ASTECH ELECTRONICS LTD PRODUCT DATA 07/2010

NEW ADVANCED DESIGN ROTARY TELEMETRY SYSTEM FOR DRIVELINE TORQUE & TEMPERATURE MEASUREMENTS

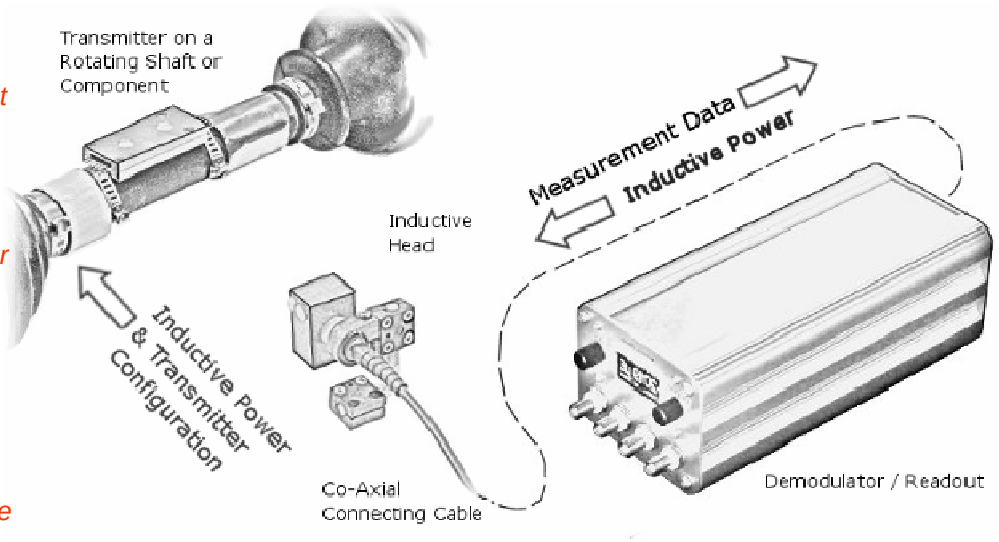
IMPORTANT NEW FEATURES:

Remote zero and gain set – no resistors and allows adjustments after installation

New compact low-power transmitter will operate for 15 hours on single li-ion cell

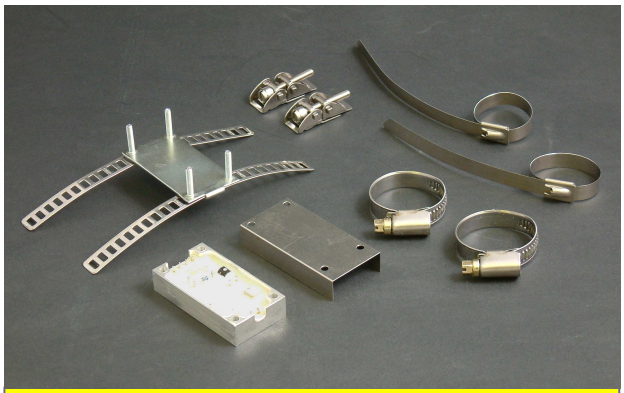
Increased air-gap operation under battery power eliminates shaft movement drop-outs

In-situ non-contact fast recharging using inductive coupling – simple!



Sensor data collection from rotating or moving components can cause many problems – strain gauge offsets, scaling adjustments, dropouts due to shaft displacements, transmitter power supply difficulties – these are familiar problems to engineers. The new rotary telemetry system from Astech eliminates these difficulties:

- Transmitter scaling & zero adjusted from readout
- Transmitter calibration signals activated at readout
- Transmitter temperature & supply voltage monitored
- Optional rechargable battery power for transmitter increases air-gap range
- Non-contact inductive recharging eliminates connectors & allows sealed transmitter installation
- Intelligent Readout incorporates facility to calculate strain from torque and shaft dimensions
- Super clear OLED display & all solid state controls
- USB port



TRANSMITTER TX34D & MOUNTING PARTS

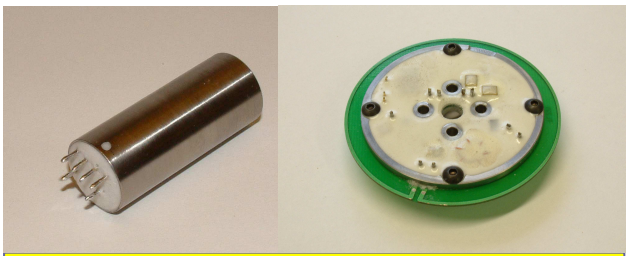
- Strain & temperature sensor versions
- Single & multi-channel types
- Shaft attachment & screening cover hardware
- Inductive power & battery power operation
- Aluminium housing 53 x 28 x 11mm (as TX31D)

If installation space for the transmitter is limited the TX34D is also available in a miniature form, part number TX35D.

TRANSMITTER TX35D & LITHIUM-ION CELL

- Minimum size 35 x 20 x 5mm and weight 6 grams
- Strain & Temperature sensor versions
- Inductive power & battery power operation
- 15 hours operation from single 3.6V li-on cell
- Non-contact recharge whilst on shaft – no wiring
- Available as shown or within aluminium housings

Transmitter shapes are not limited to rectangular forms and are produced in circular and disc designs. They are generally used for installation within a shaft bore or on the open end of a shaft and are usually inductively powered.



CYLINDRICAL & CIRCULAR TRANSMITTERS

Electrical power for the transmitter is supplied by non-contacting inductive coupling from either a shaft adjacent head or a loop located around the shaft. The transmitter may also be powered by a battery.

INDUCTIVE POWER HEADS & LOOPS

- Head & Loop designs to suit various installations
- Non-contact recharging of transmitter batteries
- Stand to position head for recharge (1.5 hours)

The demodulator/readout unit type RE3D provides A.C. power to the inductive head or loop, sends setup commands to the transmitter and converts the pcm encoded measurement data into both analogue and numerical digital formats.
A simple intuitive menu, used in conjunction with 2 push/rotary switches, selects all available operating modes and functions which are then verified on the display. Selection options include:

- Select units for sensor display
- Select RPM range when tachometer in use
- Select units for shaft power computation
- Set transmitter input sensitivity
- Adjust zero offset applied at transmitter input
- Monitor transmitter power supply volts
- Monitor transmitter ambient temperature
- Set transmitter calibration mode levels
- Select graphical display of outputs
- Select output filter cutoff settings

Comprehensive screen displays simplify system setup:

DEMODULATOR & READOUT UNIT RE3D

- All solid-state controls
- Simple menu setting using OLED display
- Data & Graphics I/O via USB port
- Sets transmitter parameters remotely

System Specifications:

Inputs:	1-4 channels (according to transmitter type)
Sensors	Strain gauges, thermocouple, volts
Bridge Supply:	4.096VDC (TX34D) 3VDC (TX35D) 0.1%
Transmitter I/P Resistance:	20M ohms
Other Inputs:	Tachometer Sensor with 12VDC Supply
Resolution:	16 bits @ 100Hz bandwidth 12 bits @ 1kHz bandwidth
Accuracy:	0.01% in 16 bit mode
Bandwidth:	DSP low pass filtering 5 settings in range 50Hz-1kHz + quasi-static V lowpass
Outputs:	1) Analogue adjustable to ±10V Noise level 20mV rms 2) USB 3) RS485 4) Front Panel Display 5) Transmitter Supply Voltage 6) Transmitter Ambient Temperature
Adjustments On RE3D:	1) Zero/Offset on Analogue Output 2) Set Analogue Output Level (span)
RE3D Physical:	240 x 100 x 80mm. 1.2 kg
RE3D Operating Temperature:	-10℃ to +55℃
RE3D Power Requirement:	1) 90-260VAC 50/60 Hz

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