SAR-713
### Seismic Alarm Recorder with Metal casing

Features

■ Provide two digital outputs individually.

■ Support earthquake data file record function.

■ Adopt STA/LTA algorithm.

■ Automatic Zero Offset.

■ Support NTP for time calibration and NTP backup server.

■ Support Host IP filter function.

■ Support DHCP function.

■ Support MB/TCP and MB/RTU server and up to 10 Hosts Connections via MB/TCP.

■ Support MB/TCP client to connect to host PC automatically.

Introduction

SAR-713 is an advanced technology seismic alarm recorder provided by ICP DAS with a tri-axial MEMS accelerometer and acquires vibration signal by 100Hz sampling rate. It can be used to establish a complete earthquake warning system and urgent to prevent any further significant damages. SAR-713 is not only a seismic switch inclusive of 2 digital outputs for the security of facilities or staffs but also an earthquake data recorder for research analysis. It can real time display maximum intensity according to CWB (Central Weather Bureau, Taiwan) or GB/T 17742-2008 (China) earthquake intensity standard, maximum vector, instant tri-axial acceleration, etc. Besides, SAR-713 also supports NTP function to keep internal time within 1 second accuracy. In connectivity, SAR-713 offers both MB/TCP and MB/RTU server for easily connection of host PC, PLC, HMI or SCADA and also provides active connection to host MB/TCP server ability which is useful to deploy at environment without real IP.

Applications
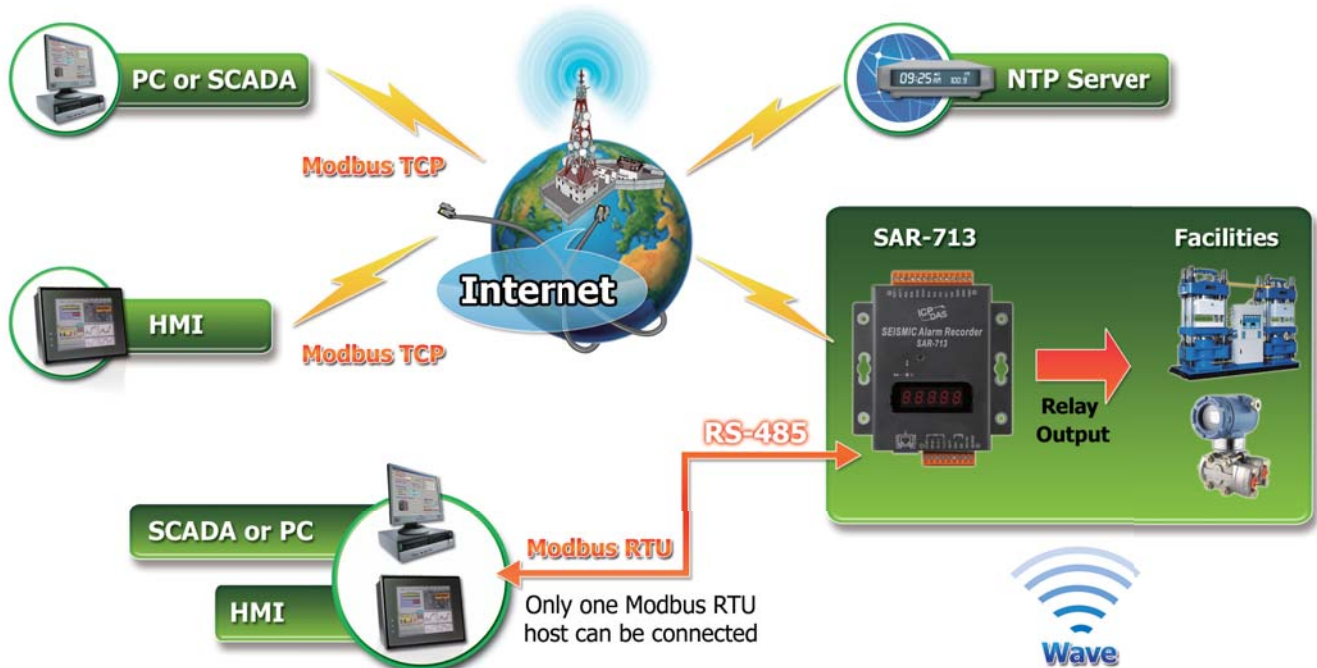
▲ Specifications

Models	SAR-713
Accelerometer	
Type	Tri-axial MEMS
Range	± 2 g (X Y Axes)
	+ 1 g / -3 g (Z Axis)
Frequency Response	0 ~ 40 Hz
Shock	500 g/0.5 ms
	3000 g/0.1 ms
Digitizer	
ADC Resolution	12 bit
Digital Resolution	< 0.001 g
Earthquake Gauge	
Algorithm	STA/LTA
STA Setting Range	0.01 ~ 60 Sec.
LTA Setting Range	0.01 ~ 60 Sec.
Offset Period	0.01 ~ 655 Sec.
Event Duration Time	0.01 ~ 60 Sec.
Earthquake File Record	
Alarm Time Record Range	0.01 ~ 60 Sec.
Pre-Time Record Range	0.01 ~ 10 Sec.
Post-Time Record Range	0.01 ~ 10 Sec.
Switch Setpoints	
Digital Output Numbers	2
Setport Range	2 ~ 1960 gal (cm/s2)
Contact Type	Normal Open
Contact Capacity	0.6 A DC
Hold-On time	Same as Event
	Duration Time
Modbus Comm.	
Modbus TCP	Most 10 Host Simultaneously
Modbus/RTU	Default:1 (settable) ; Format:115200,N,8,1
Modbus Function Code	Function Code : 1, 2, 3, 6, 16
Modbus Variables Address	000 ~ 108
LED Display	
5-Digit 7 Segment LED Display	Display Module and Earthquake Information
System LED Indicator	Display Module Power and Comm. Status
Power	
Protection	Power reverse polarity protection
Frame Ground for ESD Protection	Yes
Required Supply Voltage	+10 V_{DC} ~ +30 V_{DC} (non-regulated)
Power consumption	3.5 W
Mechanical	
Dimensions (W x H x D)	102 mm x 123 mm x 28 mm
Weight	285g (Without Power and Cable)
Operating Environment	
Operating Temperature	-25 °C ~ +75 °C
Storage Temperature	-40 °C ~ +80 °C
Relative Humidity	5 ~ 90% RH, non-condensing

Dimensions (Units: mm)

| Left Side View | Front View | Right Side View | Rear View | Bottom View |

Top View
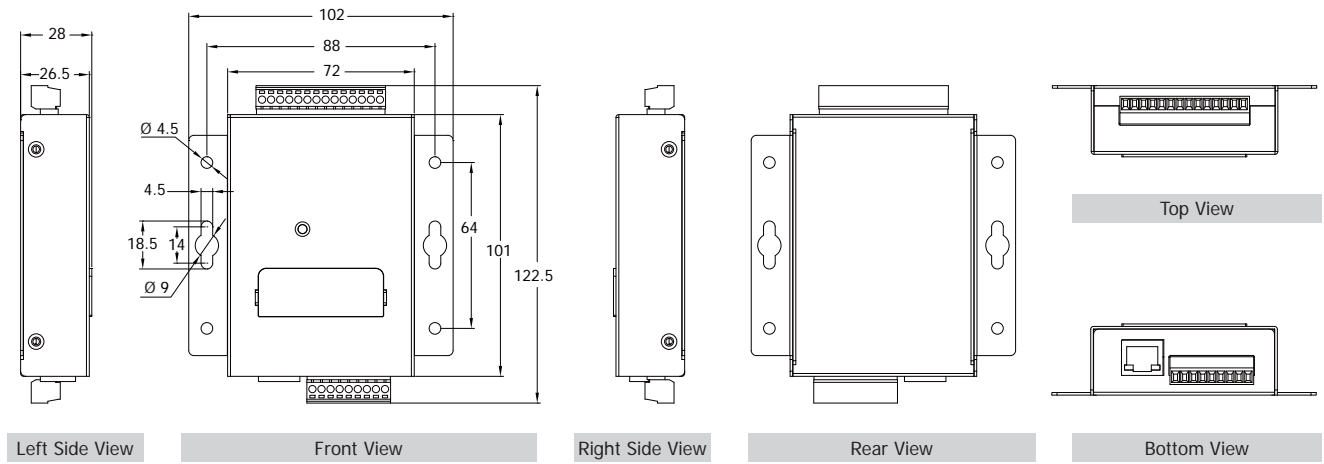
Pin Assignments
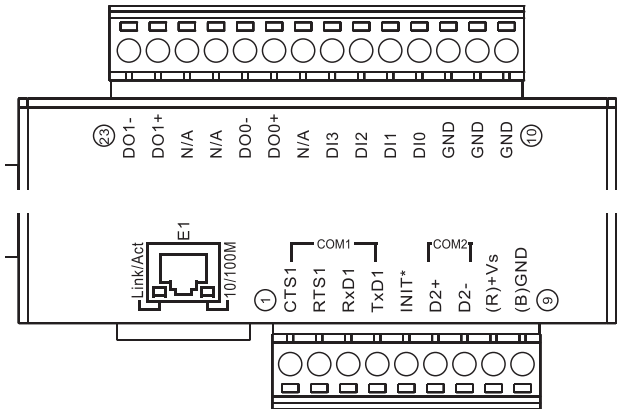
Wire Connections

Output Type	Readback as 1	Readback as 0
From A Relay Contact	Relay On	Relay Off
	Load / DO+ / DO- (AC/DC)	Load × / DO+ / DO- (AC/DC)

Output Type	ON State DI value as 1	OFF State DI value as 0
Relay Contact	Relay Close / DIx GND	Relay Open / DIx GND
TTL/CMOS Logic	Logic Level Low Logic GND / DIx GND	Logic Level High Logic GND / DIx GND
Open Collector	On / DIx GND	Off × / DIx GND

Ordering Information

SAR-713 CR	Seismic Alarm Recorder with Metal casing (RoHS)

Accessories

GPSU06U-6	24 V/0.25 A, 6 W Power Supply
DIN-KA52F	24 V/1.04 A, 25 W Power Supply with DIN-Rail Mounting
MDR-20-24	24 V/1 A, 24 W Power Supply with DIN-Rail Mounting

Seismic Alarm Recorder

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