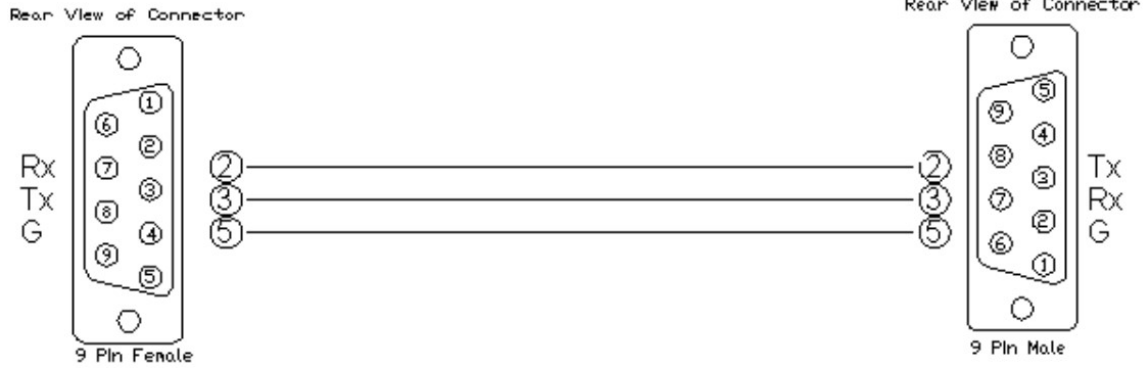


Partner: Cool Automation
 Model: CM5
 Device Type: HVAC

General Information:

SIMPEL WINDOWS NAME:	CoolAutomation Core Module 2.21 CoolAutomation Unit Module 2.21
CATEGORY:	HVAC
VERSION:	2.21 – Improved reliability. Various Under the hood improvements 2.2 – Improved RS232 connectivity Fixed issue with out of range exception Added “Louver” parameter to Core Module. Various Under the hood improvements 2.1 – Fixed issues with 4 th Gen controllers Fixed issues with large amount of AC Units Under the hood improvements 2.0 - Release
SUMMERY:	
GENERAL NOTES:	Suits generation 3 and 4 Crestron controllers
CRESTRON HARDWARE REQUIRED:	C2I-COM, ST-COM, C2-COM-* or CNX-COM2, any Crestron controller with 2-way RS232 port or LAN
SETUP OF CRESTRON HARDWARE:	<u>RS232</u> Baud:9600 (Default) – Recommended 115200 with “set baud” command. Parity: None Data Bits: 8 Stop Bits: 1 <u>LAN:</u> TCP/IP Client (default port is 10102)
VENDOR FIRMWARE:	0.9.0
VENDOR SETUP:	
CABLE DIAGRAM:	



CoolAutomation Core Module 2.21

Control:

ENABLE_CONNECTION	D	Remain high to enable module function
[RS232_RX\$]	S	Optional: Serial data signal to be routed from a 2 way com port
FROM_MODULE\$	S	Serial data signal to be routed from unit module.
CELSUIS	D	Pulse to set temperature scale to Celsius
FAHRNHEIT	D	Pulse to set temperature scale to Fahrenheit
Reboot_Device	D	Pulse to reboot CoolMaster device
Link1_All_On	D	Pulse to turn ALL units on Line 1 ON
Link1_All_Off	D	Pulse to turn ALL units on Line 1 OFF
Link2_All_On	D	Pulse to turn ALL units on Line 2 ON
Link2_All_Off	D	Pulse to turn ALL units on Line 2 OFF
Link3_All_On	D	Pulse to turn ALL units on Line 3 ON
Link3_All_Off	D	Pulse to turn ALL units on Line 3 OFF
Link4_All_On	D	Pulse to turn ALL units on Line 4 ON
Link4_All_Off	D	Pulse to turn ALL units on Line 4 OFF
Link5_All_On	D	Pulse to turn ALL units on Line 5 ON
Link5_All_Off	D	Pulse to turn ALL units on Line 5 OFF
Link6_All_On	D	Pulse to turn ALL units on Line 6 ON
Link6_All_Off	D	Pulse to turn ALL units on Line 6 OFF
Link7_All_On	D	Pulse to turn ALL units on Line 7 ON
Link7_All_Off	D	Pulse to turn ALL units on Line 7 OFF
Link8_All_On	D	Pulse to turn ALL units on Line 8 ON
Link8_All_Off	D	Pulse to turn ALL units on Line 8 OFF

PARAMETERS:

Physical Connection	L	Selection Between TCP/IP and RS232
IP Address	S	IP Address of CoolAutomation device
Port	d	TCP/IP port (Default: 10102)
Update Time	T	TIME parameter representing the poll time (e.g.: 60s will cause the program to send poll command every 60 seconds.). For TCP/IP the recommended minimum time is 10 Seconds. For RS232 the recommended minimum time is 15 Seconds.
Louvers	L	Selection Between Enabled and Disabled Disabled - Default Enabled – will tell the module to scan for Louvers position. Should only be enabled if you have louvers in your project. With a TCp connection, will cause a secondary connection to be made to the CM unit. With RS232 it is recommended to add a few more seconds to the “Update Time” parameter.

FEEDBACK:

TCP_CONNECTED	D	Latches high to indicate that a TCP/IP connection was established
TCP_STATUS	A	Reports the status of the TCP/IP connection as follows: 0d = Not connected 1d = Waiting for connection 2d = Connected 3d = Connection failed 4d = Connection broken remotely 5d = Connection broken locally 6d = Performing DNS lookup 7d = DNS lookup failed 8d = DNS lookup resolved 9d = Loss of link
[RS232_TX\$]	S	Optional: Serial data signal to be routed from a 2 way com port
TO_MODULE\$	S	Serial data signal to be routed to unit module.
CELSUIS	D	Latches high to indicate temperature scale is Celsius
FAHRNHEIT	D	Latches high to indicate temperature scale is Fahrenheit

CoolAutomation Unit Module 2.2

Control:

From_Core_Module\$	S	Serial data signal to be routed from core module.
Power_On	D	Pulse to turn unit on
Power_Off	D	Pulse to turn unit off
Power_Toggle	D	Pulse to toggle unit on or off
Mode_Cool	D	Pulse to set unit mode to cool
Mode_Heat	D	Pulse to set unit mode to heat
Mode_Fan	D	Pulse to set unit mode to fan
Mode_Dry	D	Pulse to set unit mode to dry
Mode_Auto	D	Pulse to set unit mode to auto
Fan_Very_Low	D	Pulse to set unit fan to very low
Fan_Low	D	Pulse to set unit fan to low
Fan_Medium	D	Pulse to set unit fan to medium
Fan_High	D	Pulse to set unit fan to high
Fan_Top	D	Pulse to set unit fan to Top
Fan_Auto	D	Pulse to set unit fan to Auto
Set_Temperature_Up	D	Pulse to add 1 Deg. to the unit set point
Set_Temperature_Down	D	Pulse to reduce 1 Deg. from the unit set point
Set_Temperature	A	Analog value to set unit set point directly
Set_Temperature\$	S	String value to set unit set point directly
Feed	A	Analog value, provides Ambient Temperature suggestion for the unit. If is set to "0" CoolMasterNet will not suggest Ambient Temperature.
Feed\$	S	String value, provides Ambient Temperature suggestion for the unit. If is set to "0" CoolMasterNet will not suggest Ambient Temperature.
Louver_Horizontal	D	Pulse to set unit louver to horizontal
Louver_Vertical	D	Pulse to set unit louver to vertical
Louver_Auto	D	Pulse to set unit louver to auto
Louver_30_Deg	D	Pulse to set unit louver to 30 degrees
Louver_45_Deg	D	Pulse to set unit louver to 45 degrees
Louver_60_Deg	D	Pulse to set unit louver to 60 degrees
Louver_Stop	D	Pulse to set unit louver to stop
Reset_Filter_Sign	D	Pulse to reset unit filter sign

PARAMETERS:

Line Number	L	HVAC Line number connected to CoolMaster device
Unit Number	S	Unit number. Must be set as 3 digits. Ex. Unit 1 will be written as 001.

FEEDBACK:

Power_On_Fb	D	Latches high to indicate unit is on
Power_Off_Fb	D	Latches high to indicate unit is off
Mode_Cool_Fb	D	Latches high to indicate unit mode is cool
Mode_Heat_Fb	D	Latches high to indicate unit mode is heat
Mode_Fan_Fb	D	Latches high to indicate unit mode is fan
Mode_Dry_Fb	D	Latches high to indicate unit mode is dry
Mode_Auto_Fb	D	Latches high to indicate unit mode is auto
In_Demand_Fb	D	Latches high to indicate unit is actively cooling/heating
Fan_Very_Low_Fb	D	Latches high to indicate unit fan speed is very low
Fan_Low_Fb	D	Latches high to indicate unit fan speed is low
Fan_Medium_Fb	D	Latches high to indicate unit fan speed is medium
Fan_High_Fb	D	Latches high to indicate unit fan speed is high
Fan_Top_Fb	D	Latches high to indicate unit fan speed is top
Fan_Auto_Fb	D	Latches high to indicate unit fan speed is auto
Set_Temperature_Fb	A	Analog value to indicate unit set point temperature
Set_Temperature_Fb\$	S	String value to indicate unit set point temperature
Room_Temperature_Fb	A	Analog value to indicate unit room temperature
Room_Temperature_Fb\$	S	String value to indicate unit room temperature
Louver_Horizontal_Fb	D	Latches high to indicate unit louver is set to horizontal
Louver_Vertical_Fb	D	Latches high to indicate unit louver is set to vertical
Louver_Auto_Fb	D	Latches high to indicate unit louver is set to auto
Louver_30_Deg_Fb	D	Latches high to indicate unit louver is set to 30 degrees
Louver_45_Deg_Fb	D	Latches high to indicate unit louver is set to 45 degrees
Louver_60_Deg_Fb	D	Latches high to indicate unit louver is set to 60 degrees
Louver_Stop_Fb	D	Latches high to indicate unit louver is set to stop
Louver_Not_Supported_Fb	D	Latches high to indicate unit does not support louver
Indoor_Failure_Code\$	S	String value, indicates unit fail code
Filter_Sign_Fb	D	Latches high to indicate unit filter sign

TESTING:

OPS USED FOR TESTING:	
SIMPL WINDOWS USED FOR TESTING:	4.2000.00
DEVICE DB USED FOR TESTING:	200.22500.001.00
CRES DB USED FOR TESTING:	214.0000.001.00
SYMBOL LIBRARY USED FOR TESTING:	1176
SAMPLE PROGRAM:	CoolAutomation CoolMaster NET v2.2 Demo CP4
REVISION HISTORY:	2.21 – Improved reliability. Various Under the hood improvements 2.2 – Improved RS232 connectivity Fixed issue with out of range exception Added “Louver” parameter to Core Module. Various Under the hood improvements 2.1 – Fixed issues with 4 th Gen controllers Fixed issues with large amount of AC Units Under the hood improvements 2.0 - Release

Known issues:

Jamming a lot of commands (more than 5) together will cause unwanted results. Please use a stepper symbol with a delay between each command.