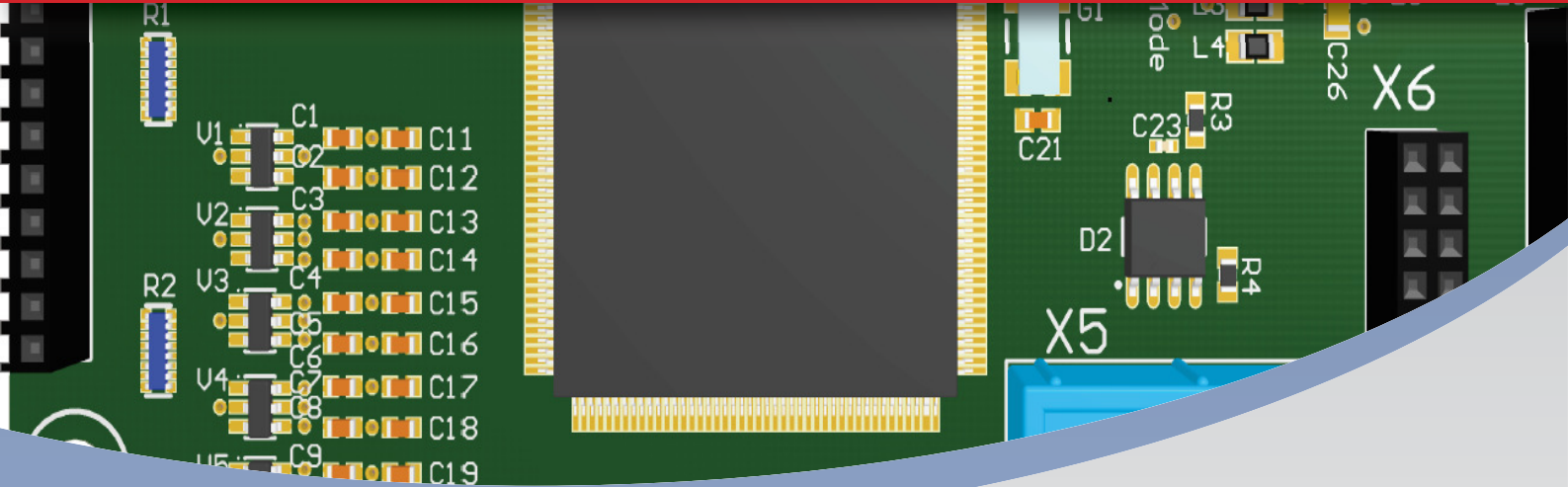
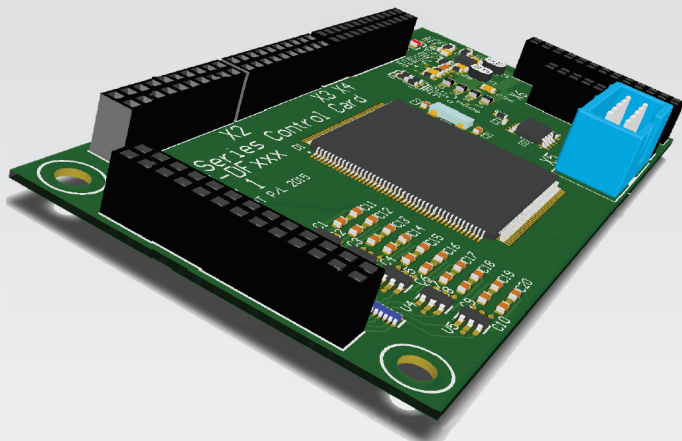


### DF Series Boards



Integrated CAD Design

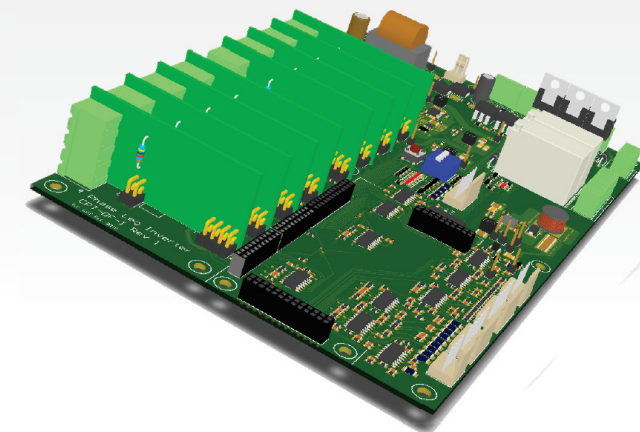


The DF Series provides a modular, flexible integrated inverter controller platform. It is designed around Texas Instruments latest range of Piccolo and Delfino Microcontrollers.

The DF Series Control Card interfaces with an inverter controller motherboard. The inverter controller provides all of the inputs and outputs for directly driving an inverter up to 30kW (50kW+ supported with optional G05 Gate Driver).

#### DF Series Features

- Supports Texas Instruments Piccolo and Delfino Microcontrollers (MCU) range (TMS320F2807x and TMS320F2837x)
- Up to 512k x 16 Flash, 102k x 16 RAM
- 1Mbit Serial Flash (supports up to 16Mbit)
- Peripheral Expansion Cards available
- RS232, RS485, SPI, CAN, USB, I2C, JTAG options
- On-Card Power and Indication LEDs
- Conditioned Analog Inputs
- Isolated Digital Outputs
- Clean Contact Digital Inputs
- Flexible Gate Driver Module Structure
- Direct Inverter Power Stage Drive Capability
- 10kW Modular Power Stage available
- 
- 



CPT-DA28377 shown mounted to a CPT-E13 Controller

## Reliable and Adaptable Platform

The CPT-DF28xxx Control Cards offer a 4 layer MCU core that provides reliable and stable glitch-free operation within a power electronic switching environment.

This DF Series controllers have been designed to suit both prototype and production use. The board is available with plug-in headers for prototype development and in a direct solder form for production. This minimises the time to reach production.

The interconnect structures have been used for inverter control within very harsh vibration and thermal cycling environments, such as railway rolling stock.

## Motherboard Range

Creative Power's range of DF Series motherboards is directly compatible with the CPT-DF28xx Control Cards.

These motherboards are suited for applications ranging from Inverters and Battery Chargers to Thyristor Rectifiers to generalized controllers that require the power of a TI MCU.

## Expansion Cards

The DF Series peripheral expansion cards provide a variety of communications interfaces.

Interfaces available include: isolated RS232 (USB), RS485, Clocked Serial (SPI), CAN, I2C and JTAG (IEEE1149.1).

An RTC (Real-Time Clock) is available via the Expansion Card range.

## Programmable

The DF Series Control Cards can be programmed through a JTAG (IEEE1149.1) interface, or via boot mode selectable interfaces. The software development environment integrates with standard Texas Instruments library support structures (available separately) to provide a stable and established starting point.

## DF Series Control Card

Available MCU Controller Range	TMS320F28075 - CPT-DF28075 TMS320F28377S - CPT-DF28377S TMS320F28377D - CPT-DF28377D
Interface	2mm Headers
Serial Flash	1Mbit (maximum 16Mbit)

## Expansion Cards

Options	Dual SCI to Isolated USB CAN (2.0b) - 2 off SPI (4 wire compatible) I <sup>2</sup> C
Real-Time Clock	Yes
Programming	Isolated USB JTAG Emulation (mini-USB)

## Motherboard Range

PWM Modules	8 plug-in (maximum) Fault Feedback + Reset
Analogs	11 off Conditioned Inputs 6 off Voltage ( $\pm 10V$ Input) 5 off Current ( $\pm 5V$ Input)
Digital I/O	2 off Relay (Changeover) 3 off MOSFET Driven Outputs 2 off Clean Contact Inputs 4 off on-card DIP Switch 4 off on-card LED
Encoder	QEP with Index and Strobe
Supply	+24V DC

## Gate Driver Modules

Gate Drivers	HCPL-316J based
Form Factor	DF Series G-Plug-in
CPT-G02	2.5A Rated (IGBTs up to 1200V/150A)
CPT-G03	6A Rated (IGBTs up to 1200V/150A)
CPT-G05	Optical Output

**CREATIVE POWER**  
**TECHNOLOGIES**

61 / 170 Forster Road, Mount Waverley, VIC, Australia, 3149

T 61 3 9543 8805 F 61 3 9543 8802

www.creativepower.com.au