

**Partner: Bosch**  
**Model: DCN**  
**Device Type: Miscellaneous**

**GENERAL INFORMATION:**

<b>SIMPLWINDOWS NAME:</b>	Bosch DCN IP v1.0
<b>CATEGORY:</b>	Miscellaneous
<b>VERSION:</b>	1.0
<b>SUMMARY:</b>	This module provides microphone and voting control for the Bosch DCN via Ethernet
<b>GENERAL NOTES:</b>	This module provides control of the microphones and the voting system on the Bosch Digital Congress Network. It also provides true feedback.
<b>CRESTRON HARDWARE REQUIRED:</b>	Processor with an ethernet port to control the Bosch DNC unit
<b>SETUP OF CRESTRON HARDWARE:</b>	TPC/IP port 9451
<b>VENDOR FIRMWARE:</b>	FW Version 4.00.4377
<b>VENDOR SETUP:</b>	N/A
<b>CABLE DIAGRAM:</b>	CAT-5

**Partner: Bosch**  
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**CONTROL:**

<b>&lt;Start/Stop&gt;_Microphone_Control</b>	D	Pulse to start and stop microphone control and automatic feedback.
<b>Operator_With_Request_List</b>	D	Pulse to select Operator with Request List operation mode.
<b>Delegate_With_Request_List</b>	D	Pulse to select Delegate with Request List operation mode.
<b>Delegate_With_Override</b>	D	Pulse to select Delegate with Override operation mode.
<b>Delegate_With_Voice</b>	D	Pulse to select Delegate with Voice operation mode.
<b>Operator_With_Comment</b>	D	Pulse to select Operator with Comment operation mode.
<b>Select_Delegate_Number_In</b>	A	Analog value of the delegate's microphone station to control. Valid range is 1 to 4000.
<b>&lt;Add_To/Delete_From&gt;_Speaker_List</b>	D	Pulse to add or delete the selected delegate's microphone to or from the speaker list.
<b>&lt;Add_To/Delete_From&gt;_Request_List</b>	D	Pulse to add or delete the selected delegate's microphone to or from the request list.
<b>Clear_&lt;Speaker/Request&gt;_List</b>	D	Pulse to clear the speaker or request list.
<b>Set_Number_Of_Speakers_To_&lt;1/2/3/4&gt;</b>	D	Pulse to set the number of speakers to the desired value. Not all values are allowed in all modes.
<b>Delete_Speaker_&lt;1/2/3/4&gt;</b>	D	Pulse to delete the desired delegate's microphone from the list.
<b>Mute_Speaker_&lt;1/2/3/4&gt;</b>	D	Pulse to mute the desired delegate's microphone.
<b>Delete_Request_&lt;1...10&gt;</b>	D	Pulse to delete the desired delegate's microphone from the request list.
<b>Shift_Request_&lt;1...10&gt;</b>	D	Pulse to move the desired delegate's microphone from the request list to the speaker list.
<b>Number_Of_Requests_To_Allow_In</b>	A	Analog value indicating the number of microphones allowed in the request list.
<b>Start_Voting_Session</b>	D	Pulse to start a voting session.
<b>Stop_Voting_Session</b>	D	Pulse to stop a voting session.
<b>Hold_Voting_Session</b>	D	Pulse to pause a voting session.
<b>Restart_Voting_Session</b>	D	Pulse to restart a voting session that has been placed on hold.

**Partner: Bosch**  
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**Device Type: Miscellaneous**



<b>Vote_Type_*</b>	D	Pulse to select the type of vote to be held. This will determine the number of possible options during the vote. THIS IS NOT SENT UNTIL THE Send_Voting_Parameters_Changes INPUT IS PULSED.
<b>&lt;Show/Do_Not_Show&gt;_Individual_Results</b>	D	Pulse to select whether to show individual votes during the vote or not. THIS IS NOT SENT UNTIL THE Send_Voting_Parameters_Changes INPUT IS PULSED.
<b>Show_Results_*</b>	D	Pulse to select the type of votes to show during the vote. THIS IS NOT SENT UNTIL THE Send_Voting_Parameters_Changes INPUT IS PULSED.
<b>&lt;Show/Do_Not_Show&gt;_Results_On_LCD</b>	D	Pulse to select whether to show the results on the voting station LCDs or not. THIS IS NOT SENT UNTIL THE Send_Voting_Parameters_Changes INPUT IS PULSED.
<b>Results_Notify_&lt;True/False/Toggle&gt;</b>	D	Pulse to select whether the DCN will update the Crestron with the results. THIS SENT WHEN THE Start_Voting_Management INPUT IS PULSED.
<b>View_Time_In</b>	A	Analog input indicating the number of seconds to display the results on the LCD screen after the vote has ended. Range is 0 to 200 seconds. THIS SENT WHEN THE Start_Voting_Management INPUT IS PULSED.
<b>View_Time_Step_In</b>	A	Analog value for the number of seconds to increment or decrement with each pulse of the View_Time_<Up/Down> inputs. Range is 1 to 100 seconds. Default is 10 seconds.
<b>View_Time_&lt;Up/Down&gt;</b>	D	Pulse to adjust the number of seconds to display the results on the LCD screen after the vote has ended. Range is 0 to 200 seconds. The amount changed with each pulse is determined by the View_Time_Step_In input. THIS SENT WHEN THE Start_Voting_Management INPUT IS PULSED.
<b>Number_Of_Answers_In</b>	A	Analog value used to set the number of valid options for the vote. The valid range is 1 to 24, depending on the vote type selected. Vote types Yes-No, Yes-No-Abstain, For-Against, Audience Response and Yes-No-Abstain-NPPV each have a fixed number of options. Vote types 123, ABC and CBA can have from 1 to 24 options. THIS IS NOT SENT UNTIL THE Send_Voting_Parameters_Changes INPUT IS PULSED.
<b>Number_Of_Answers_&lt;Up/Down&gt;</b>	D	Pulse to adjust the number of valid options for the vote. The valid range is 1 to 24, depending on the vote type selected. Vote types Yes-No, Yes-No-Abstain, For-Against, Audience Response and Yes-No-Abstain-NPPV each have a fixed number of options. Vote types 123, ABC and CBA can have from 1 to 24 options. THIS IS NOT SENT UNTIL THE Send_Voting_Parameters_Changes INPUT IS PULSED.
<b>Vote_Number_In</b>	A	Analog input for the vote number. The valid range is 1 to 9999d. THIS IS NOT SENT UNTIL THE Send_Voting_Subject INPUT IS PULSED.
<b>Vote_Number_&lt;Up/Down&gt;</b>	D	Pulse to adjust the vote number. The valid range is 1 to 9999d. THIS IS NOT SENT UNTIL THE Send_Voting_Subject INPUT IS PULSED.
<b>Auto_Increment_Vote_Number</b>	D	Hold high to have the Crestron automatically increment the vote number.

**Partner: Bosch**  
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		This will be done when the Send_Vote_Subject input is pulsed.
<b>Reset_Vote_Number</b>	D	Pulse to set the vote number back to 1. THIS IS NOT SENT UNTIL THE Send_Voting_Subject INPUT IS PULSED.
<b>Send_Voting_Parameters_Changes</b>	D	Pulse to send the voting parameters. These will be used in the next vote. The parameters that are sent with this are vote type, show individual results, show results, show individual results on LCD and number of answers.
<b>Vote_Subject_Text_In</b>	S	Serial input that allows the vote subject text to be sent. This text field will be divided into four lines by the Bosch DCN. Each line will contain 33 characters. That makes the limit 132 characters. THIS IS NOT SENT UNTIL THE Send_Voting_Subject INPUT IS PULSED.
<b>Vote_Legend_Text_In</b>	S	Serial input that allows a vote legend to be sent. From the Bosch manual: "This text is put before the voting-number on the units LCD's. The purpose of this legend is to clarify the meaning of the voting number." The maximum length is 11 characters. THIS IS NOT SENT UNTIL THE Send_Voting_Subject INPUT IS PULSED.
<b>Send_Vote_Subject</b>	D	Pulse to send the vote number, subject text and legend text.
<b>From_Device</b>	S	Serial signal to be routed from a TCP/IP Client.

**Partner: Bosch**  
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**FEEDBACK:**

<b>Microphone_Management_Is_&lt;Active/Not_Active&gt;</b>	D	High to indicate whether the Crestron has control of the microphones.
<b>Operator_With_Request_List_Is_Selected</b>	D	High to indicate that the currently selected operation mode is Operator with Request List.
<b>Delegate_With_Request_List_Is_Selected</b>	D	High to indicate that the currently selected operation mode is Delegate with Request List.
<b>Delegate_With_Override_Is_Selected</b>	D	High to indicate that the currently selected operation mode is Delegate with Override.
<b>Delegate_With_Voice_Is_Selected</b>	D	High to indicate that the currently selected operation mode is Delegate with Voice.
<b>Operator_With_Comment_List_Is_Selected</b>	D	High to indicate that the currently selected operation mode is Operator with Comment.
<b>Delegate_Selected_Value</b>	A	Analog value indicating the currently selected delegate microphone for control. To be displayed using a digital gauge on a touch panel.
<b>Number_Of_Speakers_Is_&lt;1/2/3/4&gt;</b>	D	High to indicate the number of speakers allowed at the same time.
<b>Speaker_&lt;1/2/3/4&gt;_Unit_Number_Value</b>	A	Analog values indicating the current speaker microphone numbers. To be displayed using a digital gauge on a touch panel.
<b>Speaker_&lt;1/2/3/4&gt;_Mute_Is_Active</b>	D	High to indicate that a speaker's microphone is muted.
<b>Request_&lt;1...10&gt;_Unit_Number_Value</b>	A	Analog values indicating the current request microphone numbers. To be displayed using a digital gauge on a touch panel.
<b>Cancel_Requests_Are_Allowed</b>	D	High to indicate that requests can be cancelled.
<b>Microphone_Off_Allowed</b>	D	High to indicate that microphones can be muted.
<b>Number_Of_Requests_Allowed_Value</b>	A	Analog value indicating the number of requests allowed at one time. To be displayed using a digital gauge on a touch panel.
<b>Number_In_Speaker_List_Value</b>	A	Analog value indicating the number of microphones in the speaker list. To be displayed using a digital gauge on a touch panel.
<b>Number_In_Request_List_Value</b>	A	Analog value indicating the number of microphones in the request list. To be displayed using a digital gauge on a touch panel.
<b>Voting_Management_Is_&lt;Active/Not_Active&gt;</b>	D	High to indicate whether the Crestron has control of the voting.

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<b>Voting_Session_Is_&lt;Open/Closed/On_Hold&gt;</b>	D	High to indicate the state of the current voting session.
<b>Vote_Type_Is_*</b>	D	High to indicate the vote type that will be sent to the Bosch. THIS IS NOT TRUE FEEDBACK.
<b>Show_Individual_Results_Is_&lt;True/False&gt;</b>	D	High to indicate the show individual setting that will be sent to the Bosch. THIS IS NOT TRUE FEEDBACK.
<b>Show_Results_Is_*</b>	D	High to indicate the show results setting that will be sent to the Bosch. THIS IS NOT TRUE FEEDBACK.
<b>Show_Results_On_LCD_IS_&lt;True/False&gt;</b>	D	High to indicate the show results on LCD setting that will be sent to the Bosch. THIS IS NOT TRUE FEEDBACK.
<b>Results_Notify_Is_&lt;True/False&gt;</b>	D	High to indicate the results notify setting that will be sent to the Bosch. THIS IS NOT TRUE FEEDBACK.
<b>View_Time_Value</b>	A	Analog value indicating the view time value that will be sent to the Bosch. To be displayed using a digital gauge on a touch panel. THIS IS NOT TRUE FEEDBACK.
<b>Number_Of_Answers_Value</b>	A	Analog value indicating the number of answers to allow value that will be sent to the Bosch. To be displayed using a digital gauge on a touch panel. THIS IS NOT TRUE FEEDBACK.
<b>Vote_Number_Value</b>	A	Analog value indicating the vote number value that will be sent to the Bosch. To be displayed using a digital gauge on a touch panel. THIS IS NOT TRUE FEEDBACK.
<b>Number_Of_Delegates_Present_Value</b>	A	Analog value indicating the number of delegates present for a vote session. To be displayed using a digital gauge on a touch panel. This will update automatically during the vote if the Results_Notify_Is_True is high when the Start_Voting_Management is pulsed.
<b>Number_Not_Voted_Yet_Value</b>	A	Analog value indicating the number of delegates present for a vote session that have not voted yet. To be displayed using a digital gauge on a touch panel. This will update automatically during the vote if the Results_Notify_Is_True is high when the Start_Voting_Management is pulsed.
<b>Vote_Results_Answer_&lt;1...24&gt;_Value</b>	A	Analog outputs indicating the number of votes for each option. To be displayed using a digital gauge on a touch panel. This will update automatically during the vote if the Results_Notify_Is_True is high when the Start_Voting_Management is pulsed.
<b>To_Device</b>	S	Serial signal to be routed from a TCP/IP Client.

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<b>TESTING:</b>	
<b>OPS USED FOR TESTING:</b>	PRO2 4.007.0004 MC3 1.005.0015
<b>SIMPL WINDOWS USED FOR TESTING:</b>	V4.01.10.01
<b>CRESTRON DB USED FOR TESTING:</b>	V35.06.004.00
<b>DEVICE DB USED FOR TESTING:</b>	V47.00.005.00
<b>SAMPLE PROGRAM:</b>	Bosch DCN IP Demo PRO2 Bosch DCN IP Demo MC3
<b>REVISION HISTORY:</b>	V. 1.0