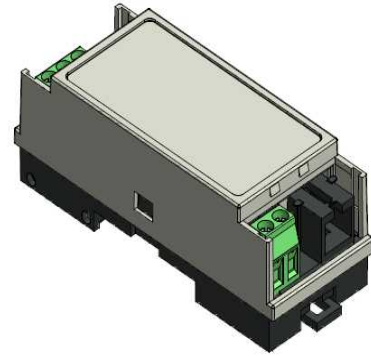


LME Series

OCI417.10

for use with LME7... Flame Safeguards



Description

The OCI417.10 provides the LME7... family of flame safeguards with a Modbus RTU or BACnet MS/TP interface. This allows the interconnection of one or more LME7... to a PLC or building management system (BMS).

Table of Contents

Compatible Controls.....	3
Flame Safeguards.....	3
PME Modules.....	3
Physical Connections.....	4
Power.....	4
Connection to LME7.....	4
Connection to BMS.....	5
Status LED.....	5
Tx/Rx LED.....	5
Modbus RTU Connection Details.....	6
BACnet MS/TP Connection Details.....	7
Configuration Utility.....	8
Using the Configuration Utility.....	8
Updating Firmware.....	10
Modbus Mapping.....	11
BACnet Mapping.....	14
Additional Notes.....	16
Unused Inputs.....	16
LMV Phases.....	17
Error Codes.....	18

Compatible Controls

Flame Safeguards

- LME71...
- LME73...
- LME75...

PME Modules

- PME71...
- PME73...
- PME75...

Physical Connections

Power

Power to the OCI417.10 must be either 9-24VDC or 9-24VAC (nominal). Power consumption is 2.5W or less. **SCC part number AGA15-24** is available as a suitable power supply.

Terminal designations:

Label	Function
L+	DC + / AC ~
N-	DC - / AC ~

Connection to LME7...

The connection from the OCI417.10 to the LME7... should be made with a 4-wire RJ-11 cable with reversed connections (voice cable), such as SCC part number TDC207. **Maximum allowed cable length is 3 meters.**

X56 Port LME7...



Pin 1: 5V Out
Pin 2: Transmit
Pin 3: Receive
Pin 4: 0V Out

OCI417.10



Pin 1: 0V In
Pin 2: Transmit
Pin 3: Receive
Pin 4: 5V In

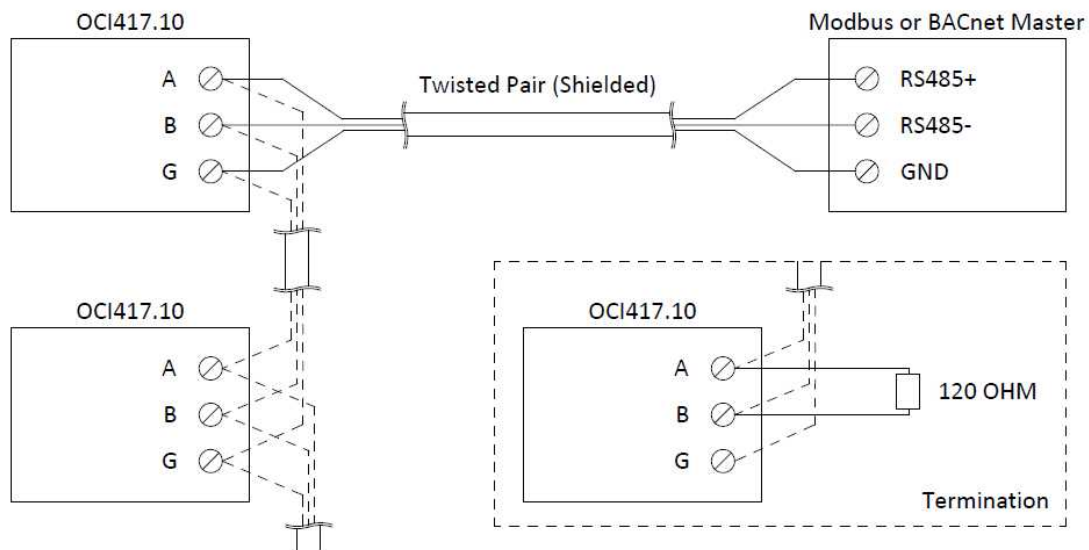
Note that while the OCI417.10 is connected, the AZL2... or PC tool ACS410 via OCI410... may not be simultaneously connected. Connecting multiple interfaces to the LME7... using a multi-way cable or splitter may result in damage to the connected LME7..., OCI417.10, AZL2... or OCI410...



Physical Connections (continued)

Connection to BMS

The connection from the BMS to the OCI417.10 is via terminal block. The physical medium is RS-485. Multiple RS-485 nodes may be connected in a daisy-chain. For long runs (typically greater than 1000 feet) or noisy environments, termination may be required on the end node.



Terminal designations:

Label	Function
A	RS-485 Data (+)
B	RS-485 Data (-)
G	RS-485 Common Ground

Status LED

The status LED annunciates the status of the OCI417.10 and the connection to the LME7...

Color	Status
Green Flashing	No Connection to LME7...
Green / Red Alternating	Communicating with LME7...
Red Flashing	Internal Error OCI417.10

Tx/Rx LED

The LED will flash red to indicate incoming communication on the RS-485 connection. The LED will flash green to indicate outgoing communication. With normal communication, the LED will rapidly alternate between green and red. NOTE: If the poll rate is fast the flashes may be very brief and hard to notice.

Modbus RTU Connection Details

Modbus RTU protocol selection and addressing is done using the PC tool **OCI417 Configuration Utility** (see next section).

Supported addresses: 1-247

Supported baud rates: 2400, 4800, 9600, 19200, 38400, 57600 and 115200

Supported data bits: 8

Supported parity and stop bits: none (1 or 2 stop bits), odd (1 stop bit) and even (1 stop bit)

Supported function codes: 3 (read holding registers), 4 (read input registers)

Maximum read length: 125 (if beginning and ending registers are valid addresses)

BACnet MS/TP Connection Details

BACnet MS/TP protocol selection and addressing is done using the PC tool **OCI417 Configuration Utility** (see next section).

Supported addresses: 0-127

Supported baud rates: 9600, 19200, 38400, 57600, 76800 and 115200

Supported data bits: 8

Supported parity and stop bits: none (1 stop bit)

Supported device instances: 0-4194302

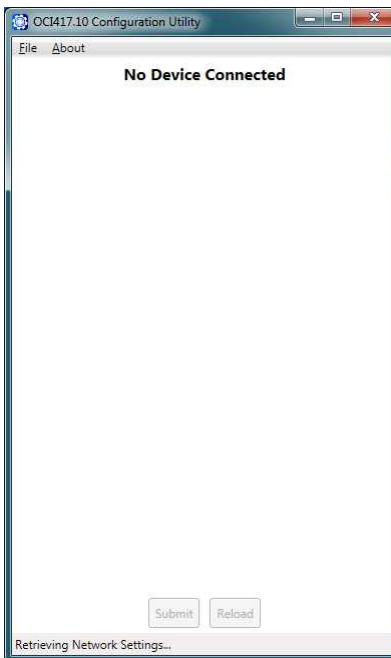
Configuration Utility

Using the Configuration Utility

1. Double-click the icon to open the configuration utility.

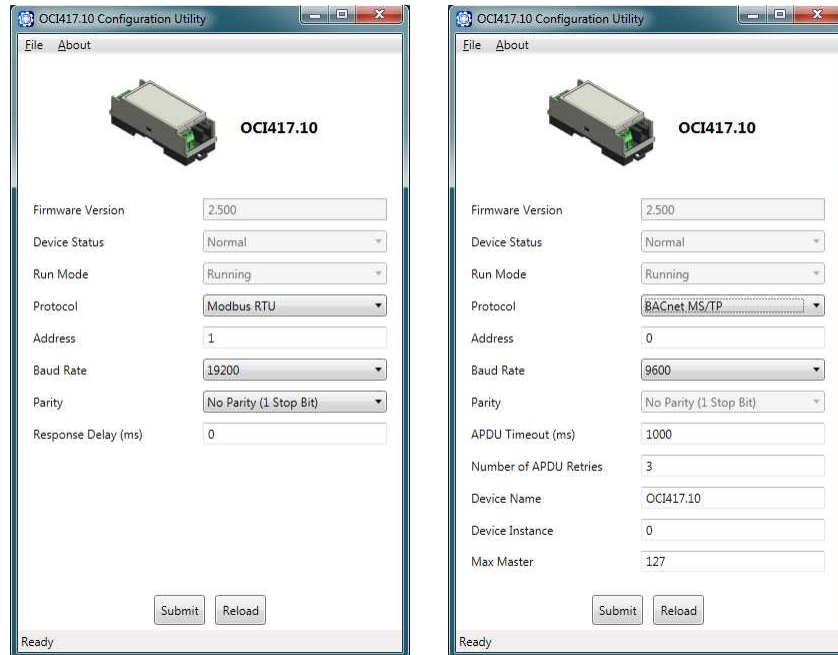


2. The utility will open and show the connection status of the OCI417.10.



Configuration Utility (continued)

- Use a mini-USB cable to connect the OCI417.10 to the computer, such as **SCC part number AGA5-05M**. A driver may self-install the first time a connection is made. The connected device will then be indicated on the screen.

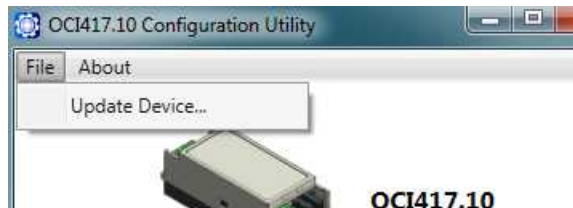


- The protocol can be changed between Modbus RTU and BACnet MS/TP from this screen. See the previous sections for further details on the protocol-specific settings that can be changed. Once the desired settings have been entered, click **Submit** to apply. Click **Reload** to refresh the displayed settings.

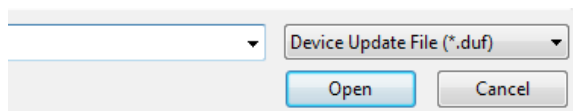
Configuration Utility (continued)

Updating Firmware

1. From the OCI417.10 Configuration Utility, click **File -> Update Device...**



2. Locate the supplied update file with a **.duf** extension and click **Open**.



3. The device will automatically reboot and reconnect with the OCI417.10 Configuration Utility once the firmware update is complete. When a device is connected, the firmware version is shown as one of the read-only parameters.



Modbus Mapping

Modbus Mapping

ADDRESS	ACCESS	DESCRIPTION	FORMAT	NOTES
0	R	PHASE	Unsigned Int 16	
1	R	FLAME INTENSITY	Unsigned Int 16	x10
2	R	MAINS VOLTAGE	Unsigned Int 16	x10
3	R	STARTUPS RESETTABLE	Unsigned Int 32	
5	R	STARTUPS TOTAL	Unsigned Int 32	
7	R	RELAY K12 CYCLES	Unsigned Int 32	
9	R	RELAY K11 CYCLES	Unsigned Int 32	
11	R	RELAY K2 CYCLES	Unsigned Int 32	
13	R	RELAY K1 CYCLES	Unsigned Int 32	
15	R	MAX RELAY CYCLES	Unsigned Int 32	
17	R	CURRENT OUTPUT PERCENT	Unsigned Int 16	> 100 IS STAGES (101=S1, 102=S2)
18	R	ACTUATOR ACTUAL PERCENT	Unsigned Int 16	65535 (-1) IS NOT OPTIONED
19	R	ACTUATOR TARGET PERCENT	Unsigned Int 16	65535 (-1) IS NOT OPTIONED
20	R	EXT LOAD CONTROLLER PERCENT	Unsigned Int 16	65535 (-1) IS NOT OPTIONED
21	R	FAN SPEED RPM	Unsigned Int 16	65535 (-1) IS NOT OPTIONED
22	R	FAN SPEED PERCENT	Unsigned Int 16	65535 (-1) IS NOT OPTIONED
23	R	TARGET FAN SPEED PERCENT	Unsigned Int 16	65535 (-1) IS NOT OPTIONED
24	R	PWM SIGNAL PERCENT	Unsigned Int 16	65535 (-1) IS NOT OPTIONED
25	R	STATUS INPUT WORD LME71/LME73	Unsigned Int 16	SEE BIT BREAKDOWN
25 bit 0	R	SAFETY LIMIT (SK)	Boolean	TERMINAL X3.04.1
25 bit 1	R	PROOF OF CLOSURE (POC)	Boolean	TERMINAL X2.02.4
25 bit 4	R	PRESS SW VALVE PROVING (P LT)	Boolean	TERMINAL X9.04.2
25 bit 5	R	LOW GAS PRESSURE SWITCH (Pmin)	Boolean	TERMINAL X5.01.2
25 bit 6	R	CONTROL SWITCH (ON/OFF)	Boolean	TERMINAL X5.03.1
25 bit 7	R	COMBUSTION AIR SWITCH (LP)	Boolean	TERMINAL X3.02.1
25 bit 8	R	RESET TERMINAL (EK2)	Boolean	TERMINAL X2.03.1
25 bit 10	R	INCREASE MODULATION (LR-OPEN)	Boolean	TERMINAL X5.03.3
25 bit 11	R	DECREASE MODULATION (LR-CLOSED)	Boolean	TERMINAL X5.03.2
25 bit 12	R	ACTUATOR FEEDBACK (SA-R)	Boolean	TERMINAL X2.09.4
25 bit 14	R	RESET BUTTON LME	Boolean	
26	R	STATUS OUTPUT WORD	Unsigned Int 16	SEE BIT BREAKDOWN
26 bit 0	R	FLAME PRESENT	Boolean	
26 bit 1	R	ALARM (AL)	Boolean	TERMINAL X2.03.3
26 bit 2	R	NO COMM TO LME	Boolean	STATUS FROM OCI417
26 bit 7	R	SAFETY VALVE (SV)	Boolean	TERMINAL X6.03.3
26 bit 8	R	ACTUATOR LOW-FIRE (SA-KL)	Boolean	TERMINAL X2.09.2
26 bit 9	R	ACTUATOR HIGH-FIRE (SA-NL)	Boolean	TERMINAL X2.09.3
26 bit 10	R	PILOT VALVE (PV)	Boolean	TERMINAL X7.01.3
26 bit 12	R	IGNITION (Z)	Boolean	TERMINAL X4.02.3
26 bit 13	R	FAN (M)	Boolean	TERMINAL X2.01.3
26 bit 14	R	VALVE 1 (V1)	Boolean	TERMINAL X7.04.4
26 bit 15	R	VALVE 2 (V2)	Boolean	TERMINAL X7.02.3
27	R	STATUS INPUT WORD LME75	Unsigned Int 16	SEE BIT BREAKDOWN
27 bit 0	R	PRESS SW VALVE PROVING (P LT)	Boolean	TERMINAL X9.04.2
27 bit 1	R	VALVE PROVING ENABLE (LT) HIGH GAS PRESSURE SWITCH (Pmax) PROOF OF CLOSURE (POC)	Boolean	TERMINAL X2.02.4

Modbus Mapping

ADDRESS	ACCESS	DESCRIPTION	FORMAT	NOTES
27 bit 2	R	INCREASE MODULATION (LR-OPEN)	Boolean	TERMINAL X5.03.3
27 bit 3	R	DECREASE MODULATION (LR-CLOSED)	Boolean	TERMINAL X5.03.2
27 bit 4	R	COMBUSTION AIR SWITCH (LP)	Boolean	TERMINAL X3.02.1
27 bit 5	R	LOW GAS PRESSURE SWITCH (Pmin)	Boolean	TERMINAL X5.01.2
27 bit 6	R	RESET BUTTON LME	Boolean	
27 bit 7	R	RESET TERMINAL (EK2)	Boolean	TERMINAL X2.03.1
27 bit 8	R	ACTUATOR FEEDBACK (SA-R)	Boolean	TERMINAL X2.09.4
27 bit 9	R	SAFETY LIMIT (SK)	Boolean	TERMINAL X3.04.1
27 bit 10	R	CONTROL SWITCH (ON/OFF)	Boolean	TERMINAL X5.03.1
27 bit 11	R	INPUT CAMS (SA-ZL)	Boolean	TERMINAL X2.09.8
50	R	PRODUCT ID	String	
60	R	BURNER ID	String	
70	R	OEM PRODUCT ID	String	
80	R	PME PRODUCT ID	String	
90	RW	OCI PRODUCT ID	String	WRITABLE DATA AREA
100	R	CURRENT ERROR CODE	Unsigned Int 16	
101	R	CURRENT ERROR STARTUPS	Unsigned Int 32	
103	R	CURRENT ERROR PHASE	Unsigned Int 32	PHASE IS 0 WHEN NO ERROR
104	R	CURRENT ERROR LOAD	Unsigned Int 16	255 IS NO LOAD RECORDED
110	R	HISTORY 1 ERROR CODE	Unsigned Int 16	
111	R	HISTORY 1 ERROR STARTUPS	Unsigned Int 32	
113	R	HISTORY 1 ERROR PHASE	Unsigned Int 32	PHASE IS 0 WHEN NO ERROR
114	R	HISTORY 1 ERROR LOAD	Unsigned Int 16	255 IS NO LOAD RECORDED
120	R	HISTORY 2 ERROR CODE	Unsigned Int 16	
121	R	HISTORY 2 ERROR STARTUPS	Unsigned Int 32	
123	R	HISTORY 2 ERROR PHASE	Unsigned Int 32	PHASE IS 0 WHEN NO ERROR
124	R	HISTORY 2 ERROR LOAD	Unsigned Int 16	255 IS NO LOAD RECORDED
130	R	HISTORY 3 ERROR CODE	Unsigned Int 16	
131	R	HISTORY 3 ERROR STARTUPS	Unsigned Int 32	
133	R	HISTORY 3 ERROR PHASE	Unsigned Int 32	PHASE IS 0 WHEN NO ERROR
134	R	HISTORY 3 ERROR LOAD	Unsigned Int 16	255 IS NO LOAD RECORDED
140	R	HISTORY 4 ERROR CODE	Unsigned Int 16	
141	R	HISTORY 4 ERROR STARTUPS	Unsigned Int 32	
143	R	HISTORY 4 ERROR PHASE	Unsigned Int 32	PHASE IS 0 WHEN NO ERROR
144	R	HISTORY 4 ERROR LOAD	Unsigned Int 16	255 IS NO LOAD RECORDED
150	R	HISTORY 5 ERROR CODE	Unsigned Int 16	
151	R	HISTORY 5 ERROR STARTUPS	Unsigned Int 32	
153	R	HISTORY 5 ERROR PHASE	Unsigned Int 32	PHASE IS 0 WHEN NO ERROR
154	R	HISTORY 5 ERROR LOAD	Unsigned Int 16	255 IS NO LOAD RECORDED
160	R	HISTORY 6 ERROR CODE	Unsigned Int 16	
161	R	HISTORY 6 ERROR STARTUPS	Unsigned Int 32	
163	R	HISTORY 6 ERROR PHASE	Unsigned Int 32	PHASE IS 0 WHEN NO ERROR
164	R	HISTORY 6 ERROR LOAD	Unsigned Int 16	255 IS NO LOAD RECORDED
170	R	HISTORY 7 ERROR CODE	Unsigned Int 16	
171	R	HISTORY 7 ERROR STARTUPS	Unsigned Int 32	
173	R	HISTORY 7 ERROR PHASE	Unsigned Int 32	PHASE IS 0 WHEN NO ERROR
174	R	HISTORY 7 ERROR LOAD	Unsigned Int 16	255 IS NO LOAD RECORDED
180	R	HISTORY 8 ERROR CODE	Unsigned Int 16	
181	R	HISTORY 8 ERROR STARTUPS	Unsigned Int 32	

Modbus Mapping

ADDRESS	ACCESS	DESCRIPTION	FORMAT	NOTES
183	R	HISTORY 8 ERROR PHASE	Unsigned Int 32	PHASE IS 0 WHEN NO ERROR
184	R	HISTORY 8 ERROR LOAD	Unsigned Int 16	255 IS NO LOAD RECORDED
190	R	HISTORY 9 ERROR CODE	Unsigned Int 16	
191	R	HISTORY 9 ERROR STARTUPS	Unsigned Int 32	
193	R	HISTORY 9 ERROR PHASE	Unsigned Int 32	PHASE IS 0 WHEN NO ERROR
194	R	HISTORY 9 ERROR LOAD	Unsigned Int 16	255 IS NO LOAD RECORDED
200	R	HISTORY 10 ERROR CODE	Unsigned Int 16	
201	R	HISTORY 10 ERROR STARTUPS	Unsigned Int 32	
203	R	HISTORY 10 ERROR PHASE	Unsigned Int 32	PHASE IS 0 WHEN NO ERROR
204	R	HISTORY 10 ERROR LOAD	Unsigned Int 16	255 IS NO LOAD RECORDED

BACnet Mapping

BACnet Mapping

ADDRESS	DESCRIPTION	UNITS	ACTIVE TEXT	INACTIVE TEXT
AV1	PHASE	NO UNITS	--	--
AV2	FLAME INTENSITY	PERCENT	--	--
AV3	MAINS VOLTAGE	VOLTS	--	--
AV4	STARTUPS RESETTABLE	NO UNITS	--	--
AV5	STARTUPS TOTAL	NO UNITS	--	--
AV6	RELAY K12 CYCLES	NO UNITS	--	--
AV7	RELAY K11 CYCLES	NO UNITS	--	--
AV8	RELAY K2 CYCLES	NO UNITS	--	--
AV9	RELAY K1 CYCLES	NO UNITS	--	--
AV10	MAX RELAY CYCLES	NO UNITS	--	--
AV11	CURRENT OUTPUT PERCENT	PERCENT	--	--
AV12	ACTUATOR ACTUAL PERCENT	PERCENT	--	--
AV13	ACTUATOR TARGET PERCENT	PERCENT	--	--
AV14	EXT LOAD CONTROLLER PERCENT	PERCENT	--	--
AV15	FAN SPEED RPM	RPM	--	--
AV16	FAN SPEED PERCENT	PERCENT	--	--
AV17	TARGET FAN SPEED PERCENT	PERCENT	--	--
AV18	PWM SIGNAL PERCENT	PERCENT	--	--
AV19	CURRENT ERROR CODE	NO UNITS	--	--
AV20	CURRENT ERROR STARTUPS	NO UNITS	--	--
AV21	CURRENT ERROR PHASE	NO UNITS	--	--
AV22	CURRENT ERROR LOAD	PERCENT	--	--
AV23	HISTORY 1 ERROR CODE	NO UNITS	--	--
AV24	HISTORY 1 ERROR STARTUPS	NO UNITS	--	--
AV25	HISTORY 1 ERROR PHASE	NO UNITS	--	--
AV26	HISTORY 1 ERROR LOAD	PERCENT	--	--
AV27	HISTORY 2 ERROR CODE	NO UNITS	--	--
AV28	HISTORY 2 ERROR STARTUPS	NO UNITS	--	--
AV29	HISTORY 2 ERROR PHASE	NO UNITS	--	--
AV30	HISTORY 2 ERROR LOAD	PERCENT	--	--
AV31	HISTORY 3 ERROR CODE	NO UNITS	--	--
AV32	HISTORY 3 ERROR STARTUPS	NO UNITS	--	--
AV33	HISTORY 3 ERROR PHASE	NO UNITS	--	--
AV34	HISTORY 3 ERROR LOAD	PERCENT	--	--
AV35	HISTORY 4 ERROR CODE	NO UNITS	--	--
AV36	HISTORY 4 ERROR STARTUPS	NO UNITS	--	--
AV37	HISTORY 4 ERROR PHASE	NO UNITS	--	--
AV38	HISTORY 4 ERROR LOAD	PERCENT	--	--
AV39	HISTORY 5 ERROR CODE	NO UNITS	--	--
AV40	HISTORY 5 ERROR STARTUPS	NO UNITS	--	--
AV41	HISTORY 5 ERROR PHASE	NO UNITS	--	--
AV42	HISTORY 5 ERROR LOAD	PERCENT	--	--
AV43	HISTORY 6 ERROR CODE	NO UNITS	--	--
AV44	HISTORY 6 ERROR STARTUPS	NO UNITS	--	--
AV45	HISTORY 6 ERROR PHASE	NO UNITS	--	--
AV46	HISTORY 6 ERROR LOAD	PERCENT	--	--
AV47	HISTORY 7 ERROR CODE	NO UNITS	--	--

BACnet Mapping

ADDRESS	DESCRIPTION	UNITS	ACTIVE TEXT	INACTIVE TEXT
AV48	HISTORY 7 ERROR STARTUPS	NO UNITS	--	--
AV49	HISTORY 7 ERROR PHASE	NO UNITS	--	--
AV50	HISTORY 7 ERROR LOAD	PERCENT	--	--
AV51	HISTORY 8 ERROR CODE	NO UNITS	--	--
AV52	HISTORY 8 ERROR STARTUPS	NO UNITS	--	--
AV53	HISTORY 8 ERROR PHASE	NO UNITS	--	--
AV54	HISTORY 8 ERROR LOAD	PERCENT	--	--
AV55	HISTORY 9 ERROR CODE	NO UNITS	--	--
AV56	HISTORY 9 ERROR STARTUPS	NO UNITS	--	--
AV57	HISTORY 9 ERROR PHASE	NO UNITS	--	--
AV58	HISTORY 9 ERROR LOAD	PERCENT	--	--
AV59	HISTORY 10 ERROR CODE	NO UNITS	--	--
AV60	HISTORY 10 ERROR STARTUPS	NO UNITS	--	--
AV61	HISTORY 10 ERROR PHASE	NO UNITS	--	--
AV62	HISTORY 10 ERROR LOAD	PERCENT	--	--
BV1	SAFETY LIMIT (SK) LME71/73	--	CLOSED	OPEN
BV2	SAFETY LIMIT (SK) LME75	--	CLOSED	OPEN
BV3	PROOF OF CLOSURE (POC) LME71/73	--	CLOSED	OPEN
BV4	VALVE PROVING ENABLE (LT) LME75 HIGH GAS PRESS SW (Pmax) LME75 PROOF OF CLOSURE (POC) LME75	--	CLOSED	OPEN
BV5	PRESS SW VALVE PROVING (P LT) LME71/73	--	CLOSED	OPEN
BV6	PRESS SW VALVE PROVING (P LT) LME75	--	CLOSED	OPEN
BV7	LOW GAS PRESSURE SWITCH (Pmin)	--	CLOSED	OPEN
BV8	CONTROL SWITCH (ON/OFF) LME71/73	--	CLOSED	OPEN
BV9	CONTROL SWITCH (ON/OFF) LME75	--	CLOSED	OPEN
BV10	COMBUSTION AIR SWITCH (LP) LME71/73	--	CLOSED	OPEN
BV11	COMBUSTION AIR SWITCH (LP) LME75	--	CLOSED	OPEN
BV12	RESET TERMINAL (EK2) LME71/73	--	CLOSED	OPEN
BV13	RESET TERMINAL (EK2) LME75	--	CLOSED	OPEN
BV14	INCREASE MODULATION (LR-OPEN)	--	CLOSED	OPEN
BV15	DECREASE MODULATION (LR-CLOSED)	--	CLOSED	OPEN
BV16	RESET BUTTON LME	--	CLOSED	OPEN
BV17	INPUT CAMS (SA-ZL) LME75	--	CLOSED	OPEN
BV18	FLAME PRESENT	--	FLAME	NO FLAME
BV19	ALARM (AL)	--	ALARM	NO ALARM
BV20	NO COMM TO LME	--	OK	NO COMM
BV21	ACTUATOR FEEDBACK (SA-R)	--	CLOSED	OPEN
BV22	SAFETY VALVE (SV)	--	CMD ON	CMD OFF
BV23	ACTUATOR LOW-FIRE (SA-KL)	--	CMD ON	CMD OFF
BV24	ACTUATOR HIGH-FIRE (SA-NL)	--	CMD ON	CMD OFF
BV25	PILOT VALVE (PV)	--	CMD ON	CMD OFF
BV26	IGNITION (Z)	--	CMD ON	CMD OFF
BV27	FAN (M)	--	CMD ON	CMD OFF
BV28	VALVE 1 (V1)	--	CMD ON	CMD OFF
BV29	VALVE 2 (V2)	--	CMD ON	CMD OFF

Additional Notes

Unused Inputs

Any inputs unused by the selected PME... will still annunciate. For example, although PME71.111A1 does not support valve proving, applying 120VAC to terminal X9-04.2 will still cause Modbus address 25, bit 4 to show this terminal as active.

LMV Phases

NUMBER	DESCRIPTION
0	LOCKOUT PHASE
1	UNDERVOLTAGE
2	OVERVOLTAGE
3	START PREVENTION SAFETY LOOP
4	START PREVENTION EXTRANEIOUS LIGHT
8	TEST
10	HOME RUN
12	STANDBY
21	START RELEASE
22	FAN ON
24	DRIVE TO PREPURGE
30	PREPURGE 1
32	PREPURGE 2
34	PREPURGE 3
36	DRIVE TO IGNITION
38	IGNITION ON
40	TSA1 VALVE ON
42	TSA1 IGNITION OFF
43	POSTIGNITION
44	INTERVAL 1
50	SAFETY TIME 2
52	INTERVAL 2
54	DRIVE TO LOW FIRE
60	NORMAL OPERATION
62	OPERATION AT LOW FIRE
70	AFTERBURN
72	DRIVE TO POSTPURGE
74	POSTPURGE 1
76	POSTPURGE 2
78	POSTPURGE 3
79	HOME RUN 2
80	VALVE PROVING EVACUATION
81	VALVE PROVING ATMOSPHERIC
82	VALVE PROVING FILLING
83	VALVE PROVING PRESSURE
90	GAS SHORTAGE
99	NO COMMUNICATION TO LME

Error Codes

CODE	DESCRIPTION
0	NO ERROR
2	NO FLAME AT END OF SAFETY TIME TSA1
3	AIR PRESSURE FAILURE OFF
4	EXTRANEIOUS LIGHT ON BURNER START
5	AIR PRESSURE FAILURE ON
6	ACTUATOR FAILURE
7	LOSS OF FLAME
8	ERROR TIME EXCEEDED OIL PREHEATER
9	LOSS OF FLAME TWO-STAGE
10	INTERNAL ERROR
12	VALVE PROVING – VALVE 1 LEAKING
13	VALVE PROVING – VALVE 2 LEAKING
14	CPI / POC ERROR
20	LOW GAS PRESSURE SWITCH
21	HIGH GAS PRESSURE SWITCH
22	SAFETY LIMIT OPEN
31	FLAME SAFEGUARD TEST FAILED
60	LOAD CONTROLLER INPUT INVALID
83	FAN SPEED ERROR
137	RESTORE OR BACKUP ABORTED
138	LOCKOUT AFTER PME RESTORE
139	UNKNOWN PME MODULE
140	PC TOOL RESTORE NOT COMPLETED
167	MANUAL LOCKOUT
206	AZL2 INCOMPATIBLE
225	PARAMETER PLAUSIBILITY ERROR PWM
226	PARAMETER PLAUSIBILITY ERROR
227	PARAMETER PLAUSIBILITY ERROR MIN / MAX

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