COMPUTER CONVERSIONS CORPORATION
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# LVDC SERIES

## LVDT/RVDT to Digital Converters

## Model Selection Guide



MODEL SELECTION CODES: Table T.2.

External Reference Supplied

Model Sel.

| Code | Signal Inputs | Reference In |
|---|---|---|
| V1 | 2V L-L @ 360-5000Hz. | 2VRMS |
| V2 | 3V L-L @ 360-5000Hz. | 3VRMS |
| V3 | 7V L-L @ 360-5000Hz. | 7VRMS |
| V4 | 26V L-L @ 360-5000Hz. | 26VRMS |
| V5 | 26V L-L @ 360-5000Hz. | 11.8VRMS |
| V6 | 26V L-L @ 360-5000Hz. | 12VRMS |
| VR | 10VL-L @ 400 Hz. | 26VRMS |

CCC Reference Provided Internal

| | Signal Inputs | Reference Out |
|---|---|---|
| VM | 3V L-L | 3VRMS @ 2500Hz. |
| V7 | 3V L-L | 7VRMS @ 2500HZ. |
| V8 | 7V L-L | 7VRMS @ 2500Hz. |
| V9 | 7V L-L | 7VRMS @ 400Hz. |
| VA | 26V L-L | 26VRMS @ 2500Hz. |
| VB | 11.8V L-L | 26VRMS @ 400Hz. |
| VF | 4.36V L-L | 7V VRMS @ 1800Hz. (3 WIRE) |
| VH | 12.25V L-L | 28VRMS @ 800Hz. (2 WIRE) |
| VN | 5.5V L-L | 7 VMRS @ 1800Hz. (2 WIRE) |
| VP | .4476-1.1738VL-L | 3VRMS @ 3KHz. (3 WIRE) |
| VS | | 3.9VRMS @ 2500Hz. (3 WIRE) |
| VT | | 7VRMS @ 3200Hz. (RVDT 3 WIRE) |

NOTE: OTHER VOLTAGES & FREQUENCIES AVAILABLE.

| Model Selection Guide: | |
|---|---|
| Use Basic Model # LVDC50 | 3 & 4 Wire LVDT 14 Bit Resolution |
| LVDC40 | 3 & 4 Wire LVDT 12 Bit Resolution |
| LVDC20 | 2 Wire LVDT 12 Bit Resolution |
| Add:<br>a) -V1 to -VZ for Model Code (see Table 2.2 above) | |
| b) -1 for Commercial Temp. 0-70C<br>-2 for extended (Mil.) Temp. -55-+125C | |
| example: Model: LVDC-50-V6-1 is a 14 bit LVDT/RVDT to Digital Converter, having a 3 VRMS @ 2500 Hz. reference output to .4VA load to drive the LVDT with a 3V L-L 3 or 4 Wire input. | |

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# 3 & 4 WIRE
## LVDT/RVDT TO DIGITAL SPECIFICATIONS



SPECIFICATIONS:

ALL MODELS : @25°C

| | |
|---|---|
| Resolution..... | 14 Bits, +2 over/under range MSB's |
| Accuracy..... | ±.15% of full scale ±1LSB |
| Repeatability..... | ±1LSB |
| Data Format..... | Offset Binary, See table T.1 |
| Over/Under Range..... | 2 MSB's, 01 = Positive/over-range. 11 = Negative/under-range. |
| Frequency..... | 360-5000Hz. |
| Reference-in..... | (see options) 2-50VRMS ±10% available units, 2, 3, 7 or 26VRMS ±10% standard options into 100K ohms. |
| Reference-Out..... | (optional) 2-30VRMS ±10%, up to .4VA, 2, 3, 7 and 26VRMS ±10% standard options. |
| Signal Inputs..... | 3 or 4 wire RVDT/LVDT format, specified voltage input ±10% at 360 to 5000Hz. |
| Input impedance..... | 70K ohms typical at 3 VRMS |
| Transient Protect..... | 100VDC max. w/o damage |
| Acceleration..... | (For a 1 LSB lag.) 124°/sec² typ., = 34.4% of full scale/sec² typ. |
| Power Supplies..... | +5VDC @ .8 Amp. typ. +125 ma./channel<br>+15VDC @ 25 ma./ channel, -15 @ 35 ma./channel<br>or, +12VDC @ 32 ma./channel, -12VDC @ 5 ma./channel |
| Temperature Range..... | 0 degrees C to +70 degrees C on -1 units,<br>-55 degrees C to +105 degrees C -2 units |
| Storage..... | -55 degrees C to +125 degrees C |

Notes:

1) Accuracy applies over operating temperature range, ±10% amplitude and frequency variations, & ±5% power supply variations.
2) Different input voltages and frequencies available.
3) Reference supply variations greater than 10% will cause a .1% additional error.
4) Faster settling times and higher rates available.
5) 883 Level B available on all units.

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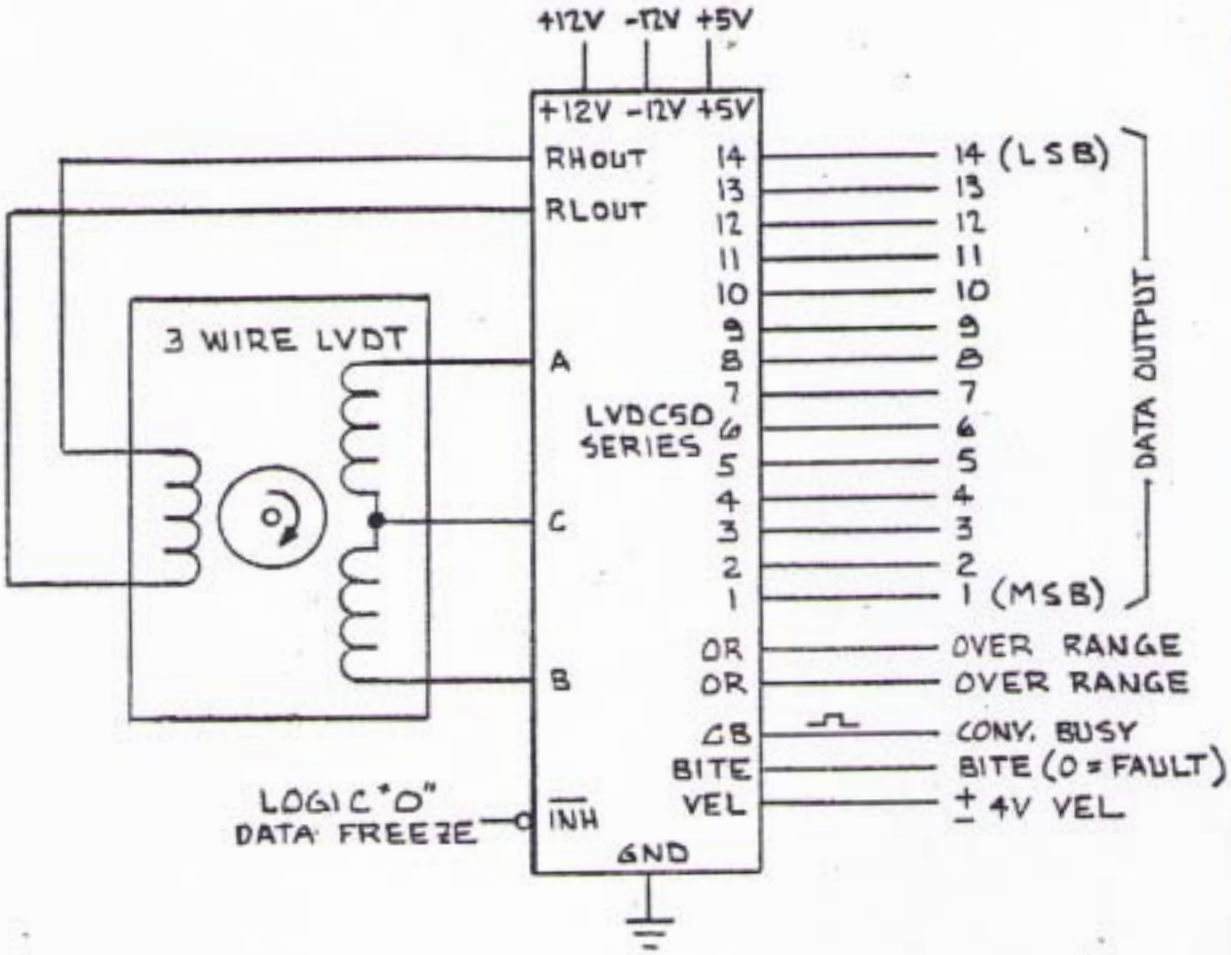
TABLE T1

| LVDT OUTPUT | BIT PATTERN (MSB) D15 | | | | (LSB) D0 |
|---|---|---|---|---|---|
| +OVER TRAVEL | 01 | XXXX | XXXX | XXXX | XX |
| +FULL TRAVEL -1 LSB | 00 | 1111 | 1111 | 1111 | 11 |
| +HALF TRAVEL | 00 | 1100 | 0000 | 0000 | 00 |
| +1 LSB | 00 | 1000 | 0000 | 0000 | 01 |
| NULL | 00 | 1000 | 0000 | 0000 | 00 |
| -1 LSB | 00 | 0111 | 1111 | 1111 | 11 |
| -HALF TRAVEL | 00 | 0100 | 0000 | 0000 | 00 |
| -FULL TRAVEL +1 LSB | 00 | 0000 | 0000 | 0000 | 01 |
| -FULL TRAVEL | 00 | 0000 | 0000 | 0000 | 00 |
| -OVER TRAVEL | 11 | XXXX | XXXX | XXXX | XX |

NOTE: 14 BIT RESOLUTION SHOWN. AT 12 BIT RESOLUTION, BITS D0 AND D1 ARE ALWAYS 0.

REV-

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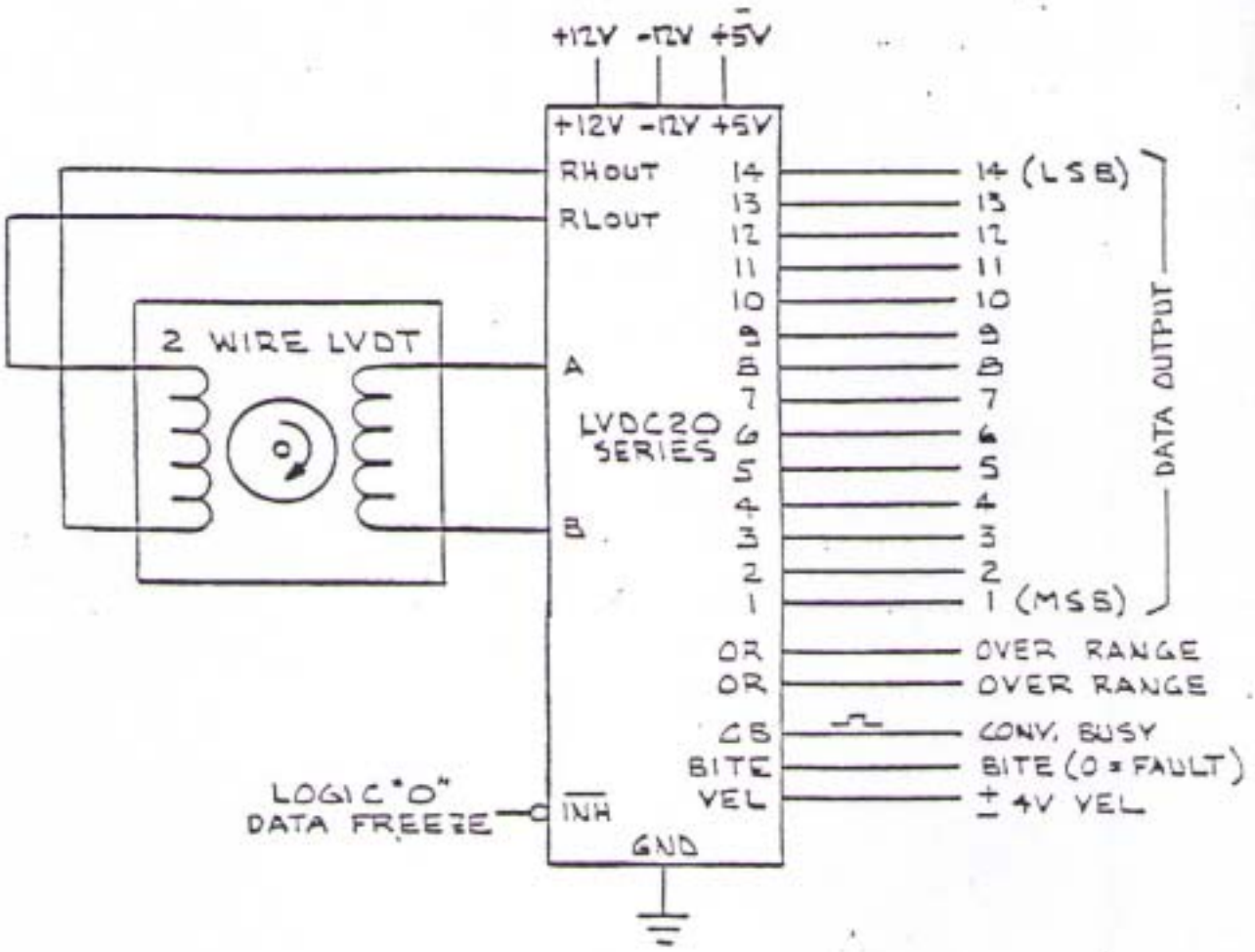
| | | |
|---|---|---|
| SCALE: NA | | DRAWN BY: R.T. |
| DATE: 2-19-94 | | REVISED: |

3 WIRE LVDT TO DIGITAL CONVERTER
"LVDC50" SERIES

| | |
|---|---|
| INTERCONNECTION | DRAWING NUMBER A6039 |

SHEET 1 OF 1

REV- A

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| | | |
|---|---|---|
| SCALE: NF | | DRAWN BY: R.F. |
| DATE: 2-19-24 | | REVISED: |

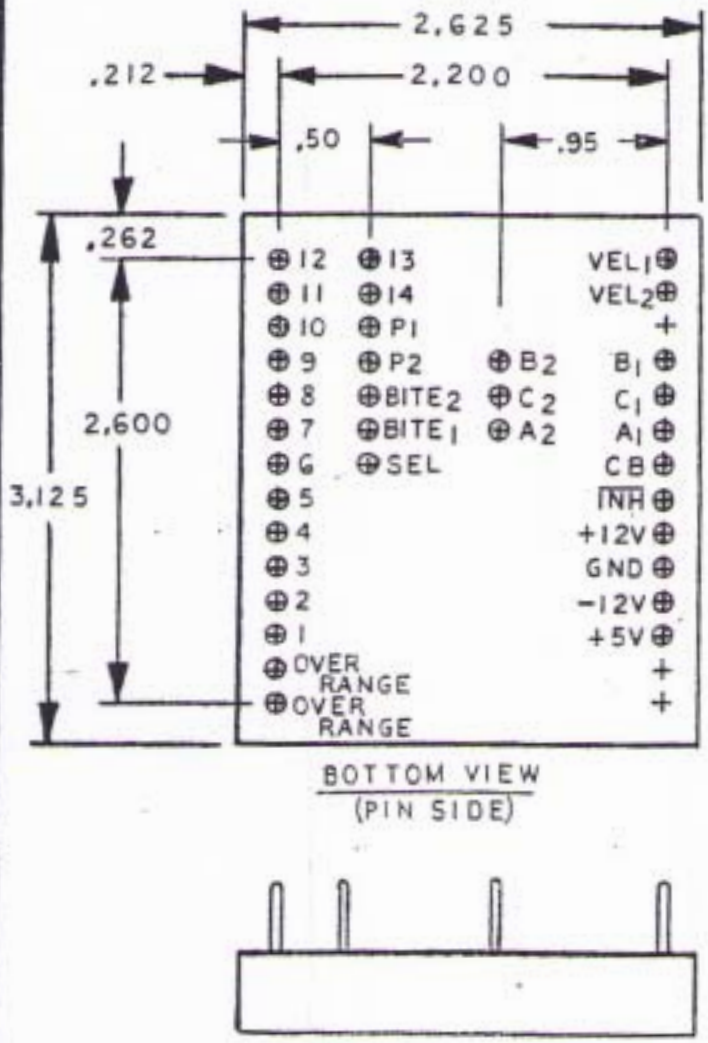
2 WIRE LVDT TO DIGITAL CONVERTER "LVDC20" SERIES

INTERCONNECTION

DRAWING NUMBER A6039-1

SHEET 1 OF 1

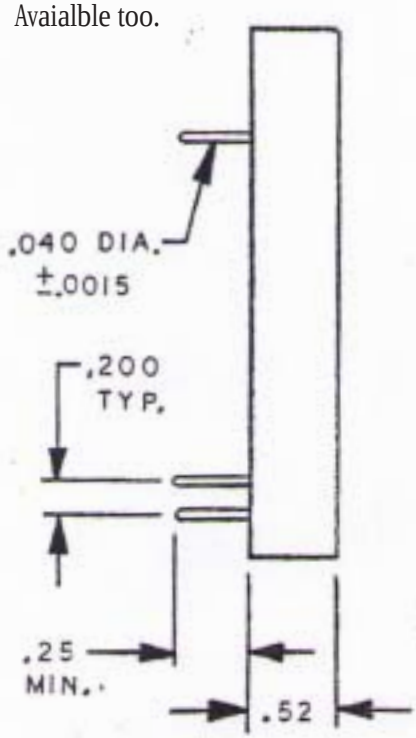
REV-




BOTTOM VIEW
(PIN SIDE)



Note:
Dual Channel Models,
Models w/ Internal Ref.
& Miniature
1.125x2.125x.42"H
Avaialble too.




NOTE:
CASE: DIALLYI PHTHALATE, BLACK FLAME RESISTANT, CONFORMING TO MIL-M-14, TYPE SDG-F.
PINS: BRASS, QQ-B-626, ALLOY 360, ½ HARD, TIN PLATED PER MIL-T-10727, TYPE 1.

TOL: ±.010

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| | | |
|---|---|---|
| SCALE FULL | APPROVED BY: | DRAWN D. VARRONE |
| DATE 7-20-95 | | REVISED |

DUAL 3 WIRE LVDT TO DIGITAL CONVERTER
"DLVDC50- -18V" SERIES

MECHANICAL OUTLINE

DRAWING NUMBER A6322-1

SHEET 1 OF 1