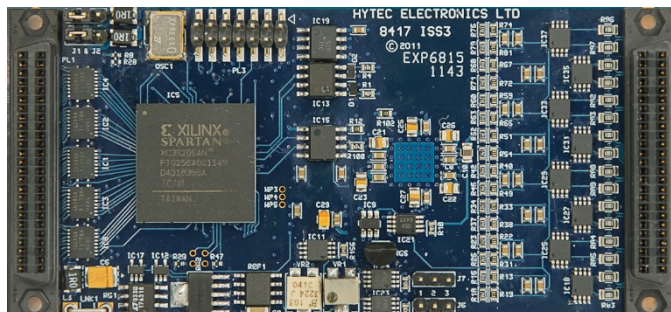


# ADC8417 8-Channel 24-Bit ADC IndustryPack®



## Product Description

The Newwood Solutions IP-SSA-8417 is an Industry Pack that provides 8 channels of simultaneously sampled analogue digitisation with the following characteristics:-

- 8 simultaneously sampled channels.
- 8401 register superset and connector pin layout.
- 24-bit ADCs used on-board
- Programmable 16bits/24 bits resolution
- Programmable bi-polar full-scale resolution all inputs +/-10V or +/-5V bi-polar.
- Conversion method: Delta-sigma
- On-board calibration by FPGA firmware using stored offset and gain parameters.
- 16bits accuracy +/-10V on board calibration.
- 16bits accuracy +/-5V on board calibration.
- True full differential inputs.
- Input impedance - 10Mohms differential,
- CMRR - 100dB at +/-5V wrt plant CMV
- DC +/-25V overload for 1ms.
- On board RAM Memory up to 1M x 16 bits (128K samples per channel in 16 bit mode and 64K samples per channel in 24 bit mode.
- Offset drift: 4uV/degC typical
- Gain drift 2ppm/degC typical
- Up to 100kSPS sampling rate from an external clock
- Internal update clock rates programmable (100KHz,50KHz,20KHz,10KHz,5KHz,2KHz,1KHz,500Hz,200Hz,100Hz,50Hz,20Hz, 10Hz, 5Hz, 2Hz and 1Hz)
- On-board sample clock: programmable to 100kHz
- ADC Noise 20uV rms
- Bandwidth 70kHz@100kSPS
- System to plant isolation to 100V when externally powered by DC/DC converter option.
- Ext sample clock up to 100kHz isolated input
- Ext trigger isolated input
- Two buffered reference voltage outputs for excitation.
- 8/32MHz IP system clock operation.
- Field upgradeable firmware via IP bus or JTAG port.
- EPICS and ASYN driver support.

## PRODUCT SPECIFICATIONS

Size:	Single width Industry Pack 1.8ins x 3.9 ins
Operating temp:	0 to 45 deg C ambient
Number of channels:	8
ADC resolution:	24 bits
Diff. Non-linearity:	+/-0.75 LSB TYP
Int. Non-linearity:	+/-1.5 LSB TYP
Offset error:	+/-10V offset error - +/-610uV with firmware calibration @ 25 deg C (+/- 2mV typical without calibration). +/-5V offset error - +/-305uV after firmware calibration @ 25 deg C (+/- 2mV typical without calibration).
Offset drift:	10uV/degC typical
Gain error:	+/-10V gain error - +/-610uV after firmware calibration @ 25 deg C (+/- 0.2% FS typical without calibration). +/-5V gain error - +/-305uV after firmware calibration @ 25 deg C (+/- 0.2% FS typical without calibration).
Gain drift:	5ppm/degC typical
Range:	+/-10V or +/-5V full scale (+ve input referred to -ve input)
Overvoltage:	+/-25V peak for 1ms and 20VDC
Bandwidth (-3dB):	170KHz
Throughput:	100KHz
ADC device:	TI ADS1274
Data format:	24 bits straight binary
SNR:	ADC Signal-to-Noise 110dB (typ)
Isolation:	System to plant isolation to 100V when externally powered by DC/DC converter option.
Memory:	1M x 16 bits .
Power:	+5V @ 50mA typical +12V @ 315mA typical when switched to internal -12V @ 110mA typical when switched to internal