2952	0x0B87	1	Troubleshooting Constant Value = 54,321d = D431h	N/A	N/A	N/A	0		● ●
Modbus Troubleshooting - Register D	R	2953	0x0B88	1	Troubleshooting Constant Value = 65,535d = FFFFh	N/A	N/A	N/A	0		● ●
Modbus Troubleshooting - Event Log Entry - Register 0	R	2954	0x0B89	1	Troubleshooting Constant Value:				0		● ●
Modbus Troubleshooting - Event Log Entry - Register 1	R	2955	0x0B8A	1	Register 0 = 840Bh Register 1 = 1102h Register 2 = 4D1Ch				0		● ●
Modbus Troubleshooting - Event Log Entry - Register 2	R	2956	0x0B8B	1	[February 20, 2013, 17:11:33]				0		● ●
Modbus Troubleshooting - Event Log Entry - Register 3	R	2957	0x0B8C	1	Troubleshooting Constant Value:				0		● ●
Modbus Troubleshooting - Event Log Entry - Register 4	R	2958	0x0B8D	1	Register 3 = B010h Register 4 = 0901h Register 5 = 3E19h				0		● ●
Modbus Troubleshooting - Event Log Entry - Register 5	R	2959	0x0B8E	1	[January 16, 2010, 09:16:44]				0		● ●
Modbus Troubleshooting - Event Log Entry - Register 6	R	2960	0x0B8F	1	Troubleshooting Constant Value:				0		● ●
Modbus Troubleshooting - Event Log Entry - Register 7	R	2961	0x0B90	1	Register 6 = 0009h Register 7 = ADD0h [176.2 hrs]				0		● ●
Modbus Troubleshooting - Event Log Entry - Register 8	R	2962	0x0B91	1	Troubleshooting Constant Value: Register 8 = 0000h				0		● ●

Register 13 = Log Entry Index, 1 / bit, 0 offset, 0 to 39
 Register 12:11 = SPN/FMI (Event ID)
 Bits 31:24 = not used
 Bits 23:5 = SPN
 Bits 4:0 = FMI
 Register 10 = Flags / Count
 Bits 15:12 = not used
 Bits 11:8 = Event Status
 0 = Inactive
 4 = Active
 5 = Present
 Bits 7:0 = Occurrence Count, 1 / bit, 0 offset, 1 to 99
 Register 9:8 = First Hourmeter, 1 second / bit, 0 offset

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Parameter Name	R/W	Holding Register	Ct	Description	Scaling (Resolution)	Offset	Limits (Ranges)	Sec Lvl	4.2	4.3	4.4
Modbus Troubleshooting - Event Log Entry - Register 9	R	2963	0x0B92	1 Register 9 = 1248h [1.3 hrs]	Register 7:6 = Last Hourmeter, 1 second / bit, 0 offset Register 5:3 = First Timestamp Bits 47:40 = 1 year / bit, 1985 offset Bits 39:32 = 0.25 days / bit, 0 offset Bits 31:24 = 1 month / bit, 0 offset Bits 23:16 = 1 hour / bit, 0 offset Bits 15:8 = 1 minute / bit, 0 offset Bits 7:0 = 0.25 seconds / bit, 0 offset Register 2:0 = Last Timestamp (same encoding as First Timestamp)			0		•	•
Modbus Troubleshooting - Event Log Entry - Register 10	R	2964	0x0B93	1 Troubleshooting Constant Value: Register 10 = F407h [Status = ACTIVE, Occurrence Count = 7]				0		•	•
Modbus Troubleshooting - Event Log Entry - Register 11	R	2965	0x0B94	1 Troubleshooting Constant Value: Register 11 = FF00h Register 12 = 795Fh				0		•	•
Modbus Troubleshooting - Event Log Entry - Register 12	R	2966	0x0B95	1 [SPN = 970, FMI = 31]				0		•	•
Modbus Troubleshooting - Event Log Entry - Register 13	R	2967	0x0B96	1 Troubleshooting Constant Value: Register 13 = 0003h [Log Entry = 4]				0		•	•

NOTE 1: For EMCP 4 controller software version 4.2 PROD and beyond, all control-related write register capabilities are DISABLED by default. SCADA control via write registers can be enabled by configuring the "SCADA Data Link Remote Control Enable Status" setpoint under CONFIGURE > ALL SETPOINTS > CONTROL > AUTO START/STOP.