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Production Data Sheet AL2nb – Normally Blocked

Specification	AL2nb
Temp range normal operation	-25 / +50 °C
Dimensions length (body) width depth total length	42.0 mm +/- 0.20 14.0 mm +/- 0.10 10.0 mm +/- 0.10 48.5 mm +/- 0.20
Weight	18.50g +/- 1g
Durability	250,000 cycles
Max operating load axial – unblocked fully-in	200N
Max direct resisting load axial – blocked	800N
Force to operate plunger (See Fig 1)	<22 N
Climatic category (IEC 60068-1)	25/050/07
Operating time voltage [1] max steady state power	< 300ms 200 – 250 Vdc 0.65mW max
Capacitance	40 – 100nF
Case Material	304 & 316 Stainless Steel

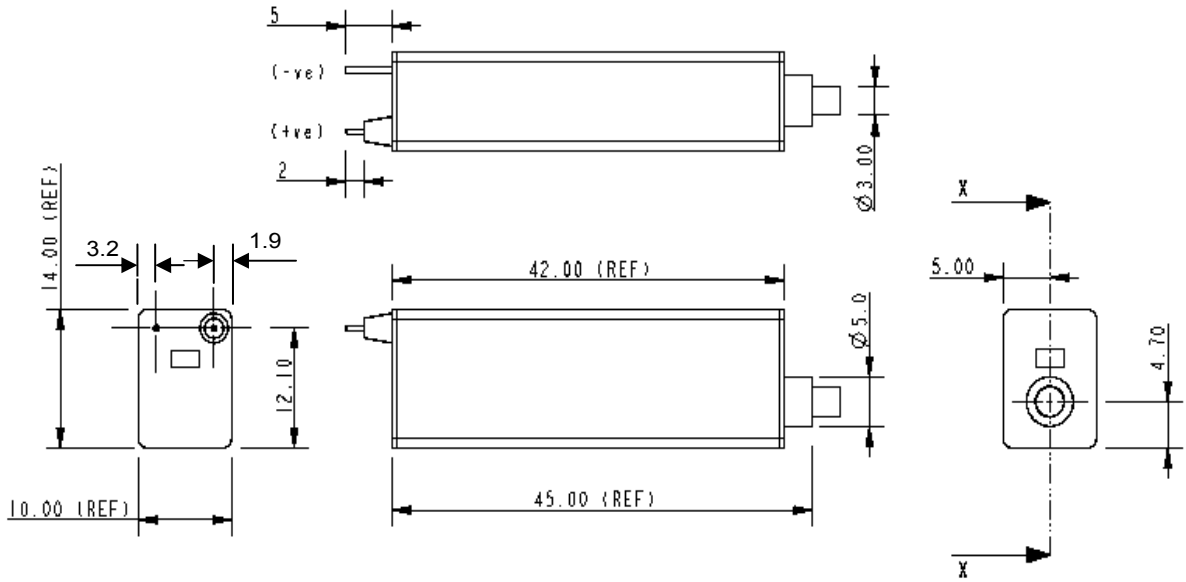
Note [1] A minimum of 200V is required for reliable operation. Exceeding the 250V limit could damage the device.
When used with Servocell's Active Latch electronics (available on request), the input voltage is between 3.6 – 12 Vdc. AL2 products are not designed to be continuously powered.

Care should be taken to ensure that the high voltage rail is adequately insulated to avoid user hazard and that the unit is installed in compliance with applicable electrical safety standards and regulations.

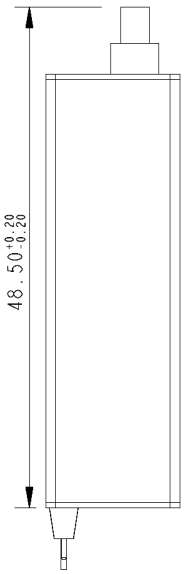
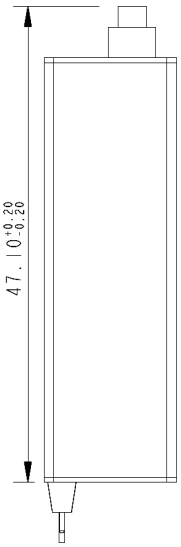
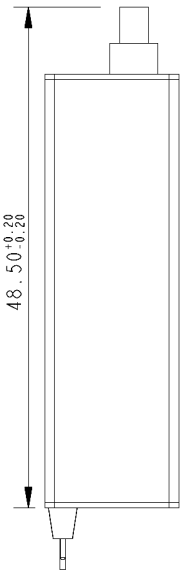
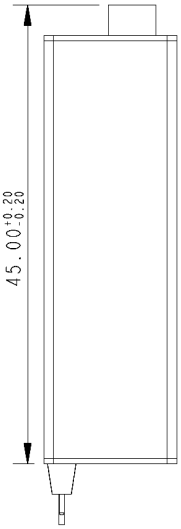
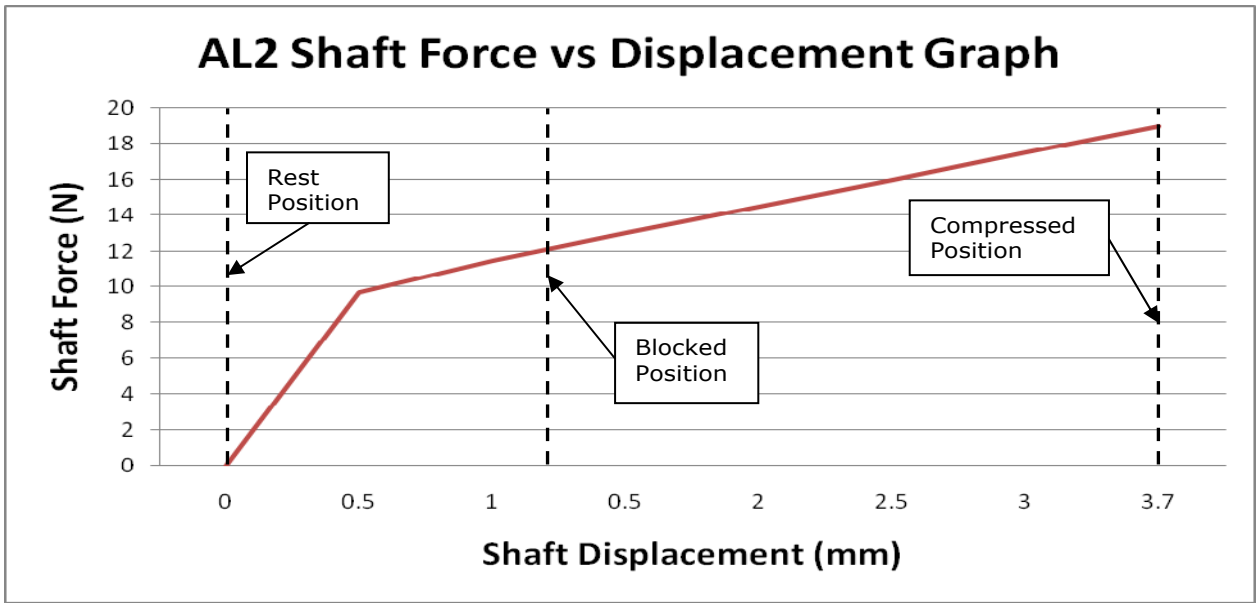
:: General Notes

- Min-lock position is stated so that the mechanism can be designed to account for free-play.
- The AL2 does not contain the electronics required to generate the piezo operating voltage from a low voltage source. A voltage between 200-250V must be supplied by the customer.
- Module is designed for axial loading only. ***(Please refer to Design Guide)***

Form and Fit (units mm)



Operational Sequence – Normally Blocked (power to unblock)

AL2 state	A	B	C	D
				
Shaft position	Rest Position	Blocked	Rest Position	Compressed
Power status	Off	Off	On	On
Module status	Locked	Locked	Free	Open
Unlock if powered?	Yes	No	Yes	N/A
	Un-powered with no external loading, the shaft is in its "rest position". The host mechanism must ensure that the shaft returns to this position to enable the AL2 to change state.	Un-powered with an external load. The shaft is now in the "Blocked position". It is then prevented from moving any further (unable to change state).	Powered with no external load. The shaft is in its "rest position" (fully-out). Returning the module to the "home position" and applying power, places the module in an "unlock" state.	Powered with an external load. The shaft is in its fully compressed state. Whilst still powered, an external load causes the shaft to be fully compressed.

AL2 Shaft Force vs Displacement graph