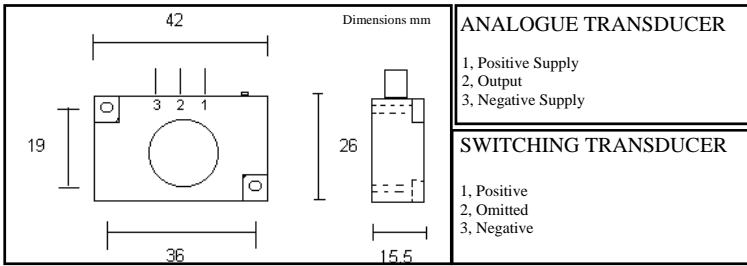


TRANSDUCER DATA SHEET

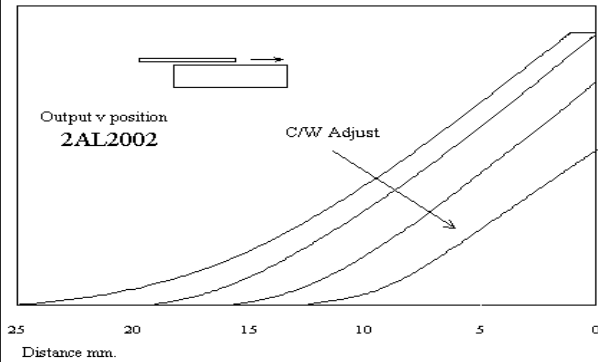


GENERAL SPECIFICATION 2ALXXX series

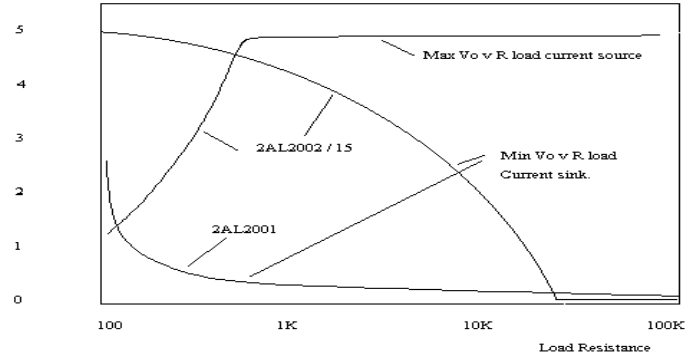
Temp Coefficient (typ)	5mv/ °C
Storage Temperature	-40 to +125 °C
Operating Temperature	-25 to +70 °C
Relative Humidity	100%

OPERATING CHARACTERISTICS

Typical output with 25x25x1mm piece of aluminum over the 20mm diameter target area, 1mm above the surface.



Maximum and minimum voltage versus Load resistance



ANALOGUE TRANSDUCERS		2AL2001	2AL2002	2AL2013	2AL2015	UNITS
(1)	Supply Voltage	3.5 - 15	3.5 - 15	7 - 18	5 - 6.2	Volts
(2)	Supply Current	0.75	0.85	18 Max	10.0	Milliamperes
	Output Max	Vs-5mv	Vs-5mv	5 (min)	5 (min)	Volts
	Output Min	0.6	0.005	0.1	0.005	Volts
	Slope	Positive	Positive	Negative	Positive	
(3)	Sink Current Max	100	0.3	0.3	0.3	Milliamperes
	Source Current Max	0.33	30	30	30	Milliamperes
	Duration of Short Circuit	n/a	Indefinite	Indefinite	Indefinite	
	Operating Range	0 - 15	0 - 15	0 - 15	0 - 15	Millimetres

Note 1, Model 2AL2015 may be supplied from higher voltages provided the current supply is limited to 10mA maximum. $R_s(\text{ohms}) = (V_s - 6.2) / 0.01$

Note 2, Values are at $V_{ss}=5v$ and on no load. When sourcing current the value of the load current will add to the supply current.

Note 3, The sink current on the 2AL2001 must be externally limited to a maximum of 100mA.

Note 4, The duration of short circuit current is indefinite for load supply voltages up to 10 volts. For higher voltages the S/C time must be limited to 5 seconds.

SWITCHING TRANSDUCERS		2AL2101	2AL2110	2AL2201	2AL2210	UNITS
(1)	Switching Type	Voltage	Voltage	Current	Current	
	Supply Voltage	3.5 - 15	3.5 - 15	n/a	n/a	Volts
(2)	Supply Current	0.85	0.85			Milliamperes
(3)	Sense Response	Increase	Decrease	Increase	Decrease	
(4)	Sink Current Max	100	100	0.6	0.6	Milliamperes
	Source Current Max	30	0.01	100	100	Milliamperes
	Quiescent Output Voltage	0.005	Vs-5mv	Vs-0.006.Rload	3.5	Volts
	Output Voltage (operated)	Vs-5mv	0.005	3.5	Vs-0.006.Rload	Volts
(5)	Duration of Short Circuit	Indefinite	Indefinite	Indefinite	Indefinite	
	Sensing Range	0 - 15	0 - 15	0 - 15	0 - 15	Millimetres

Note 1, Voltage switching types are 3 terminal models and output switches between supply rails. Current switching types are 2 terminal devices and current supply changes at the sensing point.

Note 2, Values are at $V_{ss}=5v$ and on no load. When sourcing current the value of the load current will add to the supply current.

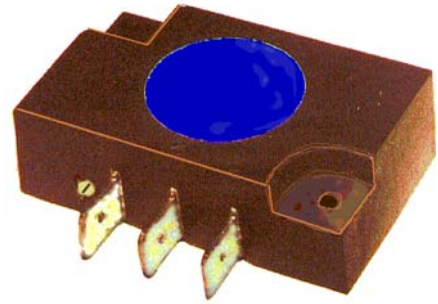
Note 3, The sensing response indicates the change in parameter when the target is sensed.

Note 4, The sink current on 2AL2101 and 2AL2110 must be externally limited to a Max of 100mA.

Note 5, The duration of short circuit current is indefinite for load supply voltages up to 10 volts. For higher voltages the S/C time must be limited to 5 seconds.

PROXIMITY TRANSDUCER

INTRODUCTION



Using a new approach to proximity sensing, the sensor module provides a potentiometric output, varying between the supply rails, depending on the proximity of a section of non-ferrous metal to the target area on the face of the module.

Operation is simply achieved by arranging for a piece of non-ferrous metal to either approach, or pass across, the face of the module as the pedal is depressed.

The Sloan transducer module is of robust construction and is encapsulated using an epoxy resin in a flame retardant case to enable reliable use in harsh environments where wide temperature or humidity ranges can occur.

The flat design makes it suitable for use in positions where access is impossible with other threaded rod type transducers.

Both switching and analogue voltage or current output transducers are available. Versions with supply current of less than 1ma are common and therefore provide a very efficient interface with almost any control system.

As no mechanical connection is made between the “target” and the transducer, no wear takes place, providing, in the case of the analogue transducer, a control method that can last a lifetime.

The very repeatable output allows for positional control of objects of any size to much less than 1mm at an unbelievably competitive price.

APPLICATIONS

Applications range from its use to replace potentiometers, including centre zero types in accelerator units for electric vehicles, position sensors on hydraulic rams, cranes or any situation which requires the sensing of the relative position of two separate objects. The standard transducer operates with only non ferrous, conductive materials or non conductive magnetic materials, so despite being only 15mm thick, it may be assembled directly onto steel plate and detect the presence of Aluminium or Brass plate at a distance of up to 20mm from the transducer target area. They are sensitive to materials of any thickness and can even detect the difference between plated and unplated mild steel.