

180-Pin ControlCARD Docking Station Information Guide

The 180-pin controlCARD Docking Station from Texas Instruments (TI) is intended to work with various controlCARDS, specifically the HSEC180 controlCARDS. It also supports controlCARDS in the HSEC120 format. This user's guide describes the hardware details of the Docking Station.

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1 Introduction

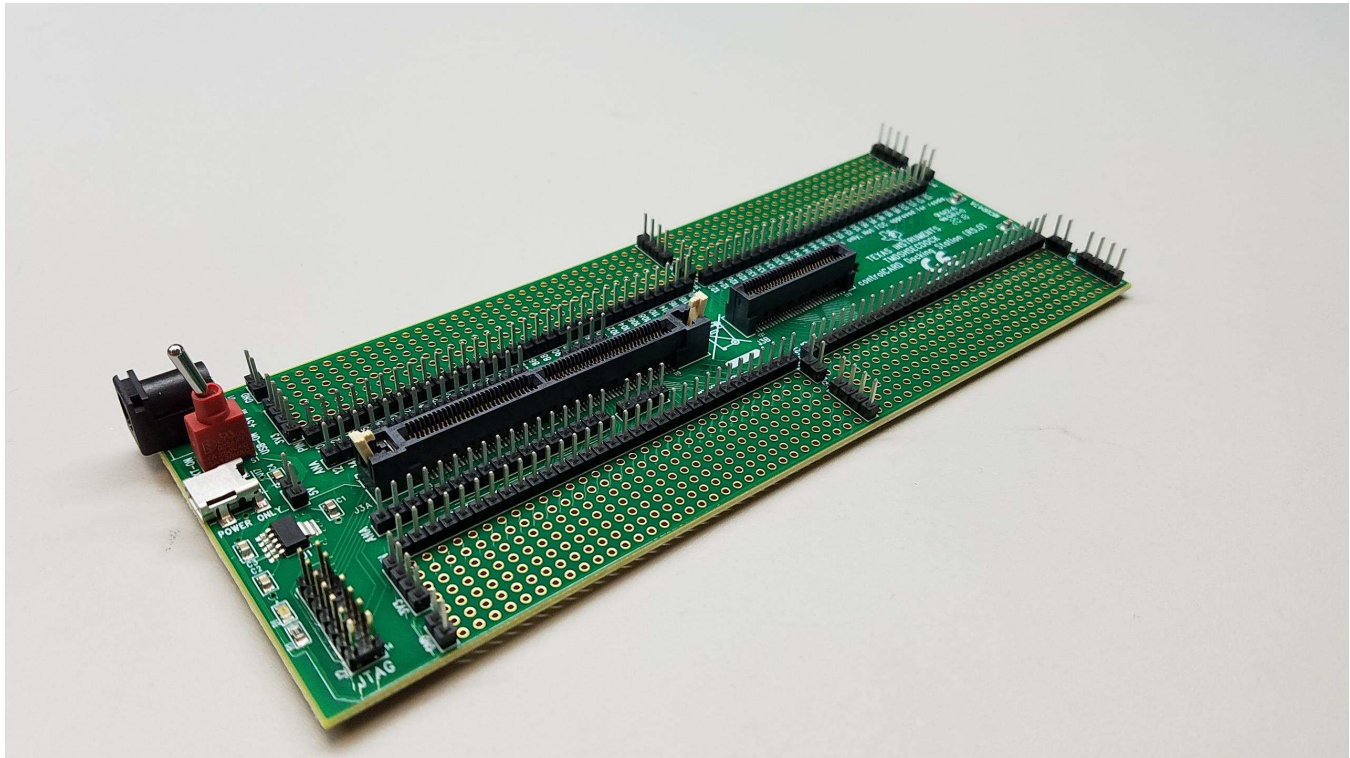


Figure 1. 180-Pin controlCARD Docking Station

The 180-pin controlCARD Docking Station from Texas Instruments (TI) employing a 180HSEC controlCARD connector provides a robust platform to learn and experiment with several C2000 controlCARDS that conform to the 180-pin and 120-pin connector footprint. This document describes the hardware details and explains the functions, locations of headers, and connectors present on the board.

Each docking station comes with a full set of files necessary to understand the features of the board. These files can be found in C2000Ware and include:

- Schematics – Designed in Mentor PADS Logic
- Bill of Materials (BOM)
- Layout PCB files – Designed in Mentor PADS Layout
- Gerber files

This Docking Station can be obtained by ordering:

- TMDSHSECDOCK – Docking station, and cables necessary for evaluation

2 Getting Familiar With the Docking Station

2.1 HSECDOCK Docking Station Features

- **180-pin HSEC8 Edge Card Interface** – Allows for compatibility with all of C2000's 120 or 180-pin controlCARDS. Some controlCARDS have 180 pins/fingers and connect to both connectors on the Docking Station. Others have 120 pins/fingers and connect only to the bigger connector.
- **Key Signal Breakout** – Most GPIO, ADC and other key signals are routed from the 180-pin HSEC8 connector to header pins (J4, J5 for Analog; J6, J7, J8, J9 for GPIO). The HSECDOCK also features through-hole prototyping vias

2.2 Assumed Operating Conditions

This kit is assumed to run at standard room conditions. It should run at approximately Standard Ambient Temperature and Pressure (SATP) with moderate-to-low humidity.

2.3 Using the Docking Station

For the docking station to work, it must be powered. This could be accomplished in two ways:

- By inputting 5VDC through J1. Switch SW1 must be toggled to the EXT-ON side.
- By connecting a USB cable to J13. Switch SW1 must be toggled to the USB-ON side. Note that this USB connector is used solely to power the board and does not support any emulation function.

Note that the only active component on the board is the 5 V to 3.3 V TPS79533DCQ LDO Linear Regulator. Both 5V and 3.3 V are supplied to the docked controlCARD.

2.4 Design Files

The design files are located in C2000ware in the C:\ti\c2000\C2000Ware_1_00_04_00\boards\ExperimenterKits\DockingStation_HSEC_120or180pin\R4_1 directory. Note that the exact path name could change based on the C2000ware version. 180_HSEC8_DV_pinout_R1_1.pdf shows GPIO mapping.

3 Hardware References

Figure 2 illustrates the locations of the important components on the board.

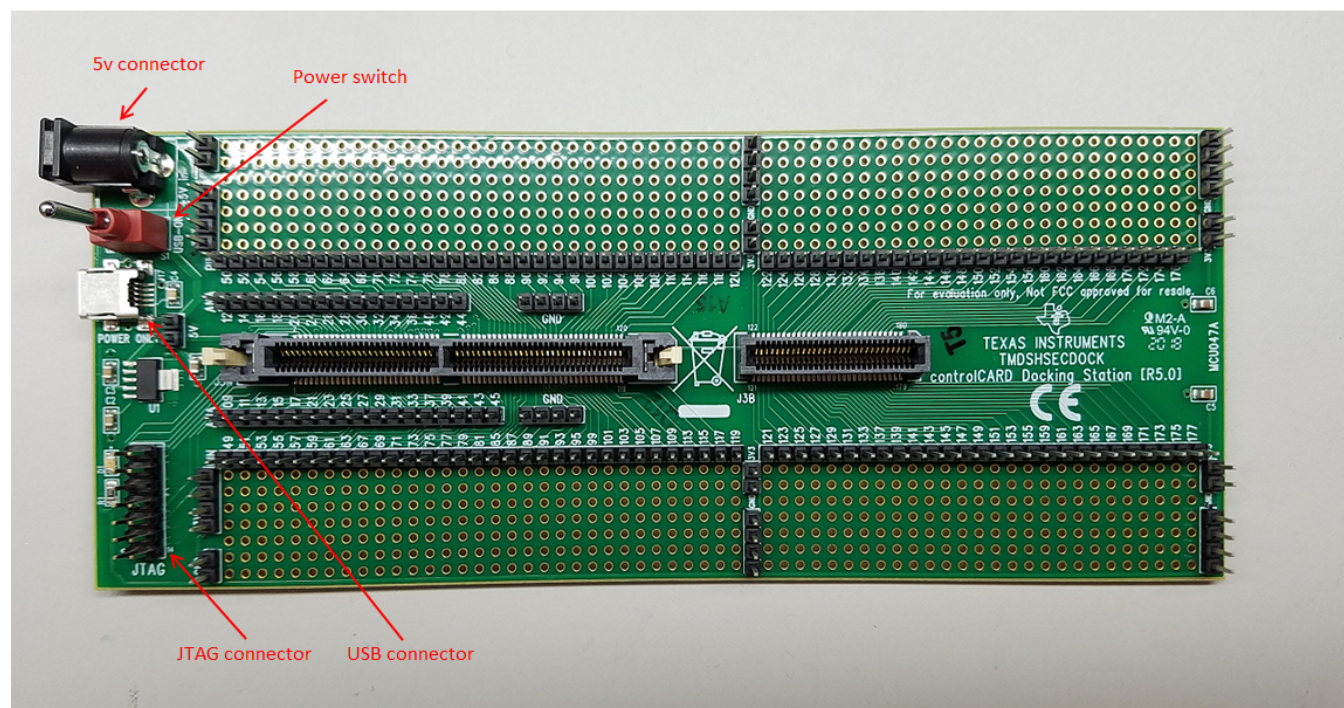


Figure 2. Key Components on the Docking Station

Table 1. Hardware References

Hardware References	
Switches	
S1	Power switch. Determines whether the board is powered by the external 5v supply or by the USB connector.
LEDs	
D1	Indicates presence of power to the board.
Connectors	
J1	+5 V DC power-supply connector
J2	JTAG connector
J17	Mini USB connector
Headers	
J16	5 V
J14, J15, J19, J21, J23, J25	3.3 V
J10, J11, J12, J13, J18, J20, J22, J24	GND
J4, J5	Analog
J6, J7, J8, J9	GPIO

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Mailing Address: Texas Instruments, Post Office Box 655303, Dallas, Texas 75265
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