

Digital Input Signals and Computer Input Data Worksheet Digital Card Setup

Project Number Sample Digital Configuration

Date: _____

Client: _____

Unit Number: #1 Digital Channels for Pulse Metering and Monitoring

Channel Number	Default Voltage Range Note 1	Digital Signal		Parameter Displayed Name Note 4	Pulse Reading	Pulse / Watt Conversion	Description On "1" or "On" Note 5	Description Off "0" or "Off" Note 6	Alarm Delay Note 7	Alarm Condition Note 8
		"On" Voltage Note 2	"Off" Voltage Note 3							
1	0 or +5VDC	Pulse	Pulse	Electric Submeter Power Consumption	Yes	1.8	N/A	N/A	N/A	None
2	0 or +5VDC	Pulse	Pulse	Gas Submeter Power Consumption	Yes	2.5	N/A	N/A	N/A	None
3	0 or +5VDC	Pulse	Pulse	Water Submeter Power Consumption	Yes	3.5	N/A	N/A	N/A	None
4	0 or +5VDC	+ 5 VDC	0	Back Door Status	N/A	N/A	Open	Closed	0	On
5	0 or +5VDC	+ 5 VDC	0	Roof Door Status	N/A	N/A	Open	Closed	0	On
6	0 or +5VDC						N/A	N/A	N/A	None
7	0 or +5VDC						N/A	N/A	N/A	None
8	0 or +5VDC						N/A	N/A	N/A	None

Notes:

1. An input voltage level of 0 to 1.5 VDC will be interpreted as a logical zero and a +3.5 to +5.0 VDC will be interpreted as a logical one.
2. Define the desired digital signal parameter zero or low input. This input may require additional signal conditioning to convert it to 0 VDC for the EMS2000 Digital monitor.
3. Define the desired digital signal parameter one or high input. This input may require additional signal conditioning to convert it to +5VDC for the EMS2000 Digital monitor.
4. The Parameter displayed name refers to the text description that will be displayed on the PC computer in the EMS2000 program and will correspond to the channel number.
5. The Description On defines the text to be displayed on the PC computer for a logical one or On digital signal.
6. The Description Off defines the text to be displayed on the PC computer for a logical zero or Off digital signal.
7. The Alarm Delay prevents alarms from being generated until the alarm condition persists for the alarm delay period. The alarm delay may be set from 1 to 255 minutes.
8. The Alarm Condition setup defines what conditions an alarm is generated. There are three options to select from as defined below:
An alarm will be generated when the input voltage is equal to the Alarm Condition (logical zero or one).
If the parameter digital signal is for monitoring only, an no alarms are to generated, select the "NONE" alarm condition.
If the parameter digital signal is to alarm on a logical "1" or On condition, select the "ON Only" alarm condition.
If the parameter digital signal is to alarm on a logical "0" or Off condition, select the "OFF Only" alarm condition.

Analog Input Signals and Computer Input Data Worksheet Analog Card Setup

Project Number Sample Analog Channel Setup

Date: _____

Client: _____

Unit Number: #1 Analog Channels

Channel Number	Temperature Range Note 1	Measured Parameter			Parameter Displayed Name Note 2	Units Displayed Units Note 3	Low Alarm Level Note 4	High Alarm Level Note 5	Alarm Delay Minutes Note 6	Alarm Condition Setup Note 7	Conversion Low Setup Note 8	Conversion High Setup Note 9
		Low Input Signal	High Input Signal	Ground Reference								
1	Type 1	0	+5 VDC	+0 VDC	Ambient Temperature	Deg F	N/A	N/A	10	None	15	220
2	Type 2	0	+5 VDC	N/A	Walk-In Freezer	Deg F	-30	-10	10	High	-40	40
3	Type 3	0	+5 VDC	N/A	Reach-In Refrigerator	Deg F	-30	-10	10	High	-40	40
4	Type 3	0	+5 VDC	N/A	Walk-In Cooler	Deg F	20	40	10	High	0	50
5	Type 3	0	+5 VDC	N/A	Ref. Makeup Table	Deg F	20	40	10	High	0	50
6	Type 3	0	+5 VDC	N/A	Ref. Salad Bar	Deg F	20	40	10	High	0	50
7		0.5	+4.5 VDC	+0 VDC	Cmp Manifold Suction Pressure Refrigeration Rack M-3	PSIG	N/A	N/A	10	None	-25	225
8		0.5	+4.5 VDC	+0 VDC	Cmp Manifold Discharge Pressure Refrigeration Rack M-3	PSIG	N/A	N/A	10	None	-62.5	562.5

Notes:

- The A/D will interpret 0VDC input as bit count 00 and will interpret +5VDC input as bit count 255.
Type 0 = No Conversion of A/D Data
Type 1 = 0 to 170 DegF (Use 4300 Ohm Resistor)
Type 2 = -40 to +40 DegF (Use 68000 Ohm Resistor)
Type 3 = 0 to 50 DegF (Use 36500 Ohm Resistor)
- The Parameter displayed name refers to the text description that will be displayed on the PC computer in the EMS2000 program and will correspond to the channel setup.
- The Units refers to the "engineering" units of measure such as Degrees F that will be displayed on the PC computer in the EMS2000 program .
- The Low Alarm Level input is used to define for the EMS2000 program the low signal level which will activate the the low alarm condition. The input should be made in degrees F.
- The High Alarm Level input is used to define for the EMS2000 program the high signal level which will activate the the high alarm condition. The input should be made in degrees F.
- The Alarm Delay is the time delay which prevents alarms from being generated until the alarm condition persists for the alarm delay period. The alarm delay may be set from 1 to 255 minutes.
- The Alarm Condition setup defines what conditions an alarm is generated. There are four options to select from as defined below:
If the temperature parameter is to be monitored only, and no alarms are to be generated, select the "None" alarm condition.
If the temperature parameter is to generate an alarm on a Low Alarm Condition only, select the "Low Only" alarm condition.
If the temperature parameter is to generate an alarm on a High Alarm Condition only, select the "High Only" alarm condition.
If the temperature parameter is to generate an alarm for either a Low or High Alarm Condition, select the "Both" alarm condition.
- The Conversion Low setup is used to define for the EMS2000 program the conversion factor to equate a +0 VDC input to the actual Low Input Signal in the engineering Units which will be displayed by the program.
Use to low and high values associated with the Temperature Type.
- The Conversion High setup is used to define for the EMS2000 program the conversion factor to equate a +5 VDC input to the actual High Input Signal in the engineering Units which will be displayed by the program.
Use to low and high values associated with the Temperature Type.