



FEATURES

- Synchro or resolver analog input
- TTL/CMOS compatible digital input
- 10-12-14 bit resolution
- Single-ended ac output
- Low 600 mW power consumption
- No +5V supply required

APPLICATIONS

Precise Velocity and Position Control —
 Multi-System Velocity and Position
 Synchronization — Machine Tool Controls —
 Robotics

GENERAL DATA

The 180A series accepts either 3-wire synchro or 4-wire resolver input signals and either 10, 12 or 14 digital (TTL/CMOS) angle data. The output signal is a single-ended ac voltage equal to the sine of the difference angle between the synchro or resolver input (θ) and the digital input angle (ϕ).

ELECTRICAL SPECIFICATIONS

Parameter	Value		
	180A200	180A300	180A100
Accuracy ⁽¹⁾	±15 min	±6 min	±4 min
Resolution	10 Bit	12 Bit	14 Bit
Digital Input	Natural parallel binary angle TTL compatible CMOS		
Synchro/Resolver Input ⁽²⁾⁽³⁾	11.8V rms L-L into 100 kohms 50 to 440 Hz 90V rms L-L into 800 kohms 50 to 440 Hz		
Output Signal ⁽⁴⁾⁽⁵⁾	0.4V rms/degree (11.8V) 1.0V rms/degree (90V)		
Output Range	±7° from null		
Power Supplies	+15V 25 mA max (20 mA typ) -15V 25 mA max (20 mA typ)		
Temperature Ranges	Operating 0°C to 70°C -55°C to 105°C ET Storage -65°C to 125°C		

Dimensions

3.125" x 2.625" x 0.42"

Weight

3.5 oz.

NOTES:

- (1) Accuracy applies for:
 - (a) ±5% variation of power supplies
 - (b) ±10% signal amplitude variation
 - (c) up to 10% harmonic distortion of synchro input
 - (d) over operating temperature range
- (2) Solid-state Scott-T, or solid-state differential
- (3) Other input voltages available
- (4) Other voltage gradients available
- (5) Single-ended op amp output (10 mA max) with a voltage gradient variation of less than 2%.

ORDERING INFORMATION

180A Suffix	Input Type	L-L Voltage
X00	SYNC	11.8V
X01	SYNC	90.0V
X02	RSVR	11.8V
X03	RSVR	90.0V

X in part number determines resolution

X = 1 for 14 bit converter

X = 2 for 10 bit converter

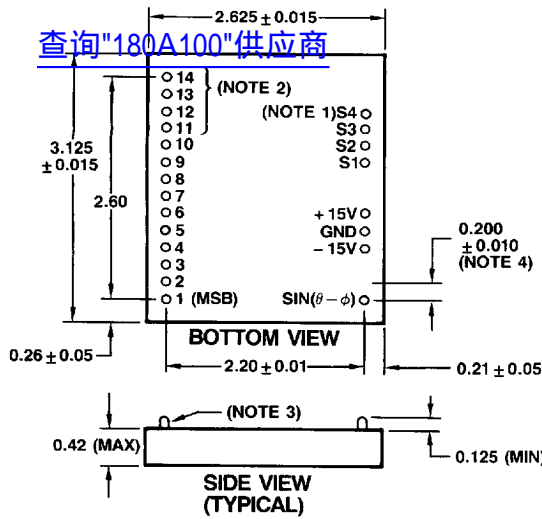
X = 3 for 12 bit converter

Standard temperature range (0° to 70°C); add suffix ET to part number for extended temperature range (-55°C to 105°C).

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MECHANICAL OUTLINE



NOTES:

1. S4 pin appears on resolver input models only.
2. 14-bit units have 14 bit pins.
12-bit units have 12 bit pins.
10-bit units have 10 bit pins.
3. Rigid 0.040 diameter pins suitable for solder-in or plug-in applications.
4. Noncumulative.
5. Module size includes 50 to 1200 Hz applications.
6. Dimensions are in inches unless otherwise specified.

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