

Blade Load Measurement System Molas FD

The system consists of a demodulator and sensors. The sensor converts the measured signal into a wavelength signal through a fiber grating, which is divided into a load sensor, an acceleration sensor, and a temperature sensor. The demodulator is responsible for demodulating the feedback wavelength of the sensor and transmitting data to the outside. The demodulator is used in conjunction with different sensors, and the sensor is arranged at the position to be measured on the blade, which can realize the measurement of the load, vibration and temperature of the blade.



Demodulator Performance

Measurement Characteristics	
Number Of Channels	1-16 Road Optional
Measuring Range	1546-1558nm
Demodulation Accuracy	20pm
Wavelength Resolution	0.01pm
Scanning Frequency	1kHz
Electrical Data	
Powered By	22-26VDC
Power Consumption	<25W
Electrical Connections	MC 1,5/2-GF-3,81
Environmental Conditions	
IP Protection Class	IP20
Maximum WorkingAltitude	3000m
Operating Temperature	-35~60°C
Storage Temperature	-40~80°C
Environment Humidity	5%~95RH
Vibration Level	Meet the requirements of GB/T 2423 standard, $\pm 0.5g$
Electromagnetic Compatibility	Meet the requirements of GB/T 17626 standard
Mechanical Data	
Length	217mm
Width	106mm
High	141mm
Gross Weight	1.8 \pm 0.2kg(without packing box)

Load Cell Parameters

Measurement Characteristics	
Sensor Type	Fiber Bragg Grating
Measuring Range	$\pm 2000 \mu\epsilon$
Maximum Survival	3000 $\mu\epsilon$
Resolution	$\geq 0.05 \mu\epsilon$
Environmental Conditions	
IP Protection Class	IP67
Maximum Working Altitude	3000m
Operating Temperature	-40~50°C
Storage Humidity	-40~80°C
Environment Humidity	0%~95RH
Mechanical Data	
Length	220mm
Width	60mm
High	9mm
Gross Weight	0.3 \pm 0.2kg(without packing box)

Fiber Optic Bus Parameters

Optical Data And Interfaces	
Connect	E-2000/APC
Quantity	3/5
Type	single mode
Cable Tensile Strength	500N
Cable Bend Radius	Dynamic 120mm, Static 60mm
Attenuation Performance	$\leq 1dB/km$
Flammability Rating	CMR
Flattening Force/100mm	1000N
Environmental Conditions	
Operating Temperature	-40~50°C
Storage Temperature	-40~80°C
Environment Humidity	0~95%RH
Mechanical Data	
Length	14m
Gross Weight	1 \pm 0.5kg(without packing box)

**Easy to install / maintain / High precision
flexible and portable / safe and reliable data**