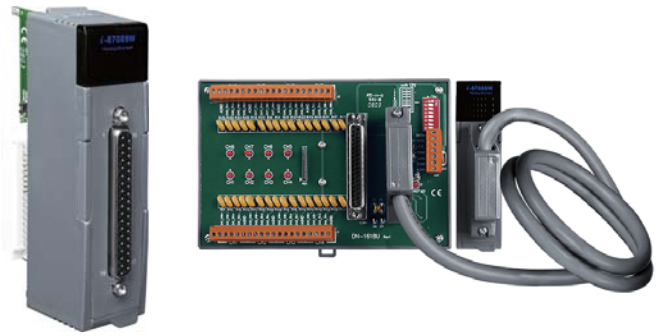


I-87089W | I-87089W/S

8 channel Vibrating Wire Input Module

Features

- Support 8 ~ 32 Vibrating Wire inputs
- Support 450 ~ 6000 Hz Vibrating Wire sensor
- Support channel to channel isolation
- Dual Watchdog
- 4 kV ESD Protection
- 3000 VDC Intra-module Isolation, Field-to-Logic

Introduction

The vibrating wire sensor has a wire which is initially plucked by a series of electrical magnetic forces from a coil. The conductive wire after plucking is vibrating in a magnetic field. The wire will disturb the field, and then the coil can pick up the induced voltage change. The signal is amplified and detected by a VW readout device, or called VW reader. After plucking, there is no other force acting on this wire. When the transient response dies out, the reader can read a stable resonant frequency. The resonant frequency is function of the tension of this wire.

System Specifications

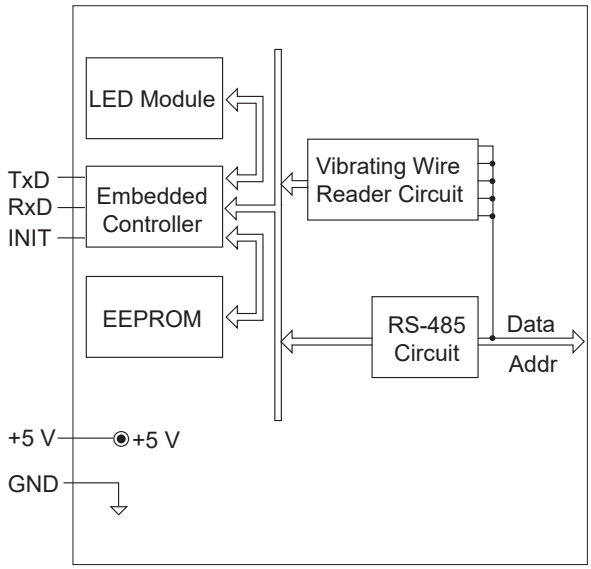
Model	I-87089W	I-87089W/S
COM Ports		
Port	RS-485	
Format	N, 8, 1	
Baud Rate	1200 ~ 115200 bps	
Protocol	DCON	
CPU Module		
Dual Watchdog	Module (1.6 Seconds), Communication (Programmable)	
LED Indicators/Display		
System LED Indictors	1 as Power/Communication Indicator	
I/O LED Indicators	16 as High/Low Alarm Signals	
Isolation		
Intra-module Isolation, Field-to-Logic	3000 VDC	
EMS Protection		
ESD (IEC 61000-4-2)	±4 kV Contact for each Terminal, ±8 kV Air for Random Point	
Power		
Consumption	3.6 W	
Mechanical		
Dimensions (W × L × H, unit: mm)	I-87089W: 30 × 114 × 85	I-87089W: 30 × 114 × 85, DN-1618UB: 165 x 112 x 52
Environment		
Operating Temperature	-25 ~ +75 °C	
Storage Temperature	-40 ~ +85 °C	
Humidity	10 ~ 95 % RH, Non-condensing	

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I/O Specifications

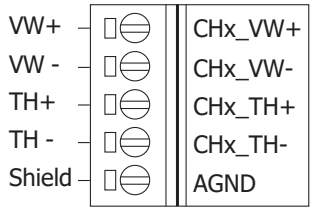
Model	I-87089W	I-87089W/S
Vibrating Wire Input		
Channels	8	
Type	Vibrating Wire Sensor (2 VW wire + 2 Temperature wire +1 shield wire)	
Excitation Mode	Enhanced square wave	
Measuring Range	Temperature: -20 ~ +50 °C, Wire: 450 ~ 6000 Hz	
Resolution	Temperature: ±0.1 °C % of FSR, Wire: ±0.1 Hz % of FSR	
Channel-to-Channel Isolation	1 kV	

Internal I/O Structure



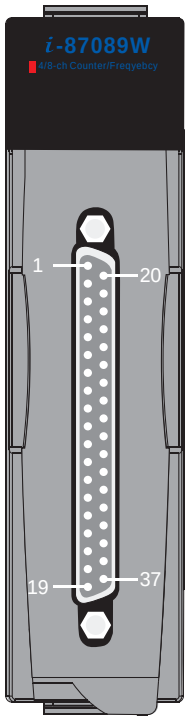
Wire Connections

Vibrating Wire Input



Pin Assignments

I-87089W

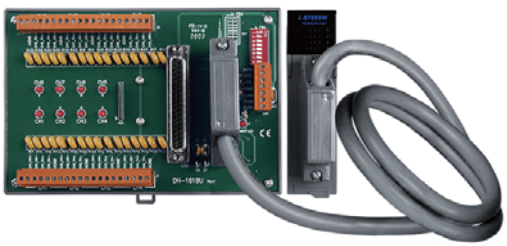


Pin Assignment	Terminal No.		Pin Assignment
NC	1	20	GND
NC	2	21	GND
NC	3	22	NC
NC	4	23	NC
TH-	5	24	NC
TH+	6	25	NC
GND	7	26	NC
GND	8	27	NC
VW+	9	28	NC
VW-	10	29	NC
FIN+	11	30	NC
NC	12	31	NC
NC	13	32	NC
GND	14	33	VCC
NC	15	34	VCC
GND	16	35	VCC
NC	17	36	VCC
NC	18	37	Data+
Data-	19		

37-pin Male D-Sub Connector

Applications

The I-87089W/S includes the I-87089W Module, a DN-1618UB Daughter Board and a CA-3710 DB-37 Male-Male D-sub cable 1M that can be extended to 32 channels by connecting 3 extra DN-1618UB.



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Pin Assignments

DN-1618UB

JP1

Terminal No.	Pin Assignment
01	CH1_VW+
02	CH1_VW-
03	CH1_TH+
04	CH1_TH
05	GND
06	CH2_VW+
07	CH2_VW-
08	CH2_TH+
09	CH2_TH
10	GND
11	CH3_VW+
12	CH3_VW-
13	CH3_TH+
14	CH3_TH
15	GND
16	CH4_VW+
17	CH4_VW-
18	CH4_TH+
19	CH4_TH
20	GND



CN1

Terminal No.	Pin Assignment
01	CH5_VW+
02	CH5_VW-
03	CH5_TH+
04	CH5_TH
05	GND
06	CH6_VW+
07	CH6_VW-

JP2

Terminal No.	Pin Assignment
01	CH5_VW+
02	CH5_VW-
03	CH5_TH+
04	CH5_TH
05	GND
06	CH6_VW+
07	CH6_VW-
08	CH6_TH+
09	CH6_TH
10	GND
11	CH7_VW+
12	CH7_VW-
13	CH7_TH+
14	CH7_TH
15	GND
16	CH8_VW+
17	CH8_VW-
18	CH8_TH+
19	CH8_TH
20	GND

CON1

Pin Assignment	Terminal	No.	Pin Assignment
Data-	1	20	Data+
NC	2	21	VCC
/INI	3	22	VCC
NC	4	23	VCC
NC	5	24	VCC
NC	6	25	NC
NC	7	26	NC
NC	8	27	NC
NC	9	28	NC
NC	10	29	NC
VW+	11	30	NC
VW-	12	31	DO3
THER-	13	32	DO2
THER+	14	33	DO1
NC	15	34	DO0
DI3	16	35	DOPWR
DI2	17	36	GND
DI1	18	37	GND
DI0	19		

37-pin Male
D-Sub Connector

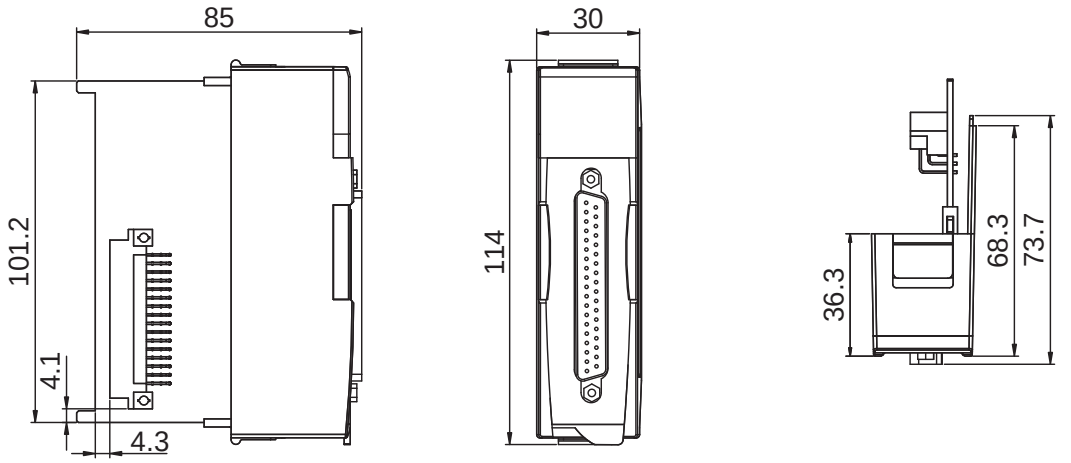
CON2

Pin Assignment	Terminal	No.	Pin Assignment
Data-	1	20	Data+
NC	2	21	VCC
/INI	3	22	VCC
NC	4	23	VCC
NC	5	24	VCC
NC	6	25	NC
NC	7	26	NC
NC	8	27	NC
NC	9	28	NC
NC	10	29	NC
VW+	11	30	NC
VW-	12	31	DO3
THER-	13	32	DO2
THER+	14	33	DO1
NC	15	34	DO0
DI3	16	35	DOPWR
DI2	17	36	GND
DI1	18	37	GND
DI0	19		

37-pin Male
D-Sub Connector

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Dimensions (Units: mm)



Left View | Front View | Top Veiw

Accessories

	**SG-770 CR**	7-channel Differential or 14-channel Single-ended Surge Protector (RoHS)

Ordering Information

I-87089W-G CR



8-channel Vibrating Wire Input Module (RoHS)

I-87089W-G/S CR

8-channel Vibrating Wire Input Module (RoHS)
Includes a DN-1618UB Daughter Board and a CA-3710 DB-37 Male-Male D-sub cable 1M

I-87089W/S CR = I-87089W Connects DN-1618UB Directly






I-87089W/S = **I-87089W** + **CA-3710** + **DN-1618UB**

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