



TECHNICAL DATA - MODBUS COMMUNICATION FOR ELECTRIC FIRE PUMP CONTROLLER WITH AUTOMATIC TRANSFER SWITCH

To modify IP and SubNet Mask: Go to Config / Advanced / Network Config. Check the "Manual" box. Enter the desired IP address and SubNet Mask. Press Apply.

Generals Characteristics

Connection Type	Shielded female connector RJ45	BINARY	16 boolean (1 = TRUE, 0 = FALSE)
Possible IP adress	10.0.1.0 – 10.255.255.255 (Class A private) 172.16.0.0 – 172.31.255.255 (Class B private) 192.168.0.0 – 192.168.255.255 (Class C private)	DIGITAL VALUES	16 bits representing a number. The result refers to a list of values
Frame Format	TCP/IP	ANALOG VALUES	16 bits representing a number. Analog signals values are multiply by 10 for communication purpose, unless otherwise specified.

Controller Info

WORDS 40001-40040 String	Serial Number	WORDS 40041-40080 String	Model
WORDS 40081-40120 String	Package Name	WORDS 40121-40160 String	Software Version
WORD 40161 ANALOG VALUES	Nominal Voltage (V)	WORD 40162 ANALOG VALUES	Nominal Current (A)
WORD 40163 BINARY	Nominal Frequency (0 = 60Hz, 1 = 50Hz)	WORD 40164 ANALOG VALUES	Custom Locked Rotor Current (A)

Alarms Activation

Alarms Activation 1 BINARY	0 Normal Phase Reversal 1 Phase Loss L1 2 Phase Loss L2 3 Phase Loss L3 4 Lock Rotor Current 5 Fail to Start 6 Transfer Switch Trouble 7 Power Loss 8 Service Required 9 Undercurrent 10 Overcurrent 11 Undervoltage 12 Overvoltage 13 Phase Unbalanced 14 Weekly Test Cut-In not reached 15 Weekly Test Check Solenoid Valve	Alarms Activation 2 BINARY	0 Faulty Pressure Transducer 1 Overpressure 2 Underpressure 3 Low Suction Pressure 4 Flow Start 5 Alternate Phase Reversal 6 Alternate Isolating Switch Open 7 Alternate Circuit Breaker Tripped 8 I/O Electric Board Communication Loss 9 I/O Transfer Switch Board Comm.Loss 10 Weekly Test Required 11 Alternate Lock Rotor Current 12 Low Ambient Temperature (Internal Sensor) 13 High Ambient Temperature (Internal Sensor) 14 Control Voltage Not Healthy 15 Soft Starter Fault
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Alarms Activation 3 BINARY	0 Motor Trouble 1 Pump Room Alarm 2 Motor Run 3 CANBUS Communication System Failure 4 Pump On Demand 5 Invalid Cut-In 6 Test Mode 7 Low Zone Not Running 8 I/O Expansion 1 Communication Loss 9 I/O Expansion 2 Communication Loss 10 I/O Expansion 3 Communication Loss 11 I/O Expansion 4 Communication Loss 12 Ground Fault 13 Low Water Level 14 Low Spare Temperature 15 Water Reservoir Empty	Alarms Activation 4 BINARY	0 High Water Level 1 Main Relief Valve Open 2 High Motor Temperature 3 High Motor Vibration 4 Flow Meter On 5 User Alarm 1 6 User Alarm 2 7 User Alarm 3 8 User Alarm 4 9 User Alarm 5 10 User Alarm 6 11 User Alarm 7 12 User Alarm 8 13 User Alarm 9 14 User Alarm 10 15 User Alarm 11
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Alarms Activation 5 BINARY	0 User Alarm 12 1 User Alarm 13 2 User Alarm 14 3 User Alarm 15 4 User Alarm 16 5 User Alarm 17 6 User Alarm 18 7 User Alarm 19 8 User Alarm 20 9 Bell Silenced 10 NA 11 NA 12 NA 13 NA 14 NA 15 Main Contactor Module Failure	Alarms Activation 6 BINARY	0 Bypass Contactor Module Failure 1 I/O Expansion 5 Communication Loss 2 I/O Expansion 6 Communication Loss 3 I/O Expansion 7 Communication Loss 4 I/O Expansion 8 Communication Loss 5 Low Foam Level 6 Low Foam Pressure 7 NA 8 NA 9 NA 10 NA 11 NA 12 NA 13 NA 14 NA 15 NA
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WORDS 40201-40300

WORDS 40201-40300 BINARY	1 MODBUS Remote Manual Start 2 MODBUS Automatic Start
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NFPA Registers

WORD 42001 ANALOG VALUES	Line Voltage L12 (V)	WORD 42002 ANALOG VALUES	Line Voltage L23 (V)
WORD 42003 ANALOG VALUES	Line Voltage L31 (V)	WORD 42004 ANALOG VALUES	Current L1 (A)
WORD 42005 ANALOG VALUES	Current L2 (A)	WORD 42006 ANALOG VALUES	Current L3 (A)
WORD 42007 ANALOG VALUES (10X)	System Pressure (chosen unit)	WORD 42008 ANALOG VALUES (10X)	Suction Pressure (chosen unit)
WORD 42009	NA	WORD 42010	NA

WORD 42011 NA

NFPA Alarms 1
BINARY
WORD 42012

- 0 Minimum run delay timing high
- 1 NA
- 2 High zone delay timing high
- 3 Sequence delay timing high
- 4 Load shed active high
- 5 NA
- 6 Low suction alarm high
- 7 Low suction shutdown active high
- 8 System over pressure alarm high
- 9 Restart delay timing high
- 10 Weekly test demand active high
- 11 Failure to start alarm high
- 12 Lockout active high
- 13 NA
- 14 NA
- 15 NA

NFPA Alarms 2
BINARY
WORD 42013

- 0 Pressure start demand high
- 1 Remote start demand high
- 2 Deluge start demand high
- 3 Weekly test start demand high
- 4 Local start PB demand high
- 5 Manual operator start demand high
- 6 Audible alarm high
- 7 NA
- 8 NA
- 9 Load shedding delay timing high
- 10 NA
- 11 NA
- 12 Pressure transducer fault high
- 13 NA
- 14 NA
- 15 Controller in bypass mode (soft start/VFD only high)

NFPA Alarms 3
BINARY
WORD 42014

- 0 Timed trip timing high
- 1 Motor running high
- 2 Motor overload alarm high
- 3 NA
- 4 Phase reversal alarm high
- 5 AC voltage low alarm high
- 6 NA
- 7 Transfer switch in normal position high
- 8 Transfer switch in emergency position high
- 9 AC power available high
- 10 Transfer switch normal power available high
- 11 Transfer switch emergency power available high
- 12 Emergency circuit breaker open high
- 13 Circuit breaker tripped high
- 14 Engine start signal low
- 15 NA

NFPA Alarms 4
BINARY
WORD 42015

- 0 Pump trouble #1 input high
- 1 Pump trouble #2 input high
- 2 Pump trouble #3 input high
- 3 Pump trouble #4 input high
- 4 Pump trouble #5 input high
- 5 NA
- 6 NA
- 7 NA
- 8 NA
- 9 NA
- 10 NA
- 11 NA
- 12 NA
- 13 NA
- 14 NA
- 15 NA

WORD 42016
ANALOG VALUES

Start Count

WORD 42017
ANALOG VALUES

Run Time
(Hours)

WORD 42018
ANALOG VALUES

Hours since last run
(Hours)

WORD 42019
ANALOG VALUES

NA

WORD 43029
ANALOG VALUES

Cut-In
(PSI)

WORD 43030
ANALOG VALUES

Cut-Out
(PSI)