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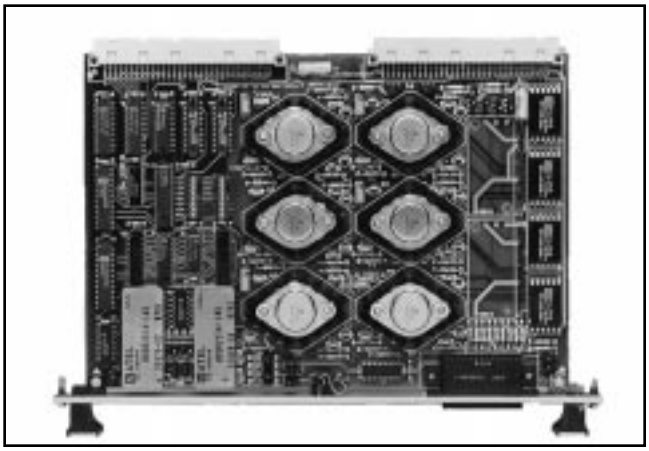
Find the *Abaco Systems / VMIC VMIVME-4905-223* at our website: ***Click HERE***

This product is not recommended for new designs. This specification is not being maintained. Some options may no longer be available and some information may be obsolete.

VMIVME-4905

High Power Digital-to-Synchro/Resolver Converter Board

- 14-bit converter with an accuracy as high as ±1 arc minute (±4 arc minutes is standard)
- 3- or 4-wire output for driving synchros or resolvers
- Internal transformers (400 Hz options)
- Front panel fail LED
- Amp D-type (no. 206584-1)
- 5 VA, 2 VA (transformer output), or 0.024 VA options
- Nonprivileged or supervisory short I/O
- Supports off-line and on-line fault detection and isolation
- Compatible with Intelligent I/O Controllers



DESCRIPTION — The VMIVME-4905, a digital-to-synchro or resolver converter (DSC/DRC) board, utilizes the NATEL-HSDR 2514 converter module. It supports a wide variety of options which are supported by configuring jumpers on the basic printed circuit board and by installing optional parts (see the Ordering Options). The VMIVME-4905 board, with supported Built-in-Test VMIC hardware, features both offline and online fault detection and isolation. The Built-in-Test features require a VMIC quad-channel synchro-to-digital converter (SDC) board (VMIVME-4911) or a single channel SDC board (VMIVME-4910) and a standard synchro test backplane (SRTbus™) installed in the P2 position of a standard VME chassis (refer to VMIC's Synchro/Resolver (Built-in-Test) Subsystem Configuration Guide, Document No. 825-000000-004). The board accepts a 14-bit digital output word (shaft angle), a reference excitation voltage, and produces a synchro or resolver output.

The board is ideally suited for computer-based systems in which digital information is processed, such as simulators, robotics, and other control-oriented systems. The DSC/DRC is provided with several options and is capable of interfacing with most standard synchro or resolver devices.

FUNCTIONAL CHARACTERISTICS

Compatibility: VMEbus specification compatible. Double height form factor.

Output Connector Type: AMP no. 206584-1

Output Organization: Two ports, 16 bits wide. Addressable to any address within short supervisory or short nonprivileged I/O map.

Address Modifier Codes: Jumper selectable for short supervisory or short nonprivileged I/O access. Factory configured for short supervisory I/O access.

Addressing Scheme: Two ports individually addressable on 8- or 16-bit boundaries. Two eight-position DIP switches provide unlimited short data I/O address map selection.

Ordering Options

September 12, 2000 800-004905-000 G

VMIVME-4905
High Power Option
for DSC/DRC Boards [1]
with Built-in-Test*

Dual or Single	Ref. Input [2]	Signal Output (RMS)***	Freq. (Hz) [3]	VA	Board Output Type	ABC Option No. 4**	2**	1.5**	1**
Single	26 V ±10%	11.8 V	DC to 1 K	5.0	Synchro	323	324	N/A	325
Single	26 V ±10%	6.81 V	DC to 1 K	5.0	Resolver	333	334	N/A	335
Dual	26 V ±10%	11.8 V	DC to 1 K	5.0	Synchro	423	424	N/A	425
Dual	26 V ±10%	6.81 V	DC to 1 K	5.0	Resolver	433	434	N/A	435
Single	26 V ±10%	11.8 V	400	2.0	Synchro w/ Trans.	746	N/A	N/A	N/A
Dual	26 V ±10%	11.8 V	400	2.0	Synchro w/ Trans.	846	N/A	N/A	N/A
Single	40 V ±10%	40 V ±14%	512	2.0	Resolver w/ Trans.	556	N/A	N/A	N/A
Dual	40 V ±10%	40 V ±14%	512	2.0	Resolver w/ Trans.	656	N/A	N/A	N/A

* Built-in-Test requires one synchro/resolver-to-digital converter board for *wrap-back* testing of the digital-to-synchro/resolver converter board. Refer to the *VMIC Synchro/Resolver (Built-in-Test) Subsystem Configuration Guide* (Document No. 825-000000-004) for a detailed discussion.
** Reference to accuracy
4 = ±4 arc minutes (standard stock item)
2 = ±2 arc minutes (long lead time is typical)
1.5 = ±1.5 arc minutes (long lead time is typical)
1 = ±1 arc minute (long lead time is typical)
*** Contact VMIC for availability of transformer-coupled outputs and higher voltages.

Notes

1. All synchro/resolver boards require external ±15 V power supplies. Power and reference inputs can be connected to P2 or P3 (front panel). Power input connectors are available on VMIC's synchro/resolver backplane (SRTbus).
2. The reference input voltage can be jumper-selectable (by the user) for 1.3, 26, or 115 VRMS. Contact VMIC for other reference input voltages.
3. To 10 kHz with reduced accuracy.

Connector Data

Compatible Cable Connector	AMP 747322-2
Strain Relief Kit	Type D
PC Board Header Connector	AMP 206584-1

For Ordering Information, Call:
1-800-322-3616 or 1-256-880-0444 • FAX (256) 882-0859
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Ordering Options

September 12, 2000 800-004905-000 G

VMIVME-4905
Low Power Option
for DSC/DRC Boards [1]
with Built-in-Test*

Dual or Single	Ref. Input [2]	Signal Output (RMS)***	Freq. (Hz) [3]	VA	Board Output Type	Option No. 4**	2**	1.5**	1**
Single	26 V ±10%	11.8 V	DC to 1 K	.024	Synchro	320	321	N/A	322
Single	26 V ±10%	6.81 V	DC to 1 K	.024	Resolver	330	331	N/A	332
Dual	26 V ±10%	11.8 V	DC to 1 K	.024	Synchro	420	421	N/A	422
Dual	26 V ±10%	6.81 V	DC to 1 K	.024	Resolver	430	431	N/A	432
Single	5 V ±8%	11.8 V	DC to 1 K	.024	Synchro	300	301	N/A	302
Single	5 V ±8%	6.81 V	DC to 1 K	.024	Resolver	310	311	N/A	312
Dual	5 V ±8%	11.8 V	DC to 1 K	.024	Synchro	400	401	N/A	402
Dual	40 V ±8%	6.81 V	DC to 1 K	.024	Resolver	410	411	N/A	412

* Built-in-Test requires one synchro/resolver-to-digital converter board for *wrap-back* testing of the digital-to-synchro/resolver converter board. Refer to the *VMIC Synchro/Resolver (Built-in-Test) Subsystem Configuration Guide* (Document No. 825-000000-004) for a detailed discussion.
** Reference to accuracy
4 = ±4 arc minutes (standard stock item)
2 = ±2 arc minutes (long lead time is typical)
1.5 = ±1.5 arc minutes (long lead time is typical)
1 = ±1 arc minute (long lead time is typical)
*** Line-to-Line voltage for synchro outputs.

Notes

1. All synchro/resolver boards require external ±15 V power supplies. Power and reference inputs can be connected to P2 or P3 (front panel). Power input connectors are available on VMIC's synchro/resolver backplane (SRTbus).
2. The 26 V reference input can be jumper-selectable (by the user) for 1.3, 26, or 115 VRMS. Contact VMIC for other reference input voltages.
3. To 10 kHz with reduced accuracy.

Connector Data

Compatible Cable Connector	AMP 747322-2
Strain Relief Kit	Type D
PC Board Header Connector	AMP 206584-1

For Ordering Information, Call:
1-800-322-3616 or 1-256-880-0444 • FAX (256) 882-0859
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Fail LED: A front panel Fail LED (red) is provided that is illuminated at power up and extinguished under program control upon successful completion of user-defined diagnostics.

PHYSICAL/ENVIRONMENTAL

Temperature Range: 0 to +55 °C, operating
-20 to +85 °C, storage

Relative Humidity Range: 20 to 80 percent, noncondensing

Cooling: Forced air cooling is required for the 5 and 2 VA options

Power Requirements:

5 and 2 VA Options	Low Power Options
+5 V at 2 A	+5 V at 2 A
+15 V at 2.6 A[4]	+15 V at 50 mA[4]
-15 V at 2.6 A[4]	-15 V at 50 mA[4]

Notice — If this board is used with VMIC's Intelligent I/O Controller (IIOC) product line (VMIVME-9015, -9016A, -9017, -9027, -9065, -9066, -9067, and -9068), a quad-channel S/D board (VMIVME-4911) and SRTbus is required for Built-in-Test. The IIOC firmware is not compatible with the VMIVME-4910.

Built-in-Test DESCRIPTION — The VMIVME-4905 supports fault detection and isolation when used with the VMIC SRTbus and the model VMIVME-4911. The SRTbus is a synchro/resolver test bus that utilizes the user I/O pins on the P2 VMEbus connector. Programming the proper control bits in each output word of the VMIVME-4905 allows field disconnect and/or real-time loopback testing via the SRTbus and the VMIVME-4911. The user should refer to the VMIVME-4905 functional block diagram and the synchro/resolver (Built-in-Test) Subsystem Configuration Guide for a thorough understanding of the Built-in-Test operation.

Notice — The VMIVME-4905 is an enhanced version of the VMIVME-4900 series with different programming requirements. The VMIVME-4905 is not software compatible with the VMIVME-4900 series.

Caution — When driving instruments with one or more phase connections grounded, transformer isolation is required.

4. External ±15 V power supply required.

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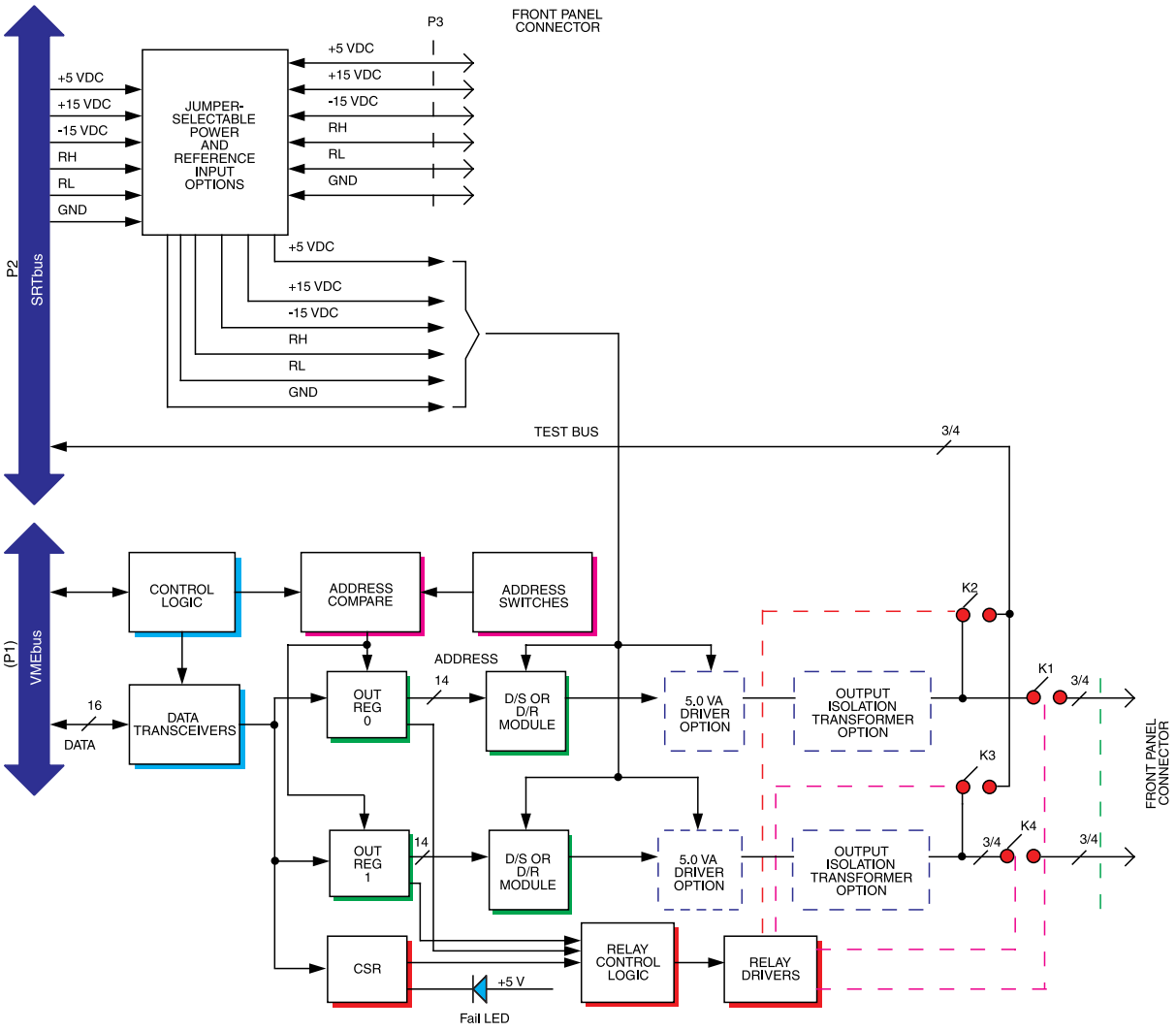


Figure 1. VMIVME-4905 Digital-to-Synchro/Resolver Functional Block Diagram

APPLICATION AND CONFIGURATION GUIDES — The following instruction manuals and configuration guides are available from VMIC to assist the user in the selection, specification, and implementation of systems based on VMIC's products.

Title	Document No.
Digital-to-Synchro/Resolver Converter Board Instruction Manual	500-004905-000
Synchro/Resolver-to-Digital Input Board with Built-in-Test Instruction Manual	500-004911-000
Digital-to-Synchro/Resolver Converter Output Board Instruction Manual	500-004900-000

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