Model 8800

Synchro/Resolver Angle Position Indicator

- 0.001° Resolution
- 0.004° Accuracy
- 0-360° Display
- Auto line-to-line select
- Up to 10 kHz Frequency range
- π/6 phase sensitive detection
- Auto phase Correction

GENERAL DESCRIPTION

Based on North Atlantic Instruments Trig-Logic processor the Model 8800 truly represents a major step forward in Synchro/Resolver to digital converter technology. With a resolution of 0.001° this full tracking type II servo converter can track without velocity error to 200°/sec.

The 8800 is a programmable angle position indicator with all control and interface thru the rear connector.

π/6 phase sensitive detection inherently rejects unwanted harmonics and noise contained in the incoming signal. Built-in auto-phase correction further reduces the possibility of errors caused by quadrature and harmonics when reference and signal are out of phase by as much as 30°.

The 8800 accepts any standard line-to-line level without pre selecting or programming the input signal. This unique feature is due to an autoranging circuit that displays the applied input signal voltage level on the front panel. Two pushbutton front-panel selectable input channels are provided.

In the remote mode, the user can program the desired input channel. BCD outputs, data freeze and converter busy signals are standard features making the unit ideal for ATE applications requiring "hands-off operation".

A bright, easy to read, 0.55" Plasma Display makes the unit an easy to read instrument even in bright light.

Options include low band frequency response (47 to 440 Hz).

SPECIFICATIONS

Resolution	0.001°
Input Channels	2
Signal Inputs	Synchro or Resolver 11.8, 26, or 90 V_{L-L} auto-ranging (Non-standard input levels available; consult factory)
Accuracy	±0.004° (standard)
Frequency Range	360-1200 Hz or 47-440 Hz 360-10kHz *(consult factory)
Angular Range	0.000°-359.999°
Reference Voltage	3 V to 115 V (AGC)
Input Impedance	*Signal:* 1 MΩ min. *Reference:* 100 kΩ min.
Tracking Speed	200°/sec (standard) 75°/sec (with 47-440 Hz option)
Settling Time	1.5 s max. For 180° step change 3.0 s max. (with 47-440 Hz option)
Digital Output	6 decade BCD (1-2-4-8)
Auto Phase Correction	Unit automatically corrects for up to a 30° phase shift between stator and rotor signals.
Converter Busy	TTL compatible pulses, 1µs wide nom. Pulses present when tracking.
Temperature Range	0-70°C operating (standard)
Input Power	115/230 V_{rms} ±10% or 125/250 V_{rms} ±10% 47-440 Hz; 25 VA max.
Mating Connector	Included with 8800
Weight	6 lbs.
Dimensions	12.5" L x 9.5" W x 1.75" H

PROGRAMMING SPECIFICATIONS

Line-to-Line The 8800 senses line-to-line level automatically and indicates the level selected on the front panel mounted LED's.

Mode The 8800 channels may be remotely programmed as follows:

Channel 1	**Channel 2**
0v or Ground	*+5V or Open*

Channel Selection The front panel buttons allow the selection of Channel 1 or Channel 2 on the 8800.

ORDERING INFORMATION

Part Number	**Instrument Description**
8800-F1……	Allows for an Angular Range of (**0.000° – 359.999°**) with a Frequency Range of (**360 – 1200Hz***)
8800-F2……	Allows for an Angular Range of (**0.000° – 359.999°**) with a Frequency Range of (**47 – 440Hz**)

* Contact Factory for operation to 10KHz

J1 Pin Designations

Pin	Function	
1	Power input Hi	
2	Power input Lo	
3	Case ground	
4	Digital ground	
5	S1	
6	S2	
7	S3	CH 1
8	S4	
9	R1	
10	R2	
11	Converter busy	
12	.04°	
13	.01°	
14	.8°	BCD Outputs
15	.2°	
16	4°	
17	1°	
18	CH 2 Synchro Jumper	
19	Spare	
20	REM	
21	S1	
22	S2	
23	S3	CH 2
24	S4	
25	R1	
26	R2	
27	Data freeze (DF)	
28	.02°	
29	.08°	
30	.1°	BCD outputs
31	.4°	
32	2°	
33	8°	
34	CH 1 Synchro Jumper	
35	Scott-T Center Tap	
36	Spare	
37	Spare	
38	.008°	
39	.002°	BCD outputs
40	.001°	
41	Spare	
42	Data Freeze (DF)	
43	Remote Program	
44	0.004°	
45	20°	
46	40°	
47	80°	BCD outputs
48	10°	
49	100°	
50	200°	

Revision History

Revision	Change Made By	Date	Notes	Approved
A	Lou Garofolo	08/29/02	Web Release	LG
B1.0	Robert Skrepek	06/27/05	ECO E40331	RS
C	R. Skrepek	9-22-06	Released per ECO E50229	