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503U and 703U 8-pin Rear Power Connector

External DC power for 503U & 703U should normally be supplied through the LEMO input connector, requiring 12Vdc minimum to 34V max. The 8-pin rear power connector normally accepts the accessory battery brackets. This document describes how to attach to the 8-pin connector to access the **Low Voltage** battery inputs (6V to 12Vdc max).

The 8-pin connector on the monitor is a "Molex Micro-Fit BMI (Blind Mating Interface) header".

Molex Part number: **44432-0801** or **0444320801**. Link to Molex datasheets:

http://www.molex.com/molex/products/datasheet.jsp?part=active/0444320801_PCB_HEADERS.xml

The mating connector to plug into the monitor requires a **Housing** and two **Wire Terminals**:

Housing:

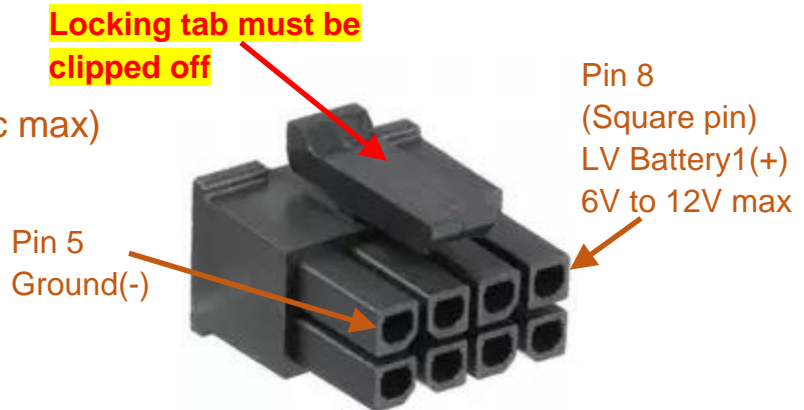
Molex Part Number: **43025-0800** or **0430250800**. Link to Molex datasheets:

http://www.molex.com/molex/products/datasheet.jsp?part=active/0430250800_CRIMP_HOUSINGS.xml

List of distributors:

<https://octopart.com/search?q=43025-0800>

Apply 7.2V nominal (6V to 12Vdc max)
across pin 8 (+) and pin 5 (-).



Wire Terminals (tin):

Use wire size: **20AWG**


Molex Part Number: **43030-0001** Link to Molex datasheets:

http://www.molex.com/molex/products/datasheet.jsp?part=active/0430300001_CRIMP_TERMINALS.xml

List of distributors:

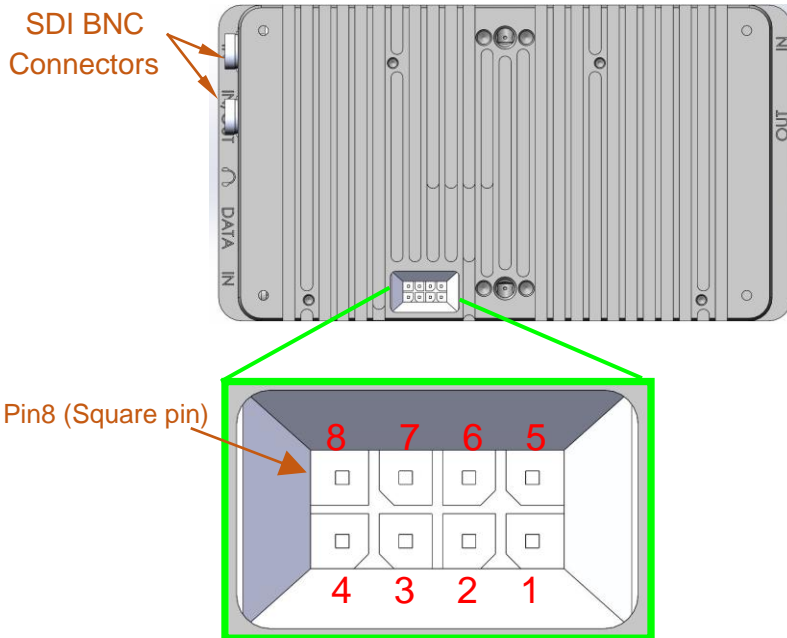
<https://octopart.com/43030-0001-molex-232073>




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Rear Connector Pin Assignments

Rear view of 503U (703U has similar orientation)



Pin	Pin Name	Description	Usage Warnings
1	HV Battery (+)	High Voltage battery input 12.0V minimum, 34.0V maximum	Exceeding 37Vdc will cause monitor damage
2	Do Not Connect	Do Not Connect (processor input for future use)	Accidentally shorting to battery voltage may cause monitor damage.
3	LV Battery2 Data	Low Voltage battery 2 Data NPF (L-series) Communication data	Accidentally shorting to battery voltage may cause monitor damage
4	LV Battery2 (+)	Low Voltage battery 2 input 6.0V minimum, 12.0V maximum	Exceeding 14Vdc will cause monitor damage
5	Ground (-)		
6	Do Not Connect	Do Not Connect (processor input for future use)	Accidentally shorting to battery voltage may cause monitor damage
7	LV Battery1 Data	Low Voltage battery 1 Data NPF (L-series) Communication data	Exceeding 14Vdc will cause monitor damage
8	LV Battery1 (+)	Low Voltage battery 1 input 6.0V minimum, 12.0V maximum	Exceeding 14Vdc will cause monitor damage

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503U / 703U Internal Power Distribution

