

Dual-channel  
FMC Stepper Motor  
Driver Series



## FMC-MOTDRV22

- The FMC-MOTDRV22 is a two-channel stepper motor driver series compliant with the ANSI/VITA 57.1 standard
- Each channel can provide up to 12 V/1.8 A and 24 V/1.8 A per coil with a programmable chopper slope
  - Internal and external power supply (connector on the FMC front bezel) versions available rated at 12 V and 24 V

### FEATURES

- ANSI/VITA 57.1 LPC compliant
- Supports up to 1.8 A motor coil current at 12 V or 24 V
- Supports up to 256 micro-steps per full step
- Real-time support
- Programmable current slopes
- Power monitor for each channel
- Each channel supports switchable EnDat2.2 or ABN-encoder readout
- External Trigger/Gate and Interlock
- 12 V internal, 12 V external or 24 V external power versions
- RoHS compliant

### APPLICATIONS

- Machine Diagnostics and Control
- Laboratory Equipment

**FMC-MOTDRV22.** The FMC-MOTDRV22 is a cost-efficient two-channel stepper motor driver series compliant with the ANSI/VITA 57.1 specifications.

Each channel can provide up to 12V/1.8A and 24V/1.8A per coil for bipolar stepper motors depending on the model. The chopper slope is programmable within three different modes.

Each driver provides a motor load detection without external sensors and a load dependent current control. The board also offers diagnostics and protection against overcurrent, short-to-ground, undervoltage and overtemperature.

These FPGA Mezzanine Card boards are available in three





different versions: the FMC-MOTDRV22-INT12V, the FMC-MOTDRV22-EXT12V and the FMC-MOTDRV22-EXT24V one.

These models differ from the voltage rating (12 V or 24 V) and the available power since two of them have an additional connector for external power.

The dedicated cabling are also commercially available in its standard version of 1 meter (FMC-MOTDRV22-CABLE) and 20 meters (FMC-MOTDRV22-CABLE2). Please ask for a quotation if non-standard cable lengths are needed for a specific application.

### About Us

CAEN ELS is a leading company in the design of power supplies and state-of-the-art complete electronic systems for the Physics research world, having its main focus on dedicated solutions for the particle accelerator community and high-end industrial applications.

-  Power Supply Systems
-  Precision Current Measurements
-  Beamline Electronics Instrumentation
-  FMC and MicroTCA

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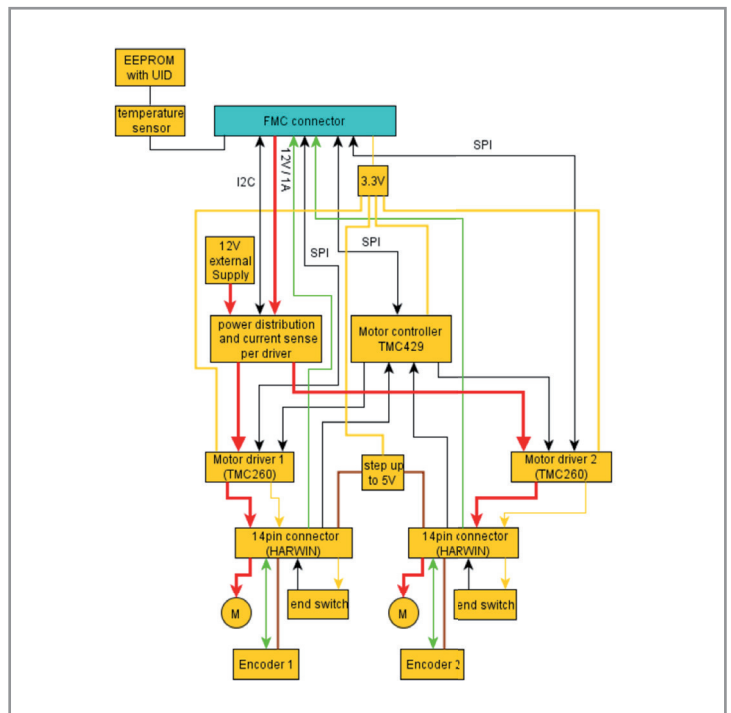
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### Technical Specifications

### FMC-MOTDRV22

	INT12V	EXT12V	EXT24V
<b>Board Type</b>	FPGA Mezzanine Card - VITA 57.1		
<b>FMC Connector Type</b>	LPC - Low Pin Count		
<b>Number of channels</b>	2		
<b>I/O Voltage Range (<math>V_{ADJ}</math>)</b>	1.8 V ... 3.3 V		
<b>Power Consumption</b>	12 W	60 W	60 W
<b>Motor Type</b>	2-phase Bipolar Stepper Motor		
<b>Motor Supply (per coil)</b>	12 V / 0.4 A	12 V / 1.8 A	24 V / 1.8 A
<b>End Sensor</b>	Hall Sensor or Mechanical Sensor		
<b>Encoder</b>	EnDat2.2 or Incremental		
<b>Connector Type</b>	Harwin M80-5L11442MD		
<b>Operating Temperature</b>	0 ... 70 °C		
<b>Weight</b>	300 g		



FMC-MOTDRV22 - Block Diagram

### Ordering Codes

Ordering Code	Acronym	Description
MOTDRV22IN12	FMC-MOTDRV22-INT12V	2-Channel Stepper Motor Driver with 12V Internal Power
MOTDRV22EX12	FMC-MOTDRV22-EXT12V	2-Channel Stepper Motor Driver with 12V External Power
MOTDRV22EX24	FMC-MOTDRV22-EXT24V	2-Channel Stepper Motor Driver with 24V External Power
CABL-FMT0001	FMC-MOTDRV22-CABLE	Cable for FMC-MOTDRV22 1-m
CABL-FMT0002	FMC-MOTDRV22-CABLE2	Cable for FMC-MOTDRV22 20-m