

RTM AD and DA Converter Board with 8+4 16-bit Channels

DRTM-AD84

HIGHLIGHTS

Eight analog input channels

Four analog output channels

LEMO connectors on front panel

10 MSPS ADC / 1 MSPS DAC
sampling frequency at 16 bits

Software-configurable termination,
gain and signal filtering options

Supported by all digital DESY AMCs



FEATURES

Inputs:

8-channel ADC, 16-bit, 10 MSPS

$\pm 1V$ and $\pm 10V$ input range (hardware option)

Impedance: 50Ω or $1k\Omega$ (software-selectable)

2 MHz butterworth filter (software-selectable)

Outputs:

4 channel DAC, 16-bit, 1 MSPS

$\pm 1V$ and $\pm 3V$ output range (dual connector)

Remotely switchable anti-aliasing filter

The DRTM-AD84 is an eight channel ADC, four channel DAC rear-transition module compliant to the MTCA.4 specification.

The ADC channels operate with 10 MSPS and have a bandwidth of 90 MHz with switchable antialiasing filters at 2 MHz corner frequency. Each input can operate at $\pm 1V$ or at $\pm 10V$ with $1k\Omega$ or 50Ω (remotely switchable).

Each DAC has 1 MSPS output rate with up to 16x output interpolation. Each DAC has a high gain ($\pm 3V$ at 50Ω) and a low gain ($\pm 1V$ at 50Ω) output.

All ADC and DAC channels have independent digital control signals. This allows individual timing of each channel.

DESY offers the DRTM-AD84 for licensing to industry. DESY can modify this product to meet special customer requirements.

DRTM-AD84: 8Ch. ADC + 4Ch. DAC

TECHNICAL SPECIFICATIONS

ARCHITECTURE

Physical properties	Dimensions	Single-width, mid-height Width: 5.486 in. (148.5 mm) Depth: 7.110 in. (180.6 mm)
	Standards	MicroTCA4 / MicroTCA4.1 Rear-Transition-Module (RTM)
Compatibility	Module management	IPMI Version 2.0
	Zone3 classification	Class D1.0
	Compatible AMC products	DAMC-FMC1Z7IO, DAMC-TCK7, DAMC-FMC20, DAMC-FMC25

CHANNELS

Type	ADC	Number of ADC channels	8
		Analog bandwidth	DC – 90 MHz
		Analog bandwidth with filter	DC – 2 MHz
		Channel-to-channel crosstalk	-70 dBFS
		SNR	-100 dBFS
		Input impedance	1k Ω or 50 Ω (remotely switchable)
	DAC	ADC sampling frequency	0.1 MSPS up to 10 MSPS
		Number of DAC Channels	4
		Frequency range	DC to 1 MHz
		Output High Gain	+/- 3V
		Output Low Gain	+/- 1V
		Output impedance	50 Ω
		Output data rate	1 MSPS to 16 MSPS
		Electrical properties	Power consumption

OTHER FEATURES

On board	User I2C interface	Yes
Interface	LEDs	IPMI management control
	Mechanical	Hot swap ejector handle
Environmental	Operating temperature	0 ... 50°C
	Storage temperature	- 40 ... + 90°C
	Relative humidity	5 ... 90%, non-condensing
	Weight	0.3kg

OTHER

Compliance	RoHS
Licensing to industry	Yes / Deutsches Elektronen-Synchrotron - Notkestr. 85, 22607 Hamburg - Germany - Email: mtca-techlab@desy.de

DESY

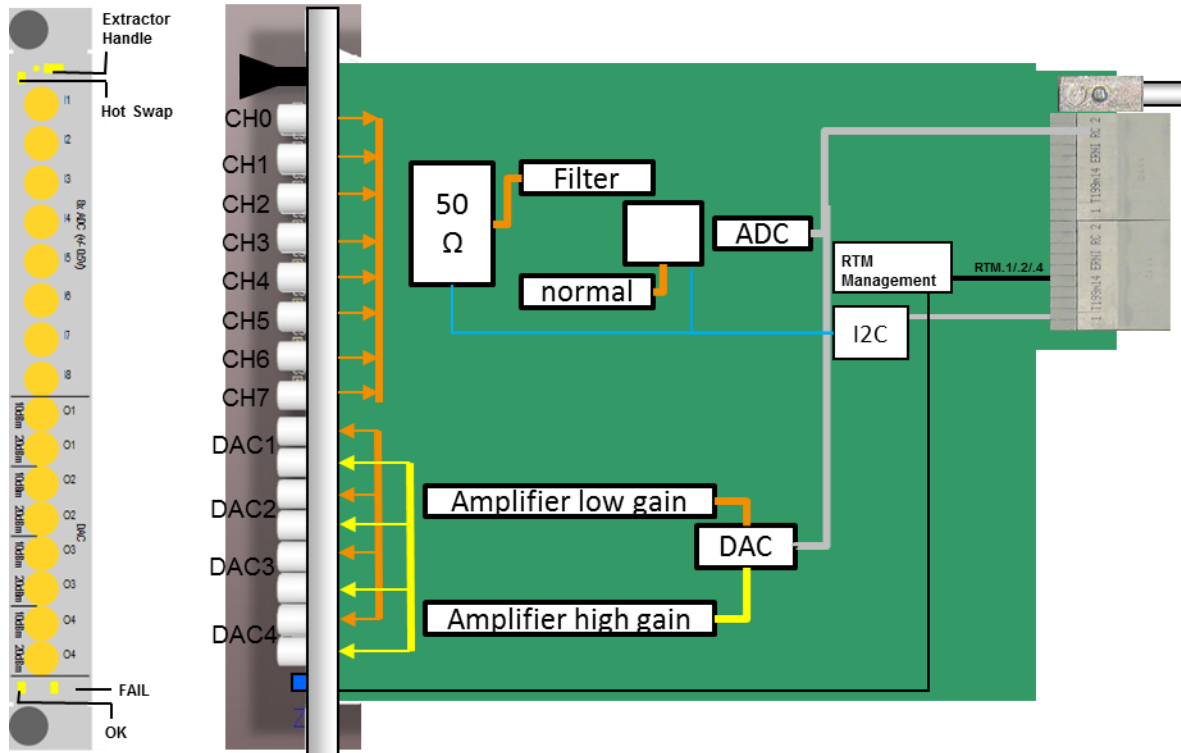
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FUNCTIONAL BLOCK DIAGRAM AND FRONT PANEL



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