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Find the *LDS / Optim Electronics Megadac 5406DC* at our website: *Click HERE*

OPTIM Electronics

MEGADAC 5000 Series Product Specifications



MEGADAC 5414AC
Operates on
110/220 AC



MEGADAC 5406DC
Operates on
12VDC



MEGADAC 5414AC/DC
Operates on
110/220 AC or 12VDC

MEGADAC's are intelligent, self-contained, integrated data acquisition and signal conditioning systems with field-proven, state-of-the-art digital technology, providing a variety of features to help you accurately capture dynamic analog and digital data from a wide variety of active and passive sensors.

The MEGADAC 5000 Series satisfies requirements from one measurement a day to 250,000 samples per second, and are easily controlled through their interactive IEEE-488, RS-422, RS-232 & RS-485 communication buses.

All MEGADAC functions and features are fully supported by Optim's Test Control Software (TCS for Windows) which simplifies the entire process of defining, recording and reviewing measurements.

The MEGADAC provides up to 1 Gigabyte of internal RAM for data storage. For PC-based applications, data acquired in RAM can be buffered and automatically streamed to your PC or across a network for permanent storage.

For stand-alone applications, the RAM can be partitioned as a RAMdisk (battery-backed) for data storage and retrieved later.

Each MEGADAC is field expandable to 512 channels. For even larger channel requirements multiple MEGADAC's can be synchronized to collect an unlimited number of channels.

MEGADAC Data Acquisition Mainframe System Features

- ❑ Up to 250,000 samples/second
- ❑ 16-bit resolution
- ❑ User defined sampling rates
- ❑ User defined sampling order
- ❑ Operates with or without a PC attached
- ❑ AC and DC powered configurations
- ❑ Up to 512 differential input & output channels
- ❑ Field expandable input & output modules
- ❑ Analog playback of channel data
- ❑ Supervisory channel alarms
- ❑ Intelligent data triggering
- ❑ Selectable triggering parameter combinations
- ❑ IEEE-488, RS-422, RS-232 & RS-485 PC communication interfaces included
- ❑ Modem compatible for remote communication
- ❑ Up to 1 Gigabyte of internal memory storage
- ❑ Memory is battery-backed on all DC models
- ❑ Memory can be partitioned as RAMdisk
- ❑ Data can be automatically transferred to PC
- ❑ Power-fail restart
- ❑ Internal or external clock synchronization

MEGADAC Data Acquisition Signal Conditioning Options

- ❑ 16 bit analog input & input/output modules
- ❑ All transducer types supported
- ❑ Full differential analog inputs
- ❑ +/- 10 volts full scale inputs
- ❑ Configurable up to +/- 210 volt inputs
- ❑ On-board voltage/current excitation
- ❑ Signal conditioning & bridge completion
- ❑ Programmable anti-aliasing filter
- ❑ Programmable gains 1:1 to 4000:1
- ❑ Autobalance and retain full dynamic range
- ❑ Automatic calibration checks
- ❑ Zero excitation for system noise checks
- ❑ Sample and hold modules available
- ❑ Input protection on a per channel basis
- ❑ Interchangeable plug-in modules across platforms

MEGADAC Data Acquisition Test Control Software (TCS)

- ❑ TCS software for Windows® 95, 98, & NT
- ❑ Network compatible interface
- ❑ Multiple test definitions
- ❑ Multiple recording methods
- ❑ Local and global sensor libraries
- ❑ On-line data confirmation & manipulation
- ❑ Post-test confirmation
- ❑ Industry standard file formats
- ❑ User defined graphical interface (GUI)

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MEGADAC 5000 Series Specifications





MEGADAC SERIES 5000 STANDARD FEATURES	MEGADAC 5414AC/DC Optim Part NBR - ML1090	MEGADAC 5414AC Optim Part NBR - ML1088	MEGADAC 5406DC Optim Part NBR - ML1086
Maximum Sampling Speed	250,000 Samples/Sec	250,000 Samples/Sec	250,000 Samples/Sec
Sampling Speed Range	0 to 250,000 Samples/Sec	0 to 250,000 Samples/Sec	0 to 250,000 Samples/Sec
ADC Resolution	16 bits	16 bits	16 bits
Memory/RAMDisk Storage	256 Megabytes (Battery Backed)	256 Megabytes	256 Megabytes (Battery Backed)
Maximum Input Channels	512	512	512
Channels/Scan	1 to 512	1 to 512	1 to 512
Channel Sample Order	Any order	Any order	Any order
Max. DAC Output Channels	128	128	128
Scan Synchronization	Internal or External	Internal or External	Internal or External
Available Module Slots	14	14	6
System Gain	1:1 to 4000:1	1:1 to 4000:1	1:1 to 4000:1
Data Alarms	Any/All Channels	Any/All Channels	Any/All Channels
Data Triggers	Any/All Channels	Any/All Channels	Any/All Channels
PC Communication Interfaces	IEEE-488, RS-232, RS-422, RS-485	IEEE-488, RS-232, RS-422, RS-485	IEEE-488, RS-232, RS-422, RS-485
Remote Communication Interfaces	Commercially Available Modems	Commercially Available Modems	Commercially Available Modems
Power Consumption	40 to 80 Watts, (80 to 160 VA)	40 to 80 Watts, (80 to 160 VA)	40 to 80 Watts
AC Power Source (AutoSwitch)	115 VAC 50/60 Hz (105 - 132 VAC) 230 VAC 50/60 Hz (210 - 264 VAC)	115 VAC 50/60 Hz (105 - 132 VAC) 230 VAC 50/60 Hz (210 - 264 VAC)	
DC Power Source (Range)	10.5 - 18 VDC (startup 75 W load) 10.0 - 18 VDC operating		10.5 - 18 VDC (startup 75 W load) 10.0 - 18 VDC operating
Weight	27 to 40 pounds	26 to 39 pounds	19 to 25 pounds
Operating temperature	4 to 50 degrees C	4 to 50 degrees C	4 to 50 degrees C
Relative Humidity	10% to 80% (non-condensing)	10% to 80% (non-condensing)	10% to 80% (non-condensing)
Size	16.62 Inches wide 16.00 Inches deep 6.97 Inches high	16.62 Inches wide 16.00 Inches deep 6.97 Inches high	10.20 Inches wide 16.00 Inches deep 6.97 Inches high

MEGADAC SERIES 5000 MAINFRAME OPTIONS	MEGADAC 5414AC/DC OPTIONS	MEGADAC 5414AC OPTIONS	MEGADAC 5406DC OPTIONS
Memory/RAMDisk Storage - Options	1 Gigabyte (DC=Battery Backed) Optim Part NBR - PL2608	1 Gigabyte Optim Part NBR - PL2608	1 Gigabyte (DC=Battery Backed) Optim Part NBR - PL2608
AC Power Source - Options			External Power Supply (110/220 VAC to 15 VDC) Optim Part NBR - PL2377
DC Power Source - Options	External Power Converter (24 VDC to 12 VDC) Optim Part NBR - 7420045		External Power Converter (24 VDC to 12 VDC) Optim Part NBR - 7420045

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MEGADAC 5000 Series
Signal Conditioning Options

Optim offers a complete line of MEGADAC input/output modules with signal conditioning (including constant current (Constant I) and constant voltage (Constant V) excitation), enabling direct connection to low-level bridge sensors and strain gages. Cold junction compensation is also standard on thermocouple measurements.

Input & Output Modules	Channels per Module	Excitation Type	Sample & Hold	Typical Sensor Types	Analog Outputs	Optim Part NBR
AD 694SH	4	Constant V	Yes	Strain 1/4, 1/2, Full, Any Full Bridge type	Yes	PL2356
AD-1 604CHA	4	Charge Amp	Yes	Charge Type Sensors	Yes	PL2257-1
AD 614IE	4	Constant I	Yes	Internal Electronics Sensors (LEMO)	Yes	PL2256
AD 614IE	4	Constant I	Yes	Internal Electronics Sensors (25-Pin)	Yes	PL2256-1
AD 624ACX	4	AC Voltage	Yes	AC LVDT	No	PL2258
AD 684SH-1	4	Constant V	Yes	Strain 1/4, 1/2, Full, Any Full Bridge type	No	PL2269-1
AD-1 808FB-1	8	Constant V	No	Strain 1/4, 1/2, Full, Any Full Bridge type	No	PL2246
AD 808QB/120	8	Constant I	No	Strain 1/4, 1/2	No	PL2163
AD 808QB/350	8	Constant I	No	Strain 1/4, 1/2	No	PL1921
AD 808D-1	8	None	No	Any Voltage Input	No	PL2250
AD 816TC	16	None	No	Thermocouple Type E, J, K, T	No	PL2179
DI 5032	1	None	No	Digital Inputs	No	PL1412
TM 5004	2/4	None	No	Pulse, Time, Rate, Period, Frequency	No	PL2205
IRIG-B 5000	1	None	No	IRIG Time Stamp (data correlation with other devices)	No	PL1778
AC 3884VW-1K	8	Special	No	Vibrating Wire	No	PL2049
AC 3884VW-4K	8	Special	No	Vibrating Wire	No	PL2049-2
AC 3884WM	16	Special	No	Water Mark	No	PL2050
DAC 5416	4	None	No	Analog Outputs for Input Modules	Yes	PL2423
PCM 6416	16, 32, 64	Not Applicable	Not Applicable	MICRODAC PCM Interface (also IGeL WFT)	Not Applicable	PL2597
PCM-1	16, 32, 64	Not Applicable	Not Applicable	Datron WFT PCM Interface	Not Applicable	PL2597-1

Module Accessories	Number of Channels	Typical Sensor Types	Optim Part NBR
FtoV-01	1 (In-Line)	Frequency to Voltage (Used In-Line with AD 684SH-1, AD 694SH, AD-1 808FB-1)	PL2578-01
FtoV-05	1 (In-Line)	Frequency to Voltage (Used In-Line with AD 684SH-1, AD 694SH, AD-1 808FB-1)	PL2578-05
FtoV-25	1 (In-Line)	Frequency to Voltage (Used In-Line with AD 684SH-1, AD 694SH, AD-1 808FB-1)	PL2578-25
CB100	Uses 1 Slot	Constant Voltage Excitation (Bi-polar) typically used with DC LVDT's ± 15 V	PL1365

Since MEGADAC's are field expandable,
you can add modules at any time if your measurement requirements ever change.

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MEGADAC 5000 Series
Options & Accessories

MEGADAC input & output modules are interchangeable across all platforms and contain from 1 to 64 channels per module (see “Channels per Module” as shown on the previous page).

MEGADAC SERIES 5000 MODULE CAPACITY	**MEGADAC 5414AC/DC** Optim Part NBR - ML1090	**MEGADAC 5414AC** Optim Part NBR - ML1088	**MEGADAC 5406DC** Optim Part NBR - ML1086
Available Module Slots	14	14	6

To increase channel capacity, MEGADAC Expansion Chassis’ are available to house additional input & output modules (see “Available Module Slots” above & below). Each Expansion Chassis includes an interconnecting cable and interface module that plugs into a MEGADAC mainframe module slot. Up to 5 Expansion Chassis can be added per MEGADAC mainframe.



EXPANSION CHASSIS STANDARD FEATURES	**EXP 0114AC/DC** Optim Part NBR - ML1084	**EXP 0114AC** Optim Part NBR - ML1081	**EXP 0116DC** Optim Part NBR - ML1077	**EXP 0110DC** Optim Part NBR - ML1076
Available Module Slots	14	14	16	10
MEGADAC Connector Cable	18 inches	18 inches	6 feet	6 feet
MEGADAC Connector Slots	Uses 1 module slot	Uses 1 module slot	Uses 1 module slot	Uses 1 module slot
Power Consumption	10 to 100 Watts (100 to 200 VA)	10 to 100 Watts (100 to 200 VA)	40 to 80 Watts	40 to 80 Watts
AC Power Source (AutoSwitch)	115 VAC 50/60 Hz (105 - 132 VAC) 230 VAC 50/60 Hz (210 - 264 VAC)	115 VAC 50/60 Hz (105 - 132 VAC) 230 VAC 50/60 Hz (210 - 264 VAC)		
DC Power Source (Range)	10.5 - 18 VDC (startup) (startup 75 W load) 10.0 - 18 VDC (operating)		10.5 - 18 VDC (startup) (startup 75 W load) 10.0 - 18 VDC (operating)	10.5 - 18 VDC (startup) (startup 75 W load) 10.0 - 18 VDC (operating)
Weight	24 to 39 pounds	23 to 38 pounds	16 to 29 pounds	12 to 22 pounds
Operating temperature	4 to 50 degrees C	4 to 50 degrees C	4 to 50 degrees C	4 to 50 degrees C
Relative Humidity	10% to 80% (non-condensing)	10% to 80% (non-condensing)	10% to 80% (non-condensing)	10% to 80% (non-condensing)
Size	16.62 Inches wide 16.00 Inches deep 6.97 Inches high	16.62 Inches wide 16.00 Inches deep 6.97 Inches high	15.00 Inches wide 12.00 Inches deep 6.97 Inches high	10.20 Inches wide 12.00 Inches deep 6.97 Inches high

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EXPANSION CHASSIS OPTIONS	**EXP 0114AC/DC OPTIONS**	**EXP 0114AC OPTIONS**	**EXP 0116DC OPTIONS**	**EXP 0110DC OPTIONS**
AC Power Source - Options			External Power Supply (110/220 VAC to 15 VDC) Optim Part NBR - PL2377	External Power Supply (110/220 VAC to 15 VDC) Optim Part NBR - PL2377
DC Power Source - Options	External Power Converter (24 VDC to 12 VDC) Optim Part NBR - 7420045		External Power Converter (24 VDC to 12 VDC) Optim Part NBR - 7420045	External Power Converter (24 VDC to 12 VDC) Optim Part NBR - 7420045

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MEGADAC 5000 Series
Options & Accessories

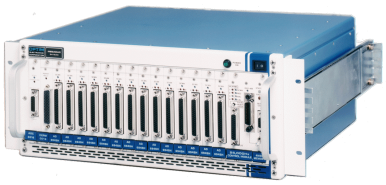
TRANSIT CASE - MEGADAC MAINFRAMES	Optim Part NBR
MEGADAC 5414AC, 5414AC/DC	8240013
MEGADAC 5406DC	8240011

TRANSIT CASE - MEGADAC EXPANSION CHASSIS	Optim Part NBR
EXP0114AC, EXP0114AC/DC (14 slot)	8240013
EXP0116DC (16 slot)	8240014
EXP0110DC (10 slot)	8240012



MEGADAC Transit Case

RACK MOUNT KIT	Optim Part NBR
For MEGADAC 5414AC, 5414AC/DC	PL2451
Requires a minimum of a 17.75 inch wide opening	
One Pair of Rack-Mount Slides	
One Pair of Slide Shim Plates	
One Pair of Rack-Mount Ears	



MEGADAC Rack Mount Kit

MEGADAC MEMORY UPGRADE TO 1 GBYTE	Optim Part NBR
Expand MEGADAC Memory to 1 Gigabyte	PL2608

REMOTE INDICATOR PANEL	Optim Part NBR
Four Alarm LED's Detecting MEGADAC Alarms	PL1916
Run LED, Trigger LED, & Start/Stop Switch	
Four Position Data Stamp Knob For Marking Data	
Includes 6 foot Interface Cable	



MEGADAC Remote Interface Panel

POWER SUPPLY 110/220 VAC to 15 VDC	Optim Part NBR
Powers MEGADAC Portable DC System or	PL2377
DC Powered Expansion Chassis in Lab	
Auto Sensing 110/220 Volt AC Power	
Includes 6 Foot Cable	
Input (100-120 VAC 5 AMP) or	
Input (200-240 VAC 2.5 AMP) @ 47-63 Hz	
Output 15 VDC 300 W	
Includes 6 Foot Cable	



MEGADAC External Power Supply 110/220 VAC to 15 VDC

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