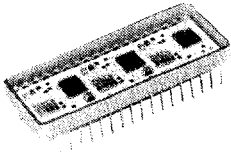


THREE CHANNEL 14- AND 16-BIT TRACKING S/D CONVERTERS



FEATURES

- Fixed 14- or 16-Bit Resolution
- Small Size 36-Pin DDIP Package
- Three Independent Converters
- Low Cost
- Velocity Output Eliminates Tachometer
- Optional $\overline{\text{BIT}}$ Output
- High Reliability Single Chip Monolithic
- -55°C to $+125^{\circ}\text{C}$ Operating Temperature Range
- MIL-PRF-38534 Processing Available

DESCRIPTION

The SDC-14610/15 Series are small low cost triple synchro- or resolver-to-digital converters. The SDC-14610 Series is fixed at 14 bits, the SDC-14615 at 16 bits. The three channels are independent tracking types but share digital output pins and a common reference.

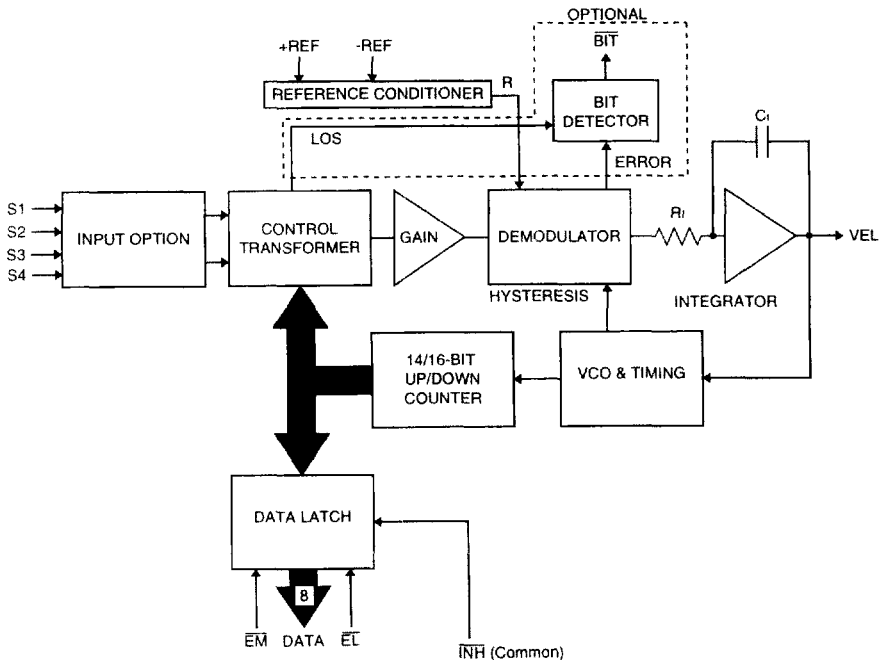
The velocity output (VEL) from the SDC-14610/15 Series, which can be used to replace a tachometer, is a 4 V signal referenced to ground with a linearity of 1% of output voltage.

A $\overline{\text{BIT}}$ output is optional and is a logic line that indicates LOS (Loss Of Signal) or excessive converter error. Due to pin limitations this option will exclude the velocity output.

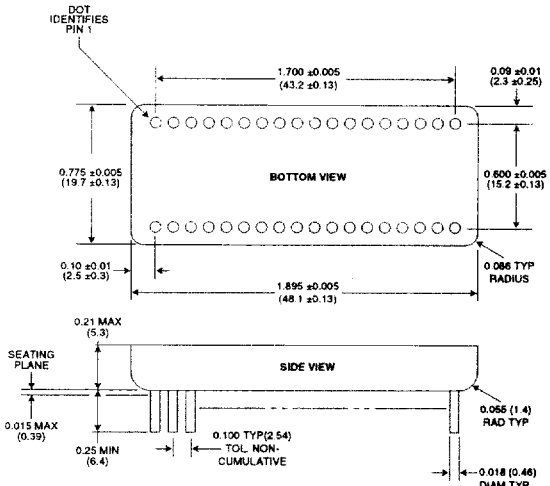
SDC-14610/15 Series converters are available with operating temperature ranges of 0°C to $+70^{\circ}\text{C}$ and -55°C to $+125^{\circ}\text{C}$, and MIL-PRF-38534 processing is available.

APPLICATIONS

With its low cost, small size, high accuracy, and versatile performance, the SDC-14610/15 Series converters are ideal for use in modern high-performance military and industrial position control systems. Typical applications include radar antenna positioning, navigation and fire control systems, motor control, and robotics.



SDC-14610/15 BLOCK DIAGRAM (ONE CHANNEL)



- Notes:
1. Dimensions are in inches (millimeters).
 2. Lead identification numbers are for reference only.
 3. Lead clusters shall be centered within ± 0.01 of outline dimensions. Lead spacing dimensions apply only at seating plane.
 4. Pin material meets solderability requirements to MIL-STD-202E, Method 208C.
 5. Case is electrically floating.

SDC-14610/15 MECHANICAL OUTLINE

PINOUTS (36 PIN)*					
1	S1A(S)	S1A(R)	N.C.	36	VEL A (Velocity Output)**
2	S2A(S)	S2A(R)	+COSA(D)	36	EM A (Enable MSBs)
3	S3A(S)	S3A(R)	+SINA(D)	34	EL A (Enable LSBs)
4	N.C.	S4A(R)	N.C.	33	INH (Inhibit)
5	GND (Ground)			32	VEL B (Velocity Output)**
6	A GND (Analog Ground)			31	EM B (Enable MSBs)
7	S1B(S)	S1B(R)	N.C.	30	EL B (Enable LSBs)
8	S2B(S)	S2B(R)	+COSB(D)	29	Bit 8/Bit 16***
9	S3B(S)	S3B(R)	+SINB(D)	28	Bit 7/Bit 15***
10	N.C.	S4B(R)	N.C.	27	Bit 6/Bit 14
11	-5 V (Power Supply)			26	Bit 5/Bit 13
12	+5 V (Power Supply)			25	Bit 4/Bit 12
13	S1C(S)	S1C(R)	N.C.	24	Bit 3/Bit 11
14	S2C(S)	S2C(R)	+COSC(D)	23	Bit 2/Bit 10
15	S3C(S)	S3C(R)	+SINC(D)	22	Bit 1/Bit 9
16	N.C.	S4C(R)	N.C.	21	VEL C (Velocity Output)**
17	-REF (-Reference Input)			20	EL C (Enable LSBs)
18	+REF (+Reference Input)			19	EM C (Enable MSBs)

Notes: * (S) = Synchro; (R) = Resolver; (D) = 2 V Resolver Direct
 ** Replaced with BIT - "T" option.
 *** Note: SDC-14615 Series only

ORDERING INFORMATION

SD-1461XT-X X X X

- Supplemental Process Requirements:**
- S = Pre-Cap Source Inspection
 - L = Pull Test
 - Q = Pull Test and Pre-Cap Inspection
 - Blank = None of the Above

- Accuracy:**
- 2 = $\pm 4 + 1$ LSB
 - 4 = ± 2 minutes + 1 LSB (Not available with 14-bit units.)

- Process Requirements:**
- 0 = Standard DDC Processing, no Burn-In (See page xiii.)
 - 1 = MIL-PRF-38534 Compliant
 - 2 = B*
 - 3 = MIL-PRF-38534 Compliant with PIND Testing
 - 4 = MIL-PRF-38534 Compliant with Solder Dip
 - 5 = MIL-PRF-38534 Compliant with PIND Testing and Solder Dip
 - 6 = B* with PIND Testing
 - 7 = B* with Solder Dip
 - 8 = B* with PIND Testing and Solder Dip
 - 9 = Standard DDC Processing with Solder Dip, no Burn-In (See page xiii.)

- Temperature Grade/Data Requirements:**
- 1 = -55°C to +125°C
 - 2 = -40°C to +85°C
 - 3 = 0°C to +70°C
 - 4 = -55°C to +125°C with Variables Test Data
 - 5 = -40°C to +85°C with Variables Test Data
 - 8 = 0°C to +70°C with Variables Test Data

- Output Option:**
- Blank = Standard Velocity Output (VEL)
 - T = Built-In-Test Output (BIT), instead of VEL

- Input Option:**
- 0 = 11.8 V, Synchro, 14 bit, 400 Hz
 - 1 = 11.8 V, Resolver, 14 bit, 400 Hz
 - 2 = 90 V, Synchro, 14 bit, 400 Hz
 - 3 = 2 V, Direct, 14 bit, 400 Hz
 - 4 = 90 V, Synchro, 14 bit, 60 Hz
 - 5 = 11.8 V, Synchro, 16 bit, 400 Hz
 - 6 = 11.8 V, Resolver, 16 bit, 400 Hz
 - 7 = 90 V, Synchro, 16 bit, 400 Hz
 - 8 = 2 V, Direct 16 bit, 400 Hz
 - 9 = 90 V, Synchro, 16 bit, 60 Hz

*Standard DDC Processing with burn-in and full temperature test — see table on page xiii.

E