

**Partner: Tripp-Lite**  
**Model: HTR05**  
**Device Type: UPS Power Supply**



## GENERAL INFORMATION

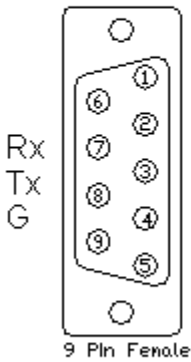
|                                    |   |
|------------------------------------|---|
| <b>SIMPLWINDOWS NAME:</b>          | Tripp-LiteTR05  |
| <b>CATEGORY:</b>                   | UPS Uninterruptible Power Supply  |
| <b>VERSION:</b>                    | 1.0   |
| <b>SUMMARY:</b>                    | This module contains the RS-232 commands to interface with a Tripp-Lite HTR05 UPS.  |
| <b>GENERAL NOTES:</b>              | <p>Whenever the UPS mode changes from outside, the processor will synchronize to the UPS within 8 seconds. During UPS initialization, the CPU doesn't listen to the RS-232 port.</p> <p>The unit may be polled for real feedback every 1 second by default by putting a "1" on the Poll_Enable signal name.</p> |
| <b>CRESTRON HARDWARE REQUIRED:</b> | C2I-COM, C2COM-2/3, ST-COM, CNXCOM-6, CNXCOM-2  |
| <b>SETUP OF CRESTRON HARDWARE:</b> | RS232<br>Baud: 2,400<br>Parity: N<br>Data Bits: 8<br>Stop Bits: 1   |
| <b>VENDOR FIRMWARE:</b>            | 3005  |
| <b>VENDOR SETUP:</b>               | None  |
| <b>CABLE DIAGRAM:</b>              | CNSP-121  |

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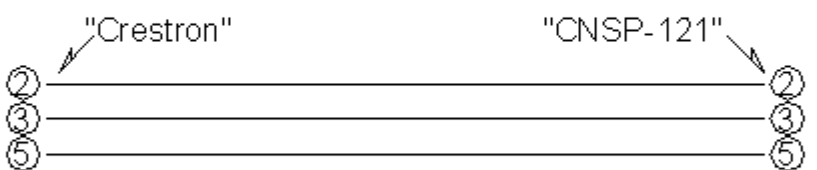
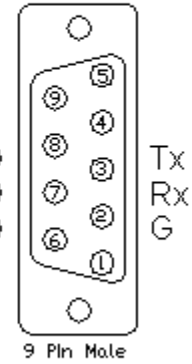


# CNSP-121

Rear View of Connector



Rear View of Connector



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**CONTROL:**

|  |   |   |
|--|---|---|
| To_Device\$                                | S | The serial string sent to the unit  |
| Activate_a_Self_Test                       | D | Pulse to activate a self-test   |
| Cancel_Inverter_Shutdown                   | D | Pulse to cancel the inverter shutdown sequence  |
| Auto_Restart_On/Off/Toggle                 | D | Pulse to activate/turn off or toggle auto restart   |
| Delayed_Wakeup_On/Off/Toggle               | D | Pulse to activate/turn off or toggle delayed wakeup   |
| LVC_On/Off/Toggle                          | D | Pulse to activate/turn off or toggle LVC (low voltage condition)  |
| Overload_On/Off/Toggle                     | D | Pulse to activate/turn off or toggle overload alarm   |
| Overtemp_On/Off/Toggle                     | D | Pulse to activate/turn off or toggle over temperature alarm   |
| Enable_14_day_auto_self_test_On/Off/Toggle | D | Pulse to activate/turn off or toggle 14 day self test   |
| Perform_10_sec_Reboot                      | D | Pulse to activate a 10 second reboot  |
| Reset_Vmin_&_Vmax_register_values          | D | Pulse to reset minimum and maximum voltage register values  |
| Get_Communication_Protocol_Identification  | D | Pulse to query communication protocol id  |
| Watch_Dog_Function_Disable                 | D | Pulse to disable the watchdog function  |
| Watch_Dog_Function_Return_Delay_Time       | D | Pulse to return the delay time of the watchdog function   |
| Watch_Dog_Function_On/Off/Toggle           | D | Pulse to activate/deactivate/toggle the watch dog function  |
| Master_Relay_On/Off/Toggle                 | D | Pulse to activate/deactivate/toggle the master relay  |
| Relay_*_On/Off/Toggle                      | D | Pulse to activate/deactivate/toggle the relay<br>Note: Not all relays are available on all models of UPS  |
| Key_*                                      | D | Pulse to key in analog data values for hhh (shutdown after pre-delay and wakeup after delay), jj (unit id), nn (pre delay) and w (watchdog 0=disabled, 1 returns delay, even sets watchdog beeper off, odd sets watchdog beeper on) |
| Keyboard_Popup_Toggle                      | D | Pulse to toggle between keyboard screen for data entry popup  |

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|  |   |  |
|--|---|--|
| <b>Shutdown_after_pre_delay_and_wakeup_afte...</b> | D | Pulse to activate shutdown after pre-delay and wakeup after delay  |
| <b>Write_Unit_ID_Number</b>                        | D | Pulse to write the unit id (set in keyboard popup above)   |
| <b>Set_Pre-Delay_Timer</b>                         | D | Pulse to set pre-delay timer (set in keyboard popup above)   |
| <b>Watch_Dog_Function_Set_Delay_in_Seconds</b>     | D | Pulse to set watchdog function delay (set in keyboard popup above)   |
| <b>Resynch</b>                                     | D | Pulse to re-synch unit (after making keyboard changes above)   |
| <b>Poll_Enable</b>                                 | D | Assert with a 1 to cause unit to be polled for real feedback every 1 second through multiple queries for unit status |

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**FEEDBACK:**

|  |   |  |
|--|---|--|
| From_Device\$                            | S | The serial return string from the unit   |
| Communication_Protocol_ID                | A | Feedback in hexadecimal indicating communication protocol id (in this case 3005) |
| VAC                                      | A | Analog value indicating AC Volts   |
| VDC                                      | A | Analog value indicating DC Volts   |
| Part_Number\$                            | S | Feedback in ASCII indicating Part Number   |
| Revision_Letter\$                        | S | Feedback in ASCII indicating Revision Letter                                     |
| Load_Level                               | A | Analog value indicating load level   |
| Auto_Restart_On/Off/Toggle_Fb            | D | Feedback indicating Auto Restart condition                                       |
| Delayed_Wakeup_On/Off/Toggle_Fb          | D | Feedback indicating Delayed Wakeup condition                                     |
| LVC_On/Off/T_Fb                          | D | Feedback indicating Low Voltage condition  |
| Overload_On/Off/T_Fb                     | D | Feedback indicating Overload condition   |
| Overtemp_On/Off/T_Fb                     | D | Feedback indicating Ovetemp condition  |
| Enable_14_day_auto_self_test_On/Off/T_Fb | D | Feedback indicating Enable 14 day auto self test condition                       |
| Battery_Charge_Level                     | A | Analog value indicating battery charge level                                     |
| Min_Vin                                  | A | Analog value indicating min voltage in level                                     |
| Max_Vin                                  | A | Analog value indicating max voltage in level                                     |
| Power_Rating\$                           | S | Feedback in ASCII indicating Power Rating  |
| Master_Relay_On/Off_Fb                   | D | Feedback indicating Master Relay condition                                       |
| Relay_*_On/Off_Fb                        | D | Feedback indicating Relay condition  |
| Batt_Status_Low_Fb                       | D | Feedback indicating Battery status   |

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|  |   |                                      |
|--|---|--------------------------------------|
| Batt_Status_OK_Fb                        | D | Feedback indicating Battery status   |
| Batt_Status_Self_Test_OK_Fb              | D | Feedback indicating Battery status   |
| Batt_Status_Self_Test_Batt_Fail_Fb       | D | Feedback indicating Battery status   |
| Batt_Status_Self_Test_In_Progress_Fb     | D | Feedback indicating self test status |
| Batt_Status_Self_Test_Overcurrent_Fb     | D | Feedback indicating self test status |
| Batt_Status_Self_Test_Unknown_Fb         | D | Feedback indicating self test status |
| Batt_Status_Self_Test_Batt_Fail_and...Fb | D | Feedback indicating self test status |
| Batt_Status_Self_Test_Batt_No_Fault_Fb   | D | Feedback indicating self test status |
| Batt_Status_Self_Test_Batt_EPO_Fb        | D | Feedback indicating self test status |
| Batt_Status_Self_Test_Batt_OTP_Fb        | D | Feedback indicating self test status |
| Batt_Status_Self_Test_Batt_Charger_Fb    | D | Feedback indicating self test status |
| Batt_Status_Self_Test_Other_Fb           | D | Feedback indicating self test status |
| Batt_Status_Self_Test_Inverter_Fb        | D | Feedback indicating self test status |
| Batt_Status_Self_Test_Self_Test_Fb       | D | Feedback indicating self test status |
| Batt_Status_Self_Test_Standby_Fb         | D | Feedback indicating self test status |
| Batt_Status_Self_Test_Idle_Fb            | D | Feedback indicating self test status |
| Batt_Status_Self_Test_Batt_Capacity_Fb   | D | Feedback indicating self test status |
| Batt_Status_Self_Test_Norm_Fb            | D | Feedback indicating self test status |
| Batt_Status_Self_Test_Cut1_Fb            | D | Feedback indicating self test status |
| Batt_Status_Self_Test_Boost1_Fb          | D | Feedback indicating self test status |
| Batt_Status_Self_Test_Cut2_Fb            | D | Feedback indicating self test status |
| Batt_Status_Self_Test_Boost2_Fb          | D | Feedback indicating self test status |



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|  |   |  |
|--|---|--|
| Temperature                            | A | Analog status for temperature  |
| Frequency                              | A | Analog status for frequency  |
| Frequency_Mode_50_Mhz_Fb               | D | Feedback indicating frequency 50Hz status  |
| Frequency_Mode_60_Mhz_Fb               | D | Feedback indicating frequency 60Hz status  |
| Unit_ID_Number_Returned                | A | Analog status for unit id  |
| Model_Version_*V_Fb                    | D | Feedback indicating voltage type status (100 V to 240 V)   |
| Keys_Out_hhh                           | A | Feedback of keyboard popup analog data values for hhh (shutdown after pre-delay and wakeup after delay)  |
| Keys_Out_jj                            | A | Feedback of keyboard popup analog data values jj (unit id)   |
| Keys_Out_nn                            | A | Feedback of keyboard popup analog data values for nn (pre delay)   |
| Keys_Out_w                             | A | Feedback of keyboard popup analog data values w (watchdog 0=disabled, 1 returns delay, even sets watchdog beeper off, odd sets watchdog beeper on) |
| Shutdown_after_pre_delay_and_wakeup_Fb | D | Feedback indicating command shutdown after pre-delay and wakeup after delay command  |
| Write_Unit_ID_Number_Fb                | D | Feedback indicating command write unit id  |
| Set_Pre-Delay_Timer_Fb                 | D | Feedback indicating command set pre-delay time value   |
| Watch_Dog_Function_Set_Delay_in_Fb     | D | Feedback indicating command set watchdog function  |

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**TESTING:**

|   |                                   |
|---|-----------------------------------|
| <b>OPS USED FOR TESTING:</b>            | PRO2 Cntrl Eng [v3.137 (Release)] |
| <b>SIMPL WINDOWS USED FOR TESTING:</b>  | SIMPL 2.07.24                     |
| <b>CRES DB USED FOR TESTING:</b>        | 18.0.8                            |
| <b>SYMBOL LIBRARY USED FOR TESTING:</b> | 381                               |
| <b>SAMPLE PROGRAM:</b>                  | Tripp-Lite HTR05 Demo             |
| <b>REVISION HISTORY:</b>                | None                              |