

Fusion Starter Kit

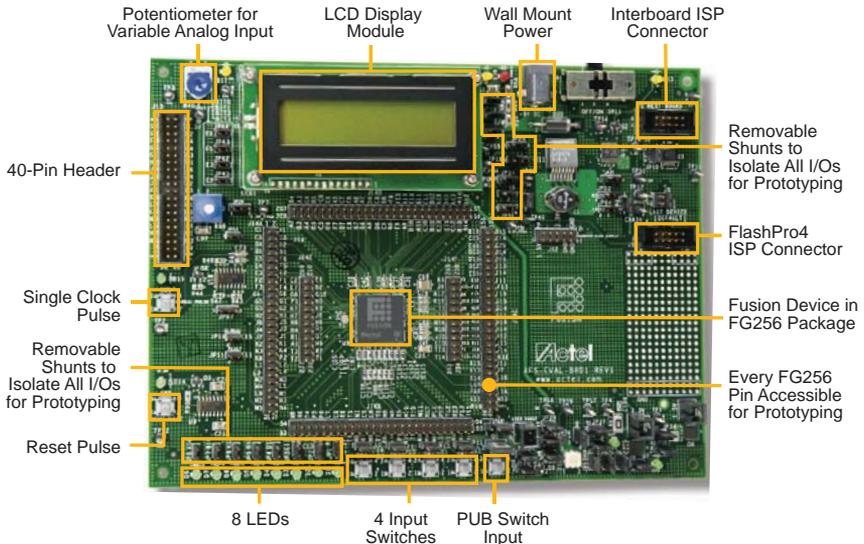
Quickstart Card

Kit Contents – AFS-EVAL-KIT

Quantity	Description
1	Evaluation board with an AFS600-FG256 Fusion device
1	FlashPro4 programmer
1	9 V power supply with international adapters

Overview

The Fusion® Starter Kit contains basic requirements for fully experimenting with SoC Products Groups Fusion mixed signal FPGA capabilities. The starter kit includes all I/Os connected to headers that can be connected to an external system and isolated from other components on the board.



Jumper Settings

There are several special jumpers and pins on the starter kit that need attention. Select the appropriate jumper settings for your design. Function and location of each jumper is available in *Fusion Starter Kit User's Guide*.

Before powering up the board for running demo design, make sure the jumpers are in the following positions:

Jumper	Function	Setting	Value
JP25	Selects value of VMV1	2-3	3.3 V
JP26	Selects value of VMV0	2-3	3.3 V
JP27	VJTAG voltage selection	2-3	3.3 V
JP28	Determines whether 1.5 V is internally generated or externally generated	1-2	Internal 1.5 V regulator

Running the Demo Design

To test the board, you can program the board with the demo design. The programming file for the demo is provided as standalone zip file under the Fusion Starter Kit Quickstart Card on the Fusion Starter Kit page:

www.microsemi.com/soc/products/hardware/devkits_boards/fusion_starter.aspx

The demo design configures the ADC input channels to sample the voltage and current provided to different loads, and the temperature from an on-board temperature sensor. Single-color LEDs and LCD is used to demonstrate the voltage levels and a tricolor LED is used to indicate the different temperature levels with different colors.

After successful programming, the LCD shows “FUSION” after board power-up. The following table lists the different functionalities of the potentiometer, LEDs, and switches on the Fusion evaluation board for the demo design.

On-Board Device	Functionality
Potentiometer R50	Turning the potentiometer drives AV0 with analog voltage 0 – 5 V.
LED D5	When AV0 > 1.5 V, D5 lights up.
LED D6	When AV0 > 2.5 V, D6 lights up.
LED D7	When AV0 > 3.3 V, D7 lights up.
LED D8	When AV0 > 4.5 V, D8 lights up.
Switch SW7	When depressed, the PUB pad is grounded to power up the voltage regulator.
Switch SW6	When depressed, generates a '1' to reset the 2-bit counter.
Switch SW5	When depressed, generates a clock pulse to the 2-bit counter.
Switch SW4	When depressed, shows the AFS600 core current on the LCD.
Switch SW3	When depressed, shows the AFS600 core voltage on the LCD.
Switch SW2	When depressed, shows the temperature sensed by the temperature sensor on the LCD.
Switch SW1	When depressed, shows the potentiometer output voltage on the LCD.
Tricolor LED U1	When temperature AT > 20°C, the LED lights up blue.
Tricolor LED U1	When temperature AT > 30°C, the LED lights up green.
Tricolor LED U1	When temperature AT > 40°C, the LED lights up red.

Software and Licensing

The Fusion Starter Kit is supported by Libero[®] software v9.1 or later. Visit the Microsemi SoC Products Group website (www.microsemi.com/soc) for the latest version of Libero software. Request a free gold license to activate your software.

Libero releases: www.microsemi.com/soc/download/software/libero

Licensing: www.actel.com/Portal/DPortal.aspx?v=24

Documentation Resources

For further kit information, including user's guide, tutorial, and full design examples, refer to the Fusion Starter Kit page:

www.microsemi.com/soc/products/hardware/devkits_boards/fusion_starter.aspx

As and when new demos and tutorials are available, they will be posted on the Fusion Starter Kit page. The SoC Products Group recommends that you sign up for product updates to be notified when new material is available. You can sign up for product updates from your SoC Products Group Customer Portal account.

Product updates: www.actel.com/portal/default.aspx?r=2

Technical Support and Contacts

Technical support is available online at www.microsemi.com/soc/support and by email at soc_tech@microsemi.com.

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