PREMIUM CLEAN ROOM MONITOR MODELS 8630-CRM-S 8630-CRM-P

MANUAL SUPPLEMENT

Contents of this manual supplement include:

Sequence of Operation

The Model 8630-CRM monitors room pressure by utilizing a through-the-wall pressure sensor. The Model 8630-CRM features high and low pressure alarms for up to two independent sensors. A minimum supply volume alarm is also present. Additionally, the Model 8630-CRM supports the open MODBUS protocol over an RS-485 network and an analog pressure output.

Menu Structure

ALARM	CONFIGURE	CALIBRATION
LOW ALARM	DISPLAY AVG	SENSOR ZERO
HIGH ALARM	UNITS	SENSOR SPAN
SEC LOW ALM	ROOM VOLUME	**2SENSOR ZERO**
SEC HIGH ALM	2 SENSOR	**2SENSOR SPAN**
MIN SUP ALM	ACCESS CODE	**SUP 1 ZERO**
ALARM RESET		**SUP 2 ZERO**
AUDIBLE ALM		ELEVATION
ALARM DELAY		ACCESS CODE
MUTE TIMEOUT		
ACCESS CODE		

INTERFACE	DIAGNOSTICS	PRESSURE	FLOW
NET PROTOCOL	**PRESS AOUT**	**SENSOR TYPE**	**SUP1 AREA**
NET ADDRESS	SENSOR INPUT	**MAX OUT SIG**	**SUP2 AREA**
OUT SIG	SENSOR STAT	**MAX OUT VAL**	**SUP1 KFACTOR**
ACCESS CODE	2 SENS INPUT	**ACCESS CODE**	**SUP2 KFACTOR**
	2 SENS STAT		**SENSOR TYPE**
	SUP 1 INPUT		**MAX OUT SIG**
	SUP 2 INPUT		**MAX OUT VAL**
	PRES ALM REL		**ACCESS CODE**
	SUP ALM REL		
	ACCESS CODE		

Figure 1: Menu Items - Model 8630-CRM Premium Monitor

Description of New Software Items

The Model 8630-CRM has additional software items.

Alarm Menu

Menu Item	Description
LOW ALARM **SEC LOW ALM**	The **LOW ALARM** and **SEC LOW ALARM** items set the low pressure alarm set points for the primary and secondary pressure sensor. A low alarm condition occurs when the room pressure falls below or goes in the opposite direction of the low alarm set point. The **SEC LOW ALM** setpoint is only used when the second sensor is enabled through the **CONFIGURE** menu. The **LOW ALARM** and **SEC LOW ALM** can be set to OFF**.** The **LOW ALARM** and **SEC LOW ALM** have a range from 0 to within 0.005 " H_2O of the pressure **SETPOINT.** For **TSI** or **BI DIRECT** sensor types, the low alarm must be of the same sign (positive or negative) as the pressure **SETPOINT**. The default value is **OFF**.
HIGH ALARM **SEC HIGH ALM**	The **HIGH ALARM** and **SEC HIGH ALM** items set the high pressure alarm set points. A high alarm condition occurs when the room pressure rises above the high alarm set point. The **SEC HIGH ALM** setpoint is only used when the second sensor is enabled through the **CONFIGURE** menu. The **HIGH ALARM** and **SEC HIGH ALM** can be set to **OFF.** The **HIGH ALARM** and **SEC HIGH ALM** have a range from within 0.005 " H_2O of the pressure **SETPOINT** to within 0.005" H_2O of the pressure **MAX OUT VAL.** For **TSI** or **BI DIRECT** sensor types, the high alarm must be of the same sign (positive or negative) as the pressure **SETPOINT**. The default value is **OFF**.

Calibration Menu

Menu Item	Description
SUP 1 ZERO **SUP 2 ZERO**	The **SUP 1 ZERO** and **SUP 2 ZERO** items are used to calibrate the flow station pressure transducers. A zero or no flow setpoint needs to be established prior to using the supply flow measurements (see "Calibration" section of manual following menu item listing).

Diagnostics Menu

Menu Item	Description
PRESS AOUT	The **PRESS AOUT** item is used to vary the analog output from the Model 8630-CRM. When this item is entered, a number will be shown on the display indicating the last analog output value. The value displayed ranges from 0 to 255. The value 255 corresponds to the lowest voltage (current) output and 0 corresponds to the highest voltage (current) output. Pressing the ▲ key will decrease the analog output and increase the value displayed. Pressing the ▼ key will increase the analog output and decrease the value displayed. The **PRESS AOUT** function can be used in conjunction with a voltmeter to verify that the analog output is correct.
SUP 1 INPUT **SUP 2 INPUT**	The **SUP 1 INPUT** and **SUP 2 INPUT** items are used to read the flow measurement inputs directly. When these items are entered, the display will indicate the voltage from the proper transducer. The exact voltage displayed is relatively unimportant. It is more important that the voltage changes to indicate the flow station is working properly.
PRES ALM REL	The **PRES ALM REL** item is used to change the state of the pressure alarm relay. When this item is entered, the display will indicate either **OPEN** or **CLOSED**. The ▲/▼ keys are used to toggle the state of the relay. The ▲ key is used to **OPEN** the alarm contact. The ▼ key is used to **CLOSE** the alarm contact. When the contact is closed, the pressure alarm relay should be in an alarm condition.
SUP ALM REL	The **SUP ALM REL** item is used to change the state of the minimum supply alarm relay. When this item is entered, the display will indicate either **OPEN** or **CLOSED**. The ▲/▼ keys are used to toggle the state of the relay. The ▲ key is used to **OPEN** the alarm contact. The ▼ key is used to **CLOSE** the alarm contact. When the contact is closed, the minimum supply alarm relay should be in an alarm condition.

Pressure Menu

Menu Item	Description
SENSOR TYPE	The **SENSOR TYPE** item is used to set the type of pressure sensor used to measure the room pressure differential. This item can be set to **TSI, UNI DIRECT,** or **BI DIRECT**. The default value is **TSI**.
MAX OUT SIG	The **MAX OUT SIG** item is used to set the maximum pressure output voltage from the transducer used. This item can be set to **5 V** or **10 V**, with a default value of **10 V**. For a TSI pressure sensor, the **MAX OUT SIG** must be set to **10 V**.
MAX OUT VAL	The **MAX OUT VAL** item is used to set the maximum pressure reading of the transducer used. This item can be set between **0.1" H2O** and **2" H2O**, with a default value of **0.2" H2O.** For a **TSI** pressure sensor, the **MAX OUT VAL** must be set to **0.2" H2O.** For a **UNI DIRECT** pressure sensor, the **MAX OUT VAL** must be programmed as a positive or negative, depending on the pressure relationship of the space to its reference. For **UNI DIRECT** sensors, 0 V (or 4 mA in **CURRENT** mode) corresponds to a pressure differential of 0, and 10 V or (20 mA in **CURRENT** mode) corresponds to a pressure differential of **MAX OUT VAL**. For **BI DIRECT** or **TSI** sensors, 0 V (or 4 mA in **CURRENT** mode) corresponds to a pressure differential of -**MAX OUT VAL**, and 10 V or (20 mA in **CURRENT** mode) corresponds to a pressure differential of **MAX OUT VAL**.

Flow Menu

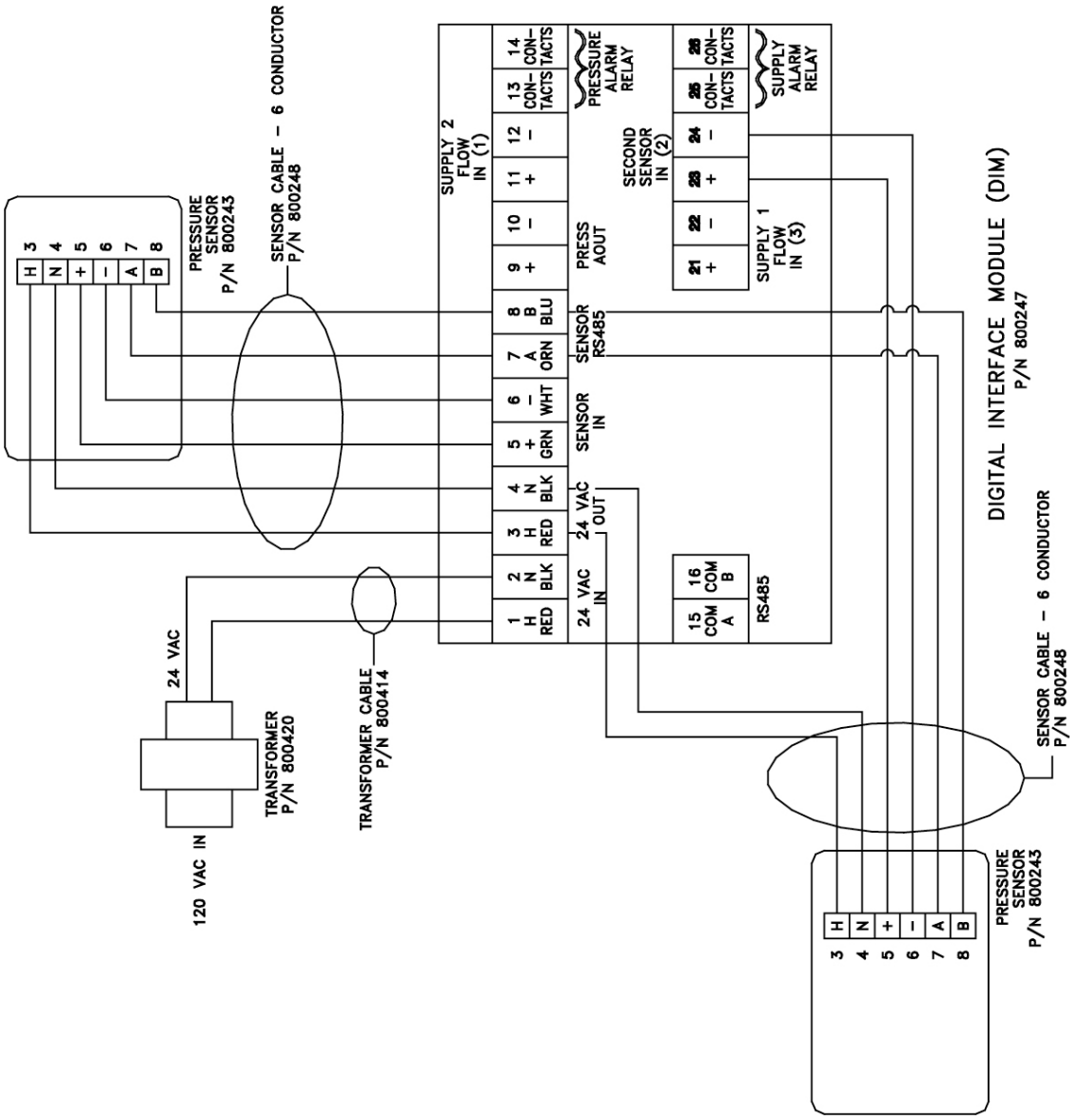
Menu Item	Description
SUP1 AREA **SUP2 AREA**	The **SUP1 AREA** and **SUP2 AREA** items are used to input the duct sizes for the first and second supply. The duct sizes are needed to compute the air flowing into the room. These items require a flow sensor to be mounted in the proper supply duct. When a duct area is programmed, the display will automatically scroll the actual total supply flow as part of the display scroll sequence. If a zero value is entered, the supply flow value will not scroll on the display. The programmed duct areas can range from **0** to **10 square feet** if the PresSura™ monitor displays English units. If the PresSura™ monitor displays metric units, then the duct areas can range from **0** to **0.9500 square meters**. The default is **0**.
SUP1 KFACTOR **SUP2 KFACTOR**	The **KFACTOR** menu item sets the "K" factor for the flow probe being used. The flow signal is multiplied by the **KFACTOR** so that the flow measurement matches the actual flow, usually determined with a pitot tube traverse. The **KFACTOR** has a minimum value of **0** and a maximum value of **10**., with a default of **1**.
SENSOR TYPE	The **SENSOR TYPE** item is used to select the flow station input signal. **PRESSURE** is used when flow stations with pressure transducers are installed. **LINEAR** is selected when a linear output flow station, typically a thermal-based flow station, is installed.
MAX OUT SIG	The **MAX OUT SIG** item is used to set the maximum output voltage from the transducer used. This item can be set to **5 V** or **10 V**, with a default value of **5 V**. For a TSI flow station, the **MAX OUT SIG** must be set to **5 V**.
MAX OUT VAL	The **MAX OUT VAL** item is used to set the maximum pressure reading of the transducer used, or the maximum velocity of the linear flow station used. For a pressure based measurement, this item can be set between **0.1" H_2O** and **0.5" H_2O**, with a default value of **0.5" H_2O.** For a linear flow station, this item can be set between **0** and **5,000 ft/min**. For a TSI flow station, the **MAX OUT VAL** must be set to **0.5" H_2O**.

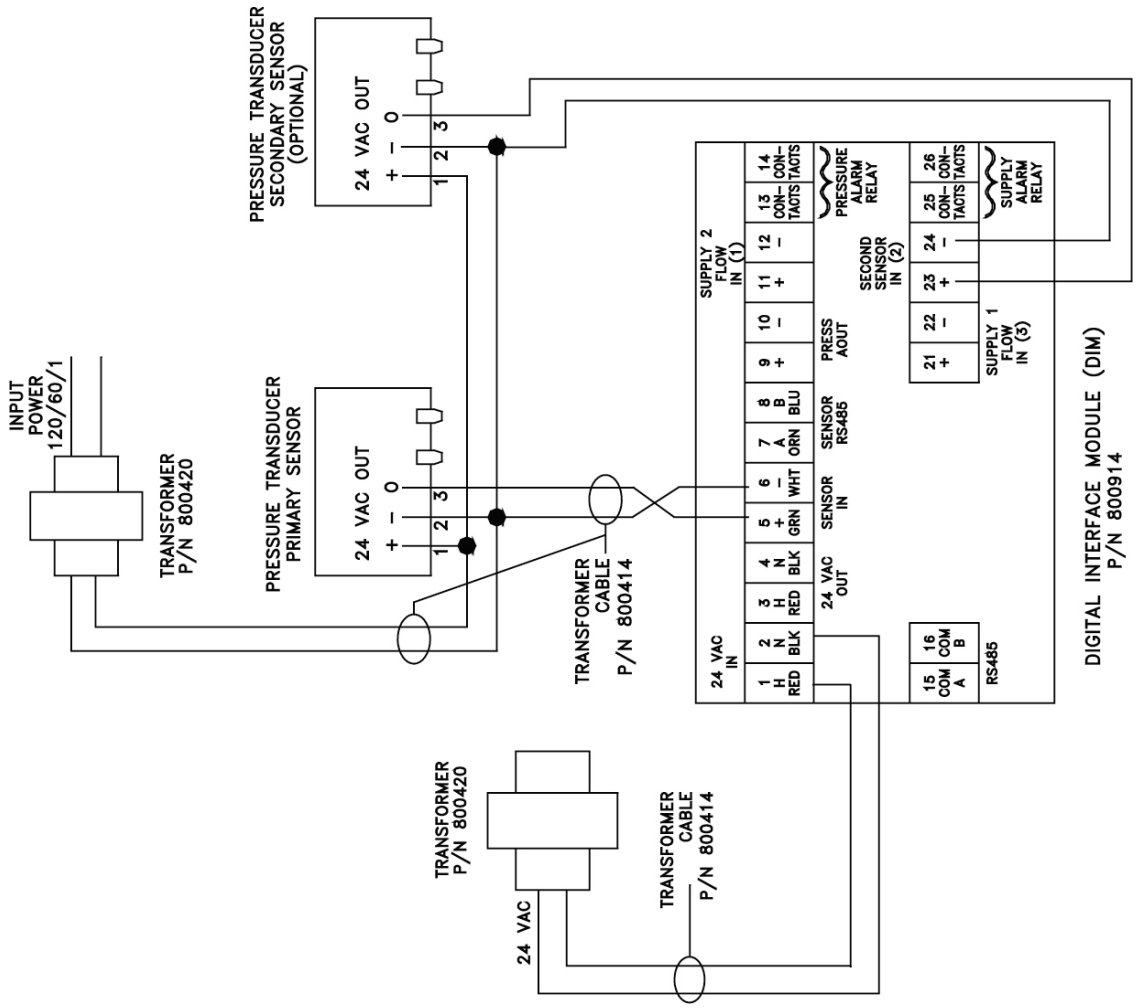
Deleted Software Menu Items

The following items have been replaced on the 8630-CRM.

ALARM MENU	NEG LOW ALARM NEG HIGH ALARM POS LOW ALARM POS HIGH ALARM MIN CFM ALM 2 LOW ALM 2 HIGH ALM
CONFIGURE MENU	ROOM MODE DCT AREA
CALIBRATION MENU	FLOW ZERO
INTERFACE MENU	OUTPUT RANGE
DIAGNOSTICS MENU	ANALOG OUT KEY INPUT FLOW INPUT LOW ALM RELAY HIGH ALM RELAY

Wiring Diagrams




PRESSURE TRANSDUCER
SECONDARY SENSOR
(OPTIONAL)
24 VAC OUT
+ – 0
1 2 3
PRESSURE TRANSDUCER
PRIMARY SENSOR
24 VAC OUT
+ – 0
1 2 3
INPUT
POWER
120/60/1
TRANSFORMER
P/N 800420
TRANSFORMER
CABLE
P/N 800414
TRANSFORMER
P/N 800420
24 VAC
TRANSFORMER
CABLE
P/N 800414
24 VAC IN
1 H RED
2 N BLK
3 H RED
4 N BLK
24 VAC OUT
5 + GRN
6 – WHT
7 A ORN
8 B BLU
SENSOR IN
SENSOR RS485
SUPPLY 2 FLOW IN (1)
9 +
10 –
11 +
12 –
PRESS AOUT
13 CON-TACTS
14 CON-TACTS
PRESSURE ALARM RELAY
SECOND SENSOR IN (2)
21 +
22 –
23 +
24 –
SUPPLY 1 FLOW IN (3)
25 CON-TACTS
26 CON-TACTS
SUPPLY ALARM RELAY
15 COM A
16 COM B
RS485
DIGITAL INTERFACE MODULE (DIM)
P/N 800914

Access Codes

The 8630-CRM has a single access code for all menus. Each menu has the access code enabled individually; implementing the access code in one menu does not enable the access code in other menus. When an access code is required, pressing the following key sequence will provide access:

Key #	
1	EMERGENCY
2	MUTE
3	MUTE
4	MENU
5	AUX

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