

GST-43-M

Seismic Switch

Introduction

GST-43-M is a tri-axial MEMS seismic switch, inclusive of 2 digital outputs for facilities protection. It can display maximum intensity according to CWB earthquake intensity standard, maximum vector, tri-axial acceleration, instant tri-axial acceleration, etc. GST-43-M Supports both Modbus RTU / TCP which easily connect with PC, PLC and HMI.



Features

- Two Seismic Switch Setpoints (2mg to Full Scale) with Independent Digital Output
- Internal Tri-axial MEMS Accelerometers
- Industrial 16 Bit 80 MHz CPU
- Automatic Zero Offset
- STA/LTA Earthquake Detected Algorithm Support Real Time Tri-axial And Vector Acceleration Output
- Store Earthquake Time, Maximum Intensity, Vector, Tri-axial Acceleration And Instant Tri-axial Acceleration Of Earthquake
- Support Modbus RTU / TCP, NTP Time Calibration, Up to 3 Hosts Connections Via Modbus TCP

Specification

Accelerometer	
Type	Tri-axial MEMS
Range	± 2 g (X Y Axes)
	+ 1 g / -3 g (Z Axis)
Frequency Response	0 ~ 20 Hz
Shock	500 g/0.5 ms
	3000 g/0.1 ms
Digitizer	
ADC Resolution	12 Bit

Digital Resolution	< 0.001g
Earthquake Gauge	
Algorithm	STA/LTA
STA Setting Range	0.1 ~ 100 second
LTA Setting Range	0.1 ~ 100 second
Offset Period	30 ~ 32767 min
Event Duration Time	1 ~ 200 s
Switch Setpoints	
Digital Output Numbers	2
Setpoint Range	2 ~ 1960 mg
Contact Type	Open Collector
Contact Capacity	0.6 A DC
Hold-On time	Same as Event
	Duration Tim
CPU	
CPU	80186 or compatible (16-bit and 80 MHz)
SRAM	512 KB
Flash	512 KB; Erase unit is one sector (64K bytes); 100,000 erase/write cycles.
EEPROM	16 KB Data retention: 40 years; 1,000,000 erase/write cycles.
NVRAM	31 Bytes (battery backup, data valid up to 10 years)
RTC (Real Time Clock)	RTC Provide seconds, minutes, hours, date of week/month; month and year, valid from 1980 to 2079
64-bit Hardware Serial Number	Yes
Built-in Watchdog Timer	Yes (0.8 second)
Communication Interface	
COM1	RS-232 (TxD, RxD, CTS, RTS and GND); Non-isolated
COM2	RS-485 (D2+, D2-; self-tuner ASIC inside); Non-isolated
Ethernet Port	10/100Base-TX Ethernet Controller (Auto-negotiating, Auto_MDIX, LED indicator)

COM Port Formats	
Data bit	8
Parity	None
Stop bit	1
Modbus Formats	
Modbus TCP	3 Host Simultaneously
Modbus ID	Default 101, settable
Modbus Function	Function 3 and 16
Modbus Variables	100 ~ 158, 171 ~ 191 include Real Time Acceleration, Event Information,
Address	IP Address Setting, Server IP Address Setting, NTP IP Address Setting, etc
LED Display	
5-Digit 7 Segment LED Display	Yes
System LED Indicator	Yes
Hardware Expansion	
I/O expansion bus	Yes
User defined I/O pins	14 pins
Dimensions	
W x H x D	72 mm x 123 mm x 35 mm
Operating Environment	
Operating Temperature	-25°C ~ +75°C (-10~60)
Storage Temperature	-40°C ~ +80°C (-20~70)
Relative Humidity	5 ~ 90% RH, non-condensing
Power	
Protection	Power reverse polarity protection
Frame Ground for ESD Protection	Yes
Required Supply Voltage	+10 ~ +30 VDC (non-regulated)
Power consumption	2.5 W for GST-43-M

More information : http://www.icpdas.com/products/Seismic_Switch/gst-43.htm