

MoveScope ABZ

Portable USB2.0 ABZ Interface Converter



The MoveScope ABZ device is based on a step counter logic that is realized on an FPGA. It processes inkremental signals of position sensors and transmits the calculated position data together with system status information and a time stamp blockwise with high speed to the PC for analysis, visualization, processing, documenta-tion, etc. With the time stamp the temporal relation of the position data is reflected that not only allows to calculate speed, acceleration etc. but also is used to synchronize measurement data of multiple device. An external trigger allows to sample the measurement data from outside. Datalosses due to temporary PC performance flaws are avoided by an additional on-board memory. The USB-adapter and the encoder can be power supplied via USB connection. Various levels of software packages from basic access functions up to a graphical user interface allow application specific employment.

Applications

- encoder calibration
- portable applications
- control and analysis

Mobility

- small and compact design with minimum weight
- adapter and devices USB bus powerable

Technology

- FPGA based step count logic
- 32-bit real-time time stamp
- 32-bit position/angle counter
- lowest power FPGA
- up to 30Mbs data transfer
- 128Mb on-board PSRAM

Interfaces

- USB2.0 high speed PC interface
- Synchronization of multiple devices
- RS422/TTL encoder interface
- NAS and reference signal detection
- External trigger (BNC)

Software

- USB2.0 Thesycon Driver
- DLL basic access functions for software integration
- advanced GUI application analyzing software

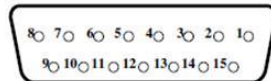
Characteristic Values

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
Power USB	Maximum Power Consumption from USB Bus	See USB specifications			500	mA
VDD	Logic Power Supply		4.2		5.5	V
I(VDD)	Logic Output Power Supply	VDD = 5V	300		350	mA
Temp	Temperature Range		0		55	°C
StTemp	Storage Temperature Range		-20		70	°C
HUM	Humidity	non condensating	5		95	%
SYSCCLK	Clock Frequency Increment Signals			50		MHz
SRate	Sampling Rate		1Hz		1MHz	
DRate	Data Transfer Rate via USB				30	Mbs
ProtClass	Protection Class		IP 42 , CE			
Connectors	Physical Interfaces		USB2.0, RS422/TTL			
Dimension	Dimensions		90 x 41 x 16 (LxWxH)			mm

Connectors

Pin Configurations

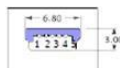
Sub-D15 (f) Connector



Pin Functions

No.	Name	Function	No.	Name	Function
1	NC	Not connected	9	VSS	Ground (0V)
2	S1	Switch signal TTL input	10	S2	Switch signal TTL input
3	NAS-	System error signal input N	11	NAS+	System State input P
4	R-	Reference signal input N	12	R+	Reference signal input P
5	B-	Quadrature signal 90° input N	13	B+	Reference signal 90° input P
6	A-	Quadrature signal 0° input N	14	A+	Quadrature signal 0° input P
7	NC	Not connected	15	IS	Internal shielding
8	VDD	Logic power supply (5V)			

Mini-B USB (f)



Pin Functions

No.	Name	Function
1	VDD	5V USB supply
2	D-	Data-
3	D+	Data+
4	ID	Identifier: A = GND, B = NC
5	GND	Ground (0V)

BNC (f) (bayonet)



Pin Functions

No.	Name	Function
1	GND	Ground
2	TRIG	External trigger