



**I-7016P**

**I-7016PD**

1-ch 6-wire Strain Gauge Input Module

**Features**

- Long-distance Strain Gauge Measurement
- High Resolution: 16-bit
- Excitation Voltage Output : 0 ~ +10 V
- 50 Hz Event Counter for Digital Input
- High/Low Alarm for Digital Output
- Built-in Dual Watchdog



**Introduction**

The "P" version of the I-7016 module is another milestone in the development of the I-7016 series, and is a testament to excellence by the R&D team at ICP DAS. The I-7016P is specifically designed for long-distance strain gauge measurement, and provides 1 Digital Input channel as a 50 Hz event counter and 4 Digital Output channels that can act as high or low alarms. The I-7016P also features 3000 VDC intra-module isolation.

**Applications**

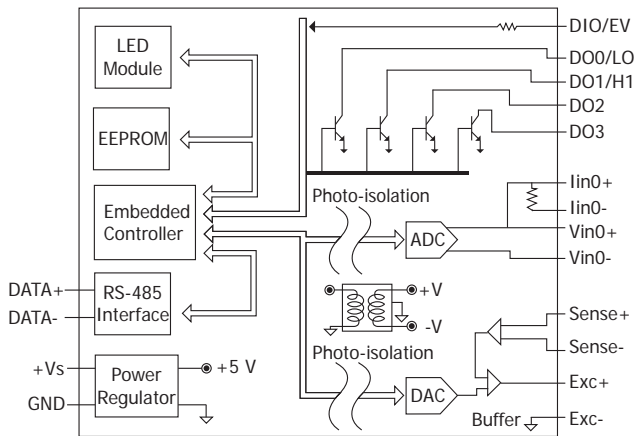
- Building Automation
- Machine Automation
- Remote Diagnosis
- Factory Automation
- Remote Maintenance
- Testing Equipment

**Specifications**

Model	I-7016P	I-7016PD
<b>CPU Module</b>		
Watchdog Timer	Module, Communication (Programmable)	
<b>Display</b>		
Type	-	5-Digit 7 Segment LED Display
<b>Isolation</b>		
Intra-module Isolation	3000 VDC	
<b>EMS Protection</b>		
EFT (IEC 61000-4-4)	4 kV Contact for Each Terminal 8 kV Air for Random Point	
ESD (IEC 61000-4-2)	±4 kV for Power Line	
<b>LED Indicators</b>		
Status	1 x Power and Communication	
<b>Digital Input/Counter</b>		
Channels	1	
Type	Dry Contact	
Sink/Source (NPN/PNP)	Source	
ON Voltage Level	Close to GND	
OFF Voltage Level	Open	
Max. Counts	65535 (16-bit)	
Frequency	50 Hz	
Input Impedance	3 kΩ	
Overvoltage Protection	±30 VDC	
<b>Digital Output</b>		
Channels	4	
Type	Open Collector	
Sink/Source (NPN/PNP)	Sink	
Load Voltage	+3.5 ~ +50 VDC	
Load Current	30 mA/Channel	
Power on Value	Programmable	
Safe Value	Programmable	

<b>Strain Gauge, Load Cell Input</b>	
Channels	1
Type	Strain Gauge
Wiring	Full-Bridge
Accuracy	±0.05% of FSR
Resolution	16-bit
Sampling Rate	10 Hz
Impedance	20 MΩ
Long Distance Measurement	Yes
Overvoltage Protection	±5 VDC
<b>Excitation Voltage Output</b>	
Channels	1
Range	0 ~ +10 V
Resolution	16-bit
Accuracy	±0.05% of FSR
Max. Load Current	40 mA
Power on Value	Programmable
<b>COM Ports</b>	
Ports	1 x RS-485
Baud Rate	1200 ~ 115200 bps
Data Format	(N, 8, 1)
Protocol	DCON
<b>Power</b>	
Reverse Polarity Protection	Yes
Input Range	+10 ~ +30 VDC
Consumption	1.3 W
<b>Mechanical</b>	
Dimensions (mm)	72 x 123 x 35 (W x L x H)
Installation	DIN-Rail Mounting
<b>Environment</b>	
Operating Temperature	-25 ~ +75 °C
Storage Temperature	-40 ~ +85 °C
Humidity	10 ~ 95% RH, Non-condensing

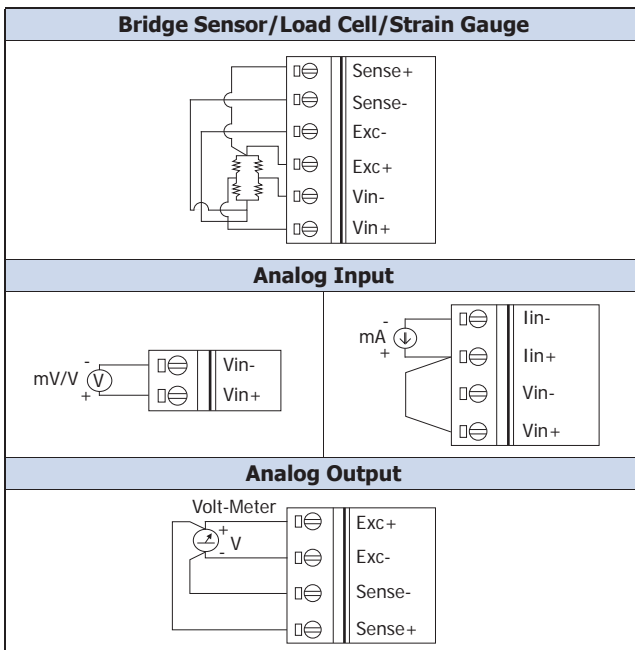
## Internal I/O Structure



## Pin Assignments



## Wire Connections



Digital Input/Counter	Readback as 1	Readback as 0
	+3.5 ~ +50 VDC	OPEN or < +4 VDC
Sink		
	+3.5 ~ +50 VDC	OPEN or < +4 VDC
Source		

Output Type	ON State Readback as 1	OFF State Readback as 0
Resistance Load		
Inductance Load		

## Ordering Information

<b>I-7016P CR</b>	1-ch 6-wire Strain Gauge Input Module using DCON Protocol (Blue Cover) (RoHS)
<b>I-7016PD CR</b>	1-ch 6-wire Strain Gauge Input Module with LED Display using DCON Protocol (Blue Cover) (RoHS)

## Accessories

<b>tM-7520U CR</b>		Tiny Isolated RS-232 to RS-485 Converter (RoHS)
<b>tM-7561 CR</b>		Tiny USB to Isolated RS-485 Converter with CA-USB18 Cable (RoHS)
<b>tM-SG4 CR</b>		RS-485 Pull-high/Pull-low and Termination Resistor Module (RoHS)
<b>I-7514U CR</b>		Isolated 4-channel RS-485 Repeater/Hub/Splitter (Gray Cover) (RoHS)
<b>SG-770 CR</b>		7/14 channel Surge Protector (RoHS)
<b>SG-3000 Series</b>		Signal Conditioning Modules for Thermocouple, RTD, DC Voltage, DC Current and Power Input Transformers