

# ILAPS™

# AN101101

INTRINSICALLY LINEAR ANGULAR POSITION SENSOR

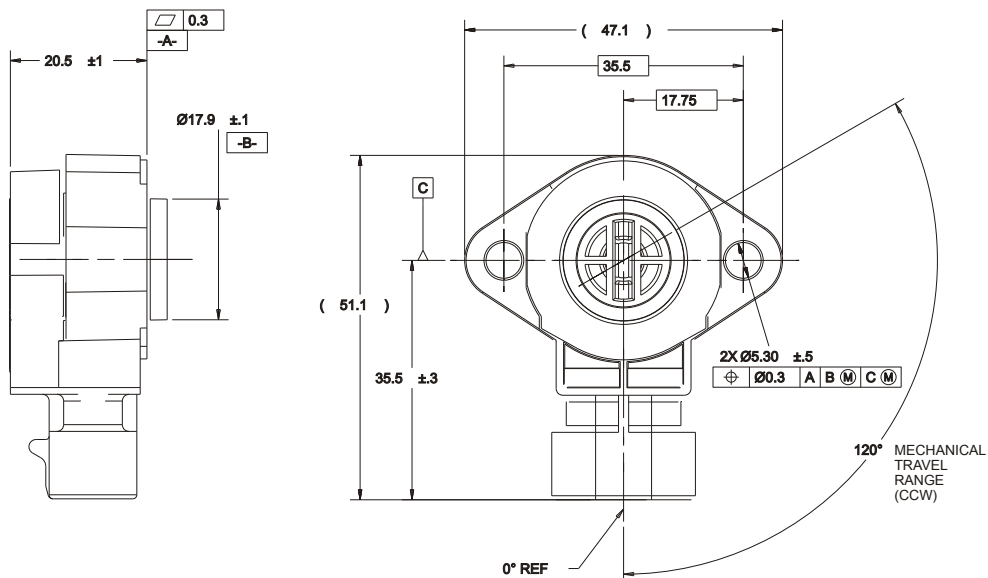


### FEATURES:

- Patented non-contact angular position sensor.
- Magnet/sensor orientation provides intrinsically linear output over 120 degree maximum travel without need for electrical compensation.
- Provided with programmed output or end-user re-programmable to eliminate mechanical and process tolerances in your final assembly.
- Adjustable rising or falling output slope with programmable offset, gain, temperature compensation, and clamping voltage.
- Return spring provides resistance to CCW motion.
- Provided with EMI/ESD protection.
- Fully encapsulated electronics to IEC 529 IP67.
- ILAPS technology can be custom packaged to meet your exact requirements (minimum quantities apply).

### APPLICATIONS:

- Throttle and valve position sensing
- User interface controls (vehicles, gaming)
- Pedal position sensing
- Implement position sensing
- Gear selection
- Joystick position





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## MECHANICAL SPECIFICATIONS:

MECHANICAL TRAVEL	120° CCW maximum rotational sensing range
ROTATION TORQUE:	0.12N-m max with return spring
MASS:	12 grams
LIFE:	+10 million full cycles
DITHER: (2° TRAVEL)	+80 million cycles
MATING CONNECTION	Connector: Packard metri-pack 150 12162185 Terminal: 12124075

## ELECTRICAL SPECIFICATIONS:

EFFECTIVE ROTATIONAL SENSING RANGE:	0° to 120° functional output (with no overtravel)
INPUT VOLTAGE:	5.0V ± 10%
INPUT CURRENT:	10mA, max. at 5 VDC
INPUT CURRENT, OUTPUT(S) SHORTED TO GROUND:	25mA, max, per output
MAX. OVERVOLTAGE:	24V DC
SENSOR OUTPUT @ 5VDC: (RATIOMETRIC TO INPUT VOLTAGE)	0.5V TO 4.5V max. Programmable within 5% to 95% of the nominal voltage with positive or negative slopes
OUTPUT LINEARITY @ 5VDC: (ANALOG OUTPUT)	±2.0%
RESOLUTION:	Analog
RESPONSE TIME:	.23mSEC
BULK CURRENT INJECTION	SAE J1113-4, 250kHz TO 500MHz., 60mA/m
CONDUCTION AND COUPLING	SAE J1113-12, ±200V
ELECTRONIC DISCHARGE	SAE J1113-13, ±15kV
RADIATED IMMUNITY	SAE J1113-21, 10kHz TO 18GHz, 100V/m
IMMUNITY TO MAGNETIC FIELDS	SAE J1113-22, 600uT AC Field, 5Hz to 2kHz, .2mT & 1mT DC Field
IMMUNITY TO AC FIELDS	SAE J1113-25, 15,000V/m
RADIATED EMISSIONS	SAE J1113-41, Class 4

## ENVIRONMENTAL SPECIFICATIONS:

VIBRATION:	10 G's peak, 20 Hz TO 1000 Hz
SHOCK:	20 G's, half sine pulse, 13 ms duration
OPERATING TEMPERATURE:	-40° C to +85° C (-40° C to +125° C optional)
STORAGE TEMPERATURE:	-55° C to +150° C

Specifications subject to change without notice.

AN101101 120 degree Sensor Output

