



SmartMotors from Animatics is a new Class 5 line of fully-integrated servo control systems with Combitronic technology. See page > 6

FUTEK's LSB210 Submersible Jr. S-Beam Load Cell is used in liquid protection applications. See page > 25



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Designers often face challenges when dealing with military OEMs because they may ask for the impossible.

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Packed with H&P components and product specifications to bolster ideas for next-generation designs.

36 Know The Application

By knowing the application requirements, design engineers will be best served when specifying an actuator.

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50 The Small Business Conundrum



Unlike banks, small businesses will hire people to produce goods and services.

SpecCheck/TRA



BALLUFF

Micropulse Generation 7 analog rod-style transducers offer class-leading performance and usability in real-world linear positioning applications. The Generation 7 transducer is available in a standard version and a Micropulse Plus version, which offers an innovative USB interface for configuration and set-up.



OMEGADYNE

Omegadyne's high accuracy piezoresistive pressure transducers are used in commercial and aerospace applications. The piezoresistive process uses strain gages molecularly embedded into a highly stable silicon wafer. The silicon wafer is diced into individual die which each contain a full strain gage bridge.



AMERICAN SENSOR TECHNOLOGIES

AST4000 pressure sensor offers 4-pin DTO4 Deutsch and M12x1 Eurofast electrical connection options. The M12x1 Eurofast connection is compact and threaded to ensure a proper connection between the sensor and cable assembly under shock and vibration.



PRESSURE SYSTEMS

The highly reliable, hydrostatic, submersible KPSI Transducer models 700, 705 and 750 models are used widely throughout the water and wastewater level measurement industries for applications with conditions from general purpose to harsh and adverse.

Style	Non-Contact, Magnetostrictive	Integral 2 m (6') Cable; Mini DIN; Twisted Lock	1-Piece Stainless Steel Sensing Element	Hydrostatic, Submersible
Frequency	N/A	N/A	N/A	N/A
Bandwidth	N/A	DC to 1 kHz (Typical)	N/A	4 to 20 mA, 0 to 5 VDC (700, Analog Output)
Oper. Temp.	-40° to 185°F	-45° to 121°C	-40° to 85°C	N/A
Rated Power	N/A	IEC61000-4-8 (Frequency Magnetic Field)	4-20mA; 1-5VDC, 1-6VDC or 0-50mV, 0.5-4.5V RatioMetric (Output)	N/A
Key Features	<ul style="list-style-type: none"> Improved accuracy Improved electromagnetic interference protection Higher shock and vibration ratings Long stroke lengths up to 300" Bi-color LED's for diagnostics, monitoring, and setup 	<ul style="list-style-type: none"> High accuracy ±0.08 percent BSL includes linearity, hysteresis and repeatability A temperature compensated range from -29° to 85°C 5-Point NIST traceable calibration Low pressure ranges from 10 in-H2O All stainless steel wetted parts 	<ul style="list-style-type: none"> A proprietary 1-piece stainless steel sensing element A fully welded housing A variety of pressure ports, outputs and electrical connections The product fits well into multiple industrial pressure sensing applications requiring accuracy, repeatable measurements and long-term stability 	<ul style="list-style-type: none"> A SuperDry vent filter that provides maintenance-free moisture protection A welded 316 SS construction, with titanium available on the 700 and 705 versions Static accuracies of ±1 percent FS (700) and ±0.25 percent (705 & 750) The Model 705 incorporates a flush Teflon-coated elastomeric diaphragm with a surface area of 0.90" to prevent clogging



HYDRAFORCE

A high-accuracy, heavy-duty pressure transducer with 1 percent total error band accuracy accomplished by marrying a high performance ASIC to a very stable, field-proven polysilicon, thin-film pressure transducer. The sensor is intended for use in demanding industrial and off-highway equipment.



MACRO SENSORS

The HSTAR 750 Series Hermetically Sealed Position Sensors can withstand 400° temperature spikes. The 3/4" (19-mm) (D) AC-operated linear position sensors are being implemented in the rehab of power generation plants to monitor the position of controls.



CARLO GAVAZZI

The EM21 Series is a compact 3-phase energy meter with a detachable, connector-less and battery-less display, which allows the user to configure the instrument for panel mounting (72 x 72 mm) or DIN-rail mounting, either as an energy meter or a transducer.



WAYCON

SM Series Linear Variable Differential Transformers (LVDT) are ideal for applications in harsh industrial environments such as high temperature and pressure applications, dynamic applications and long term cycles.

Style	Contact	LVDT-Based, AC-Operated Non-Contact Linear Position Sensor	Din-Rail, 3-Phase Energy Meter	Push Rod Guided/Extricable
Frequency	N/A	2.5 to 3.0 kHz (Input)	N/A	N/A
Bandwidth	30 V/M 500 KHz to 1 GHz	N/A	N/A	N/A
Oper. Temp.	-20° to 125°C	200°C	N/A	-40° to 120°C
Rated Power	5 VDC	N/A	5 A (CT Connection)	From 65 mA
Key Features	<ul style="list-style-type: none"> Advanced ASIC technology for reliability and accuracy 1 percent total error band accuracy within -20° to 85°C temperature range Long term active stability and repeatability Broad temperature capability All-welded pressure construction Protected against EMI/RFI IP67 ingress rated 	<ul style="list-style-type: none"> Available in ranges from ±1.25 to ±250 mm High resolution, excellent repeatability and low hysteresis associated with LVDT technology Teflon bore liners and metric threaded cores Smaller diameter and low mass cores Stainless steel construction The ability to withstand exposure to radiation at 3x107 Rads for 40 years 	<ul style="list-style-type: none"> A pulse output for active energy retransmission A optional 2-wire RS485 communication port A 72- x 72- x 65-mm housing for both DIN-rail and panel mounting An accuracy of ±0.5 percent RDG (V, A) Self-powered supply voltage from 3-phase mains 	<ul style="list-style-type: none"> A range from 0-2 to 200 mm IP 65 rated, IP 68 optional A stainless steel housing The spring element of the push rod can be made out of high-quality Hastelloy so the devices are more resistant against inorganic chemicals, acetic acid or chloride-contaminated media

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SPEC CHECK > TRANSDUCERS
Omegadyne's piezoresistive pressure transducers use molecularly embedded strain gages. See page > 44



MORE THAN **110** NEW PRODUCTS