

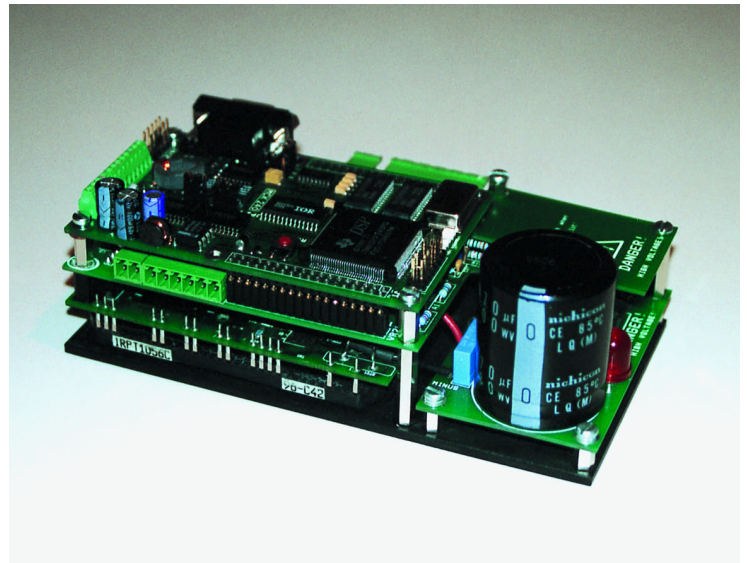
# ACPM750E - 3-PHASE IGBT POWER MODULE

**Interfaces directly the MCK240 DSP Motion Control Kit and is suitable to control :**

- Induction Motors
- AC brushless motors
- Switched reluctance motors
- DC Brushless / DC motors

#### **Features :**

- 180 -240VAC line input, 50/60 Hz
- Integrated rectifier bridge
- 750W output power, 4A, 150% overload for 1 minute
- Brake IGBT and diode
- Protection for short circuit, earth ground, fault, over-voltage, over temperature
- RS232 communication via MCK240
- Size: 150x100x90mm with radiator



Model shown is assembled with MCK240\*

#### **Extended Power for MCK240 Motion Control Kit**

The combination of the ACPM-750E power module and the MCK240 DSP Motion Control Kit\* results in an intelligent AC drive unit in the range up to 750W (1HP). It offers an ideal development tool for design and implementation of high performance digital control algorithms for several types of AC motors.

#### **Development tools to speed DMC implementation and time to market**

The ACPM750E is part of a complete Digital Motor Control (DMC) development concept, based on the MCK240 DSP Motion Control kit proposed by Technosoft in co-operation with Texas Instruments. These tools offer high level graphical DSP motion programming capabilities which permit, in combination with the extended features of the TMS320C240 DSP controller, the implementation of effective digital motor control schemes for various types of AC motors.

The ACPM750E is also compatible with the motion control bus (MC-BUS), common to all the hardware modules of the MCK240 family. This family of tools facilitates the DMC real time implementation and experimentation resulting in the optimisation of time to market.

#### **A flexible test bench**

The ACPM750E is based on an International Rectifier **POWERTRAIN**® integrated power stage which comprises a rectifier bridge and a 3-phases ultra-fast IGBT inverter. It operates directly from line voltage, only an additional 5V isolated power supply is necessary to operate the drive package. The power section and the command signals are completely opto-isolated. The DC-bus voltage can be controlled during braking through a brake transistor. The module includes protections for short-circuit, earth/ground fault, over-temperature and over-voltage.

#### **Feedback signals for direct implementation of digital motor control**

In order to implement digital current loops, the ACPM750E provides galvanic isolated measurement signals for 2 motor currents and the DC-bus voltage. For digital motor control, several feedback interfaces are provided. Encoder and Hall sensor signals can be directly interfaced to the MC-BUS or the MCK240 board.

The optional RDIM16 resolver interface board, which is compatible with the MC-BUS, allows to use motors with resolver feedback. The analogue tachometer input with adjustable gain and an external analogue refer-

ence input is standard on the ACPM750E.

#### **Ready to run DMC applications**

The ACPM750E can be used to run basic digital motor control applications with the MCK240.

It is the ideal package to investigate and compare the performance of various digital control schemes on the basis of the DMCS Toolbox software module (see next page) or to validate customised motor control algorithms.

#### **Transfer to target application**

The applications developed on the basis of the MCK240 and the ACPM750E can be easily transferred to the target application.

Upon request a set of ready to use plug-in controller boards of the IMMC240 family (please refer to our specific documentation) and the corresponding motion control libraries are available.

#### **Other DSP motion solutions tools:**

- MCK240 Motion Control Kit
- IMMC240 DSP plug in module
- Low voltage power modules
- DMCS Toolbox software package
- RDIM16 - resolver to digital converter plug-in module
- Reference motors

\* sold separately

**New  
DSP solutions  
for digital  
motor control**



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