

Industrial communication solutions for Windows

XLENNOX Driver Manual

Lennox IMC System Bus Protocol Driver

Contents

XLENNOX technical specifications	3
General information.....	3
Command list	3
Read Current System Status.....	3
Read Economizer Board Status	6
Go to Local Thermostat Control Mode.....	6
Go to Room Sensor Control Mode with no backup.....	6
Go to Room Sensor Control Mode with Local Thermostat backup.....	7
Go to Room Sensor Control Mode with Return Air Sensor backup	7
Go to Service CTO Configure Mode.....	7
Return Air Sensor to Control Mode.....	8
Go to Local Test Mode	8
Go to Remote Thermostat Control Mode with no backup.....	8
Go to Remote Thermostat Control Mode with Local Thermostat backup	8
Go to Remote Thermostat Control Mode with Return Air Sensor backup.....	9
Go to Remote Thermostat Control Mode with Room Sensor backup	9
Go to Cool Thermal Storage Control Mode.....	9
Go to Direct Digital Control Mode with no backup.....	10
Go to Direct Digital Control Mode with Local Thermostat Mode backup.....	10
Go to Direct Digital Control Mode with Return Air Sensor backup.....	10
Go to Direct Digital Control Mode with Room Air Sensor backup	11
Go to Remote Test Mode	11
Go to Remote Standby Mode	11
Go to Manufacturing Test Mode	12
Set W1 Status	12
Set W2 Status	12
Set Y1 Status	12
Set Y2 Status	13
Set G Status.....	13
Set Compressor 1 Status	13
Set Compressor 2 Status	14
Set Compressor 3 Status	14
Set Compressor 4 Status	14

CPKSoft Engineering

Industrial communication
drivers.

www.cpksoft.com

[www.facebook.com/
cpksoftengineering](http://www.facebook.com/cpksoftengineering)

[cpksoftengineering@
hotmail.com](mailto:cpksoftengineering@hotmail.com)

phone: 54-911-45788354

1990-2012

Industrial communication solutions for Windows

Set Electric 1 Status	14
Set Electric 2 Status	15
Set Electric 3 Status	15
Set Electric 4 Status	15
Set Gas Heat 1 Status	15
Set Gas Heat 2 Status	16
Set Gas Heat 3 Status	16
Set Gas Heat 4 Status	16
Set Service Relay Status	16
Set Fan 1 Status	17
Set Fan 2 Status	17
Set Fan 3 Status	17
Set Fan 4 Status	18
Set Fan 5 Status	18
Set Fan 6 Status	18
Set Reversing Valve 1 Status	18
Set Reversing Valve 2 Status	19
Set Blower Status	19
Set Occupied Heating Setpoint	19
Set Unoccupied Heating Setpoint	19
Set Occupied Cooling Setpoint	20
Set Unoccupied Cooling Setpoint	20
Send Manual Command as Analog Output	20
Error messages	21
Supported devices	21

CPKSoft Engineering

Industrial communication
drivers.

www.cpksoft.com

[www.facebook.com/
cpksoftengineering](https://www.facebook.com/cpksoftengineering)

[cpksoftengineering@
hotmail.com](mailto:cpksoftengineering@hotmail.com)

phone: 54-911-45788354

1990-2012

Industrial communication solutions for Windows

XLENNOX technical specifications

General information

XLENNOX allows you to connect to the Lennox Integrated Modular Control (IMC) System Bus (SBUS). The IMC-SBUS is a RS-485 hardware compatible, half-duplex, asynchronous serial bus designed to be used primarily with the Integrated Modular Control for Lennox Commercial heating and cooling units.

The 8-bit communications packets are sent at 9600 baud with one start bit, one stop bit and no parity. The SBUS protocol expects all active nodes to be compatible with master/slave format where there can only be one bus Master at a time controlling the bus traffic and all other nodes designated as Slaves, responding only when requested to.

Command list

Read Current System Status

Description of this command:

Returns system status information.

Methods used to run this command:

Analog Input

Number of points accepted by this command:

1-122.

Meaning of the DriverP0 parameter:

Unit Address (1-31).

Meaning of the DriverP1 parameter:

Sending Device Address (0-255).

Meaning of the DriverP2 parameter:

6

Meaning of the DriverP3 parameter:

128

Values that are returned:

INPUTS:

Value in PointValue (0) = 1, Air Flow present
Value in PointValue (1) = 1, 24 VAC #2 present
Value in PointValue (2) = 1, Option 1 input present
Value in PointValue (3) = 1, 24 VAC #1 present
Value in PointValue (4) = 1, Dirty Filter
Value in PointValue (5) = 1, Defrost Pressure Switch 1 closed
Value in PointValue (6) = 1, Defrost Temperature Switch 1 closed
Value in PointValue (7) = 0, Freeze Stat 1 tripped
Value in PointValue (8) = 0, High Pressure 1 tripped
Value in PointValue (9) = 0, Low Pressure 1 tripped
Value in PointValue (10) = 1, Space occupied
Value in PointValue (11) = 1, Gas Valve Sense 1 energized
Value in PointValue (12) = 1, Combustion Blower 1 On
Value in PointValue (13) = 0, Rollout Switch 1 tripped
Value in PointValue (14) = 0, Secondary Limit 1 tripped
Value in PointValue (15) = 0, Primary Limit 1 tripped
Value in PointValue (16) = 1, SMOKE detection signal
Value in PointValue (17) = 1, Y2 Input
Value in PointValue (18) = 1, Y1 Input
Value in PointValue (19) = 1, W2 Input
Value in PointValue (20) = 1, W1 Input
Value in PointValue (21) = 1, G Input

DEMAND INPUTS:

Value in PointValue (22) = 1, Space Occupied

CPKSoft Engineering

Industrial communication drivers.

www.cpksoft.com

www.facebook.com/

cpksoftengineering

cpksoftengineering@

hotmail.com

phone: 54-911-45788354

1990-2012

Industrial communication solutions for Windows

Value in PointValue (23) = 1, SMOKE detected

Value in PointValue (24) = 1, Y2 demand

Value in PointValue (25) = 1, Y1 demand

Value in PointValue (26) = 1, W2 demand

Value in PointValue (27) = 1, W1 demand

Value in PointValue (28) = 1, G demand

COMPRESSOR STATUS:

Value in PointValue (29) = 1, Compressor 4 Ignore Strike Three

Value in PointValue (30) = 1, Compressor 3 Ignore Strike Three

Value in PointValue (31) = 1, Compressor 2 Ignore Strike Three

Value in PointValue (32) = 1, Compressor 1 Ignore Strike Three

Value in PointValue (33) = 1, Compressor 4 lockout

Value in PointValue (34) = 1, Compressor 3 lockout

Value in PointValue (35) = 1, Compressor 2 lockout

Value in PointValue (36) = 1, Compressor 1 lockout

COMPRESSOR/DEFROST TIMERS:

Value in PointValue (37) = 1, Defrost Timer #2 On

Value in PointValue (38) = 1, Defrost Timer #1 On

Value in PointValue (39) = 1, Compressor 4 On/Off Timer set

Value in PointValue (40) = 1, Compressor 3 On/Off Timer set

Value in PointValue (41) = 1, Compressor 2 On/Off Timer set

Value in PointValue (42) = 1, Compressor 1 On/Off Timer set

MEASUREMENTS:

Value in PointValue (43) = RETURN AIR TEMPERATURE, F

Value in PointValue (44) = DISCHARGE AIR TEMPERATURE, F

Value in PointValue (45) = INDOOR AIR QUALITY, ppm, CO2

Value in PointValue (46) = OUTDOOR AIR TEMPERATURE, F

Value in PointValue (47) = ROOM AIR TEMPERATURE, F

Value in PointValue (48) = HEATING SETPOINT, F. This is the current setpoint used with the Room Sensor for heating. If the IMC is in the Occupied Mode, then the Occupied Heating Setpoint is returned and if the IMC is in the Unoccupied Mode, then the Unoccupied Heating Setpoint is returned.

Value in PointValue (49) = COOLING SETPOINT, F. This is the current setpoint used with the Room Sensor for cooling. If the IMC is in the Occupied Mode, then the Occupied Cooling Setpoint is returned and if the IMC is in the Unoccupied Mode, then the Unoccupied Cooling Setpoint is returned.

FAN STATUS:

Value in PointValue (50) = 1, Service Relay On

Value in PointValue (51) = 1, Blower On

Value in PointValue (52) = 1, Fan #6 On

Value in PointValue (53) = 1, Fan #5 On

Value in PointValue (54) = 1, Fan #4 On

Value in PointValue (55) = 1, Fan #3 On

Value in PointValue (56) = 1, Fan #2 On

Value in PointValue (57) = 1, Fan #1 On

COMPRESSOR STATUS:

Value in PointValue (58) = 1, Reversing Valve #2 On

Value in PointValue (59) = 1, Reversing Valve #1 On

Value in PointValue (60) = 1, Compressor #4 On

Value in PointValue (61) = 1, Compressor #3 On

Value in PointValue (62) = 1, Compressor #2 On

Value in PointValue (63) = 1, Compressor #1 On

HEAT STATUS/ECONOMIZER CONTROL:

Value in PointValue (64) = 1, Economizer Override

Value in PointValue (65) = 1, Open Economizer Damper to 100 %

Value in PointValue (66) = 1, Turn on Economizer Exhaust Fan

Value in PointValue (67) = 1, Economizer Damper to Minimum Position
0, Economizer Damper to fully closed

Value in PointValue (68) = 1, Heating Stage #4 On

Value in PointValue (69) = 1, Heating Stage #3 On

Value in PointValue (70) = 1, Heating Stage #2 On

Value in PointValue (71) = 1, Heating Stage #1 On

CPKSoft Engineering

Industrial communication
drivers.

www.cpksoft.com

[www.facebook.com/
cpksoftengineering](https://www.facebook.com/cpksoftengineering)

cpksoftengineering@
hotmail.com

phone: 54-911-45788354

1990-2012

Industrial communication solutions for Windows

HEATING STAGE #2 INPUT STATUS:

Value in PointValue (72) = 1, Gas Valve On
Value in PointValue (73) = 1, Combustion Air Blower On
Value in PointValue (74) = 0, Rollout Switch Limit tripped
Value in PointValue (75) = 0, Secondary Limit tripped
Value in PointValue (76) = 0, Primary Limit tripped

HEATING STAGE #1 INPUT STATUS:

Value in PointValue (77) = 1, Gas Valve On
Value in PointValue (78) = 1, Combustion Air Blower On
Value in PointValue (79) = 0, Rollout Switch Limit tripped
Value in PointValue (80) = 0, Secondary Limit tripped
Value in PointValue (81) = 0, Primary Limit tripped

FREEZESTAT/DEFROST STATUS:

Value in PointValue (82) = 1, Defrost Pressure #2 switch closed
Value in PointValue (83) = 1, Defrost Pressure #1 switch closed
Value in PointValue (84) = 1, Defrost Temperature #2 switch closed
Value in PointValue (85) = 1, Defrost Temperature #1 switch closed
Value in PointValue (86) = 0, Freezestat 4 tripped
Value in PointValue (87) = 0, Freezestat 3 tripped
Value in PointValue (88) = 0, Freezestat 2 tripped
Value in PointValue (89) = 0, Freezestat 1 tripped

PRESSURE STATUS:

Value in PointValue (90) = 1, Compressor # 4 High Pressure OK
Value in PointValue (91) = 1, Compressor # 3 High Pressure OK
Value in PointValue (92) = 1, Compressor # 2 High Pressure OK
Value in PointValue (93) = 1, Compressor # 1 High Pressure OK
Value in PointValue (94) = 1, Compressor #4 Low Pressure OK
Value in PointValue (95) = 1, Compressor #3 Low Pressure OK
Value in PointValue (96) = 1, Compressor #2 Low Pressure OK
Value in PointValue (97) = 1, Compressor #1 Low Pressure OK

ECONOMIZER STATUS:

Value in PointValue (98) = ECONOMIZER DAMPER POSITION, %
Value in PointValue (99) = 1, Override Mode
Value in PointValue (100) = 1, Global Mode
Value in PointValue (101) = 1, Outdoor Air Suitable
Value in PointValue (102) = 1, Exhaust Fan On
Value in PointValue (103) = Economizer state, where:

0 = OFF
1 = INPUT
2 = IAQ
3 = DIRECT CONTROL
4 = OVERRIDE
5 = RUN
6 = MINIMUM RUN

SYSTEM STATUS:

Value in PointValue (104) = 1, Startup
Value in PointValue (105) = 1, Expansion Bus Initialization
Value in PointValue (106) = 1, No Run Mode
Value in PointValue (107) = 1, Expansion Bus Reset
Value in PointValue (108) = 1, Expansion Bus Error Trapped
Value in PointValue (109) = 1, Transfer CTO ROM defaults to Factory CTO
Value in PointValue (110) = 1, Execute main control algorithm
Value in PointValue (111) = 1, Read/Write to EEPROM
Value in PointValue (112) = 1, Warmup Mode Enabled
Value in PointValue (113) = 1, Night Setback Initialize
Value in PointValue (114) = 1, Cooling Mode
Value in PointValue (115) = 1, Get System Parameters from EEPROM
Value in PointValue (116) = 1, Save trapped errors to EEPROM Error Buffer
Value in PointValue (117) = 1, System Error trapped
Value in PointValue (118) = 1, Local Access (uses Pushbutton on IMC board)
Value in PointValue (119) = 1, Single Phase Mode

CPKSoft Engineering

Industrial communication drivers.

www.cpksoft.com

www.facebook.com/cpksoftengineering

cpksoftengineering@hotmail.com

phone: 54-911-45788354

1990-2012

Industrial communication solutions for Windows

Value in PointValue (120) = CURRENT SYSTEM OPERATIONAL MODE (0-255)
Value in PointValue (121) = DEVICE IDENTIFICATION LSB

Read Economizer Board Status

Description of this command:

Returns EM1 Economizer board status information. If EM1 board is not present, a timeout error will be reported.

Methods used to run this command:

Analog Input

Number of points accepted by this command:

1-10.

Meaning of the DriverP0 parameter:

Unit Address (1-31).

Meaning of the DriverP1 parameter:

Sending Device Address (0-255).

Meaning of the DriverP2 parameter:

6

Meaning of the DriverP3 parameter:

190

Values that are returned:

INPUTS:

Value in PointValue (0) = SW1 Input

Value in PointValue (1) = 1, Global Enthalphy Input

Value in PointValue (2) = SW2 Input

Value in PointValue (3) = 1, Differential Enthalphy

Value in PointValue (4) = Enthalphy Setpoint

Value in PointValue (5) = Indoor Enthalphy

Value in PointValue (6) = Outdoor Enthalphy

Value in PointValue (7) = Damper Position

Value in PointValue (8) = Minimum Damper Setting

Value in PointValue (9) = Damper Motor PWM

Go to Local Thermostat Control Mode

Description of this command:

This command will cause the IMC to use a locally connected thermostat to control heating and cooling cycles.

Methods used to run this command:

Digital Output

Number of points accepted by this command:

1.

Meaning of the DriverP0 parameter:

Unit Address (1-31).

Meaning of the DriverP1 parameter:

Sending Device Address (0-255).

Meaning of the DriverP2 parameter:

8

Meaning of the DriverP3 parameter:

0

Go to Room Sensor Control Mode with no backup

Description of this command:

This command will cause the IMC to use a room sensor to control heating and cooling cycles with no default mode in the event a sensor error is detected.

Methods used to run this command:

Digital Output

Number of points accepted by this command:

1.

Meaning of the DriverP0 parameter:

Unit Address (1-31).

CPKSoft Engineering

Industrial communication drivers.

www.cpksoft.com

www.facebook.com/

cpksoftengineering

cpksoftengineering@

hotmail.com

phone: 54-911-45788354

1990-2012

Industrial communication solutions for Windows

Meaning of the DriverP1 parameter:

Sending Device Address (0-255).

Meaning of the DriverP2 parameter:

8

Meaning of the DriverP3 parameter:

16

[Go to Room Sensor Control Mode with Local Thermostat backup](#)

Description of this command:

This command will cause the IMC to use a room sensor to control heating and cooling cycles with Local Thermostat Control (P2=00) as a default mode in the event a sensor error is detected.

Methods used to run this command:

Digital Output

Number of points accepted by this command:

1.

Meaning of the DriverP0 parameter:

Unit Address (1-31).

Meaning of the DriverP1 parameter:

Sending Device Address (0-255).

Meaning of the DriverP2 parameter:

8

Meaning of the DriverP3 parameter:

17

[Go to Room Sensor Control Mode with Return Air Sensor backup](#)

Description of this command:

This command will cause the IMC to use a room sensor to control heating and cooling cycles with the Return Air Sensor used in place of the room sensor in the event a room sensor error is detected.

Methods used to run this command:

Digital Output

Number of points accepted by this command:

1.

Meaning of the DriverP0 parameter:

Unit Address (1-31).

Meaning of the DriverP1 parameter:

Sending Device Address (0-255).

Meaning of the DriverP2 parameter:

8

Meaning of the DriverP3 parameter:

18

[Go to Service CTO Configure Mode](#)

Description of this command:

Not currently used.

Methods used to run this command:

Digital Output

Number of points accepted by this command:

1.

Meaning of the DriverP0 parameter:

Unit Address (1-31).

Meaning of the DriverP1 parameter:

Sending Device Address (0-255).

Meaning of the DriverP2 parameter:

8

Meaning of the DriverP3 parameter:

32

CPKSoft Engineering

Industrial communication drivers.

www.cpksoft.com

www.facebook.com/cpksoftengineering

cpksoftengineering@hotmail.com

phone: 54-911-45788354

1990-2012

Industrial communication solutions for Windows

Return Air Sensor to Control Mode

Description of this command:

This command will cause the IMC to use the return air sensor to control heating and cooling cycles. This mode is used primarily as a backup mode when other control modes exhibit a failure.

Methods used to run this command:

Digital Output

Number of points accepted by this command:

1.

Meaning of the DriverP0 parameter:

Unit Address (1-31).

Meaning of the DriverP1 parameter:

Sending Device Address (0-255).

Meaning of the DriverP2 parameter:

8

Meaning of the DriverP3 parameter:

48

Go to Local Test Mode

Description of this command:

Not currently used.

Methods used to run this command:

Digital Output

Number of points accepted by this command:

1.

Meaning of the DriverP0 parameter:

Unit Address (1-31).

Meaning of the DriverP1 parameter:

Sending Device Address (0-255).

Meaning of the DriverP2 parameter:

8

Meaning of the DriverP3 parameter:

112

Go to Remote Thermostat Control Mode with no backup

Description of this command:

This command will cause the IMC to control heating and cooling cycles by commands issued over the SBUS by remote controller. The commands used in this mode must be from the HVAC Command Group, P2=01, Command Block P2=20 - P2=2F. In the event of SBUS failure, no backup mode is selected.

Methods used to run this command:

Digital Output

Number of points accepted by this command:

1.

Meaning of the DriverP0 parameter:

Unit Address (1-31).

Meaning of the DriverP1 parameter:

Sending Device Address (0-255).

Meaning of the DriverP2 parameter:

8

Meaning of the DriverP3 parameter:

128

Go to Remote Thermostat Control Mode with Local Thermostat backup

Description of this command:

This command will cause the IMC to control heating and cooling cycles by commands issued over the SBUS by remote controller. The commands used in this mode must be from the HVAC Command Group, P2=01, Command Block P2=20 - P2=2F. In the event of SBUS failure, the IMC will default to the Local Thermostat Control Mode (P2=00).

Methods used to run this command:

Digital Output

CPKSoft Engineering

Industrial communication
drivers.

www.cpksoft.com

www.facebook.com/

cpksoftengineering

cpksoftengineering@

hotmail.com

phone: 54-911-45788354

1990-2012

Industrial communication solutions for Windows

Number of points accepted by this command:

1.

Meaning of the DriverP0 parameter:

Unit Address (1-31).

Meaning of the DriverP1 parameter:

Sending Device Address (0-255).

Meaning of the DriverP2 parameter:

8

Meaning of the DriverP3 parameter:

129

[Go to Remote Thermostat Control Mode with Return Air Sensor backup](#)

Description of this command:

This command will cause the IMC to control heating and cooling cycles by commands issued over the SBUS by remote controller. The commands used in this mode must be from the HVAC Command Group, P2=01, Command Block P2=20 - P2=2F. In the event of SBUS failure, the IMC will default to the Return Air Sensor Control Mode (P2=30).

Methods used to run this command:

Digital Output

Number of points accepted by this command:

1.

Meaning of the DriverP0 parameter:

Unit Address (1-31).

Meaning of the DriverP1 parameter:

Sending Device Address (0-255).

Meaning of the DriverP2 parameter:

8

Meaning of the DriverP3 parameter:

130

[Go to Remote Thermostat Control Mode with Room Sensor backup](#)

Description of this command:

This command will cause the IMC to control heating and cooling cycles by commands issued over the SBUS by remote controller. The commands used in this mode must be from the HVAC Command Group, P2=01, Command Block P2=20 - P2=2F. In the event of SBUS failure, the IMC will default to the Room Sensor Control Mode (P2=10).

Methods used to run this command:

Digital Output

Number of points accepted by this command:

1.

Meaning of the DriverP0 parameter:

Unit Address (1-31).

Meaning of the DriverP1 parameter:

Sending Device Address (0-255).

Meaning of the DriverP2 parameter:

8

Meaning of the DriverP3 parameter:

131

[Go to Cool Thermal Storage Control Mode](#)

Description of this command:

This command will cause the IMC to control heating and cooling cycles by commands issued over the XBUS from the TS1-1 Cool Thermal Storage Interface board. The TS1-1 board is in turn connected to the Cool Thermal Storage Bus (TBUS) and receives the commands from the Master CTES controller. If a TS1-1 board is detected on powerup, the IMC will automatically place itself in this mode of operation. As with other remote modes, a five minute bus activity timeout timer is running, and if the TS1-1 board loses communications over the TBUS, it will timeout, returning the to IMC to the TSTAT control mode.

Methods used to run this command:

Digital Output

CPKSoft Engineering

Industrial communication drivers.

www.cpksoft.com

www.facebook.com/cpksoftengineering

cpksoftengineering@hotmail.com

phone: 54-911-45788354

1990-2012

Industrial communication solutions for Windows

Number of points accepted by this command:

1.

Meaning of the DriverP0 parameter:

Unit Address (1-31).

Meaning of the DriverP1 parameter:

Sending Device Address (0-255).

Meaning of the DriverP2 parameter:

8

Meaning of the DriverP3 parameter:

144

Go to Direct Digital Control Mode with no backup

Description of this command:

This command will cause the IMC to independently control all compressors, fans, heating, reversing valves, and blower by commands issued over the SBUS by remote controller. The commands used in this mode must be from the HVAC Command Group, P2=01, Command Block P2=60 - P2=6F. In the event of SBUS failure, no backup mode is selected.

Methods used to run this command:

Digital Output

Number of points accepted by this command:

1.

Meaning of the DriverP0 parameter:

Unit Address (1-31).

Meaning of the DriverP1 parameter:

Sending Device Address (0-255).

Meaning of the DriverP2 parameter:

8

Meaning of the DriverP3 parameter:

160

Go to Direct Digital Control Mode with Local Thermostat Mode backup

Description of this command:

This command will cause the IMC to independently control all compressors, fans, heating, reversing valves, and blower by commands issued over the SBUS by remote controller. The commands used in this mode must be from the HVAC Command Group, P2=01, Command Block P2=60 - P2=6F. In the event of SBUS failure, the IMC will revert to Local Thermostat Control Mode (P2=00).

Methods used to run this command:

Digital Output

Number of points accepted by this command:

1.

Meaning of the DriverP0 parameter:

Unit Address (1-31).

Meaning of the DriverP1 parameter:

Sending Device Address (0-255).

Meaning of the DriverP2 parameter:

8

Meaning of the DriverP3 parameter:

161

Go to Direct Digital Control Mode with Return Air Sensor backup

Description of this command:

This command will cause the IMC to independently control all compressors, fans, heating, reversing valves, and blower by commands issued over the SBUS by remote controller. The commands used in this mode must be from the HVAC Command Group, P2=01, Command Block P2=60 - P2=6F. In the event of SBUS failure, the IMC will revert to Return Air Sensor Control Mode (P2=30).

Methods used to run this command:

Digital Output

CPKSoft Engineering

Industrial communication drivers.

www.cpksoft.com

www.facebook.com/

cpksoftengineering

cpksoftengineering@

hotmail.com

phone: 54-911-45788354

1990-2012

Industrial communication solutions for Windows

Number of points accepted by this command:

1.

Meaning of the DriverP0 parameter:

Unit Address (1-31).

Meaning of the DriverP1 parameter:

Sending Device Address (0-255).

Meaning of the DriverP2 parameter:

8

Meaning of the DriverP3 parameter:

162

[Go to Direct Digital Control Mode with Room Air Sensor backup](#)

Description of this command:

This command will cause the IMC to independently control all compressors, fans, heating, reversing valves, and blower by commands issued over the SBUS by remote controller. The commands used in this mode must be from the HVAC Command Group, P2=01, Command Block P2=60 - P2=6F. In the event of SBUS failure, the IMC will revert to Room Sensor Control Mode (P2=10).

Methods used to run this command:

Digital Output

Number of points accepted by this command:

1.

Meaning of the DriverP0 parameter:

Unit Address (1-31).

Meaning of the DriverP1 parameter:

Sending Device Address (0-255).

Meaning of the DriverP2 parameter:

8

Meaning of the DriverP3 parameter:

163

[Go to Remote Test Mode](#)

Description of this command:

This command will allow remote control of IMC outputs. The commands used in this mode must come from the Manual Command Block, P2=03.

Methods used to run this command:

Digital Output

Number of points accepted by this command:

1.

Meaning of the DriverP0 parameter:

Unit Address (1-31).

Meaning of the DriverP1 parameter:

Sending Device Address (0-255).

Meaning of the DriverP2 parameter:

8

Meaning of the DriverP3 parameter:

208

[Go to Remote Standby Mode](#)

Description of this command:

This command must be issued before any other Mode command is sent. This command causes the IMC to enter an idle mode, clearing all outputs and timers, to safely transition to another mode.

Methods used to run this command:

Digital Output

Number of points accepted by this command:

1.

Meaning of the DriverP0 parameter:

Unit Address (1-31).

CPKSoft Engineering

Industrial communication drivers.

www.cpksoft.com

www.facebook.com/cpksoftengineering

[cpksoftengineering@](mailto:cpksoftengineering@hotmail.com)

hotmail.com

phone: 54-911-45788354

1990-2012

Industrial communication solutions for Windows

Meaning of the DriverP1 parameter:

Sending Device Address (0-255).

Meaning of the DriverP2 parameter:

8

Meaning of the DriverP3 parameter:

209

Go to Manufacturing Test Mode

Description of this command:

This command will allow remote control of IMC outputs. The commands used in this mode must come from the Manual Command Block, P2=03.

Methods used to run this command:

Digital Output

Number of points accepted by this command:

1.

Meaning of the DriverP0 parameter:

Unit Address (1-31).

Meaning of the DriverP1 parameter:

Sending Device Address (0-255).

Meaning of the DriverP2 parameter:

8

Meaning of the DriverP3 parameter:

240

Set W1 Status

Description of this command:

This command will only work when operating in Remote Operation mode.

Methods used to run this command:

Digital Output

Number of points accepted by this command:

1.

Meaning of the DriverP0 parameter:

Unit Address (1-31).

Meaning of the DriverP1 parameter:

Sending Device Address (0-255).

Meaning of the DriverP2 parameter:

1

Meaning of the DriverP3 parameter:

32

Set W2 Status

Description of this command:

This command will only work when operating in Remote Operation mode.

Methods used to run this command:

Digital Output

Number of points accepted by this command:

1.

Meaning of the DriverP0 parameter:

Unit Address (1-31).

Meaning of the DriverP1 parameter:

Sending Device Address (0-255).

Meaning of the DriverP2 parameter:

1

Meaning of the DriverP3 parameter:

33

Set Y1 Status

Description of this command:

This command will only work when operating in Remote Operation mode.

CPKSoft Engineering

Industrial communication drivers.

www.cpksoft.com

www.facebook.com/

cpksoftengineering

cpksoftengineering@

hotmail.com

phone: 54-911-45788354

1990-2012

Industrial communication solutions for Windows

Methods used to run this command:

Digital Output

Number of points accepted by this command:

1.

Meaning of the DriverP0 parameter:

Unit Address (1-31).

Meaning of the DriverP1 parameter:

Sending Device Address (0-255).

Meaning of the DriverP2 parameter:

1

Meaning of the DriverP3 parameter:

34

Set Y2 Status

Description of this command:

This command will only work when operating in Remote Operation mode.

Methods used to run this command:

Digital Output

Number of points accepted by this command:

1.

Meaning of the DriverP0 parameter:

Unit Address (1-31).

Meaning of the DriverP1 parameter:

Sending Device Address (0-255).

Meaning of the DriverP2 parameter:

1

Meaning of the DriverP3 parameter:

35

Set G Status

Description of this command:

This command will only work when operating in Remote Operation mode.

Methods used to run this command:

Digital Output

Number of points accepted by this command:

1.

Meaning of the DriverP0 parameter:

Unit Address (1-31).

Meaning of the DriverP1 parameter:

Sending Device Address (0-255).

Meaning of the DriverP2 parameter:

1

Meaning of the DriverP3 parameter:

37

Set Compressor 1 Status

Description of this command:

This command will only work when operating in Remote Test mode or Manufacturer Test mode.

Methods used to run this command:

Digital Output

Number of points accepted by this command:

1.

Meaning of the DriverP0 parameter:

Unit Address (1-31).

Meaning of the DriverP1 parameter:

Sending Device Address (0-255).

Meaning of the DriverP2 parameter:

3

Meaning of the DriverP3 parameter:

1

CPKSoft Engineering

Industrial communication
drivers.

www.cpksoft.com

[www.facebook.com/
cpksoftengineering](https://www.facebook.com/cpksoftengineering)

[cpksoftengineering@
hotmail.com](mailto:cpksoftengineering@hotmail.com)

phone: 54-911-45788354

1990-2012

Industrial communication solutions for Windows

Set Compressor 2 Status

Description of this command:

This command will only work when operating in Remote Test mode or Manufacturer Test mode.

Methods used to run this command:

Digital Output

Number of points accepted by this command:

1.

Meaning of the DriverP0 parameter:

Unit Address (1-31).

Meaning of the DriverP1 parameter:

Sending Device Address (0-255).

Meaning of the DriverP2 parameter:

3

Meaning of the DriverP3 parameter:

2

Set Compressor 3 Status

Description of this command:

This command will only work when operating in Remote Test mode or Manufacturer Test mode.

Methods used to run this command:

Digital Output

Number of points accepted by this command:

1.

Meaning of the DriverP0 parameter:

Unit Address (1-31).

Meaning of the DriverP1 parameter:

Sending Device Address (0-255).

Meaning of the DriverP2 parameter:

3

Meaning of the DriverP3 parameter:

3

Set Compressor 4 Status

Description of this command:

This command will only work when operating in Remote Test mode or Manufacturer Test mode.

Methods used to run this command:

Digital Output

Number of points accepted by this command:

1.

Meaning of the DriverP0 parameter:

Unit Address (1-31).

Meaning of the DriverP1 parameter:

Sending Device Address (0-255).

Meaning of the DriverP2 parameter:

3

Meaning of the DriverP3 parameter:

4

Set Electric 1 Status

Description of this command:

This command will only work when operating in Remote Test mode or Manufacturer Test mode.

Methods used to run this command:

Digital Output

Number of points accepted by this command:

1.

Meaning of the DriverP0 parameter:

Unit Address (1-31).

Meaning of the DriverP1 parameter:

Sending Device Address (0-255).

CPKSoft Engineering

Industrial communication drivers.

www.cpksoft.com

www.facebook.com/cpksoftengineering

cpksoftengineering@hotmail.com

cpksoftengineering@hotmail.com

cpksoftengineering@hotmail.com

phone: 54-911-45788354

1990-2012

Industrial communication solutions for Windows

Meaning of the DriverP2 parameter:

3

Meaning of the DriverP3 parameter:

17

Set Electric 2 Status

Description of this command:

This command will only work when operating in Remote Test mode or Manufacturer Test mode.

Methods used to run this command:

Digital Output

Number of points accepted by this command:

1.

Meaning of the DriverP0 parameter:

Unit Address (1-31).

Meaning of the DriverP1 parameter:

Sending Device Address (0-255).

Meaning of the DriverP2 parameter:

3

Meaning of the DriverP3 parameter:

18

Set Electric 3 Status

Description of this command:

This command will only work when operating in Remote Test mode or Manufacturer Test mode.

Methods used to run this command:

Digital Output

Number of points accepted by this command:

1.

Meaning of the DriverP0 parameter:

Unit Address (1-31).

Meaning of the DriverP1 parameter:

Sending Device Address (0-255).

Meaning of the DriverP2 parameter:

3

Meaning of the DriverP3 parameter:

19

Set Electric 4 Status

Description of this command:

This command will only work when operating in Remote Test mode or Manufacturer Test mode.

Methods used to run this command:

Digital Output

Number of points accepted by this command:

1.

Meaning of the DriverP0 parameter:

Unit Address (1-31).

Meaning of the DriverP1 parameter:

Sending Device Address (0-255).

Meaning of the DriverP2 parameter:

3

Meaning of the DriverP3 parameter:

20

Set Gas Heat 1 Status

Description of this command:

This command will only work when operating in Remote Test mode or Manufacturer Test mode.

Methods used to run this command:

Digital Output

Number of points accepted by this command:

1.

CPKSoft Engineering

Industrial communication drivers.

www.cpksoft.com

www.facebook.com/cpksoftengineering

cpksoftengineering@hotmail.com

cpksoftengineering@hotmail.com

phone: 54-911-45788354

1990-2012

Industrial communication solutions for Windows

Meaning of the DriverP0 parameter:

Unit Address (1-31).

Meaning of the DriverP1 parameter:

Sending Device Address (0-255).

Meaning of the DriverP2 parameter:

3

Meaning of the DriverP3 parameter:

33

Set Gas Heat 2 Status

Description of this command:

This command will only work when operating in Remote Test mode or Manufacturer Test mode.

Methods used to run this command:

Digital Output

Number of points accepted by this command:

1.

Meaning of the DriverP0 parameter:

Unit Address (1-31).

Meaning of the DriverP1 parameter:

Sending Device Address (0-255).

Meaning of the DriverP2 parameter:

3

Meaning of the DriverP3 parameter:

34

Set Gas Heat 3 Status

Description of this command:

This command will only work when operating in Remote Test mode or Manufacturer Test mode.

Methods used to run this command:

Digital Output

Number of points accepted by this command:

1.

Meaning of the DriverP0 parameter:

Unit Address (1-31).

Meaning of the DriverP1 parameter:

Sending Device Address (0-255).

Meaning of the DriverP2 parameter:

3

Meaning of the DriverP3 parameter:

35

Set Gas Heat 4 Status

Description of this command:

This command will only work when operating in Remote Test mode or Manufacturer Test mode.

Methods used to run this command:

Digital Output

Number of points accepted by this command:

1.

Meaning of the DriverP0 parameter:

Unit Address (1-31).

Meaning of the DriverP1 parameter:

Sending Device Address (0-255).

Meaning of the DriverP2 parameter:

3

Meaning of the DriverP3 parameter:

36

Set Service Relay Status

Description of this command:

This command will only work when operating in Remote Test mode or Manufacturer Test mode.

CPKSoft Engineering

Industrial communication drivers.

www.cpksoft.com

www.facebook.com/cpksoftengineering

cpksoftengineering@hotmail.com

phone: 54-911-45788354

1990-2012

Industrial communication solutions for Windows

Methods used to run this command:

Digital Output

Number of points accepted by this command:

1.

Meaning of the DriverP0 parameter:

Unit Address (1-31).

Meaning of the DriverP1 parameter:

Sending Device Address (0-255).

Meaning of the DriverP2 parameter:

3

Meaning of the DriverP3 parameter:

48

Set Fan 1 Status

Description of this command:

This command will only work when operating in Remote Test mode or Manufacturer Test mode.

Methods used to run this command:

Digital Output

Number of points accepted by this command:

1.

Meaning of the DriverP0 parameter:

Unit Address (1-31).

Meaning of the DriverP1 parameter:

Sending Device Address (0-255).

Meaning of the DriverP2 parameter:

3

Meaning of the DriverP3 parameter:

81

Set Fan 2 Status

Description of this command:

This command will only work when operating in Remote Test mode or Manufacturer Test mode.

Methods used to run this command:

Digital Output

Number of points accepted by this command:

1.

Meaning of the DriverP0 parameter:

Unit Address (1-31).

Meaning of the DriverP1 parameter:

Sending Device Address (0-255).

Meaning of the DriverP2 parameter:

3

Meaning of the DriverP3 parameter:

82

Set Fan 3 Status

Description of this command:

This command will only work when operating in Remote Test mode or Manufacturer Test mode.

Methods used to run this command:

Digital Output

Number of points accepted by this command:

1.

Meaning of the DriverP0 parameter:

Unit Address (1-31).

Meaning of the DriverP1 parameter:

Sending Device Address (0-255).

Meaning of the DriverP2 parameter:

3

Meaning of the DriverP3 parameter:

83

CPKSoft Engineering

Industrial communication
drivers.

www.cpksoft.com

[www.facebook.com/
cpksoftengineering](https://www.facebook.com/cpksoftengineering)

[cpksoftengineering@
hotmail.com](mailto:cpksoftengineering@hotmail.com)

phone: 54-911-45788354

1990-2012

Industrial communication solutions for Windows

Set Fan 4 Status

Description of this command:

This command will only work when operating in Remote Test mode or Manufacturer Test mode.

Methods used to run this command:

Digital Output

Number of points accepted by this command:

1.

Meaning of the DriverP0 parameter:

Unit Address (1-31).

Meaning of the DriverP1 parameter:

Sending Device Address (0-255).

Meaning of the DriverP2 parameter:

3

Meaning of the DriverP3 parameter:

84

Set Fan 5 Status

Description of this command:

This command will only work when operating in Remote Test mode or Manufacturer Test mode.

Methods used to run this command:

Digital Output

Number of points accepted by this command:

1.

Meaning of the DriverP0 parameter:

Unit Address (1-31).

Meaning of the DriverP1 parameter:

Sending Device Address (0-255).

Meaning of the DriverP2 parameter:

3

Meaning of the DriverP3 parameter:

85

Set Fan 6 Status

Description of this command:

This command will only work when operating in Remote Test mode or Manufacturer Test mode.

Methods used to run this command:

Digital Output

Number of points accepted by this command:

1.

Meaning of the DriverP0 parameter:

Unit Address (1-31).

Meaning of the DriverP1 parameter:

Sending Device Address (0-255).

Meaning of the DriverP2 parameter:

3

Meaning of the DriverP3 parameter:

86

Set Reversing Valve 1 Status

Description of this command:

This command will only work when operating in Remote Test mode or Manufacturer Test mode.

Methods used to run this command:

Digital Output

Number of points accepted by this command:

1.

Meaning of the DriverP0 parameter:

Unit Address (1-31).

Meaning of the DriverP1 parameter:

Sending Device Address (0-255).

CPKSoft Engineering

Industrial communication drivers.

www.cpksoft.com

www.facebook.com/cpksoftengineering

[cpksoftengineering@](mailto:cpksoftengineering@hotmail.com)

[hotmail.com](mailto:cpksoftengineering@hotmail.com)

phone: 54-911-45788354

1990-2012

Industrial communication solutions for Windows

Meaning of the DriverP2 parameter:

3

Meaning of the DriverP3 parameter:

97

Set Reversing Valve 2 Status

Description of this command:

This command will only work when operating in Remote Test mode or Manufacturer Test mode.

Methods used to run this command:

Digital Output

Number of points accepted by this command:

1.

Meaning of the DriverP0 parameter:

Unit Address (1-31).

Meaning of the DriverP1 parameter:

Sending Device Address (0-255).

Meaning of the DriverP2 parameter:

3

Meaning of the DriverP3 parameter:

98

Set Blower Status

Description of this command:

This command will only work when operating in Remote Test mode or Manufacturer Test mode.

Methods used to run this command:

Digital Output

Number of points accepted by this command:

1.

Meaning of the DriverP0 parameter:

Unit Address (1-31).

Meaning of the DriverP1 parameter:

Sending Device Address (0-255).

Meaning of the DriverP2 parameter:

3

Meaning of the DriverP3 parameter:

128

Set Occupied Heating Setpoint

Description of this command:

This command works in any operating mode.

Methods used to run this command:

Analog Output

Number of points accepted by this command:

1.

Meaning of the DriverP0 parameter:

Unit Address (1-31).

Meaning of the DriverP1 parameter:

Sending Device Address (0-255).

Meaning of the DriverP2 parameter:

1

Meaning of the DriverP3 parameter:

1

Set Unoccupied Heating Setpoint

Description of this command:

This command works in any operating mode.

Methods used to run this command:

Analog Output

Number of points accepted by this command:

1.

CPKSoft Engineering

Industrial communication
drivers.

www.cpksoft.com

[www.facebook.com/
cpksoftengineering](https://www.facebook.com/cpksoftengineering)

[cpksoftengineering@
hotmail.com](mailto:cpksoftengineering@hotmail.com)

phone: 54-911-45788354

1990-2012

Industrial communication solutions for Windows

Meaning of the DriverP0 parameter:

Unit Address (1-31).

Meaning of the DriverP1 parameter:

Sending Device Address (0-255).

Meaning of the DriverP2 parameter:

1

Meaning of the DriverP3 parameter:

2

Set Occupied Cooling Setpoint

Description of this command:

This command works in any operating mode.

Methods used to run this command:

Analog Output

Number of points accepted by this command:

1.

Meaning of the DriverP0 parameter:

Unit Address (1-31).

Meaning of the DriverP1 parameter:

Sending Device Address (0-255).

Meaning of the DriverP2 parameter:

1

Meaning of the DriverP3 parameter:

3

Set Unoccupied Cooling Setpoint

Description of this command:

This command works in any operating mode.

Methods used to run this command:

Analog Output

Number of points accepted by this command:

1.

Meaning of the DriverP0 parameter:

Unit Address (1-31).

Meaning of the DriverP1 parameter:

Sending Device Address (0-255).

Meaning of the DriverP2 parameter:

1

Meaning of the DriverP3 parameter:

4

Send Manual Command as Analog Output

Description of this command:

This command works when in Test or manufacturing mode. It allows you to send any of the commands in the COMMAND GROUP 03.

Methods used to run this command:

Analog Output

Number of points accepted by this command:

1.

Meaning of the DriverP0 parameter:

Unit Address (1-31).

Meaning of the DriverP1 parameter:

Sending Device Address (0-255).

Meaning of the DriverP2 parameter:

3

Values that are sent:

Value in PointValue (0) = Command from 00h to 88h (see table in IMC protocol specification)

CPKSoft Engineering

Industrial communication drivers.

www.cpksoft.com

www.facebook.com/

cpksoftengineering

cpksoftengineering@

hotmail.com

phone: 54-911-45788354

1990-2012

Industrial communication solutions for Windows

Error messages

The following list shows the possible error messages that can be returned by the driver during a failed communication in the 'Status' property.

[1005] DRIVER (Internal): Invalid driver stage
[1300] PROTOCOL (Timeout): No answer
[1433] PROTOCOL (Format): Validation error in device response
[2002] CONFIG (DataType): Digital inputs are not supported by this driver
[2147] CONFIG (NumValues): Only one value can be read or written
[2176] CONFIG (NumValues): Too many values (max=10)
[2183] CONFIG (NumValues): Too many values (max=122)
[3024] CONFIG (P0): Invalid device address (1-31)
[3570] CONFIG (P1): Invalid sending device address (0-255)
[4520] CONFIG (P3): Invalid command
[8119] CONFIG (Remote): Error executing command
[8120] CONFIG (Remote): Error executing command (invalid mode or command)
[8129] CONFIG (Remote): Error placing device in standby mode
[8132] CONFIG (Remote): Error setting new setpoint value

Supported devices

This driver can communicate with these devices, but is not necessarily limited to this list:

LENNOX IMC Commercial Heating and Cooling Units

CPKSoft Engineering

Industrial communication
drivers.

www.cpksoft.com

[www.facebook.com/
cpksoftengineering](http://www.facebook.com/cpksoftengineering)

[cpksoftengineering@
hotmail.com](mailto:cpksoftengineering@hotmail.com)

phone: 54-911-45788354

1990-2012