

LTC6820
Dual Master isoSPI Adapter

DESCRIPTION

The demonstration circuit 2792B is an SPI serial to dual-port isoSPI adapter that uses a pair of multiplexed [LTC®6820](#) isoSPI transceivers and miniaturized isoSPI connectors (2 contact DuraClik). The board can functionally replace a DC1941 in cases where isoSPI battery-management (BMS) devices are being evaluated, but provides a second isoSPI master to exercise the reversible isoSPI feature where available. The SPI interface can be provided via the legacy 14-contact ribbon cable from either

a DC590 or DC2026 USB adapter, or directly installed on the DC2026 as a Linduino shield. The two isoSPI ports are MAIN and AUXiliary, with activity of each indicated by blue LEDs. For use in place of DC1941 or non-reversible isoSPI networks, the MAIN port must be used. Power for the DC2792B comes indirectly from the USB port of the host computer, via the USB to serial adapter being used.

[Design files for this circuit board are available.](#)

All registered trademarks and trademarks are the property of their respective owners.

QUICK START PROCEDURE

Equipment Required

1. PC with USB port
2. DC2026 Linduino board
3. USB cable to connect PC to Linduino
4. 14-wire SPI demo board ribbon cable to connect to Linduino (optional)
5. 2 isoSPI twisted-pair patch cords to connect DC2972B to isoSPI BMS demo(s)
6. Software that controls one or two isoSPI channels (usually intended for demonstrating isoSPI BMS products).

Hardware Setup

1. Connect DC2972B to DC2026 Linduino with ribbon cable (refer to Figure 1) or directly mate with shield connectors (refer to Figure 2).
2. Connect BMS demo unit to DC2972B using one or both isoSPI cables. Note: for use with single port isoSPI systems, use only the MAIN isoSPI connection.
3. Connect Linduino to PC with USB cable.
4. Start evaluation software associated with the BMS demo unit(s).

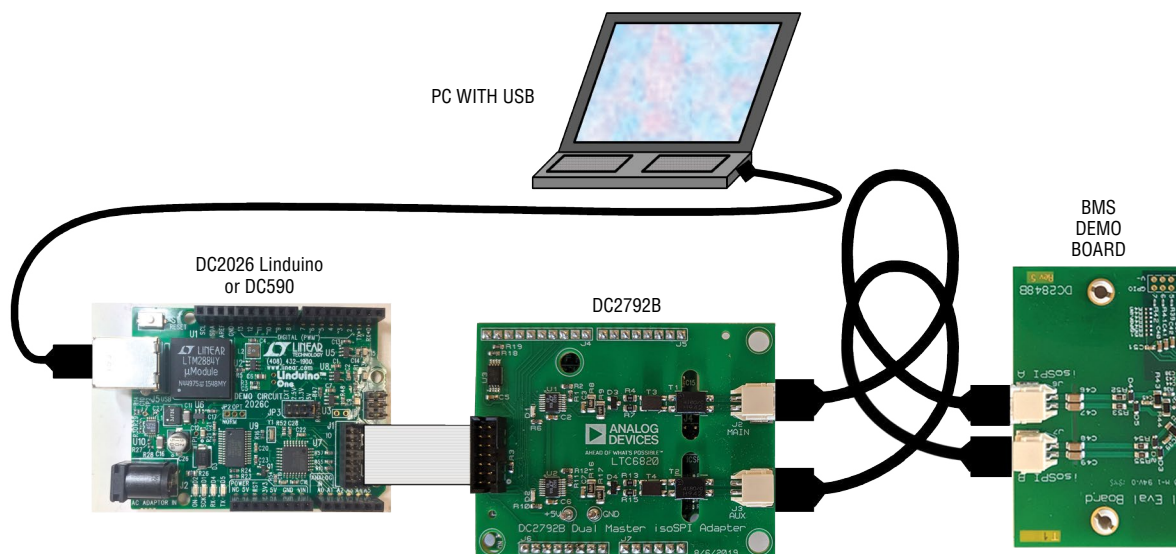


Figure 1. Proper Demo Board Connection (with Ribbon Cable)

QUICK START PROCEDURE

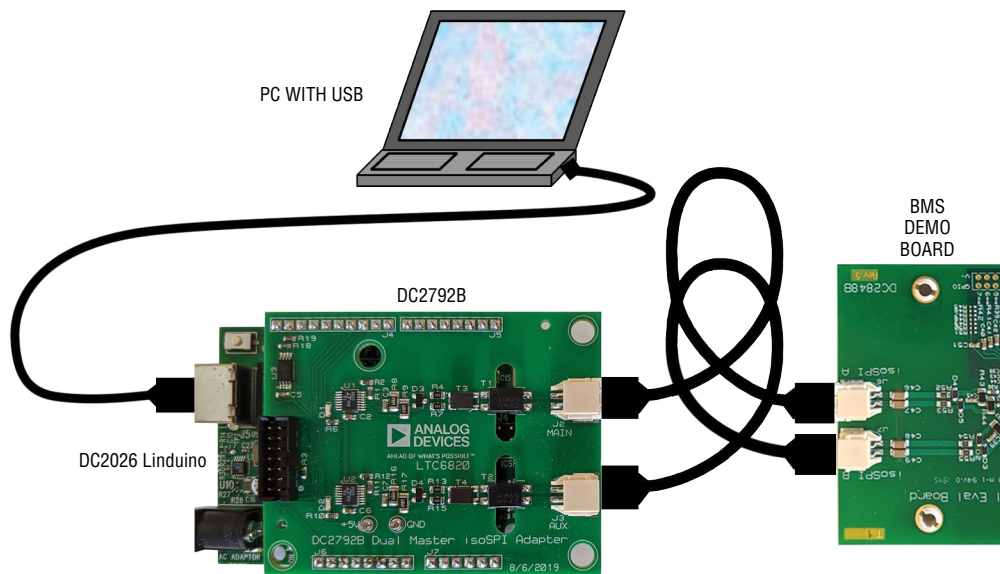


Figure 2. Proper Demo Board Connection (as Linduino Shield)



ESD Caution

ESD (electrostatic discharge) sensitive device. Charged devices and circuit boards can discharge without detection. Although this product features patented or proprietary protection circuitry, damage may occur on devices subjected to high energy ESD. Therefore, proper ESD precautions should be taken to avoid performance degradation or loss of functionality.

Legal Terms and Conditions

By using the evaluation board discussed herein (together with any tools, components documentation or support materials, the "Evaluation Board"), you are agreeing to be bound by the terms and conditions set forth below ("Agreement") unless you have purchased the Evaluation Board, in which case the Analog Devices Standard Terms and Conditions of Sale shall govern. Do not use the Evaluation Board until you have read and agreed to the Agreement. Your use of the Evaluation Board shall signify your acceptance of the Agreement. This Agreement is made by and between you ("Customer") and Analog Devices, Inc. ("ADI"), with its principal place of business at One Technology Way, Norwood, MA 02062, USA. Subject to the terms and conditions of the Agreement, ADI hereby grants to Customer a free, limited, personal, temporary, non-exclusive, non-sublicensable, non-transferable license to use the Evaluation Board FOR EVALUATION PURPOSES ONLY. Customer understands and agrees that the Evaluation Board is provided for the sole and exclusive purpose referenced above, and agrees not to use the Evaluation Board for any other purpose. Furthermore, the license granted is expressly made subject to the following additional limitations: Customer shall not (i) rent, lease, display, sell, transfer, assign, sublicense, or distribute the Evaluation Board; and (ii) permit any Third Party to access the Evaluation Board. As used herein, the term "Third Party" includes any entity other than ADI, Customer, their employees, affiliates and in-house consultants. The Evaluation Board is NOT sold to Customer; all rights not expressly granted herein, including ownership of the Evaluation Board, are reserved by ADI. CONFIDENTIALITY. This Agreement and the Evaluation Board shall all be considered the confidential and proprietary information of ADI. Customer may not disclose or transfer any portion of the Evaluation Board to any other party for any reason. Upon discontinuation of use of the Evaluation Board or termination of this Agreement, Customer agrees to promptly return the Evaluation Board to ADI. ADDITIONAL RESTRICTIONS. Customer may not disassemble, decompile or reverse engineer chips on the Evaluation Board. Customer shall inform ADI of any occurred damages or any modifications or alterations it makes to the Evaluation Board, including but not limited to soldering or any other activity that affects the material content of the Evaluation Board. Modifications to the Evaluation Board must comply with applicable law, including but not limited to the RoHS Directive. TERMINATION. ADI may terminate this Agreement at any time upon giving written notice to Customer. Customer agrees to return to ADI the Evaluation Board at that time. LIMITATION OF LIABILITY. THE EVALUATION BOARD PROVIDED HEREUNDER IS PROVIDED "AS IS" AND ADI MAKES NO WARRANTIES OR REPRESENTATIONS OF ANY KIND WITH RESPECT TO IT. ADI SPECIFICALLY DISCLAIMS ANY REPRESENTATIONS, ENDORSEMENTS, GUARANTEES, OR WARRANTIES, EXPRESS OR IMPLIED, RELATED TO THE EVALUATION BOARD INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTY OF MERCHANTABILITY, TITLE, FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT OF INTELLECTUAL PROPERTY RIGHTS. IN NO EVENT WILL ADI AND ITS LICENSORS BE LIABLE FOR ANY INCIDENTAL, SPECIAL, INDIRECT, OR CONSEQUENTIAL DAMAGES RESULTING FROM CUSTOMER'S POSSESSION OR USE OF THE EVALUATION BOARD, INCLUDING BUT NOT LIMITED TO LOST PROFITS, DELAY COSTS, LABOR COSTS OR LOSS OF GOODWILL. ADI'S TOTAL LIABILITY FROM ANY AND ALL CAUSES SHALL BE LIMITED TO THE AMOUNT OF ONE HUNDRED US DOLLARS (\$100.00). EXPORT. Customer agrees that it will not directly or indirectly export the Evaluation Board to another country, and that it will comply with all applicable United States federal laws and regulations relating to exports. GOVERNING LAW. This Agreement shall be governed by and construed in accordance with the substantive laws of the Commonwealth of Massachusetts (excluding conflict of law rules). Any legal action regarding this Agreement will be heard in the state or federal courts having jurisdiction in Suffolk County, Massachusetts, and Customer hereby submits to the personal jurisdiction and venue of such courts. The United Nations Convention on Contracts for the International Sale of Goods shall not apply to this Agreement and is expressly disclaimed.