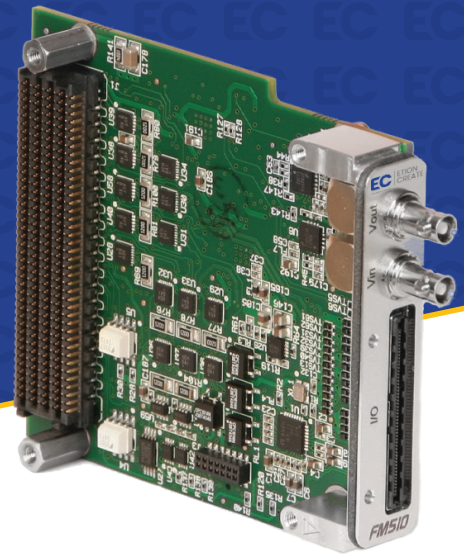


FM510

VIDEO IO FMC



SPECIFICATIONS

Digital Video

- ▶ SDI Video input & output (75 Ω)
- ▶ Supported formats
 - SD-SDI (SMPTE 259M)
 - HD-SDI (SMPTE 292M)
 - 3G-SDI (SMPTE 424M)

Analogue Video

- ▶ Composite (CVBS) Video input & output (75 Ω)
- ▶ Supported formats
 - PAL B/D/G/H/I/M/N
 - NTSC M
- ▶ Square pixel operation

IO

- ▶ 10 x full-duplex RS422 interfaces
- ▶ 4 x half-duplex RS485 interfaces
- ▶ 4 x half-duplex CAN interfaces
- ▶ 4 x isolated digital outputs (external 5-30V)
- ▶ 4 x isolated digital inputs (12-30V)
- ▶ 2 x stereo Audio inputs and outputs (600 Ω)

FM510 Front Panel

- ▶ Primary Video input and output on 2x HD-BNC connectors
- ▶ High-density Samtec connector (LSHM-150-01-L-RH-A-S-K-TR)

Adaptor Board

- ▶ Secondary Video input and output on 2x HD-BNC connectors
- ▶ IO on 2x Samtec .05" headers (EHF-125-01-F-D-SM-LC)

Firmware Support

- ▶ VF360 Video Reference Design (VRD)
 - Analogue video encoder and decoder interfaces
 - SD to HD upscaling
 - 18x UARTS on RS422, RS485 and CAN
 - Read and write of digital IOs
 - Audio interface to DSP
- ▶ Firmware development services available on request

The **FM510**, an air-cooled Video IO FMC, is used for standard-definition (SD) and high-definition (HD) video processing in combination with IO and control applications. The front panel contains two HD-BNC connectors as primary video interface and a high-density connector for secondary video and IO interfaces.

The **FM510** supports SDI digital video and PAL/NTSC analogue video, with different order options for the specific primary and secondary video configurations. The -AD option has an analogue video input and an SDI video output on the two front panel (primary) HD-BNC connectors, allowing SD to HD upscaling, combined with user specific video processing.

The high-density connector provides RS422, RS485, CAN and discrete IO interfaces. The discrete inputs and outputs are optically isolated and require an external driver voltage. Stereo audio inputs and outputs, as well as a secondary video interface, are also available on the high-density connector.

The **FM510** FMC plugs onto the Parsec VF360 product, a 3U OpenVPX module with a Stratix® V FPGA, TMS320C667X DSP processor and FMC site.

The **FM510** Video Reference Design (VRD) runs on the VF360 and performs SD to HD video upscaling. It provides a DSP audio interface, UARTs for the serial interfaces and registers for the discrete IOs.



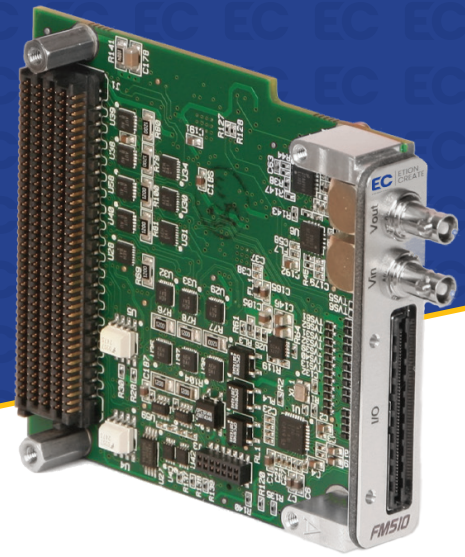
FPGA Design
Solutions Network
Gold



Stratix® V & Signal Tap® II are registered trademarks of INTEL®

FM510

VIDEO IO FMC



SPECIFICATIONS

Application Examples

- ▶ Video processing
 - SD to HD conversion
 - Custom video processing
 - Symbology overlay
 - Video tracking
- ▶ Audio processing
- ▶ Digital communications and control
- ▶ Automotive control

Ordering Information

Generic order code = FM510-XY

- ▶ X: Primary Video input (Vin) format (A=analogue, D=SDI)
- ▶ Y: Primary Video output (Vout) format (A=analogue, D=SDI)

Options

- ▶ FM510-AD Analogue Vin and SDI Vout on FM510 front panel
SDI Vin and Analogue Vout on Adaptor Board

Consult factory for other options

- ▶ Square pixel operation

The secondary video and IO interfaces on the high-density connector are accessed by means of an Adaptor Board that connects to the **FM510** front panel.

On the Adaptor Board, two HD-BNC connectors provide a secondary video interface and two Samtec connectors provide twisted pair ribbon cable headers for IO connections (RS422, RS485, CAN, discrete IO and audio) to other sub-systems.

The secondary video interface on the Adaptor Board is configured in conjunction with the **FM510** primary video configuration, e.g. the **FM510-AD** option has an analogue video input and SDI video output on the front panel, combined with a SDI video input and analogue video output on the Adaptor Board.

Block Diagram

