SENTHER

Intelligent Vibration Data Acquisition

SENTHER TECHNOLOGY Co., Ltd.

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Specification of DAS(Data Acquisition Station)

Outline	
Overall dimensions	175mm*133mm*62mm(With clasp 71mm)
Weight	1.2Kg
Material	Aluminum
Installation	35mm DIN Rail

Environmental	
Operating temperature	-40 ~ +70℃ <95% RH noncondensing
Storage temperature	-45 ~ +85℃ <95% RH noncondensing
Vibration	GB11287
Altitude	<1000 meter

Power supply	
Power supply	24Vdc, 1.5A, Isolation voltage1500V

Certification	
Agency approvals	CE

Communications	
Data protocols	Modbus TCP/IP (Ethernet), Profibus TCP/IP(Ethernet), TCP/IP, FTP

Interface and components

IEPE	12
Current/Voltage 4-20 mA	4
TTL Rotation speed	1, Threshold: 0.1V to 12V

Signal Output

Relay output	Provide NC (Normal Close), No (Normal Open) Terminals, Contact DC30V / 1A, DC60V / 0.3A
Power output	5×DC24V/0.1A

Ethernet ports

Ethernet ports	2 × RJ-45 10/100 Mbit

Indicator light

Indicator light	There are 5 indicator lights: Power supply lights, Running lights, Fault lights and Profibus status lights

Button

Reset button	Restore IP address factory settings.

Sensor power supply

Sensor power supply	Five, one TTL speed sensor power supply, four 4-20mA transmission.

Hard disk

SSD	32G

Battery

The button battery	Keep the real-time clock information of the device.

General function

AD conversion	24bits
Dynamic range	≥110dB
Frequency ranges	0.1Hz-10kHz
Sampling frequency	128Hz; 256Hz; 512Hz; 1280Hz; 2560Hz; 5120Hz;12800Hz; 25600Hz.
Analysis frequency	50 Hz; 100 Hz; 200 Hz; 500 Hz; 1 kHz; 2 kHz; 5 kHz;10 kHz.
Number of spectral lines	400; 800; 1600; 3200.
Average	Linear average; Exponential average.
Filtering	Any frequency (0.1Hz-10kHz).
Window function	Rectangular window; Hanning window; Flat top window.
Overlap	0%; 50%; 75%.
IEPE Synchronous acquisition	12 IEPE channels were collected synchronously.
Engineering units	Engineering units of acceleration, velocity and displacement can be set. The display type of measurement quantity can be set: RMS; PK; PPK.

Additional function

Channel calibration	Digital channel calibration.
Data storage	32G SSD
Built in FTP server	Data exchange with server.
Log function	Record the operation of the equipment for fault causes analysis.
Reset function	Default device IP address reset button.
Clock calibration	The real-time clock of each device is synchronized through the server.
Equipment self-check function	Device detect the hardware failure and inform the server through protocol.

Protocol	
TCP Modbus protocol	It can be configured as MODBUS master terminal or client side, and MODBUS network segment IP and port number can be specified. Support MODBUS read command, write command. You can set the arrangement of information in the table.
ProfiBus protocol	The software supports PROFIBUS protocol conversion and optional built-in PROFIBUS conversion module, which supports PROFIBUS bus protocol.
FTP protocol	Built in FTP server for data exchange with server.
Alarm output	
Relay	When the indication alarm state deteriorates, the switch value of the DAS can be switched, that is, the output of the relay is "abnormal".
Point to the value of the alarm save	It can be set that in the specified time period, when the indicator value alarm occurs, it can trigger the data storage and inform the server.
PLC alarm output	Field PLC equipment can read alarm information through MODBUS .
Data storage	
Unconditional timed storage	According to the agreed time and content, the data shall be saved.
Indicator value of the alarm save	According to the agreed time and content, the data shall be saved in case of the alarm of the indication value.
Condition triggered storage	According to the agreed time and content, the data is saved when the agreed trigger conditions are met.

Transition output

Rotation Speed	The speed source, speed unit and frequency doubling information can be set.
Real Time acquisition	Sampling frequency:128Hz; 256Hz; 512Hz; 1280Hz; 2560Hz; 5120Hz; 12800Hz; 25600Hz. Number of samples:1024; 2048; 4096; 8192.
Real time data derived indication value	RMS; Square root amplitude; absolute mean; peak to peak; maximum Large value ; waveform factor; peak factor; impact factor; margin; skewness; kurtosis
FFT	Analysis frequency:50 Hz; 100 Hz; 200 Hz; 500 Hz; 1 kHz; 2kHz; 5 kHz; 10 kHz. Number of lines:400; 800; 1600; 3200.
Lone Time acquisition	Sampling frequency:12800Hz; 25600Hz. Number of samples:128K; 256K; 512K; 1M.
Lone time data derived indication value	RMS、Square root amplitude, absolute mean, peak to peak, maximum Large value, waveform factor, peak factor, impact factor, margin, skewness, kurtosis
Acceleration RMS	Filter frequency, engineering unit and alarm information can be set.
Velocity RMS	Filter frequency, engineering unit and alarm information can be set.
HHI	Alarm parameters can be set.
Broadband energy	Filter frequency can be set, RMS or PK or PKK display can be set, and alarm information can be set.
Narrowband energy	It can set speed harmonic speed, RMS or PK or PKK display, and alarm information.
Modbus input data	External devices write data of the DAS through MODBUS Specify the data type.

Real-time processing	
Real time acquisition	Continuous measurement, real-time calculation, no data loss.
Real time filtering	High pass filtering, arbitrary frequency (0.1Hz-10kHz). Low pass filter, arbitrary frequency (0.1Hz-10kHz). Band pass filter, arbitrary frequency (0.1Hz-10kHz). Adaptive filtering for HF health index calculation (0.1Hz-10kHz).
Vibration RMS	Real time calculation of RMS of acceleration and velocity.