PARK CONTROLS
& COMMUNICATIONS (P) LTD.
Empowered vision. Embedded values.

**PARK PCM-32S**
Programmable MIL grade PCM Encoder

PARK PCM-32S is an extremely compact PCM encoder capable of handling thirty two single ended analog input channels and three RS-422 asynchronous serial communication ports. It can encode the analog channel input data and the data received on asynchronous communication channels into a user defined PCM stream structure. The PCM-32S encoder can handle data rates up to 115 Kbps on the RS-422 serial communication ports and employs a very high speed (500 Kilo samples per second) 12-bit ADC to handle the analog inputs. The unit operates on a single 5.75 V ± 0.25V power supply and dissipates less than one watt of power. It can generate PCM bit streams up to 2 Mbps. The PCM frame format, the PCM bit rate and the commutation schemes required can be downloaded into the configuration flash of the unit from the parallel port of a PC, using the configuration software provided with the unit. Its compact size, rugged construction, field configurability and low power consumption make it ideally suited for on board applications.
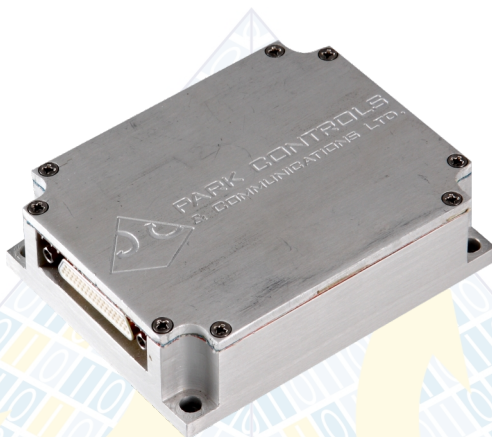
Specifications:

PCM Output:

Bit rate:	100 bps to 2.0 Mbps rates (Programmable)
Reference clock:	Crystal oscillator (internal frequency synthesizer)
Data encoding:	Biϕ-L, NRZ-L
PCM output level:	± 2.0 V peak to Peak into 75 Ω

PCM Frame Configuration:

Word length:	8 to 16 bits, programmable
Frame length:	10 to 4096 words, programmable
Frames/subframe:	1 to 256
Words/subframe:	4096 words maximum
SFID method:	Up / Down
SFID position:	Configurable
Sync length:	8 to 64 bits, programmable
Parity:	Odd, Even, None; programmable

Signal Inputs:

Analog:	32 (single-ended)
Digital:	3 (RS-422)

Analog Input Characteristics:

Input voltage range:	Unipolar 0 to +5V
Input capacitance:	Approx. 47 pF in track mode, 10 pF in hold mode
ADC resolution:	12 bits
ADC conversion time:	2 micro seconds
ADC linearity:	± 1 bit
Missing codes:	None

Analog Commutation:

The commutation scheme for each analog input can be defined independent of other analog inputs and the serial communication channels. Each analog input can be normally commutated (one sample per PCM frame), super commutated (several samples per PCM frame) or sub commutated (less than one sample per PCM frame).

Serial Communication Ports:

Protocol:	Asynchronous serial communication
Electrical interface:	EIA RS-422
Word length:	8 bits
Parity:	None
Number of start bits:	one
Number of stop bits:	one
Baud rates supported:	115.2 Kbps, 57.6 Kbps, 38.4 Kbps
	19.2 Kbps, 900 bps, 4800 bps
Single block size:	256 bytes (including id pattern) maximum
Start of block id:	4 Byte ID pattern at the beginning of the block

Serial Port Commutation:

The byte data in the buffer can be normally commutated, sub commutated or super commutated into the PCM stream, as if each word corresponds to an analog input word. Each data byte received on a communication port can be configured as single PCM word. In this case, the data byte is aligned to LSB. It is also possible to pack two consecutive bytes of RS-422 data into a single PCM word.

Facility is also available to commutate the complete RS-422 buffer into each PCM frame as a burst. Starting word position and the block size are defined in the configuration.

GUI Software:

PC based GUI software running in WINDOWS2000/XP environment is provided for programming the encoder for desired configuration via PC parallel interface. The software allows through a user friendly interface, defining various PCM parameters, commutation schemes and RS-422 port configurations and downloading them into the encoders.

Interface Connector:

51 pin high density micro D receptacle

Operating Conditions:

Power supply voltage:	5.75 V ± 0.25 V	
Power supply current:	200 mA maximum	
Operating Temperature:	-20^{0}C to +65^{0}C	
Humidity:	5 to 90% RH	
Vibration:	Sinusoidal:	20 to 500 Hz, 10g, 10 min on each axis
	Random:	20 to 200 Hz, 0.06g^2 / Hz, 10 min on 3 axes
Shock:	100 g, 3 msec, 3 axes, 2 shocks/axes	

Dimensions:

Length:	75 mm
Width:	60 mm
Height:	25 mm

Contact Park Controls for the latest details on the pricing and data sheets.
Specifications are subject to change without notice