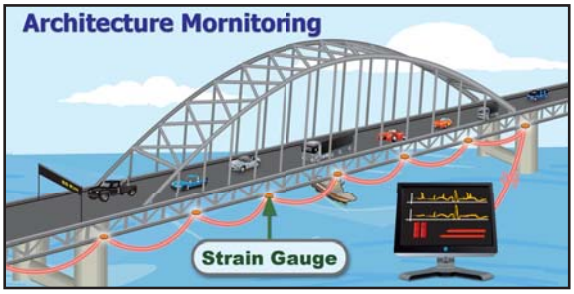
2.2.6. Strain Gauge Input Module

Strain Gauge Introduction

A strain gauge is a resistive sensor. The measurement of strain is usually made using a Wheatstone bridge circuit with excitation voltage. The variation in strain can be calculated based on the measured voltage. The resistance of the gauge varies when the gauge is compressed or stretched. With the characteristic, it can be applied to measure stress or the growth of the crack or movement in buildings, foundations, and other structures to ensure the safety.

Applications



Strain Gauge Input Module			
Model Name	I-7016(D) M-7016(D)	I-7016P(D)	
Pictures			
Strain Gauge Input			
Channels	2	1	
Wiring	4 wire	6 wire	
★ Sensor Type	Full-Bridge		
Resolution	16-bit		
★ Accuracy	±0.05%		
★ Sampling Rate	2/10 Hz	10 Hz	
Input Impedance	20 MΩ		
★ Individual Channel Configuration	-		
★ Overvoltage Protection	±5 VDC		
Open Wire Detection	-		
Long Distance Measurement	-	Yes	
Excitation Voltage Output			
Channels	1		
Range	0 ~ 10 V		
Max. Load Current	40 mA		
Resolution	16-bit		
Accuracy	±0.05%		
Power-on Value	Yes		
Digital Input			
Channels	1		
Contact	Dry		
Sink/Source (NPN/PNP)	Source		
On Voltage Level	Close to GND		
Off Voltage Level	Open		
★ Counter (50 Hz, 16-bit)	Yes		
Input Impedance	3 KΩ		
Overvoltage Protection	±30 VDC		
Digital Output			
Channels	4		
Type	Open Collector		
Sink/Source (NPN/PNP)	Sink		
Load Voltage	+3.5 ~ 50 VDC		
Max. Load Current	30 mA/Channel		
★ Power-on Value	Yes		
★ Safe Value	Yes		
System			
★ Dual Watchdog	Yes		
ESD (IEC 61000-4-2)	-		
EFT (IEC 61000-4-4)	-		
Intra-Module Isolation, Field-to-Logic	3000 VDC		
Power Input	10 ~ 30 VDC		
Power Consumption	2.4 W; 3.0 W for (D) version	2.4 W; 3.0 W for (D) version	