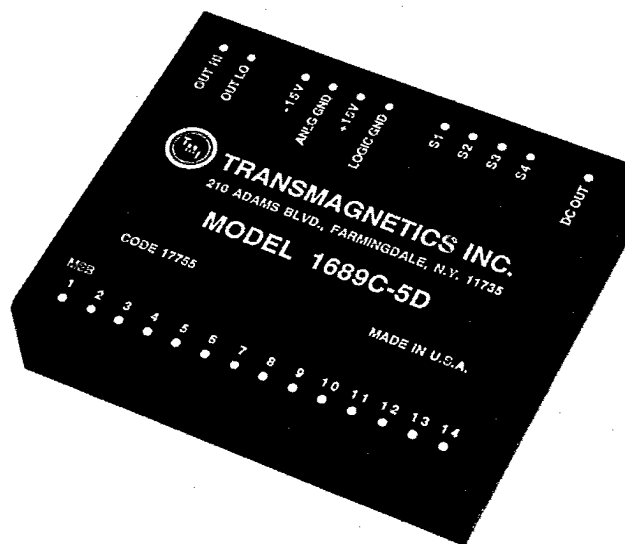




**SERIES  
1689**

Revised July 1989

## 14 BIT SOLID STATE CONTROL TRANSFORMER WITH DEMODULATED OUTPUT



### DESCRIPTION

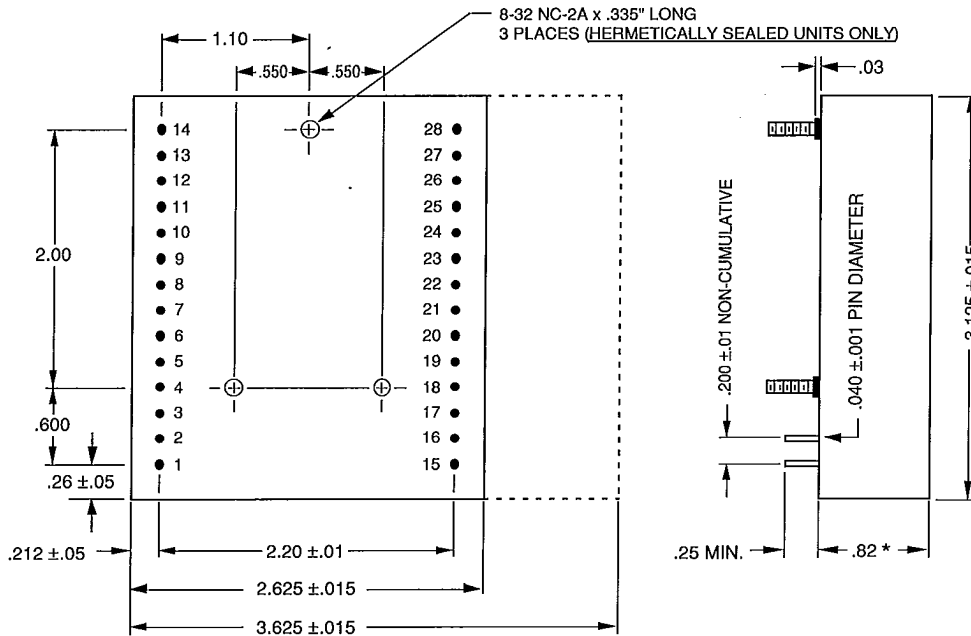
This small, solid state control transformer accepts a synchro angle together with a 14 bit angle and converts these into a bipolar DC output with magnitude proportional to the sine of the difference between the two angles.

### SPECIFICATIONS

<b>Accuracy: *</b>	±4 minutes of arc
<b>Resolution:</b>	14 bits (1 LSB = 1.3 arc minutes)
<b>Digital Input:</b>	Parallel, Positive Logic, TTL levels, Binary Coded Angle.
<b>Fan In:</b>	1 LSTTL Load
<b>Input Impedance:</b>	40kΩ min.
<b>Output:</b>	±10 VDC into 2kΩ min. Load. Output is short circuit proof. Output voltage vs. Output angle is not linear but sinusoidal. Output voltage varies directly with reference voltage.
<b>Range of Output Angle:</b>	±25 degrees
<b>Settling Time:</b>	50 milliseconds max.
<b>Power Requirements:</b>	±15 VDC, ±5% at 50mA. (±12 VDC operation available)
<b>Potting:</b>	All units are potted
<b>Operating Temperature:</b>	Model C: 0°C to +70°C    Model M: -55°C to +105°C
<b>Storage Temperature:</b>	-65°C to +105°C
<b>Weight:</b>	Approximately 6 oz.

\* Accuracy applies over the operating temperature range, ±5% Power supply, ±10% Input signal and frequency variation, and 10% harmonic distortion.

**OUTLINE & CONNECTION**

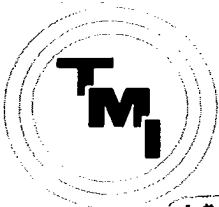
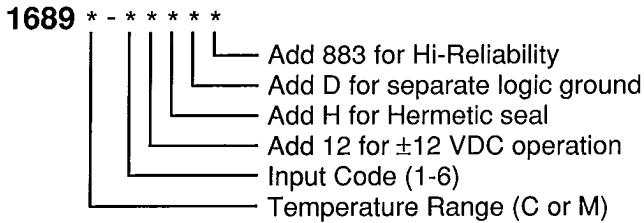


PIN	DESIGNATION
1	MSB (180°)
2	
3	
4	
5	
6	
7	BINARY
8	INPUTS
9	
10	
11	
12	
13	
14	LSB (.02197°)
15	Ref Hi
16	Ref Lo
17	N/A
18	-15 VDC
19	Anlg Gnd (±15 VDC Return)
20	+15 VDC
21	Logic Gnd
22	N/A
23	S1
24	S2
25	S3
26	S4 (Resolver only)
27	N/A
28	DC Out

INPUT CODE	INPUT	REF Vrms	FREQ (Hz) ±10%	L-L Vrms ±10%	SIZE *
1	Synchro	11.8	400	115	3.125 x 2.625 x .82
2	Synchro	90	400	26	3.125 x 2.625 x .82
3	Synchro	90	50/400	115	3.125 x 3.625 x .82
5	Resolver	11.8	400	115	3.125 x 2.625 x .82
6	Resolver	26	400	115	3.125 x 2.625 x .82

\* Hermetically sealed units are 1.0" high  
Other voltages and frequencies are available

**PART NUMBER DESIGNATION**



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