

ARTISAN®
TECHNOLOGY GROUP

Your **definitive** source for quality pre-owned equipment.

Artisan Technology Group
(217) 352-9330 | sales@artisantg.com | artisantg.com

Full-service, independent repair center
with experienced engineers and technicians on staff.

We buy your excess, underutilized, and idle equipment
along with credit for buybacks and trade-ins.

Custom engineering
so your equipment works exactly as you specify.

- Critical and expedited services
- In stock / Ready-to-ship
- Leasing / Rentals / Demos
- ITAR-certified secure asset solutions

Expert team | Trust guarantee | 100% satisfaction

All trademarks, brand names, and brands appearing herein are the property of their respective owners.

Visit our website - *Click HERE*

8 CHANNEL DIFFERENTIAL LVDT/RVDT STIMULUS - VXIbus

WITH PROGRAMMABLE OUTPUT AND EXCITATION



FEATURES:
- 8 Differential Channels
- Programmable output
- Programmable excitation
- Wideband 360 Hz to 20 KHz
- Transformer isolation
- Ratio-metric conversion
- Message based C size VXI

DESCRIPTION:

This single slot, message based VXIbus instrument provides **eight (8) independent transformer isolated LVDT/RVDT differential output channels with wraparound self test** within a VXI compatible size "C" IAC per IEEE-STD-1014.

This card is a uniquely versatile instrument because each wideband (360 Hz to 20 KHz) output channel and each excitation input is programmable. The ratio-metric design eliminates errors caused by excitation voltage variations, and careful shielding and design techniques assure that no switching spikes will appear on the outputs.

In addition, each channel can be programmed to be controlled by an external ±10 Vdc or ±5 VDC (see part number) differential input. Maximum latency is 200 µs per channel. Output voltage is programmable as a % F.S., thus simplifying the programmer's task.

Programming is accomplished in Control Intermediate Interface Language (CIIL) using an imbedded TMA. Our design will accept the following data formats: Floating Point, Decimal, Integer, String or Scientific Notation.

This unit is in full compliance with Rev 1.3.

MODULAR CONCEPT: The IAC consists essentially of modules and relays that can be replaced in minutes.

CONFIDENCE TEST: A CNF command will cause relays to disconnect each stimulus and interconnect them to a measurement module. The microprocessor will then activate the internal reference supply and will verify the performance of each stimulus channel. This test will be completed within 1 minute and will provide 95% fault isolation to the module level. The result of this test will be reported to the IAC Bus Controller upon receipt of the STA command.

SPECIFICATIONS:

Number of Outputs:	Eight
Output voltage (Va and Vb):	(See Part Number) Transformer isolated.
Resolution:	14 bits
Linearity:	.05% FS (At 20 Khz 0.2% FS)
Load:	(See Part Number) Outputs are short circuit protected.

Regulation:	(See Part Number)
Excitation:	(See Part Number) Programmable and Transformer isolated.
Excitation Current:	1.5 mA max. per channel @ 360 Hz.
Excitation Frequency:	(See Part Number) Output voltage Va and Vb will not vary more than 1% over frequency.
Frequency Response:	Flat within 0.5%
Phase Shift:	1.5° max
Output Format (Standard):	Va - Vb = K ±1%. Transformer isolated differential output.
Outputs are out-of-phase.	Thus, at 0%: Va-Vb=10 V. Va=0 V, Vb=-10 V At 50%: Va-Vb=10 V. Va=5 V, Vb=-5V At 100%: Va-Vb=10 V. Va=10 V, Vb=0 V K is programmable via CIIL. Output voltage will vary directly with excitation voltage.
Output Format (Prefix "B"):	Va + Vb = K ±1%. Transformer isolated, differential output.
Outputs are in-phase.	Thus, at 0 %: Va+Vb=10 V and Va-Vb=-10 V At 50% Va+Vb=10 V, and Va-Vb=0.0 V At 100% Va+Vb=10 V, and Va-Vb= 10 V. The Va+Vb output is programmable using SET SCALE. The common mode voltage is defined as (Va+Vb)/2. Setting a specific value is done by sending a command string with the argument containing the desired (Va+Vb)/2 common mode value; ex. SET SCALE 4.60 would set the (Va+Vb)/2 common mode value to 2.30 Vrms.
Output Control:	The Va and Vb outputs are controllable in two different modes. **Internal Mode**: In the internal mode, the Va and Vb outputs are controlled by sending a position command string. ex. SET POSITION 40%. This single command will cause both the Va and Vb outputs to be set to the values corresponding to the desired setpoint. Selection of the internal mode is accomplished by sending the command string with an argument that contains a position between 0 and 100%. **External Mode**: In this mode, the Va and Vb outputs are controlled by an external analog signal. This differential input signal of ±10 VDC or ±5 VDC (see part number) corresponds to 0 to100% position. Selection of the external mode is done by sending a position command string with the argument set to "EXT; ex. SET POSITION EXT selects the external input.
Latency:	*Va to Vb latency*: The differential latency between Va and Vb output changes due to a change in position will be less than 500 nsec. *External Position to Output Latency:* The time between a change in the analog position input voltage and the corresponding Va and Vb outputs changing will not exceed 200 µs. *Internal Position to Output Latency:* The time between a position change commanded over the VXI bus for any given channel (i.e. SET POSITION XX%) and the corresponding Va and Vb outputs changing will not exceed 8 msec after reception of the position change command.
Temperature, operating:	-10°C to +65°C
Temperature, storage:	-40°C to +85°C

Relative humidity:	to 93% RH non-condensing
Shock:	Designed to meet 15G, 11 ms
Vibration:	Designed to meet MIL-T-28800C for class V equipment.
Altitude, operating:	10,000 feet
Altitude, non operating:	40,000 feet
Power Requirements:	±12 VDC at 200 mA +5 VDC at 500 mA
Useful life:	20 years.
Size:	"C" size (13.386" x 9.187") with 1.2" pitch. (349mm x 234 mm) with 30 mm pitch
Weight:	4.3 lbs. (1.95 Kg)
Manuals:	Supplied to best commercial practice.
Logistic support:	Will be provided.
MTBF:	249,820 hours
Max. corrective time:	0.5 hours. No preventive maintenance is required.
Calibration interval:	1 year
Connectors:	Mating connectors are not supplied.
Cooling:	External cooling is not required.

CONNECTOR J1: DD50P; Mate: DD50S

PIN	DESIGNATION	PIN	DESIGNATION	PIN	DESIGNATION
1	HI	7	HI	13	HI
18	CT	24	CT	30	CT
2	LO CH 0	8	LO CH 3	14	LO CH 6
34	EXT HI	40	EXT HI	46	EXT HI
35	EXT LO	41	EXT LO	47	EXT LO
3	HI	9	HI	15	HI
20	CT	26	CT	32	CT
4	LO CH 1	10	LO CH 4	16	LO CH 7
36	EXT HI	42	EXT HI	48	EXT HI
37	EXT LO	43	EXT LO	49	EXT LO
25	HI	11	HI		
22	CT	28	CT		
6	LO CH 2	12	LO CH 5		
38	EXT HI	44	EXT HI		
39	EXT LO	45	EXT LO		

J2: DB25P; Mate: DB25S

PIN	DESIGNATION
1	DC HI #0
2	DC LO #0
3	DC HI #1
4	DC LO #1
5	DC HI #2
6	DC LO #2
7	DC HI #3
8	DC LO #3
9	DC HI #4
10	DC LO #4
11	DC HI #5
12	DC LO #5
22	DC HI #6
23	DC LO #6
24	DC HI #7
25	DC LO #7

CODE	Output Voltage	Load	Regulation	Excitation	Frequency
None	0 - 10 Vrms	10 kΩ min	1%; 10 KΩ to No Load	2 - 10 Vrms	360 Hz to 20 Khz
-3	0 - 20 Vrms	10 kΩ min	1%; 10 KΩ to No Load	5.4 - 26 Vrms	360 Hz to 5 Khz
-4	0 - 10 Vrms	4 kΩ min	2%; 4 KΩ to No Load	2 - 10 Vrms	360 Hz to 20 Khz
-8	0 - 16 Vrms	10 kΩ min	1.5%; 10 KΩ to No Load	14 Vrms	1800 Hz
-9	0 -` 28 Vrms	15 kΩ min	6%; 15 KΩ to No Load	26 Vrms	400 Hz to 1800 Hz

Other configurations may be specified

PART NUMBER:

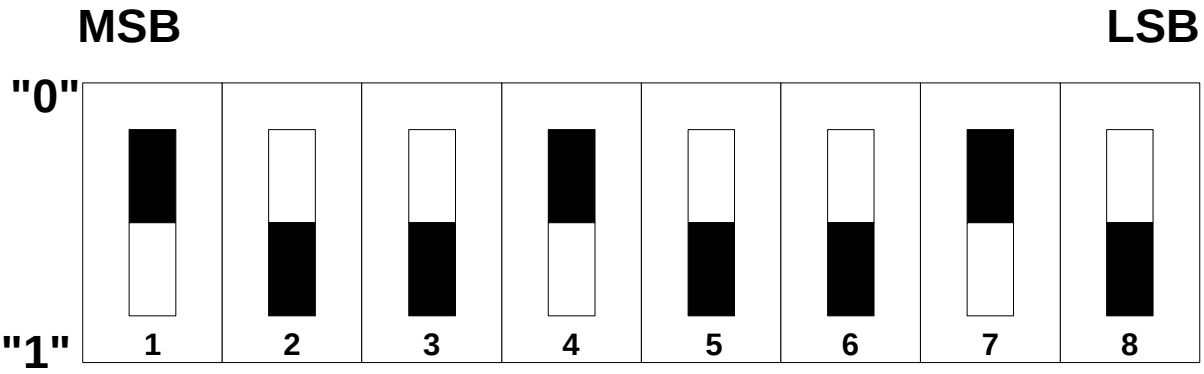
∗ 5410C-83 -∗ - ∗

- External position DC Control. Leave blank for ±10 VDC. Add “A” for ±5 VDC.
- Add Code. Leave blank for none.
- Add Prefix "B" for in-phase outputs

FRONT PANEL LAYOUT



ADDRESS SWITCH SETTING EXAMPLE

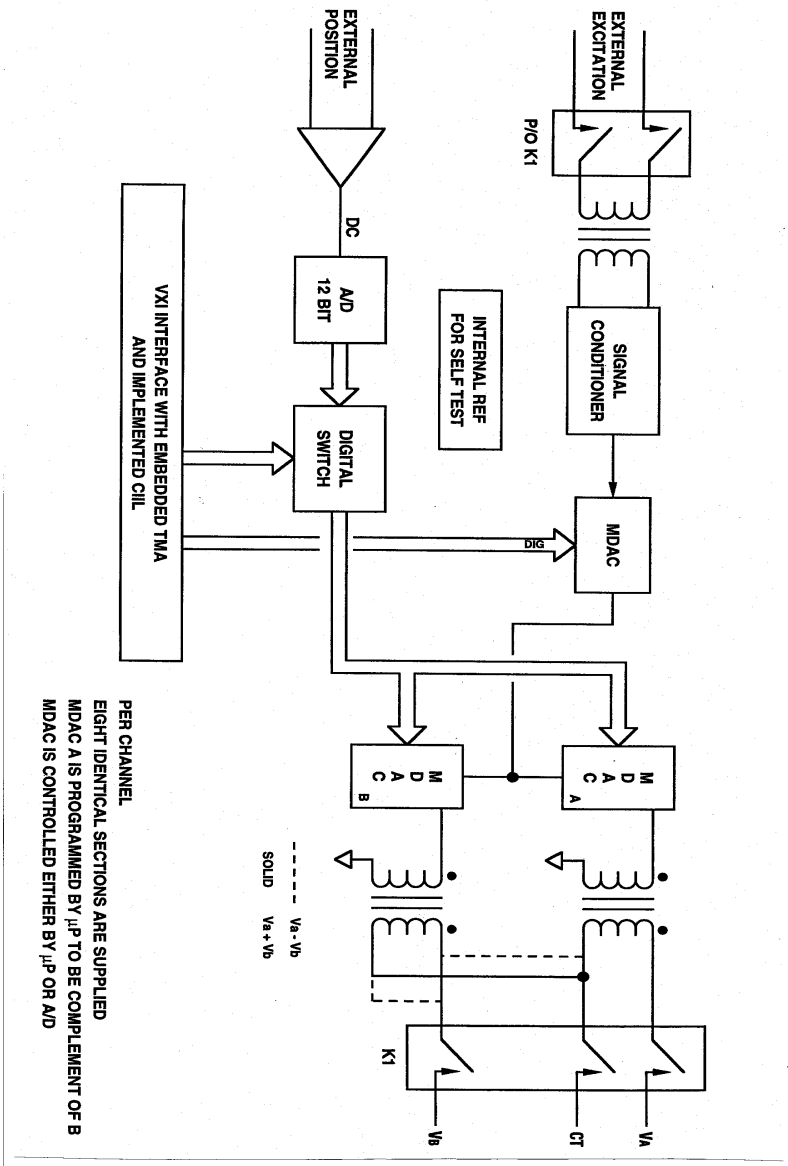


ON = "0"
OFF = "1"

EXAMPLE: 109 BINARY

(0 1 1 0 1 1 0 1)

BLOCK AND GRAPHIC DIAGRAM (for 1 out of 8 CHANNELS)



Artisan Technology Group is an independent supplier of quality pre-owned equipment

Gold-standard solutions

Extend the life of your critical industrial, commercial, and military systems with our superior service and support.

We buy equipment

Planning to upgrade your current equipment? Have surplus equipment taking up shelf space? We'll give it a new home.

Learn more!

Visit us at **artisantg.com** for more info on price quotes, drivers, technical specifications, manuals, and documentation.

Artisan Scientific Corporation dba Artisan Technology Group is not an affiliate, representative, or authorized distributor for any manufacturer listed herein.

We're here to make your life easier. How can we help you today?

(217) 352-9330 | sales@artisantg.com | artisantg.com

ARTISAN® TECHNOLOGY GROUP