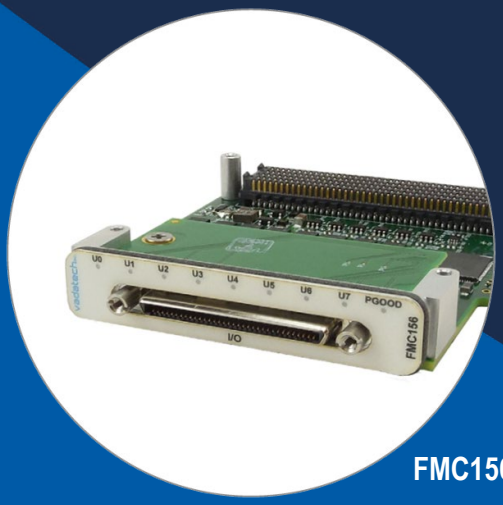
FMC156

Multi I/O FMC Module, M-LVDS, RS-485/422, GPIO +3.3V/+5V



FMC156

Key Features

- Multiple I/O in single FMC form-factor
- M-LVDS, RS-485/RS-422, and singled-ended +3.3V/+5V
- 8x M-LVDS input/outputs with speed up to 350 MHz and programmable crossbar circuit routing
- 16x RS-485 or 8 x RS-422 with speed up to 50 Mbps
- Programmable termination per Port for RS-485/RS-422
- 12x GPIO as +3.3V or +5V

Benefits

- Single module to provide multiple I/O
- Utilizing commercially-available, standard high-density connector for ease of cabling
- All I/O types utilize differential signaling between the transceivers on the FMC and the FPGA on the carrier for optimal signal integrity across the FMC connector
- Programmable M-LVDS termination and routing
- Electrical, mechanical, software, and system-level expertise in house
- Full system supply from industry leader
- AS9100 and ISO9001 certified company

FMC™

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FMC156

The FMC156 is an FPGA Mezzanine Card (FMC) per VITA 57.1 standard, offering a small footprint and allowing for general-purpose I/O expansion.

The FMC156 provides eight M-LVDS input/outputs, sixteen RS-485 or eight RS-422 (per Port configurable), and twelve single-ended +3.3V/+5V GPIO.

The M-LVDS signals go through a Cross Bar Switch (CBS), which allows input/output routing within each group of eight M-LVDS signals. Each CBS Port can be individually software-configured for routing, termination, and direction.

Each of the single-ended Ports can be configured as input or output and the I/O can be programmed to be either +3.3V or +5V (GPIO as a group are configured as +3.3V or +5V). The RS-485/422 configuration can be selected as full-duplex RS-422 (independent RX/TX pairs with RX termination) or half-duplex RS-485. If all Ports are configured as RS-422 only eight Ports are available. Each RX is programmable for termination.

The FMC156 can provide power of up to 12W to an external module.

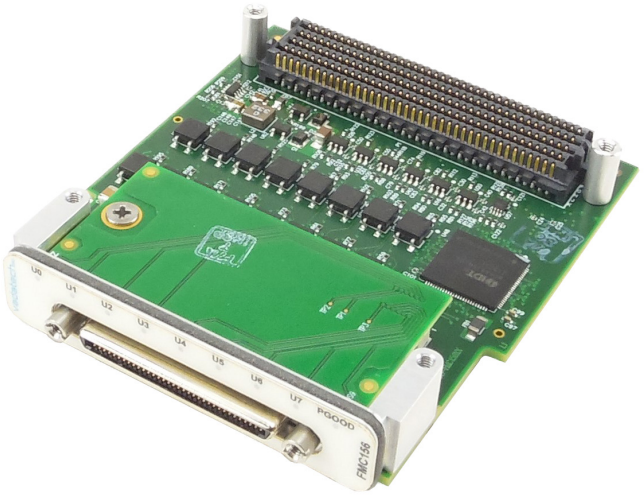

Figure 1: FMC156

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Block Diagram

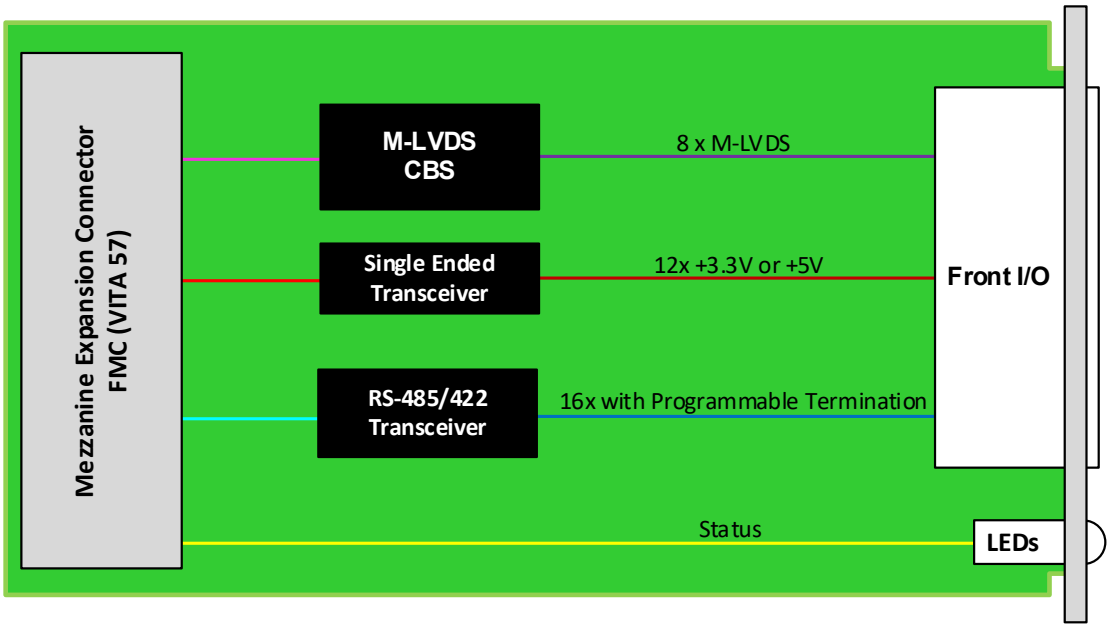


Figure 2: FMC156 Functional Block Diagram

Specifications

Architecture		
Physical	**Dimensions**	Single Module
		Width: 2.71” (69 mm)
		Depth: 3.01” (76.5 mm)
Type	**FMC**	Digital I/O
Standards		
FMC	**Type**	ANSI/VITA 57.1 - 2008
Configuration		
Power	**FMC156**	2W without the external module taking any power (external module can take up to12W)
Environmental	**Temperature**	See Ordering Options
		Storage Temperature: –40° to +85°C
	Altitude	40,000 ft non-operating
	Vibration	Operating 9.8 m/s2 (1G), 5-500 Hz
	Shock	Operating 30Gs each axis
	Relative Humidity	5 to 95% non-condensing
Front Panel	**Interface Connectors**	Dual high-density connector
	LEDs	Status
Software Support	**Operating System**	Agnostic
Other		
MTBF	MIL Hand book 217-F@ TBD hrs	
Certifications	Designed to meet FCC, CE and UL certifications, where applicable	
Standards	VadaTech is certified to both the ISO9001:2015 and AS9100D standards	
Warranty	Two (2) years, see VadaTech Terms and Conditions	

INTEGRATION SERVICES AND APPLICATION-READY PLATFORMS

VadaTech has a full ecosystem of OpenVPX, ATCA and MTCA products including chassis platforms, shelf managers, AMC modules, Switch and Payload Boards, Rear Transition Modules (RTMs), Power Modules, and more. The company also offers integration services as well as pre-configured Application-Ready Platforms. Please contact VadaTech Sales for more information.

Ordering Options

FMC156 – 000-000-G0J

		G = FMC Board Spacing
		0 = 10 mm (per VITA 57 specification) 1 = 17.5 mm*
		J = Temperature Range and Coating
		0 = Commercial (–5° to +55°C), No coating 1 = Commercial (–5° to +55°C), Humiseal 1A33 Polyurethane 2 = Commercial (–5° to +55°C), Humiseal 1B31 Acrylic 3 = Industrial (–20° to +70°C), No coating 4 = Industrial (–20° to +70°C), Humiseal 1A33 Polyurethane 5 = Industrial (–20° to +70°C), Humiseal 1B31 Acrylic 6 = Extended (–40° to +85°C), Humiseal 1A33 Polyurethane** 7 = Extended (–40° to +85°C), Humiseal 1B31 Acrylic**

Notes:

*For use with carriers that require higher mating clearance, such as VadaTech AMC595.

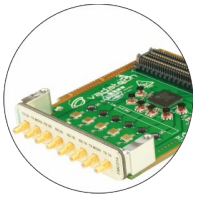
**Conduction cooled; temperature is at edge of the module. Consult factory for availability.

Related Products

VT951

- MicroTCA rugged 1U 19” rackmount chassis platform
- Designed to meet MIL-STD-810F, MIL-STD-901D for shock/vibration
- Designed to meet MIL-STD-461E for EMI

FMC214



- Dual complete transceiver signal chain solution using Analog Devices AD9361 transceiver
- Frequency range 70 MHz to 6 GHz with instantaneous bandwidth from 200 kHz to 56 MHz
- MIMO transceiver is Time Domain Duplex (TDD) and Frequency Domain Duplex (FDD) compatible

AMC599

- Xilinx UltraScale™ XCKU115 FPGA
- Dual ADC 12-bit @ 6.4 GSPS or quad ADC at 3.2 GSPS
- Dual DAC 16-bit @ 12 GSPS (AD9162 or AD9164)

Contact

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