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Find the *DDC IAC-37001* at our website: *Click HERE*



VXI REGISTER BASED SYNCHRO/RESOLVER SIMULATOR AND INDICATOR ON A CARD

DESCRIPTION

The IAC-37001 is a Register Based "C" size VXI card containing separate Synchro/Resolver Angle Generation and Synchro/Resolver Angle Measurement instruments. Each instrument is totally independent from the other and can be programmed to operate in either the Synchro or Resolver mode at 11.8, 26, or 90 volts Line-to-Line over the frequency range of 360 to 5000 Hz.

The Measurement section allows selection of 20 or 16 Bit Binary resolution. The Generation section has a resolution of 16 Bits with an accuracy of ±25 arc sec at no load and ±36 arc sec with a 1.5 VA Synchro or Resolver load.

A Dynamic Rotation feature for the Generator provides the user with constant angular rotation either clockwise or counter clockwise via a programmed data rate, or by means of external speed and direction signals.

The two instruments can be connected together under program control to implement full wrap-around test capability.

A software driver in "C" is available on request

APPLICATIONS

Applications for the IAC-37001 include production testing, quality control inspections, and laboratory instrumentation. Due to its flexibility, the IAC-37001 functions well for testing navigation equipment, antenna position, and calibration systems

FEATURES

- ***Independent D/S and S/D Functions***
- ***Programmable:***
  - ***Wrap-Around Self-Test***
  - ***L-L Voltage***
  - ***Synchro/Resolver***
  - ***Resolution***
  - ***Dynamic Rate and Direction***
  - ***Internal/External Rate Signals***
- ***Fault Register***
- ***Powered from the ±12 and +5 on the P1 Connector***
- ***VXI:***
  - ***'C' Size Card***
  - ***A16/D16 Format***
  - ***Register Based Device***

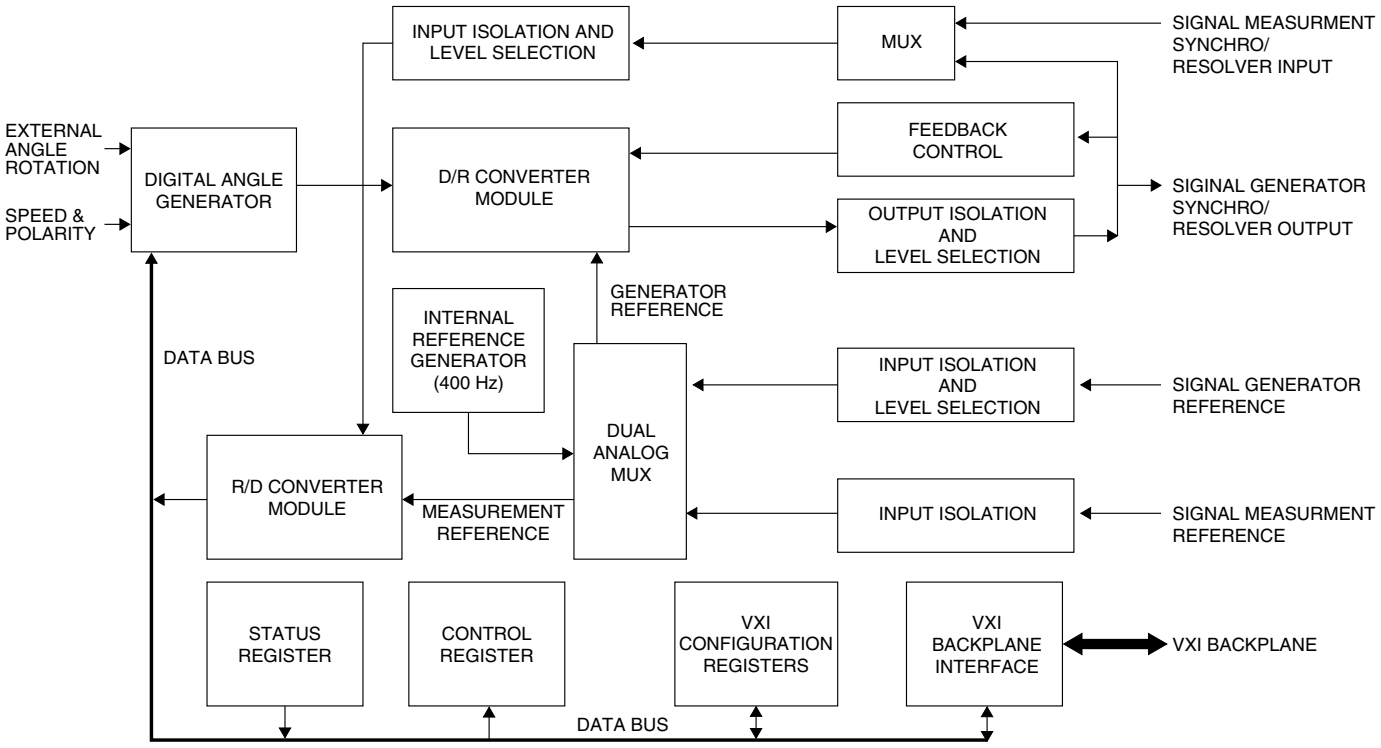


FIGURE 1. IAC-37001 BLOCK DIAGRAM

TABLE 1. IAC-37001 SPECIFICATIONS		
SIGNAL MEASUREMENT SECTION		
PARAMETER	**UNIT**	**VALUE**
RESOLUTION	Bits	20/16 programmable
ACCURACY	Arc Sec.	18(20-bit); 36(16-bit)
ANGULAR RANGE	Degrees	0 to 360
REFERENCE INPUT		
Type		transformer isolated
Voltage Range	Vrms	26 or 115 -40/+20%
Frequency	Hz	360 - 5000
Input Impedance	Ohm	100k min.
Breakdown Voltage	V	500 min.
Harmonic Content	%	10
SIGNAL INPUT		
Type		transformer isolated
Format		synchro or resolver
Voltages L-L	V L-L	11.8, 26, and 90
Frequency	Hz	360 to 5000
Phase Shift	Deg	±50 max Rel to Ref
Input Impedance	Ohm	150k min.
Breakdown Voltage	V	500 min.
DYNAMIC CHARACTERISTICS		
Tracking Rate		
16 Bit Mode	Deg/Sec	1040 min.
20 Bit Mode	Deg/Sec	65 min.
Settling Time	sec	0.5 max
PROGRAMMABLE FEATURES		
L-L Voltage Input	—	—
Ref Level (115/26 Vrms)	—	—
Synchro/Resolver	—	—
Resolution 20/16 Bits	—	—
Inhibit (Freeze Converter)	—	—
Hold (Freeze Data)	—	—
SIGNAL GENERATION SECTION		
RESOLUTION	Bits	16
ACCURACY	Arc Sec.	25 No Load 36 Full Load
ANGULAR RANGE	Degrees	0 to 360
REFERENCE INPUT		
Type		transformer isolated
Voltage	Vrms	26/11 5 programmable
Frequency	Hz	360 - 5000
Breakdown Voltage	V	500 min.
Harmonic Content	%	10 max for full accuracy
SIGNAL OUTPUT		
Type		transformer isolated
Format		synchro or resolver
Voltages L-L	V L-L	11.8, 26, and 90
Drive Capability	VA	1.5
Scale Factor	%	±3.5
Scale Factor Variation with angle	%	±0.15
Protection		output & thermal overload
Breakdown Voltage	V	500 min.
DYNAMIC ROTATION (INT)		
Rotation		constant rate CW or CCW
Resolution		12 bits binary plus sign
Range 1 (Output Steps of 0.0055 Deg)	Deg/Sec	0.17 min (LSB Weight) 686.48 (1.91 RPS) max
Range 2 (Output Steps of 0.088 Deg.)	Deg/Sec	2.68 min (LSB Weight) 10983.6 (30.5 RPS) max

TABLE 1. IAC-37001 SPECIFICATIONS (CONTINUED)		
SIGNAL GENERATION SECTION		
PARAMETER	**UNIT**	**VALUE**
DYNAMIC ROTATION (EXT)		
Range 1	Deg	0.0055 per clock tick
Range 2	Deg	0.088 per clock tick
Direction		CW or CCW
PROGRAMMABLE FEATURES		
L-L Voltage Output		
Ref Level (115/26 Vrms)	—	—
Synchro/Resolver	—	—
Dynamic Rate and Direction	—	—
Int/Ext Rate Signals	—	—
Disconnect	—	—
Converter Enable	—	—
GENERAL CARD INFORMATION		
POWER SUPPLIES	V	Powered by ±12 and +5 on the P1 connector.
Current		
+5 I_{PM}	mA	900
+5 I_{DM}	mA	30
+12 I_{PM}	mA	590
+12 I_{DM}	mA	290
-12 I_{PM}	mA	520
-12 I_{DM}	mA	280
+5 average	mA	870
+12 average (no load)	mA	175
+12 average (full load)	mA	335
+12 average (short circuit)	mA	590
-12 average (no load)	mA	110
-12 average (full load)	mA	305
-12 average (short circuit)	mA	520
TEMPERATURE RANGE		
Operating	°C	0 to +50
Storage	°C	-25 to +85
PHYSICAL CHARACTERISTICS		
Size (VXI 'C')	in	9.2 x 13.4 x 1.2

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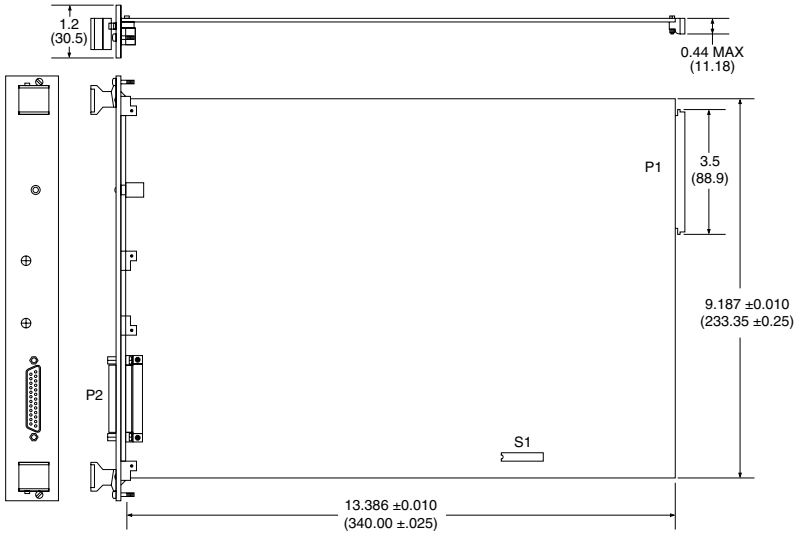


FIGURE 2. MECHANICAL OUTLINE WITH DIP SWITCH LOCATION

ORDERING INFORMATION

IAC-37001

These products contain tin-lead solder.

STANDARD DDC PROCESSING FOR DISCRETE MODULES/PC BOARD ASSEMBLIES		
TEST	**METHOD(S)**	**CONDITION(S)**
INSPECTION/WORKMANSHIP	IPC-A-610	Class 3
ELECTRICAL TEST	DDC ATP	—

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