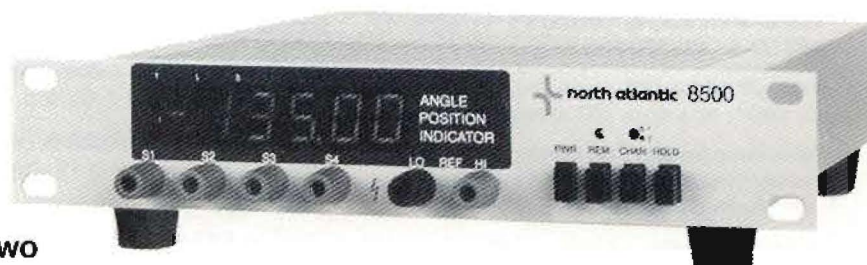


ANGLE POSITION INDICATOR

MODEL 8500

NA north atlantic
instruments, inc.
170 Wilbur Place
Bohemia, New York 11716-2416
(516) 567-1100 FAX (516) 567-1823



- High 0.03 degree accuracy on each of two channels
- Smallest IEEE-488 bus unit — conserves rack space in ATE
- Auto-compensation of phase shift errors insures maximum accuracy
- Auto-ranging adjust to any line-to-line voltage of 10-100 V
- Reliable design from the supplier of preference for over 30 years



North Atlantic, the leader in angle position indicators for over 30 years, has maintained a reputation for instruments that can be counted on to perform dependably year after year. The Model 8500 is North Atlantic's latest generation of angle position indicator, and is of particular advantage in automatic test systems. Its 1 3/4" height requires the least rack space of any IEEE-488 bus unit on the market. A BCD interface is standard in all models. The unit is also available with a kickstand and feet for bench use.

The two channels are completely independent, allowing them to be remotely switched between different inputs. Remote sensing and control also includes selection of tracking speed and unipolar or bipolar operation.

Automatic operation eliminates many typical causes of reading error, insuring accurate output information. Automatic compen-

sation of as much as ± 80 degrees of phase angle difference between the reference and the measured signal, unique in units of this type, provides readings that are precise in spite of excessive quadrature. The unit also automatically senses and adjusts to any line-to-line voltage by auto-ranging from 10-100V eliminating the need to pre-select or pre-program the input signal level. In addition, the operator is warned of the most common setup errors, including loss of reference, faulty connection or excessive synchro rates.

The 8500 has been designed to meet the exacting standards of reliability demanded of equipment incorporated in automatic test systems. In addition, no sealed assemblies are used in the 8500, so that individual components are readily accessible and the unit can be simply recalibrated or serviced in the field.

ANGLE POSITION INDICATOR

MODEL 8500 SPECIFICATIONS

Input channels: 2 selectable

Signal inputs: synchro or resolver automatic line-to-line tracking; 10-100 V L-L; *either 47-440 Hz or 360-1200 Hz

Input impedances: signal 250 kohms minimum; reference 100 kohms minimum

Reference levels: 1-115 Vrms for all frequency ranges (all synchro or resolver data to be derived from this reference)

Data available: continuous or freeze

Range*: either 0.00 to 359.99 deg., or selectable as 0.00 to 359.99 deg or 0 to 359 deg. 59 min. or -179.99 deg. to + 180.00 deg. or -179 deg. 59 min. to + 180 deg. 00 min

Reading resolution: 0.01 deg. or 1 min.

Accuracy: ± 0.03 deg.

Velocity Output: DC volt proportional to angular velocity of the input signal

Phase correction: automatically corrects for signal phase shift to ± 80 deg

Tracking speed: selectable Lo speed at 180 deg./sec (47-440 Hz) or Hi speed 1800 deg./sec (360-1200 Hz)

Settling time: 180 deg. step change in < 1.5 sec. (Lo tracking speed) or < 1.0 sec. (Hi tracking speed)

IEEE status LEDs: TALK, LISTEN and SRQ

Interface*: either parallel or parallel plus IEEE-488

Display fault indications:

No reference — all 8's displayed
No synchro or resolver connected or input line-to-line voltage too low — blank display
Over velocity — lower case "O" (left)
Lamp test — all 8's displayed

Digital output data: 5 decades of parallel BCD with separate converter busy pulses

Display: 5 decimal digits, 0.5 inches high; LED for channel and remote

Power: either 115 Vrms $\pm 10\%$, or 230 Vrms $\pm 10\%$, 47-440 Hz; 20 VA

Weight: 4 lbs (1.8 kgm) max

Operating temperature: 0-50° C

Panel color: semi-gloss gray 26440 per Fed-Std-595

*As specified when ordering; see "How to Order"

PIN DESIGNATIONS (for connector J1)

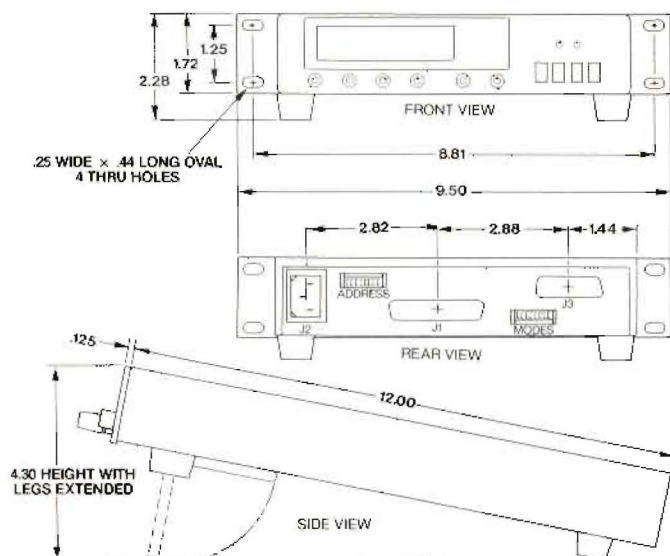
1	Power Input, Hi	Internal switch enables pins 1 & 2 and disables IEC pwr. conn.
2	Power Input, Lo	
3	Case Ground	
4	Digital Ground	
5	S1	Input Channel 1
6	S2	
7	S3	
8	S4	
9	R1	Input Channel 2
10	R2	
11	Converter Busy	
12	0.04 degrees or 4 minutes*	
13	0.01 degrees or 1 minutes*	BCD outputs
14	0.8 degrees or not used*	
15	0.2 degrees or 20 minutes*	
16	4 degrees	
17	1 degree	
18	CH2 Synchro (connect to pin 35 for CH2 operation)	

19	(NC)	
20	Tracking Hi/LO Input	
21	S1	input channel CH2
22	S2	
23	S3	
24	S4	
25	R1	
26	R2	
27	Data Freeze (DF)	
28	0.02 degrees or 2 minutes*	BCD outputs
29	0.08 degrees or 8 minutes*	
30	0.1 degrees or 10 minutes*	
31	0.4 degrees or 40 minutes*	
32	2 degrees	
33	8 degrees	
34	CH1 Synchro (connect to pin 35 for CH1 operation)	
35	Synchro Common (connection)	
36	(NC)	

37	(NC)	
38	Lamp Test	
39	Unipolar/Bipolar (F2 = 2 or 4, not used for 1 or 3)	
40	BITE Output	
41	Velocity Output (analog)	
42	Data Freeze (DF)	
43	Remote Program [0 = CH1, 1 = CH2]	
44	(NC spare)	
45	20 degrees	BCD outputs
46	40 degrees	
47	80 degrees	
48	10 degrees	
49	100 degrees	BCD outputs
50	200 degrees (F2 = 1 or 3)	
	200 degrees or sign bit (F2 = 2 or 4)	

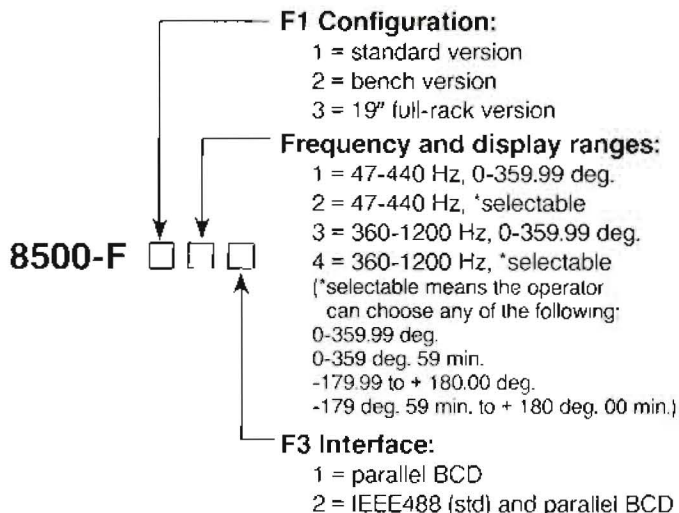
*degrees and minutes readout when F2 = 2 or 4

OUTLINE DRAWING



HOW TO ORDER

The 8500 is specified by adding a three digit number following the model number as shown below. (The standard model is a half rack version, 47-440 Hz, 0-359.99 deg., parallel interface only, designated as Model 8500-F111)



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SPECIFICATIONS ARE SUBJECT TO CHANGE