

Rugged Data Acquisition System VTS-MDR

VTS-MDR is a powerful and ruggedly data acquisition system in a harsh environment. Dynamic signal analysis and Universal input in one box, Analog and Digital Signal from voltage, current, shock, acoustics, vibration, displacement, overload, strain, gyro, temperature, pressure and GPS can be acquired, monitored and recorded with real time FFT display and PSD analysis. Ethernet, USB, RS232, RS422, RS485, 1553B, CAN are supported. It is used extensively in Aerospace, Aviation, Nuclear Plant, Weapon, Wind Plant, Shipbuilding industry, Automotive Industry etc.



Features:

- 2 Analog Input channels per module : Voltage, Current, ICP
- Configure Size of Channels from 4 channels to 32 channels in one case freely
- Device Synchronization :up to 32 devices
- A/D: 16 bit
- Accuracy :0.1%

- Sampling Rate : Max.60 MS/S
- Intelligent Detecting Power On/off of Sensor Automaticly
- Real Universal Input for various sensors
- Plug and Play ,USB Powered
- USB Powered or 5 VDC
- Smart management for battery and power
- Rugged,Mouldproof ,Moistureproof and Saltyfog proof Design .
- Data Recording an Real time FFT,PSD in one
- Gview Technology ,100GB data displayed at moment
- Data Batch processing ,Test Report automaticly generated
- Support DASYPAD ,Simple Selfdefinition
Audition ,Control ,acquisition ,recording and analysis are all in one .
- VisualStudio /VisualStudio.NET(VisualC++,VisualC#,VisualBasic,VisualBasic.NET)/NIDLabVIEW/DASYPAD/MATLABDataAcquisitionToolbox
- Operation System : Windows7/Vista./XPSP2, LinuxandMac.

Chassis :

NTI-MDR has three standard chassis ,customerized one can be done
According to specific requirements .

	VTS-MDR-16	VTS-MDR-8	VTS-MDR-4
Modules	16	8	4
channels	32	16	8
Sych-error	1 ns	1 ns	1 ns
Trigger channel	1	1	1
Interface	USB 2.0, 100M Ethernet ,RS422	USB 2.0, 100M Ethernet ,RS422	USB 2.0, 100M Ethernet ,RS422
Battery	4 hours	6 hours	8 hours
Power	DC 12V or AC 220V@50 Hz	DC 12V or AC 220V@50 Hz	DC 12V or AC 220V@50 Hz
Dimension	530mm(L)×306mm(W)× 86mm(H)	316mm(L)×306mm(W)× 86mm(H)	210mm(L)×306mm(W)× 86mm(H)
Weight	8 kg	5 kg	3 kg
Operating Temp.	-45℃~65℃	-45℃~65℃	-45℃~65℃
Standard for Test	IEC60529	IEC60529	IEC60529
MTPF	2000 Hours	2000 Hours	2000 Hours

Module

VTS-MDR has 6 kinds of standard modules, customization is provided by specific requirements

High speed data acquisition module

	VTS-MDRB60M	VTS-MDRB20M
Sampling rate	60 MS/s	20 MS/s
channels	2	
Input Signal	Voltage	
Coupling Mode	AC/DC	
A/D	16 bit	
Transient Memory	16MByte (32Mbyte extendable)	
Storage capacity	1GByte/Channel (16Gbyte extendable)	
Range	$\pm 7.8\text{mv} \sim \pm 10\text{V}$ 8 steps option	
Gain	1~128 , 8 steps	
Bandwith	15 MHz	5MHz
Impedance	10M Ω	
linearity	<0.3%	
Distorsion	<0.5%	
drift	$\leq 1\mu\text{V}/^\circ\text{C}$ (Max. Gain)	
Temperature drift	$\leq 1\mu\text{V}/^\circ\text{C}$ (Max. Gain)	
S/N Ratio	$\geq 80\text{dB}$ (16bit)	
CMRR	$\geq 100\text{dB}$	
THD	< 1%@1kHz	
Filter	Lower pass filter with 8 steps or No filter	
Stopband attenuation	$\geq -120\text{dB/Oct}$	
Flatness	< 0.1dB	

Universal Input Module

	VTS-MDRU2M	VTS-MDRU200K	VTS-MDRU20K	VTS-MDRU2K
Sampling Rate	2 MS/s	200 KS/s	20KS/s	2 KS/s
Channels	2			
Input Signal	Voltage, charge, strain gage, ICP, temperature, Speed			
Coupling Mode	AC/DC			
Range	$\pm 7.8\text{mv} \sim \pm 10\text{V}$			
Impedance	10M Ω			
Gain	1~128			
Charge Input				
Range	$\pm 195\text{pC} \sim \pm 25000\text{pC}$			
Impedance	10 Ω			
Strain gage				
Bridge	1/4 bridge, 1/2 bridge and full bridge			
Range	$\pm 156\mu\epsilon \sim \pm 20000\mu\epsilon$			
Excitation Voltage	2.5V			
Auto-balance	support			
A/D	16 bit			
Storage Capacity	1GByte/channel (16Gbyte extendable)			
Bandwith	400 KHz	40 KHz	4 KHz	400 Hz
Filter	Lower pass filter with 8 steps or No filter			
Linearity	<0.3%			
Distorsion	<0.5%			
Time Shift	$\leq 1\mu\text{V}/^\circ\text{C}$ (Max. Gain)			
Temp. Shift	$\leq 1\mu\text{V}/^\circ\text{C}$ (Max. Gain)			
S/N Ratio	$\geq 80\text{dB}$ (16bit)			
CMRR	$\geq 100\text{dB}$			
THD	<1%@1kHz			
SBA	$\geq -120\text{dB/Oct}$			
Flatness	< 0.1dB			

Application :

- a. Aircraft Landing test
- b. Parachure landing test
- c. Monitoring during transportation
- d. Measurement on ship
- e. Measurement on high speed train
- f. Explosion test in Dummy
- g. Automotive experiment
- h. MotorCycle experiment



