



# COMPUTER CONVERSIONS CORPORATION

6 DUNTON COURT, EAST NORTHPORT, NY 11731  
PHONE (516) 261-3300 FAX (516) 261-3308

## Isolated Digital To LVDT/RVDT Converters, – BUS CARD SERIES– 14 BIT 2 WIRE MODELS, C.T. opt.

A5656-7

### SPECIFICATIONS

**Resolution:** 14 Bits, 1 part in 16,384

#### Reference Input:

**Isolation:** 500VDC MIL-T-27 Transformer Internal

**Volts/Frequency:** See Model Selection Table +/-5%

**Current:** 1ma. @ 7VRMS max.

#### Signal Outputs:

**Isolation:** 500VDC MIL-T-27 Transformer Internal

**Protection:** Short circuit, transient, and overload

**Volts/Frequency:** See Model Selection Table +/-5%

**Monotonicity:** Guaranteed over the full temp. range

**Drive:** Upto a full 2 K ohm load

**Linearity & Accuracy:** .05% typical, .1% of Full Scale max.

**Regulation:** .13% no load to full load @ 10K ohms, .6% to 2K

**Null:** (Feed through error) less than .05%

**Response Time:** 5 Usecs. max., includes settling

**Temperature Drift:** 2 ppm./°C of full scale typ.

**Power:** Bus +5VDC @ 12ma., Bus or Ext. +/-12VDC @ 50 ma.

**Data Format:** Offset Binary, MSB aligned, MSB = In-Phase, Balance represents magnitude of voltage.

**Temperature: Operating ;** -1) 0 to +70°C, -2) -55 to +105°C, -3) -40 to +85°C, **Storage;** -55 to +125°C

### DESCRIPTION

The *SLVT Series* are complete, low profile, continuously updating, single channel, Isolated *Digital to LVDT Converters* used to simulate the output of LVDT's (*Linear velocity displacement* transducers), RVDT's (Rotary...) and other phase/voltage sensitive AC devices. They provide a very *precise linear AC voltage outputs proportionate to the magnitude of the input data, in or out of phase respective of the AC reference input as determined by the MSB of the input word (offset binary format).*

These converters are complete full functioning devices that require *no trimming, padding components, or signal conditioning.* They provide a *high drive capability* of up to 2000 ohms, *real-world* voltage reference inputs, frequencies, and signal *output levels.*

All units feature completely *Transformer Isolated Reference Inputs and Signal Outputs,* to *eliminate ground loops,* differing potentials, and to keep any high voltage transients from affecting the computer bus backplane, while *assuring no interference with or between any devices* the signals are connected to.

### MODEL SELECTION GUIDE (3)

#### SINGLE CHANNEL 14 BIT, DIGITAL TO LVDT CONVERTER 2 WIRE REFERENCE, 2 WIRE SIGNALS, C.T. opt.

REFERENCE VOLTAGE	*SIGNAL LEVELS	FREQUENCY IN HERTZ	INSERT THIS CODE
7 VRMS	*7 V	3000 Hz.	L1
7 VRMS	7 V	1800 Hz.	L2
7 VRMS	3.5 V	2500 Hz.	L3
26 VRMS	12 V	400 Hz.	L4
3 VRMS	3 V	2500 Hz.	L5
28 VRMS	12.25 V	1800 Hz.	L6
7 VRMS	4.36 V	1800 Hz.	L7
7 VRMS	5.5 V	1800 Hz.	L8

NOTES: \*1) Signal levels are in-phase/out of phase 0 to Volts Line to Line shown.

2) Data Format is Offset Binary, MSB 1 = In-Phase, 0 = (-) Out of Phase, Balance of bits = 13 bits of magnitude, total 14 bit resolution, 2 LSB's of 16 bit word ignored.

3) Center-Tap Output option add a -CT to end of model #.

4) Others Request Extended Model Selection Guide.

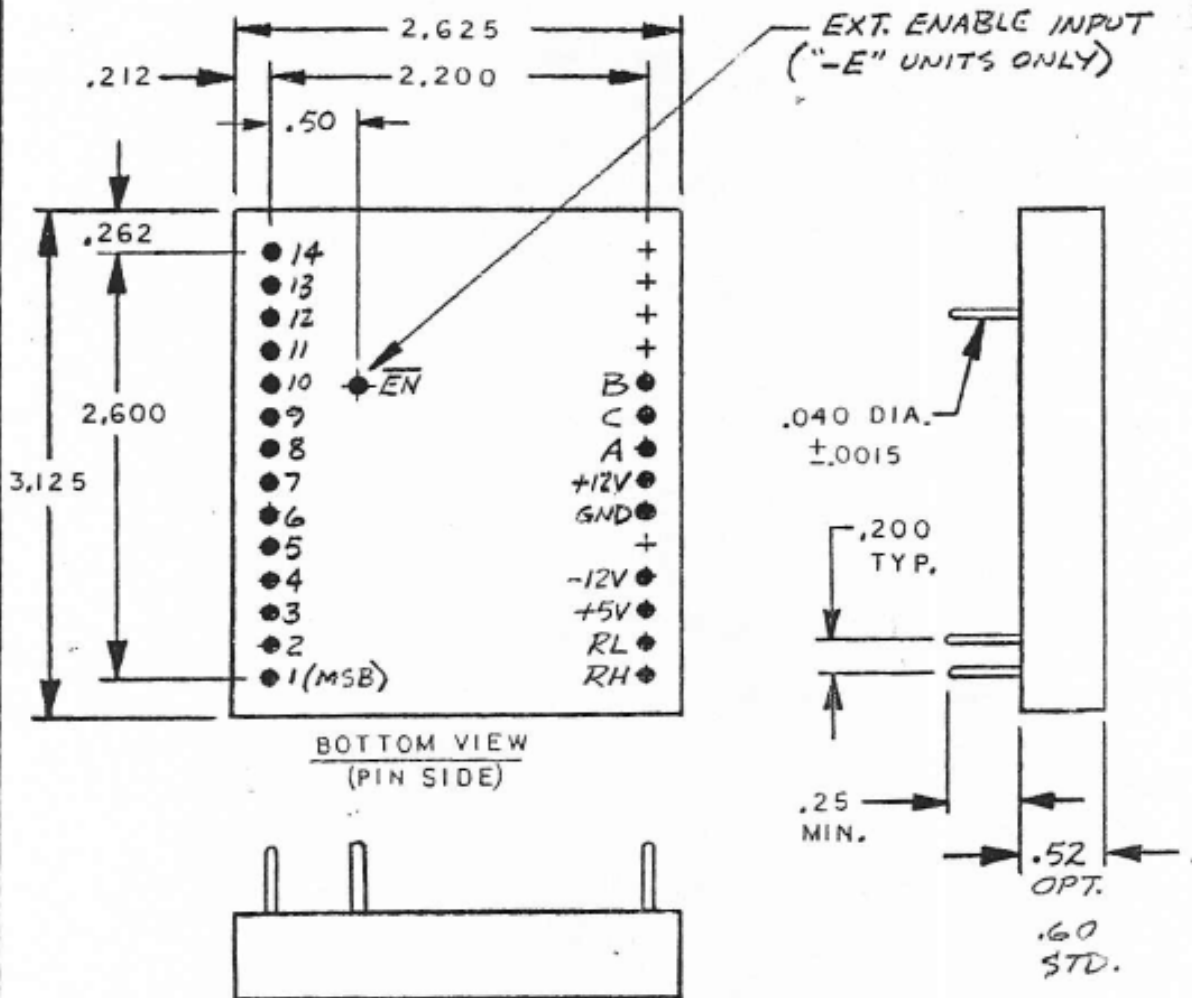
The SLVT Series feature virtually *indestructible short-circuit proof outputs,* overcurrent, short circuit protection, and automatic thermal cutoff..

The *output is crisp, continuous, monotonic, extremely stable, linear and precisely repeatable with very low ripple* content. Because no switching or multiplexing is utilized; the output requires no additional filtering and does not introduce or exhibit second frequency harmonics.

Standard units are provided with a two wire transformer output, *center-tapped transformer outputs may be selected by adding a "-CT" to the end of the model number.*

The gradient of the output is reflected as the output voltage/8192 for the out of phase range (negative displacement), and voltage/8192 +8192, for the in-phase range. (+, or positive displacement). The sum of the in-phase and out-of-phase ranges provide the total 14 Bit resolution. The data is MSB aligned.

REV-



NOTE:

CASE: DIALLYL PHTHALATE, BLACK FLAME  
RESISTANT, CONFORMING TO MIL-M-14,  
TYPE SDG-F.  
PINS: BRASS, QQ-B-626, ALLOY 360, 1/2 HARD,  
TIN PLATED PER MIL-T-10727, TYPE 1.

TOL: ±.010

<b>COMPUTER CONVERSIONS CORP</b>		
6 DUNTON COURT · EAST NORTHPORT, N.Y. 11731 · 516 261-3300		
SCALE FULL	APPROVED BY:	DRAWN BY: <i>D. VIKTOR</i>
DATE 4-9-96		REVISED
14 BIT DIGITAL TO 3 WIRE LVDT CONVERTER "S3LVDT414" SERIES		
MECHANICAL OUTLINE		DRAWING NUMBER A6510

REFERENCE INPUT..... 8V RMS, 2500Hz to 3500Hz  
 OUTPUT..... ±7.5V RMS L-L  
 OUTPUT LOAD..... 2K MIN.  
 D.C. SUPPLY REQ'D..... +5V @ 12ma MAX ( 8ma TYP)  
 (REGULATED) +12V @ 30ma MAX (20ma TYP)  
 -12V @ 30ma MAX (20ma TYP)  
 GND  
 RESOLUTION..... 14 BITS  
 ACCURACY..... ±.05% @ F.S. TYPICAL, .1% WORST CASE

DIGITAL INPUT CODES: (+FS OUT = RL-RH)

SCALE	OFFSET BINARY	
	MSB	LSB
+FS - 1 LSB	11111111111111	
+3/4 FS	11100000000000	
+1/2 FS	11000000000000	
+1/4 FS	10100000000000	
0	10000000000000	
-1/4 FS	01100000000000	
-1/2 FS	01000000000000	
-3/4 FS	00100000000000	
-FS +1 LSB	00000000000001	
-FS	00000000000000	

ENABLE INPUT ("-E" UNITS ONLY)..... LOGIC "0" = INPUT DATA LOAD  
 (TTL COMPATIBLE LOGIC)

MECHANICAL..... 2.625 x 3.125 x .52" OR .60"  
 (SEE DWG A6510 )

OPERATING TEMPERATURE..... 0°C to +70°C

OTHER VOLTAGES  
 & FREQUENCIES  
 AVAILABLE.

-2/5 - = 2VL-L OUTPUT  
 5VRMS REF

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6 DUNTON COURT - EAST NORTHPORT, N.Y. 11731 - 516 261-3300		
SCALE: <i>at</i>		DRAWN BY: <i>W. Williams</i>
DATE: 4-9-96	14 BIT DIGITAL TO 3 WIRE LVDT CONVERTER MODULE "S3LVDT414-13/26-1"	
SPECIFICATIONS		DRAWING NUMBER A6511



REFERENCE INPUT..... 2-50V RMS, 400Hz TO 3500Hz (SPECIFY)  
 TRANSFORMER ISOLATED

OUTPUT..... 2V-26VL-L (SPECIFY)  
 TRANSFORMER ISOLATED

OUTPUT LOAD..... 2K MIN. (HIGHER POWER AVAILABLE)

D.C. SUPPLY REQ'D..... +5V @ 12ma MAX ( 8ma TYP)  
 (REGULATED) +12V @ 30ma MAX (20ma TYP)  
 -12V @ 30ma MAX (20ma TYP)  
 GND

RESOLUTION..... 14 BITS

ACCURACY..... ±.05% @ F.S. TYPICAL, .1% WORST CASE

DIGITAL INPUT CODES: (+FS OUT = RL-RH)

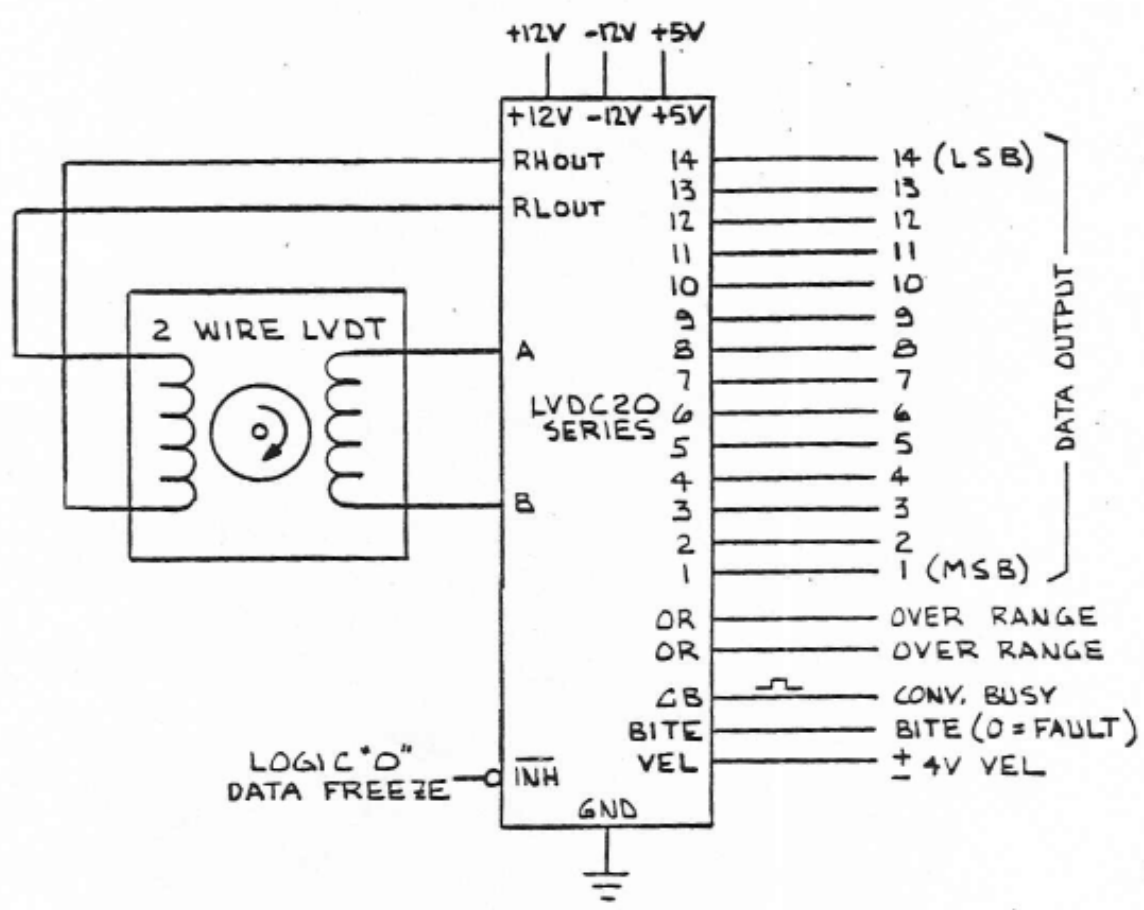
SCALE	OFFSET BINARY	
	MSB	LSB
+FS - 1 LSB	11111111111111	
+3/4 FS	11100000000000	
+1/2 FS	11000000000000	
+1/4 FS	10100000000000	
0	10000000000000	
-1/4 FS	01100000000000	
-1/2 FS	01000000000000	
-3/4 FS	00100000000000	
-FS +1 LSB	00000000000001	
-FS	00000000000000	

ENABLE INPUT ("-E" UNITS ONLY)... LOGIC "0" = INPUT DATA LOAD  
 (TTL COMPATIBLE LOGIC)  
 NOT REQ'D FOR BUS CARDS W/ LATCHES

MECHANICAL..... 2.625 x 3.125 x .52"

OPERATING TEMPERATURE..... 0°C to +70°C

<b>COMPUTER CONVERSIONS CORP</b>	
6 DUNTON COURT - EAST NORTHPORT, N.Y. 11731 - 516 261-3300	
SCALE: #	DRAWN BY: <i>J.P. Acosta</i>
DATE: 10-25-96	REVISED:
14 BIT DIGITAL TO 2 WIRE LVDT CONVERTER MODULE "SLVDT414" SERIES	
SPECIFICATIONS	DRAWING NUMBER A6511-1



<b>COMPUTER CONVERSIONS CORP</b>	
6 DUNTON COURT - EAST NORTHPORT, N.Y. 11731 - 516 261-3300	
SCALE: <i>7/8</i>	DRAWN BY: <i>R. Zigan</i>
DATE: <i>2-19-84</i>	REVISED:
2 WIRE LVDT TO DIGITAL CONVERTER "LVDC20" SERIES	
INTERCONNECTION	DRAWING NUMBER <b>A6039-1</b>