



## TECHNICAL DATA - MODBUS COMMUNICATION FOR DIESEL ENGINE FIRE PUMP CONTROLLER

*To modify IP and SubNet Mask: Go to Config / Advanced / Factory Settings. Click on "Next page" until you reach the IP page. Change the necessary values and click on "Apply"*

### Generals Characteristics

<b>Connection Type</b> Shielded female connector RJ45	<b>BINARY</b> 16 boolean (1 = TRUE, 0 = FALSE)
<b>Frame Format</b> TCP/IP <b>Default IP</b> 192.168.3.199 <b>Default Subnet Mask</b> 255.255.252.0 <b>Default Gateway</b> 192.168.0.1	<b>DIGITAL VALUES</b> 16 bits representing a number. The result refers to a list of values
	<b>ANALOG VALUES</b> 16 bits representing a number. Analog signals values are multiply by 10 for communication purpose, unless otherwise specified.

<b>Main Controls</b> BINARY WORD 30001	0 Power Good 1 First Service Done 2 Engine Fuel Solenoid (1) 3 Engine Stop Solenoid (12) 4 Engine Start Contactor 1 (9) 5 Engine Start Contactor 2 (10) 6 Engine Run (2) 7 Jockey Pump Run 8 HOA in AUTO Position 9 HOA in HAND Position 10 HOA in OFF Position 11 Test Solenoid Valve 12 Pneumatic Output 13 Valid Stop Push Button 14 Test Push Button 15 Hydraulic Output
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<b>Pump Demand (Request)</b> DIGITAL VALUES WORD 30002	0 Null 1 Local 2 Manual 3 Automatic 4 Flow / Zone 5 Remote 6 Deluge 7 AC Fail Start 8 Pneumatic 9 Hydraulic 10 Emergency 11 Weekly Test 12 Manual Test 13 EN-12845 Manual Test 14 EN-12845 Startup Test
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<b>Start Type</b> DIGITAL VALUES WORD 30003	0 Null 1 Local 2 Manual 3 Automatic 4 Flow / Zone 5 Remote 6 Deluge 7 AC Fail Start 8 Pneumatic 9 Hydraulic 10 Emergency 11 Weekly Test 12 Manual Test 13 EN-12845 Manual Test 14 EN-12845 Startup Test
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<b>Lockout Type</b> DIGITAL VALUES WORD 30004	0 Null 1 Lockout 2 Dual Lockout 3 Low Zone Not Running 4 ND 5 Out of Water Shutdown 6 Low Suction Pressure Shutdown 7 No DC Power 8 Overspeed 9 Fail to Start 10 Pneumatic Fail to Start 11 EN-12845 Auto Mode Bypass 12 Hydraulic Fail to Start 13 Engine Temporary Start Delay
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<b>Battery Chargers State</b> BINARY WORD 30005	0 Charger 1 - NO AC Source 1 Charger 1 - Bulk 2 Charger 1 - Over Charge 3 Charger 1 - Float 4 Charger 1 - Lost Track 5 Charger 1 - Stop 6 Charger 1 - Power Up 7 Charger 2 - NO AC Source 8 Charger 2 - Bulk 9 Charger 2 - Over Charge 10 Charger 2 - Float 11 Charger 2 - Lost Track 12 Charger 2 - Stop 13 Charger 2 - Power Up
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<b>Alarms Activation</b> BINARY WORD 30006	0 AC Failure 1 Battery 1 Failure 2 Battery 2 Failure 3 Charger 1 Failure 4 Charger 2 Failure 5 PLD Low Suction Pressure 6 Engine Trouble 7 Pump Room Trouble 8 Service Required 9 Controller Trouble 10 Weak Battery 1 11 Weak Battery 2 12 Loss of Continuity (Contactor 1) 13 Loss of Continuity (Contactor 2) 14 High Raw Water Temperature 15 Low Spare Temperature
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<b>Alarms Activation</b> BINARY WORD 30007	0 Weekly Test Cut-In not reached 1 Weekly Test Check Solenoid Valve 2 Faulty Pressure Transducer 3 High Discharge (Overpressure) 4 Low Discharge (Underpressure) 5 Low Suction Pressure 6 Flow Start 7 Weekly Test Required 8 Cooling No Flow 9 Water Reservoir Low 10 Water Reservoir Empty 11 Flow Meter On 12 Fuel Tank Leak 13 Low Fuel Level 14 High Fuel Level 15 Engine Fail When Running
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<b>Alarms Activation</b> BINARY WORD 30008	0 Engine Fail To Start 1 Engine ECM in Alternate Position (301) 2 Fuel Injection Malfunction (302) 3 Engine High Coolant Temperature (5) 4 Engine Low Oil Pressure (4) 5 Engine Overspeed (3) 6 I/O Diesel Board Communication Loss 7 I/O Expansion 1 Communication Loss 8 I/O Expansion 2 Communication Loss 9 I/O Expansion 3 Communication Loss 10 I/O Expansion 4 Communication Loss 11 Low Raw Water Flow 12 Alarm on Expansion Board 1 Input 1 13 Alarm on Expansion Board 1 Input 2 14 Alarm on Expansion Board 1 Input 3 15 Alarm on Expansion Board 1 Input 4
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<b>Alarms Activation</b> BINARY WORD 30009	0 Alarm on Expansion Board 1 Input 5 1 Alarm on Expansion Board 1 Input 6 2 Alarm on Expansion Board 1 Input 7 3 Alarm on Expansion Board 1 Input 8 4 Alarm on Expansion Board 2 Input 1 5 Alarm on Expansion Board 2 Input 2 6 Alarm on Expansion Board 2 Input 3 7 Alarm on Expansion Board 2 Input 4 8 Alarm on Expansion Board 2 Input 5 9 Alarm on Expansion Board 2 Input 6 10 Alarm on Expansion Board 2 Input 7 11 Alarm on Expansion Board 2 Input 8 12 Alarm on Expansion Board 3 Input 1 13 Alarm on Expansion Board 3 Input 2 14 Alarm on Expansion Board 3 Input 3 15 Alarm on Expansion Board 3 Input 4
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<b>Alarms Activation</b> BINARY WORD 30010	0 Alarm on Expansion Board 3 Input 5 1 Alarm on Expansion Board 3 Input 6 2 Alarm on Expansion Board 3 Input 7 3 Alarm on Expansion Board 3 Input 8 4 Alarm on Expansion Board 4 Input 1 5 Alarm on Expansion Board 4 Input 2 6 Alarm on Expansion Board 4 Input 3 7 Alarm on Expansion Board 4 Input 4 8 Alarm on Expansion Board 4 Input 5 9 Alarm on Expansion Board 4 Input 6 10 Alarm on Expansion Board 4 Input 7 11 Alarm on Expansion Board 4 Input 8 12 Battery Charger 1 Communication Loss 13 Battery Charger 2 Communication Loss 14 Battery 1 Overvoltage 15 Battery 2 Overvoltage
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Alarms Activation BINARY WORD 30011	0 Water Reservoir High 1 Low Ambient Temperature (Internal Sensor) 2 High Ambient Temperature (Internal Sensor) 3 Main Relief Valve Open 4 Engine Run Warning 5 CANBUS Communication System Failure 6 FILE System Failure 7 Engine Low Coolant Temperature (312) 8 Engine ECM Warning (303) 9 Engine ECM Fault (304) 10 Pump on Demand Warning 11 Invalid Cut-In 12 Test Mode 13 Pneumatic Fail To Start 14 EN-12845 Automatic Mode Bypass 15 Hydraulic Fail To Start
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Alarms Activation BINARY WORD 30012	0 ND 1 Low Pneumatic Pressure 2 Bell Silenced 3 ND 4 ND 5 ND 6 ND 7 ND 8 ND 9 ND 10 ND 11 ND 12 ND 13 ND 14 ND 15 ND
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WORD 30013 ANALOG VALUES (10X)	Pressure Transducer PT1 (chosen unit)
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WORD 30014 ANALOG VALUES (10X)	Pressure Transducer PT2 (chosen unit)
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WORD 30015 ANALOG VALUES (10X)	System Pressure (chosen unit)
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WORD 30016 ANALOG VALUES (10X)	Suction Pressure (chosen unit)
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WORD 30017 ANALOG VALUES (10X)	Water Level (%)
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WORD 30018 ANALOG VALUES (10X)	Spare Temperature (chosen unit)
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WORD 30019 ANALOG VALUES (10X)	Flow (chosen unit)
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WORD 30020 ANALOG VALUES (10X)	Temperature (Internal Sensor) (chosen unit)
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WORD 30021 ANALOG VALUES (10X)	Fuel Level (%)
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WORD 30022 ANALOG VALUES (10X)	Oil Pressure (chosen unit)
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WORD 30023 ANALOG VALUES (10X)	Engine Coolant Temperature (chosen unit)
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WORD 30024 ANALOG VALUES	Engine Speed (RPM) (RPM)
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WORD 30025 ANALOG VALUES (10X)	AC Voltage (V)
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WORD 30026 ANALOG VALUES (10X)	Battery 1 Voltage (V)
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WORD 30027 ANALOG VALUES (10X)	Battery 1 Current (A)
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WORD 30028 ANALOG VALUES (10X)	Battery 2 Voltage (V)
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WORD 30029 ANALOG VALUES (10X)	Battery 2 Current (A)
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WORD 30030 ANALOG VALUES (10X)	Cut-In (chosen unit)
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WORD 30031 ANALOG VALUES (10X)	Cut-Out (chosen unit)
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WORD 30032 ANALOG VALUES	Run Period Timer (Automatic Shutdown) (seconds)
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WORD 30033 ANALOG VALUES	Sequential Start Timer  (seconds)
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WORD 30034 MIXED VALUES	Weekly Test Schedule
Bit 15	Enabled
Bit 14	Active Week
Bit Value (11-12-13)	Day of the week (0 is Sunday)
Bit Value (6-7-8-9-10)	Hour of the day
Bit Value (0-1-2-3-4-5)	Minutes of the hour

WORD 30035 ANALOG VALUES	Weekly Test Duration (seconds)
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WORD 30036 ANALOG VALUES	Manual Run Test Duration (seconds)
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WORD 30037 ANALOG VALUES	Elapsed Time Meter (Last Service) (minutes)
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WORD 30038 ANALOG VALUES	Elapsed Time Meter (First Service) (minutes)
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WORD 30039	
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WORD 30040	
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Optional:	
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WRITE REGISTERS	
BINARY WORD 40001	0 MODBUS Remote Manual Start 1 MODBUS Automatic Start 2 MODBUS Manual Run Test Start