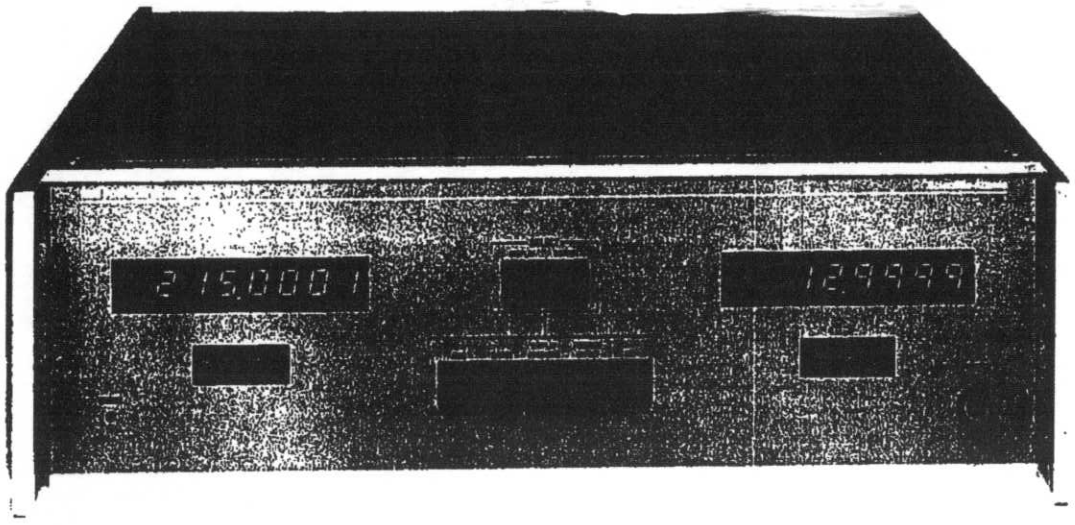
Model 1880 Position Indicator



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Features

- Processes and Display Up to Six Axes of Position Data
- Fast Update Rate
- Compensates for Velocity Related Errors
- IEEE-488 Programmable
- Remotable via RS-232C/449 Link
- Programmable Angle Offset

Description

The Series 1880 Position Indicator provides high resolution display of angular position data from both synchro and encoder position transducers. The Series 1880 can monitor up to six axes of mixed synchro and encoder information. Any two axes of encoder data can be displayed simultaneously with a resolution of 0.0001 degrees. BCD formatted data for any two axes can also be output simultaneously, while six axes of position data are available via the IEEE-488 Interface. The Position Indicator is compatible with all standard Scientific-Atlanta test positioners and antenna instrumentation systems.

Fast Update Rates

The Position Indicator has a maximum update rate of 400 nanoseconds — making it ideal for use in automatic measurement systems.

Remote Operation

The Model 1885 Position Indicator can be located up to 200 feet from encoder packages or 2,000 feet from synchro packages. When greater separation is required between the indicator and the positioner, the 1886 Position Data Processor should be used.

The Model 1886 Position Data Processor can covert three synchro/encoder inputs into RS-232C/449 digital formats and transmit the position data over a dedicated twisted pair cable up to 4,000 feet. Unlimited indicator/positioner separation may be obtained by using modems and a digital link to transmit data.

Compensation for Velocity Related Errors

Normally, when antenna measurements are made while the positioner is in motion, a measurement time lag results in a continuous error between the true position of the

Model 1880 Position Indicator *continued*

axis and the indicated position. However, the Model 1885 Position Indicator corrects errors associated with this time lag by sampling the acquired position data over a determined time interval and computing the rate of change of the positioner's displacement. This data is used to predict the position data output.

Specifications

Accuracy at Constant Velocity
- Synchro
  - Single Speed 1:1 ±0.5°
  - Dual Speed 1:1 & 36:1 ±0.01°
  - Inductosyn® 1:1 & 256:1 ±0.001°

Resolution
- Synchro
  - Single Speed 1:1 0.1°
  - Dual Speed 1:1 & 36:1 0.001°
  - Inductosyn® 1:1 & 256:1 0.0001°

Update Rate
- Internally or Externally Triggered 400 ns

Models 1885 & 1886 Inputs

Angles Inputs		Speed	Stator Voltage	Frequency
Size 23	Synchro	1:1	90 V	50/60 Hz
Size 23	Synchro	1:1 & 36:1	90 V	50/60 Hz
Size 15	Synchro	1:1	90 V	50/60 Hz
Size 15	Synchro	1:1 & 36:1	90 V	50/60 Hz
Size 15	Synchro	1:1	6 V	50/60 Hz
Size 15	Synchro	1:1 & 36:1	6 V	50/60 Hz
Inductosyn®	Encoder	1:1, 256:1	(Internally Supplied)	

115 V Rotor Voltage for Size 23 Synchro

Model 1885
- IEEE-488 Bus
- Axis Select from Model 2012A

Model 1885 Output
- IEEE-488 Bus
- Two channels of parallel BCD position data
- 20 V Rotor voltage for size 15 synchro internally supplied
- 115 V Rotor voltage for size 23 synchro externally supplied
- Two channels of display, 7 segment, 0.5 inch LED
- Two alphanumeric axis labels, 8 characters, 0.197 inch diode matrix
- Axis Select to Model 2013

Model 1885/1886 Interface
- RS-232C/449 multiplexed angle information for up to 3 axes

Dimensions
- 5.25 in. H x 19 in. W x 21 in. D
- (13.4 cm H x 48.3 cm W x 53.3 cm D)

Power
- 115 V ac, 6 A ±10% or 230 V ac, 3 A ±10%, 50/60 Hz

Weight
- Model 1885 27 lbs (12.3 kg)
- Model 1886 27 lbs (12.3 kg)

Model 1880 Position Indicator *continued*

Operating Temperature
Model 1885 0°C to 50°C
Model 1886 0°C to 55°C
(Operation to -20°C available for Model 1886 with heated outdoor enclosures P/N 458710.)

Ordering Information

The Models 1885 and 1886 are ordered separately. All cables are ordered as accessory items.

When ordering 5051-X or 5059-X cables please specify the model number of the positioner, position display unit, and position control unit to be used with these cables. Also, advise factory of any outdoor enclosures or consoles that may alter the cable termination required.

Refer to the diagrams below when ordering cables.

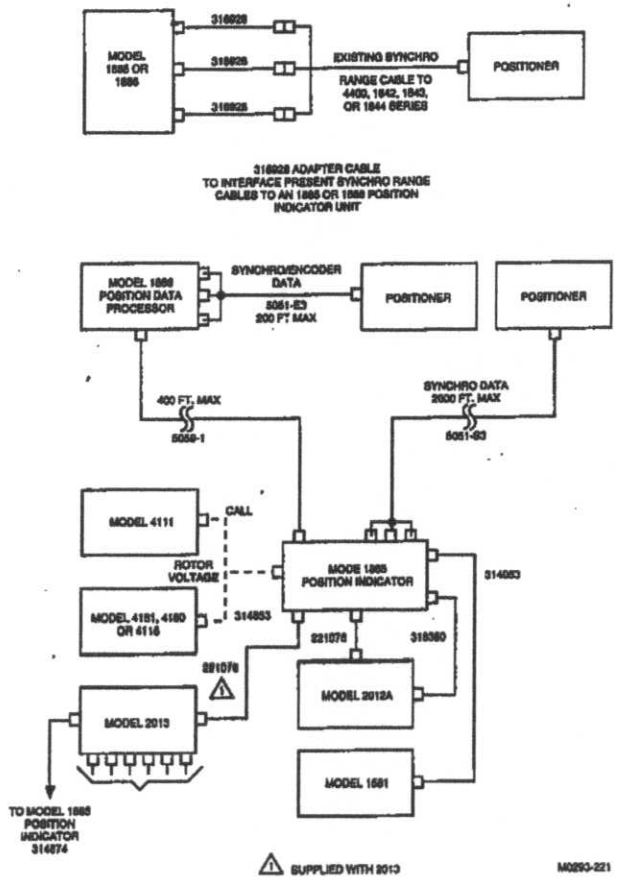
Model 1885 byte serial BCD output is not compatible with the Model 1581.

Options

( )-20 20 V rotor voltage operation

Accessories

One-Axis Synchro Range Cable, 5051-S1
Two-Axis Synchro Range Cable, 5051-S2
Three-Axis Synchro Range Cable, 5051-S3
One-Axis Synchro/Encoder Range Cable, 5051-E1
Two-Axis Synchro/Encoder Range Cable, 5051-E2
Three-Axis Synchro/Encoder Range Cable, 5051-E3
Model 2256-5 Stand-Alone, 5-1/4 inch Cabinet
Outdoor Enclosure for Model 1886 and Model 4181/4139 PAU – P/N 458710
Outdoor Enclosure for Model 1886 – P/N 315215
2012A to 1885 or 1885 to 2013 Axis Select Cable, 10 ft – P/N 221076
1885 to 2013, Synchro Data Only Cable, 10 ft – P/N 314874
1885 to 1581 Parallel BCD Cable, 10 ft – P/N 314053
4180/4160/4116 to 1885/1886 115 V ac Rotor Voltage Cable, 10 ft – P/N 314853
1885 to 1886 Serial Link Cable, 4,000 ft max, 5059-1
1885/1886 to Modem Cable, RS-232C, 10 ft – P/N 314055
Mating Connector Kit for 1885 or 1886, J1 through J9 – P/N 314623
1885 to 2012A Parallel BCD, 10 ft – P/N 316350
Accessory Kit for Model 1885 of 1886 – P/N 315470
Indoor Cable, 1885/1886, 8 ft – P/N 318344
Adapter Cable, Single Axis Synchro (for existing synchro cables to 1885/1886) – P/N 316928



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Models 1885 and 1886 Cabling Diagrams