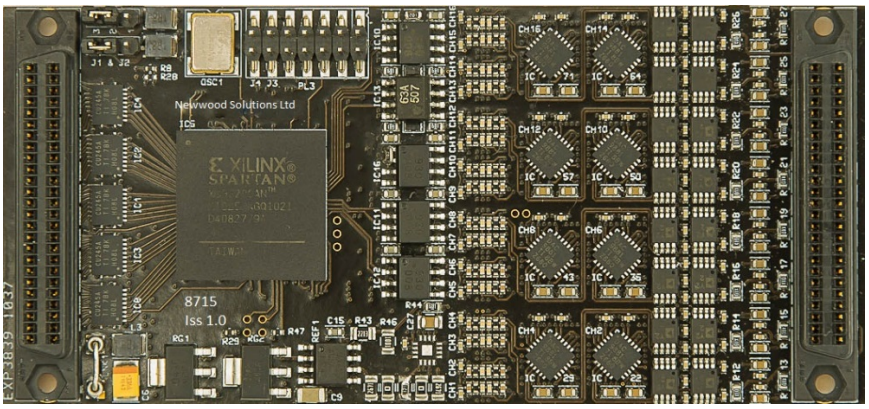
sales@newwoodsolutions.co.uk
www.newwoodsolutions.co.uk

DAC8415 16-Channel 18-Bit DAC
IndustryPack®



Product Description

The Newwood Solutions IP-DAC-8415 is a single-width Industry Pack® that provides 16 channels of simultaneously updated digital to analogue conversion with the following characteristics:-

- 16 independently programmed channels
- 18 bits resolution – 18 bits monotonic.
- On board RAM Memory 1Meg x 16 bits (64K samples for 16bits) (32K samples for 18bits).
- Programmable full scale output range ***+/-10V*** *,***+/-5V, 0 to 10V and 0 to 5V***
- +/- 10mA current drive capability with continuous short-circuit protection
- Drives capacitive loads to 10000pF
- Straight binary or Two Complement input code
- Internal/External update clock rates
- Internal update clock rates programmable (50KHz,20KHz,10KHz,5KHz,2KHz,1KHz,500Hz,200Hz,100Hz,50Hz,20Hz,10Hz,5Hz, 2Hz and 1Hz)
- Maximum 64KHz external clock rate
- On-board calibration by FPGA firmware using stored offset and gain data.
- Simultaneous up-date Power-on disable (outputs set to 0V on boot up)
- System to plant isolation to 100V when externally powered
- Board type, Board serial number, PCB issue and firmware version held on ROM.
- External Triggering
- Continuous function generation.
- Multi Trigger Mode.
- Repeat Multi Trigger Mode.
- Field upgradeable firmware (requires Xilinx/compatible device to program built in FPGA flash memory via the FPGA JTAG port).

* The units are factory set to have an output range of +/-10V on power up.

Newwood Solutions Ltd Registered in England & Wales
Registration Number: 10514548 VAT Number: GB 257 7693 51

PRODUCT SPECIFICATIONS

Size:	Single width Industry Pack 1.8ins x 3.9 ins
Operating temp:	0 to 45 deg C ambient
Number of channels:	16
DAC resolution:	18 bits
Data format ***+/-10V***:	18 bits straight binary Code format 20h = –10v, 20000h = 0V and 3FFE0h = +10V.
Data format ***+/-5V***:	18 bits straight binary Code format 40h = –5v, 20000h = 0V and 3FFC0h = +5V.
Data format ***0-10V***:	18 bits straight binary Code format 0000h = 0V and 3FFC0h = +10V.
Data format ***0-5V***:	18 bits straight binary Code format 0000h = 0V and 3FFC0h = +5V.
Output current:	+/-10mA @ FS
Capacitive load:	Stable up to 10000pF
Short circuit duration:	Continuous
OverV withstand:	No internal protection from external voltages provided
Update rate:	64KHz max
Power quiescent:	+5V @ 350mA typical +12V @ 150mA typical -12V @ 100mA typical
Isolation:	100V via opto-isolators (if externally powered by NWS 8912)
DAC device:	Texas Instruments DAC9881SB with serial interface
Integral non-linearity:	+/-1LSBs typ. +/-2LSBs max
Offset error:	+/- 32LSBs without calibration (+/-2LSBs after firmware calibration) at 25 deg C ambient. (Guaranteed for +/-10V range only).
Offset drift:	+/-0.8 ppm per deg C typical
Gain error:	+/- 32LSBs without calibration (+/-2LSBs after firmware calibration) at 25 deg C ambient. (Guaranteed for +/-10V range only).
Gain drift:	+/-10V range +/-2 ppm per deg C typical +/-5V range +/-4 ppm per deg C typical 0-10V range 2 ppm per deg C typical 0-5V range 0.8 ppm per deg C typical
Output slew rate:	1.6V/us typ.

Newwood Solutions Ltd Registered in England & Wales
Registration Number: 10514548 VAT Number: GB 257 7693 51