

FMS

Using Simple Digital Inputs



Technical Note TCC-200

Rev A

Introduction

FMS Software has interfaces with several devices that offer digital inputs. This document will focus on the Phoenix Contact Bus Controller, but the concepts and uses would be transferrable to any of the digital input modules currently supported by FMS Software. For FMS supported products, reference TSI Technical Note TCC-168: Authorized Components for FMS 5.1 and Newer Software.

The digital input is a simple ON/OFF indicator that sends the controller a “1” or “0” as the input. It is the simplest form of input for a system as there are only two possibilities, ON or OFF. Even though it is a simple interface, there are several uses and scenarios that are perfect for digital inputs.

Mechanics of Digital Inputs

The mechanics behind a digital input is simple electrical continuity, or it can be thought of as a switch. If the switch makes contact, there is electrical continuity. This action lends itself to monitoring door switches to determine if a door is open or closed, and allows FMS to alarm based on the door position. This is useful for alarming doors that need to stay closed in order to maintain either positive or negative pressures in a cleanroom.

Many building management systems will recognize the degrading pressure difference and ramp up the fans to maintain the pressure differential, resulting in higher energy use. Using FMS and digital inputs, personnel can be alerted to an impending situation that allows mitigation of the situation BEFORE fans ramp up.

For example, imagine a scenario where positive pressure to a cleanroom must be maintained. There is a door connecting the Class A area to the Class B area. Employees will often stand in the doorway, with the door open, for various reasons. A door switch can be used to signal FMS that the door is open. If it stays open too long, the room risks losing its positive pressure compared to the Class B area.

FMS and a digital input to alarm employees that the door has been open for an extended period can be used. However, it's unproductive for the system to alarm every time a door is opened, but critical if it is left open for a lengthy duration. FMS alarm threshold functionality has the capability to limit nuisance alarms caused by simply opening a door.

Understanding Digital Inputs—An Example

Provided here is an example of a digital input set up to monitor a door switch. The sample point chosen is DI1 and is indicated with a red circle drawn around it. The sample point is set up to indicate a normal operation with the door closed. If the door is open for more than about 15 seconds, the sample point color will change to yellow. If left open for more than 30 seconds, the color would turn red. These changes could also be reflected on a light stack with audible alarms locally.

Setting Up Digital Outputs

FMS uses a Digital Output to trigger the Email Unit. The setup of the Email Digital Output is identical to setting up any other type of digital output. Care must be taken to select the correct Unit that corresponds with the email alert desired. For this reason, logical naming conventions for units and digital outputs should be employed. The names should provide insight as to the function (i.e., DO_Email Counts and U_Email_Counts). As highlighted, the digital output could be further acted upon by using a recipe. This will complicate the configuration, however there could be circumstances where this would be necessary.

Select the correct Alarm Group and enable the digital output. Select the desired Alarm State. Normally, this is set to “=Alarm”, although the email could be set to be sent based on any of the conditions, including None, OK, Warning, Alarm, Failure, or Needs Acknowledgement. With thought, using the different Alarm States allows for FMS to become quite powerful in its email capabilities.

It is possible to Allow Control and Scheduling as well as function to be used for manually triggering email output. It is recommended to disable Control and Scheduling once testing is complete. Automated settings, based on alarm conditions, will prevail over manual control.

The email alert will only be sent once. However, this can be changed by selecting “Retrigger” to initiate sending multiple emails until the condition is corrected.

Green: Normal condition— door is closed.

The screenshot shows the FMS Client Client interface. The main window displays a grid of digital inputs (DI1 through DI16) and their status. DI1 is highlighted with a red circle. The status bar at the bottom shows 'Local' and '04/02/2013 09:30:13'. The right sidebar shows the 'Unit Status' and 'Alarm Group Status' sections.

Unit	Value	Unit	Value	Unit	Value	Unit	Value		
DI1	0	DI10	Triggered: 0	DI11	Triggered: 0	DI12	Triggered: 0		
DI2	0	DI13	Triggered: 0	DI14	Triggered: 0	DI15	Triggered: 0	DI16	Triggered: 0
DI3	0	DI4	Triggered: 0	DI5	Triggered: 0	DI6	Triggered: 0	DI7	Triggered: 0
DI8	0	DI9	Triggered: 0	DI10	Triggered: 0	DI11	Triggered: 0	DI12	Triggered: 0
DI13	0	DI14	Triggered: 0	DI15	Triggered: 0	DI16	Triggered: 0	DI17	Triggered: 0
DI18	0	DI19	Triggered: 0	DI20	Triggered: 0	DI21	Triggered: 0	DI22	Triggered: 0
DI23	0	DI24	Triggered: 0	DI25	Triggered: 0	DI26	Triggered: 0	DI27	Triggered: 0
DI28	0	DI29	Triggered: 0	DI30	Triggered: 0	DI31	Triggered: 0	DI32	Triggered: 0
DI33	0	DI34	Triggered: 0	DI35	Triggered: 0	DI36	Triggered: 0	DI37	Triggered: 0
DI38	0	DI39	Triggered: 0	DI40	Triggered: 0	DI41	Triggered: 0	DI42	Triggered: 0
DI43	0	DI44	Triggered: 0	DI45	Triggered: 0	DI46	Triggered: 0	DI47	Triggered: 0
DI48	0	DI49	Triggered: 0	DI50	Triggered: 0	DI51	Triggered: 0	DI52	Triggered: 0
DI53	0	DI54	Triggered: 0	DI55	Triggered: 0	DI56	Triggered: 0	DI57	Triggered: 0
DI58	0	DI59	Triggered: 0	DI60	Triggered: 0	DI61	Triggered: 0	DI62	Triggered: 0
DI63	0	DI64	Triggered: 0	DI65	Triggered: 0	DI66	Triggered: 0	DI67	Triggered: 0
DI68	0	DI69	Triggered: 0	DI70	Triggered: 0	DI71	Triggered: 0	DI72	Triggered: 0
DI73	0	DI74	Triggered: 0	DI75	Triggered: 0	DI76	Triggered: 0	DI77	Triggered: 0
DI78	0	DI79	Triggered: 0	DI80	Triggered: 0	DI81	Triggered: 0	DI82	Triggered: 0
DI83	0	DI84	Triggered: 0	DI85	Triggered: 0	DI86	Triggered: 0	DI87	Triggered: 0
DI88	0	DI89	Triggered: 0	DI90	Triggered: 0	DI91	Triggered: 0	DI92	Triggered: 0
DI93	0	DI94	Triggered: 0	DI95	Triggered: 0	DI96	Triggered: 0	DI97	Triggered: 0
DI98	0	DI99	Triggered: 0	DI100	Triggered: 0	DI101	Triggered: 0	DI102	Triggered: 0
DI103	0	DI104	Triggered: 0	DI105	Triggered: 0	DI106	Triggered: 0	DI107	Triggered: 0
DI108	0	DI109	Triggered: 0	DI110	Triggered: 0	DI111	Triggered: 0	DI112	Triggered: 0
DI113	0	DI114	Triggered: 0	DI115	Triggered: 0	DI116	Triggered: 0	DI117	Triggered: 0
DI118	0	DI119	Triggered: 0	DI120	Triggered: 0	DI121	Triggered: 0	DI122	Triggered: 0
DI123	0	DI124	Triggered: 0	DI125	Triggered: 0	DI126	Triggered: 0	DI127	Triggered: 0
DI128	0	DI129	Triggered: 0	DI130	Triggered: 0	DI131	Triggered: 0	DI132	Triggered: 0
DI133	0	DI134	Triggered: 0	DI135	Triggered: 0	DI136	Triggered: 0	DI137	Triggered: 0
DI138	0	DI139	Triggered: 0	DI140	Triggered: 0	DI141	Triggered: 0	DI142	Triggered: 0
DI143	0	DI144	Triggered: 0	DI145	Triggered: 0	DI146	Triggered: 0	DI147	Triggered: 0
DI148	0	DI149	Triggered: 0	DI150	Triggered: 0	DI151	Triggered: 0	DI152	Triggered: 0
DI153	0	DI154	Triggered: 0	DI155	Triggered: 0	DI156	Triggered: 0	DI157	Triggered: 0
DI158	0	DI159	Triggered: 0	DI160	Triggered: 0	DI161	Triggered: 0	DI162	Triggered: 0
DI163	0	DI164	Triggered: 0	DI165	Triggered: 0	DI166	Triggered: 0	DI167	Triggered: 0
DI168	0	DI169	Triggered: 0	DI170	Triggered: 0	DI171	Triggered: 0	DI172	Triggered: 0
DI173	0	DI174	Triggered: 0	DI175	Triggered: 0	DI176	Triggered: 0	DI177	Triggered: 0
DI178	0	DI179	Triggered: 0	DI180	Triggered: 0	DI181	Triggered: 0	DI182	Triggered: 0
DI183	0	DI184	Triggered: 0	DI185	Triggered: 0	DI186	Triggered: 0	DI187	Triggered: 0
DI188	0	DI189	Triggered: 0	DI190	Triggered: 0	DI191	Triggered: 0	DI192	Triggered: 0
DI193	0	DI194	Triggered: 0	DI195	Triggered: 0	DI196	Triggered: 0	DI197	Triggered: 0
DI198	0	DI199	Triggered: 0	DI200	Triggered: 0	DI201	Triggered: 0	DI202	Triggered: 0
DI203	0	DI204	Triggered: 0	DI205	Triggered: 0	DI206	Triggered: 0	DI207	Triggered: 0
DI208	0	DI209	Triggered: 0	DI210	Triggered: 0	DI211	Triggered: 0	DI212	Triggered: 0
DI213	0	DI214	Triggered: 0	DI215	Triggered: 0	DI216	Triggered: 0	DI217	Triggered: 0
DI218	0	DI219	Triggered: 0	DI220	Triggered: 0	DI221	Triggered: 0	DI222	Triggered: 0
DI223	0	DI224	Triggered: 0	DI225	Triggered: 0	DI226	Triggered: 0	DI227	Triggered: 0
DI228	0	DI229	Triggered: 0	DI230	Triggered: 0	DI231	Triggered: 0	DI232	Triggered: 0
DI233	0	DI234	Triggered: 0	DI235	Triggered: 0	DI236	Triggered: 0	DI237	Triggered: 0
DI238	0	DI239	Triggered: 0	DI240	Triggered: 0	DI241	Triggered: 0	DI242	Triggered: 0
DI243	0	DI244	Triggered: 0	DI245	Triggered: 0	DI246	Triggered: 0	DI247	Triggered: 0
DI248	0	DI249	Triggered: 0	DI250	Triggered: 0	DI251	Triggered: 0	DI252	Triggered: 0
DI253	0	DI254	Triggered: 0	DI255	Triggered: 0	DI256	Triggered: 0	DI257	Triggered: 0
DI258	0	DI259	Triggered: 0	DI260	Triggered: 0	DI261	Triggered: 0	DI262	Triggered: 0
DI263	0	DI264	Triggered: 0	DI265	Triggered: 0	DI266	Triggered: 0	DI267	Triggered: 0
DI268	0	DI269	Triggered: 0	DI270	Triggered: 0	DI271	Triggered: 0	DI272	Triggered: 0
DI273	0	DI274	Triggered: 0	DI275	Triggered: 0	DI276	Triggered: 0	DI277	Triggered: 0
DI278	0	DI279	Triggered: 0	DI280	Triggered: 0	DI281	Triggered: 0	DI282	Triggered: 0
DI283	0	DI284	Triggered: 0	DI285	Triggered: 0	DI286	Triggered: 0	DI287	Triggered: 0
DI288	0	DI289	Triggered: 0	DI290	Triggered: 0	DI291	Triggered: 0	DI292	Triggered: 0
DI293	0	DI294	Triggered: 0	DI295	Triggered: 0	DI296	Triggered: 0	DI297	Triggered: 0
DI298	0	DI299	Triggered: 0	DI300	Triggered: 0	DI301	Triggered: 0	DI302	Triggered: 0
DI303	0	DI304	Triggered: 0	DI305	Triggered: 0	DI306	Triggered: 0	DI307	Triggered: 0
DI308	0	DI309	Triggered: 0	DI310	Triggered: 0	DI311	Triggered: 0	DI312	Triggered: 0
DI313	0	DI314	Triggered: 0	DI315	Triggered: 0	DI316	Triggered: 0	DI317	Triggered: 0
DI318	0	DI319	Triggered: 0	DI320	Triggered: 0	DI321	Triggered: 0	DI322	Triggered: 0
DI323	0	DI324	Triggered: 0	DI325	Triggered: 0	DI326	Triggered: 0	DI327	Triggered: 0
DI328	0	DI329	Triggered: 0	DI330	Triggered: 0	DI331	Triggered: 0	DI332	Triggered: 0
DI333	0	DI334	Triggered: 0	DI335	Triggered: 0	DI336	Triggered: 0	DI337	Triggered: 0
DI338	0	DI339	Triggered: 0	DI340	Triggered: 0	DI341	Triggered: 0	DI342	Triggered: 0
DI343	0	DI344	Triggered: 0	DI345	Triggered: 0	DI346	Triggered: 0	DI347	Triggered: 0
DI348	0	DI349	Triggered: 0	DI350	Triggered: 0	DI351	Triggered: 0	DI352	Triggered: 0
DI353	0	DI354	Triggered: 0	DI355	Triggered: 0	DI356	Triggered: 0	DI357	Triggered: 0
DI358	0	DI359	Triggered: 0	DI360	Triggered: 0	DI361	Triggered: 0	DI362	Triggered: 0
DI363	0	DI364	Triggered: 0	DI365	Triggered: 0	DI366	Triggered: 0	DI367	Triggered: 0
DI368	0	DI369	Triggered: 0	DI370	Triggered: 0	DI371	Triggered: 0	DI372	Triggered: 0
DI373	0	DI374	Triggered: 0	DI375	Triggered: 0	DI376	Triggered: 0	DI377	Triggered: 0
DI378	0	DI379	Triggered: 0	DI380	Triggered: 0	DI381	Triggered: 0	DI382	Triggered: 0
DI383	0	DI384	Triggered: 0	DI385	Triggered: 0	DI386	Triggered: 0	DI387	Triggered: 0
DI388	0	DI389	Triggered: 0	DI390	Triggered: 0	DI391	Triggered: 0	DI392	Triggered: 0
DI393	0	DI394	Triggered: 0	DI395	Triggered: 0	DI396	Triggered: 0	DI397	Triggered: 0
DI398	0	DI399	Triggered: 0	DI400	Triggered: 0	DI401	Triggered: 0	DI402	Triggered: 0
DI403	0	DI404	Triggered: 0	DI405	Triggered: 0	DI406	Triggered: 0	DI407	Triggered: 0
DI408	0	DI409	Triggered: 0	DI410	Triggered: 0	DI411	Triggered: 0	DI412	Triggered: 0
DI413	0	DI414	Triggered: 0	DI415	Triggered: 0	DI416	Triggered: 0	DI417	Triggered: 0
DI418	0	DI419	Triggered: 0	DI420	Triggered: 0	DI421	Triggered: 0	DI422	Triggered: 0
DI423	0	DI424	Triggered: 0	DI425	Triggered: 0	DI426	Triggered: 0	DI427	Triggered: 0
DI428	0	DI429	Triggered: 0	DI430	Triggered: 0	DI431	Triggered: 0	DI432	Triggered: 0
DI433	0	DI434	Triggered: 0	DI435	Triggered: 0	DI436	Triggered: 0	DI437	Triggered: 0
DI438	0	DI439	Triggered: 0	DI440	Triggered: 0	DI441	Triggered: 0	DI442	Triggered: 0
DI443	0	DI444	Triggered: 0	DI445	Triggered: 0	DI446	Triggered: 0	DI447	Triggered: 0
DI448	0	DI449	Triggered: 0	DI450	Triggered: 0	DI451	Triggered: 0	DI452	Triggered: 0
DI453	0	DI454	Triggered: 0	DI455	Triggered: 0	DI456	Triggered: 0	DI457	Triggered: 0
DI458	0	DI459	Triggered: 0	DI460	Triggered: 0	DI461	Triggered: 0	DI462	Triggered: 0
DI463	0	DI464	Triggered: 0	DI465	Triggered: 0	DI466	Triggered: 0	DI467	Triggered: 0
DI468	0	DI469	Triggered: 0	DI470	Triggered: 0	DI471	Triggered: 0	DI472	Triggered: 0
DI473	0	DI474	Triggered: 0	DI475	Triggered: 0	DI476	Triggered: 0	DI477	Triggered: 0
DI478	0	DI479	Triggered: 0	DI480	Triggered: 0	DI481	Triggered: 0	DI482	Triggered: 0
DI483	0	DI484	Triggered: 0	DI485	Triggered: 0	DI486	Triggered: 0	DI487	Triggered: 0
DI488	0	DI489	Triggered: 0	DI490	Triggered: 0	DI491	Triggered: 0	DI492	Triggered: 0
DI493	0	DI494	Triggered: 0	DI495	Triggered: 0	DI496	Triggered: 0	DI497	Triggered: 0
DI498	0	DI499	Triggered: 0	DI500	Triggered: 0	DI501	Triggered: 0	DI502	Triggered: 0
DI503	0	DI504	Triggered: 0	DI505	Triggered: 0	DI506	Triggered: 0	DI507	Triggered: 0
DI508	0	DI509	Triggered: 0	DI510	Triggered: 0	DI511	Triggered: 0	DI512	Triggered: 0
DI513	0	DI514	Triggered: 0	DI515	Triggered: 0	DI516	Triggered: 0	DI517	Triggered: 0
DI518	0	DI519	Triggered: 0	DI520	Triggered: 0	DI521	Triggered: 0	DI522	Triggered: 0
DI523	0	DI524	Triggered: 0	DI525	Triggered: 0	DI526	Triggered: 0	DI527	Triggered: 0
DI528	0	DI529	Triggered: 0	DI530	Triggered: 0	DI531	Triggered: 0	DI532	Triggered: 0
DI533	0	DI534	Triggered: 0	DI535	Triggered: 0	DI536	Triggered: 0	DI537	Triggered: 0
DI538	0	DI539	Triggered: 0	DI540	Triggered: 0	DI541	Triggered: 0	DI542	Triggered: 0
DI543	0	DI544	Triggered: 0	DI545	Triggered: 0	DI546	Triggered: 0	DI547	Triggered: 0
DI548	0	DI549	Triggered: 0	DI550	Triggered: 0	DI551	Triggered: 0	DI552	Triggered: 0
DI553	0	DI554	Triggered: 0	DI555	Triggered: 0	DI556	Triggered: 0	DI557	Triggered: 0
DI558	0	DI559	Triggered: 0	DI560	Triggered: 0	DI561	Triggered: 0	DI562	Triggered: 0
DI563	0	DI564	Triggered: 0	DI565	Triggered: 0	DI566	Triggered: 0	DI567	Triggered: 0
DI568	0	DI569	Triggered: 0	DI570	Triggered: 0	DI571	Triggered: 0	DI572	Triggered: 0
DI573	0	DI574	Triggered: 0	DI575	Triggered: 0	DI576	Triggered: 0	DI577	Triggered: 0
DI578	0	DI579	Triggered: 0	DI580	Triggered: 0	DI581	Triggered: 0	DI582	Triggered: 0
DI583	0	DI584	Triggered: 0	DI585	Triggered: 0	DI586	Triggered: 0	DI587	Triggered: 0
DI588	0	DI589	Triggered: 0	DI590	Triggered: 0	DI591	Triggered: 0	DI592	Triggered: 0
DI593	0	DI594	Triggered: 0	DI595	Triggered: 0	DI596	Triggered: 0	DI597	Triggered: 0
DI598	0	DI599	Triggered: 0	DI600	Triggered: 0	DI601	Triggered:		

Yellow: Warning condition—door has been open for at least 15 seconds.

The screenshot shows the FMS Client Client interface. The main display area is a grid of 16 cells, each representing a different input or output. The cell for DI1 (Clear: 1) is highlighted in yellow, indicating a warning condition. The other cells are green, indicating normal status. The right-hand side of the interface shows a 'Unit Status' panel with various system components like PC, PUMP_OFF, and PhosorControl200, all of which are green. Below this is an 'Alarm Change Status' panel, also green. At the bottom right, there is a 'Statistics' panel showing various system metrics. The bottom status bar indicates 'Node: LYLE is in WARNING STATE'.

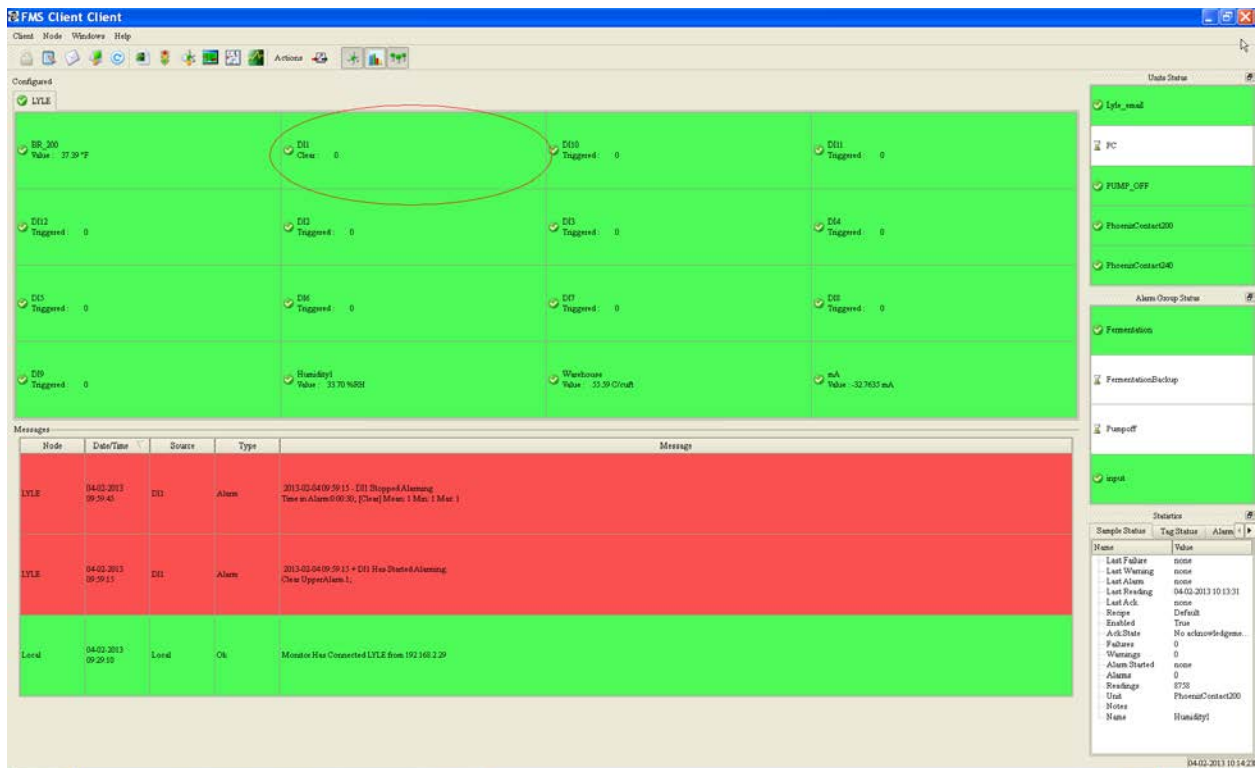
Node	Date/Time	Source	Type	Message
Local	04/02/2013 09:29:10	Local	OK	Monitor Has Connected LYLE from 192.168.2.29

Red: Alarm condition—door has been open for more than 30 seconds.

The screenshot shows the FMS Client Client interface. The main display area is a grid of 16 cells. The cell for DI1 (Clear: 1) is highlighted in red, indicating an alarm condition. The other cells are green, indicating normal status. The right-hand side of the interface shows the same 'Unit Status' and 'Alarm Change Status' panels as in the previous screenshot, all green. The 'Statistics' panel is also present. The bottom status bar indicates 'Node: LYLE is in ALARM STATE'.

Node	Date/Time	Source	Type	Message
LYLE	04/02/2013 09:29:13	DI1	Alarm	2013-02-04 09:29:13 = DI1 Has Started Alerting Clear OpenAlarm 1.
Local	04/02/2013 09:29:10	Local	OK	Monitor Has Connected LYLE from 192.168.2.29

Green: Normal condition resumes—door has been closed.



Setting Up Digital Inputs

The configuration for the example herein is simple. It is based on a Phoenix Contact bus controller using the first input available on the controller. It is assumed the Phoenix Contact bus controller unit has been set up in FMS Software and the user understands the basic configuration of the controller and the software. Set up is easy.

Open the configuration tab and navigate to sample points. Right click to add a new point. Click on the General tab and name the point. Click OK to save the point. Right double-click on the sample point name to open up the properties page with all tabs available.

The screenshot shows the 'Sample Point: DI1' configuration dialog box. The 'General' tab is selected, showing the following fields:

- Sample Point Name: DI1
- Unit: PhoenixContact240
- Data Type: Digital
- Input Index: Slot-1-1
- Display Units: (empty)
- Decimal Places: 0
- Recipe: Default
- Comments: (empty)
- Additional Comments: (empty)

At the bottom, there are checkboxes for 'Calculate MKT' and 'Use logarithmic graph scales', both of which are unchecked. The 'OK' and 'Cancel' buttons are at the bottom right.

For this example, the sample point name is DI1. It is assigned to the PhoenixContact240 unit and configuring a digital data type with an input index selection of Slot 1-1. There is no need to indicate display units or decimal points (digital inputs are either 0 or 1).

Click on the Recipe tab to set up timing and other needed parameters—such as alarm thresholds, alarm acknowledgment, and others.

The screenshot shows a software window titled "Sample Point: DI1" with a blue header bar. Below the header are five tabs: "General", "SPC", "Recipe" (which is selected), "Alarms", and "Driver Recipe". The "Recipe" tab contains a section titled "Default Recipe Properties". Inside this section, there are several settings: a checked checkbox for "Enabled", an unchecked checkbox for "Fileable", an unchecked checkbox for "Retriggerable Alarms", an unchecked checkbox for "Hide", and a checked checkbox for "Disable Acknowledge". Below these are three input fields: "Alarm Threshold" with the value "2", "Sample Period" with the value "15", and "Preferred Tag" with a dropdown menu showing "Clear". At the bottom of the section is a "Fix Inspect Range" checkbox, which is unchecked, followed by two input fields for a range, showing "0.0" and "100.0". At the bottom right of the window are two buttons: "OK" with a green checkmark icon and "Cancel" with a red X icon.

Make sure the sample point is enabled. Please note—It is not recommended to make a digital input “fileable” because of its shorter sample times. At 15 second sample times, a tremendous amount of data will be generated and filed over a 24 hour period. Door switch data is probably not necessary to archive but is up to the end user’s discretion. The alarms produced by an open door would still be logged, even if the data is not filed.

For this sample, the alarm is set up to not require alarm acknowledgement—otherwise the user would need to acknowledge alarms every time the door is opened. The alarm threshold is set for 2, which means that with a 15 second sample time, if the door is left open for more than 30 seconds, the sample point will red alarm. If the door is open for 15 seconds, the sample point will go to a yellow warning state. If the door is closed before 30 seconds, the sample point will return to green normal state.

An important point to understand in setting up a digital input is whether to select “Clear” or “Triggered” as the preferred tag. In this example, choosing “Triggered” and setting a lower alarm at 0 under the Triggered column, the sample point maintains green normal state with the door closed and the switch is closed. On a door switch with both normal open and normal closed positions, it is necessary to wire to the normal closed wire for a closed door. When the door is opened, the switch is also opened, initiating the a red alarm condition.

	Clear	Triggered
Upper Alarm	<input type="checkbox"/> 1	<input type="checkbox"/> 1
Upper Warning	<input type="checkbox"/> .5	<input type="checkbox"/> .5
Lower Warning	<input type="checkbox"/> .5	<input type="checkbox"/> .5
Lower Alarm	<input type="checkbox"/> 0	<input checked="" type="checkbox"/> 0

Set Point and Deviation Class/Standard

Classification:

OK Cancel

Many combinations of Clear or Triggered alarms on the Alarms tab, or Clear or Triggered Preferred Tags on the Recipe tab, can be used to set up the exact conditions desired for alarming.

Summary

A digital input should be considered as a monitor of any type of switch or continuity position. It can also be used as a monitor for hard switches, like door switches, including freezers or entry doors and key switches, as well as proximity switches. It can also supply feedback on whether a circuit is energized or possibly whether a valve is activated. These are simple “ON/OFF” functions of a digital input.

The simple “ON/OFF” functions of a digital input can also be used to trigger more advanced functionality, like turning on or off a recipe within FMS Software. Advanced uses might include using the alarm settings of a digital input to energize a relay or relay output to start or stop processes or machinery.



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