

Trotter Controls, Inc. FORT WORTH, TEXAS	PRODUCT DATASHEET	NUMBER DS-0016	REVISION	
TITLE DATASHEET – DsPic30F6014 Core Module	BY	CHK'D		
	JBF	VT		
	DATE 11/03/2008		MODEL 5950-0009	
			SERIAL 0001 and SUBS	
		PAGE 1	OF 3	

REVISIONS:

None

ELIGIBLE SERIAL NUMBERS:

5950-0009 S/N:0001 and subsequent serial numbers.

PURPOSE:

This datasheet provides general specifications for the DSPIC30 core module.

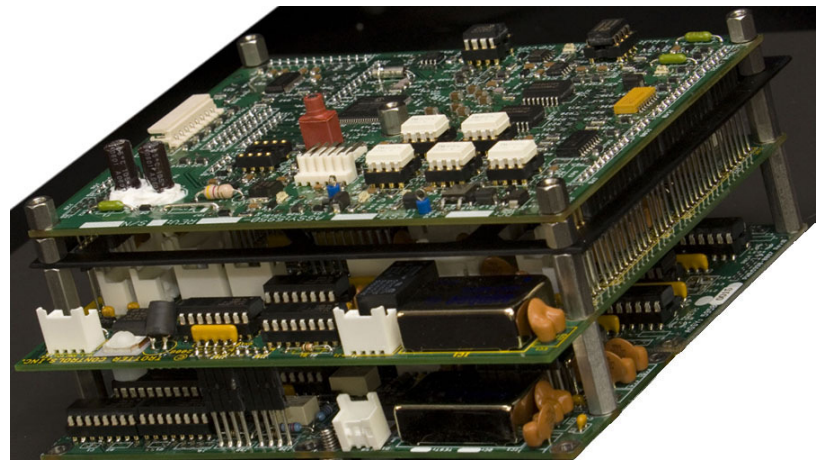


Figure 1 ~ Core module (top) shown with optional custom I/O & power boards.

SUMMARY:

This circuit board consists of a MicroChip DSPIC6014A digital signal processor and various voltage regulators, accelerometers, communication buffers, analog opto-isolators, RS-232/SPI communication bufer and other support components.

This assembly is suitable for a variety of display and control applications.

This assembly can be provided in a housing with integral power supply, LCD or Vaccuum Flourescent display, and operator interface switches.

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GENERAL :

Table 1 ~ General specifications.

Rated Voltage Input	Min: 6.05 VDC Nominal: 7.3 VDC Max: 15 VDC ~ Other voltages available
Internal Regulation	Microprocessor: +4.9 ~ +5.1 VDC, Linear, 15V maximum input continuous, 24V peak Isolated Analog: +4.9 ~ +5.1 VDC, Linear, 15V maximum input continuous, 24V peak Isolated I2C: +4.75 ~ 5.25, 15V maximum input, 12V nominal
Rated Input Current	Min: 120 mA DC Nominal: 150mA DC Max: Depends on external load & PIC clock frequency
Power Consumption:	1.09W Nominal @ 7.3 VDC Input
Dimensions:	4.25"W X 5.75"H
Fuse:	1.0 A (internal)
Environmental:	Storage Temperature: -40C - +85C Operating Temperature: -20C ~ +80C IP Class N/A
Microprocessor:	DSPIC6014A I2C, SPI, RS-232, INTERNAL EEPROM, 30MIPS, 16 A/D channels, 2 PWM Channels, Counter/Timers
Analog Inputs:	5 Channels Optically Isolated, 9 channels not isolated
Accelerometers:	0 - 5 G range, Dual Redundant Accelerometers
Digital I/O:	40 points, TTL protected to 20ma, Outputs can sink/source 20mA per point - Counter/Timer Support
Communication:	Optically Isolated I2C bus, Buffered SPI Bus/Buffered RS232 Bus, TTL SPI, TTL I2C
External EEPROM:	MicroChip 24A32AP
I2C Temperature Sensor:	MicroChip MCP9800

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FEATURES :

- DSPic6014A Microprocessor
 - Internal EEPROM
 - 8K data space
 - 144K program space
 - 30 MIPS processing speed
 - 16 analog input channels, 12 bit resolution (5 channels optically isolated & bi-polar input range)
 - 2 PWM output channels
 - 40+ Digital I/O
- Five optically isolated bi-polar analog input channels with hardware input filters & scaling resistors
- Optically isolated I2C bus
- Buffered RS232/SPI #1 Bus with EMI filters
- Second TTL level SPI Bus
- Two 0 ~ +5G accelerometers with internal diagnostics
- On board MicroChip 24A32AP EEPROM memory
- On board MicroChip MCP9800 temperature sensor
- On board 1 amp regulators for microprocessor and analog isolation
- On board optically isolated pseudo H-Bridge / PWM channel to drive hydraulic servo valves or other differential loads
- On board PWM channels for analog output(s)
- 6 layer PCB with internal ground and shield planes for noise free operation
- Wide Temperature range: -20C ~ 65C

SPECIAL CONFIGURATIONS ALSO AVAILABLE:

The following configurations for the display are available. Minimum order quantities may apply.

- On board step motor drivers
- RS-422/485
- On board peripherals
- Daughter boards for special I/O functions
- Custom configurations