Title (en)

Electromagnetic-pneumatic current to pressure transducer.

Title (de)

Elektromagnetisch-pneumatischer Umsetzen von Strom in Druck.

Title (fr)

Transducteur électromagnétique-pneumatique de courant en pression.

Publication

EP 0084214 A2 19830727 (EN)

Application

EP 82305204 A 19820930

Priority

US 30907081 A 19811006

Abstract (en)

The present invention entails a current to pressure (I/P) transducer for converting andelectric signal to a proportional pressure signal over a given span. Essentially the I/P transducer comprises a housing having a membrane with magnetic and metal properties extending across and over a seat area. An air supply inlet is provided within said housing as well as a pneumatic output port. Typically, at least a portion of the inlet air supply is directed between the seat and membrane and out the output port. The pressure of the fluid passing from the output port becomes the produced proportional pressure signal of the I/P transducer. Wire windings are disposed within the housing about a core, and two poles of opposite polarity are disposed on opposite sides of the membrane. An input current signal directed through the wire windings results in a magnetic force acting on the magnetic membrane and effectively loading the membrane. The resulting magnetic force acting on the membrane directly affects the pressure of the pneumatic output signal since the loading of the membrane acts to restrict flow between the seat and membrane. By appropriately adjusting the I/P transducer and particularly the fluid flow therethrough, the output fluid pressure signal is maintained proportional to an input current signal directed through the wire windings.

IPC 1-7

F15B 5/00

IPC 8 full level

G01D 5/42 (2006.01); **F15B 5/00** (2006.01); **G05D 16/20** (2006.01)

CPC (source: EP)

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