

## 分布式温度和应变传感系统 适用于隧道, 电缆温度监测和大坝应变监测

### 介绍:

分布式光纤传感技术使用光在光纤中反射和时域的原理, 进行对光纤整个长度上每一点的逐点式温度和应力测试. 此技术可以对长达 30 公里的光纤进行逐点的扫描, 从而对温度和应变进行实时监测和警告.

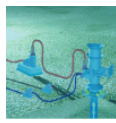
### 优点:

因为光纤全长度本身就是被测传感器, 因此单位测量点的价格大大减低. 配以高速度扫描, 数据处理及无线或网络通讯功能, 该系统可用在实时监控隧道火警, 优化电缆温度分布和提高输电功率, 以及石油油井和输油管温度和应变分布监控, 都是无价之宝.

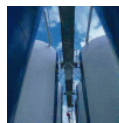
### 应用:



**Oil and Gas Monitoring**  
Monitor flow of production well, injection in water injection well, motors and sand screen integrity



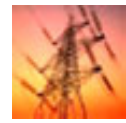
**Subsea Flowline Flow Assurance**  
Achieve real flow assurance - react to real problems instead of theoretical prediction



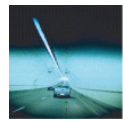
**Process monitoring**  
Optimise production and reduce chemical injection by understanding platform process in detail



**Dam safety**  
Monitor temperature and strain to evaluate integrity of dam structure



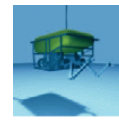
**Power line integrity**  
Optimise current loading of power cables, detect hotspots and monitor cable sag



**Fire detection**  
Real-time monitor and precisely detect location of a fire in buildings, tunnels and other high-risk locations



**Structural monitoring**  
Real-time monitor all parts of a structure for early detection of overloading or failure



**Umbilical monitoring**  
Monitor overheating in coiled umbilicals, know strain in umbilical and avoid breakages



**Building temperature control**  
Monitor and optimise temperature of all parts of building and hence energy use.



**Pipeline integrity**  
Detect leaks and blockages quickly

### 传感器技术指标:

	分布式温度和应变传感系统 <b>Distributed Temperature Sensing (DTS) System</b> DTS-Lite 0-4 km DTS-SR 0-5 km DTS-MR 0-8 m DTS-LR 0-10 km DTS-XR 0-30 km DTS-FR Spatial Resolution 30 cm	分布式温度和应变传感系统 <b>Distributed Temperature &amp; Strain Sensing (DTSS) System</b> DTSS-LR 0-10 km DTSS-XR 0-30 km
测量距离	30 km	
距离分辨率	30cm~100 m	1 m
温度分辨率	0.01~1 °C	0.5 °C
应变分辨率	-	10 µstrain
测量时间	1~5 minutes	
光纤种类	普通通讯光纤 Can be customised, ranging from subsea to stay cable of bridge	
工作温度	5 ~ 40 °C	
电源	240 VAC or 24 VDC	
尺寸	175H x 483W x 445D (mm)	
重量	21 kg	

