



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		
Accuracy ⁽¹⁾	180A200	180A300	180A100
	± 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

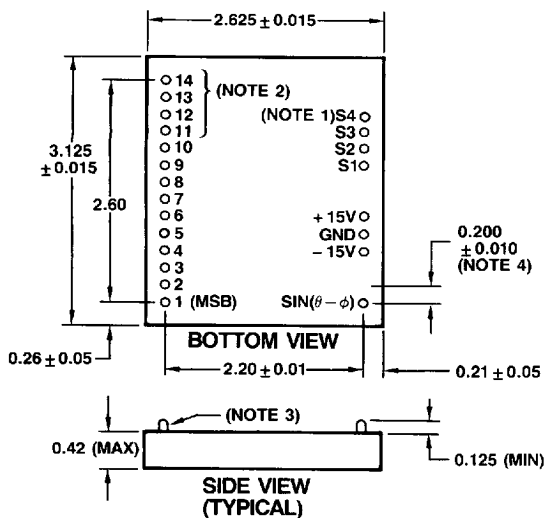
X = 3 for 12 bit converter

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.