



TRITON SEISMOGRAPH

INTEGRATED DATA ACQUISITION
PLUS SENSOR

KEY FEATURES

INTEGRATED SENSOR

ADC RESOLUTION 24 bit

DYNAMIC RANGE > 136dB@100 sps

SYNCHRONOUS SAMPLING

LAN, WIFI

INTEGRATED 4G MODEM (OPTIONAL)

BUILT-IN GNSS RECEIVER

INTEGRATED UPS

MINISEED DATA FORMAT

For applications where combined and space saving-solution are required.

Very low seismic noise levels are achieved thanks to the sensor being shielded inside the enclosure and to the short wiring. Triton is available with geophones or with short/broad band sensors. Triton can be equipped with extra inputs for 3 or 6 24-bit channels. In this configuration, in addition to the internal sensor, the instrument can be connected externally to two other high dynamic sensors. The instrument is equipped with high-resolution delta-sigma 24 bit ADCs, each channel is synchronized and the sample rate is adjustable up to 1000 sps per channel. The internal memory (up to 1TByte) has two independent recording zones: the ring-buffer dedicated to continuous sampling, and the triggering used for event sampling.



Seismological networks Nakamura surveys Regional or teleseismic seismicity	APPLICATIONS
GEOPHONES 4.5Hz-100Hz or 2Hz – 100Hz SHORT BAND SENSOR 1s - 100Hz or 5s – 50Hz Dynamic range >140dB BROAD BAND SENSOR 30s – 100Hz / 60s – 100Hz / 120s – 100Hz Dynamic range >150dB	SENSORS
SAMPLING Simultaneous ADC Sigma-delta 24 bit synchronous sampling DYNAMIC RANGE > 136dB @ 100 sps SAMPLE RATES 25, 50, 100, 250, 500, 1000* sps *(3 ch active) ADVANCED FEATURES Dual Sampling ANTI-ALIASING FILTER FIR linear or minimum phase ADDITIONAL DIGITAL FILTERS Low-pass and High-pass filter	A/D CONVERSION
TRIGGERS STA/LTA and threshold independent for each channel AND/OR configuration on all channels Trigger broadcasting towards recorders in the network	TRIGGERS
FORMAT MiniSEED INTERNAL MEMORY 32GB standard, optionally up to 1TB RING BUFFER DATA RECORDING (16 or 32 days, depending on mem. size) plus strong motion events ADV. FEAT. Periodic generation of ambient noise and post-seismic analysis	STORAGE
TIMING SOURCE Absolute Time UTC through high sensitive integrated GNSS receiver or NTP ACCURACY in GNSS signal loss condition: ± 1 ppm (32 s/year) Accuracy with GNSS signal < 1 μ S	SYNCHRONIZATION
LEDs Heartbeat, 4G, WiFi, GNSS, Ethernet, Power BUTTONS Power on/off and WiFi enable/disable on the same button	UI

FILE TRANSFER Via Ethernet 10/100, WiFi (optional) or integrated 4G modem (optional)	COMMUNICATION
WIFI MODE SOFT AP function METADATA RESP file available on IRIS DATA DOWNLOAD Through SCP protocol based program or via web interface VPN Compatible with OpenVPN and IPSec	DATA STREAMING
FORMAT Seedlink protocol management for real-time interface with most common seismic programs such as SeisComp and Earthworm STREAM Seismic and State-of-Health ALARMS Management towards remote monitoring server	CONFIGURATION
INTERFACE Web Server CONTROL Connection and management on remote servers UPDATES Remote software update (local network or via internet) ADVANCED FEATURES Multiple units can be connected to the network (Ethernet, WiFi or 4G) acting as a single multi-channel instrument	POWER SUPPLY
POWER SUPPLY 9 ÷ 28 Vdc - AC/DC adapter included POWER CONSUMPTION < 2 W (< 800 mW available on request) UPS Back-up LiPO battery, autonomy > 33 hours ALARMS Remote alarms management in case of blackout ACCESSORIES External battery pack and solar panel options	OP. CONDITIONS
STORAGE TEMPERATURE RANGE - 40 ÷ +85°C HUMIDITY 0 to 100% OPERATING TEMPERATURE RANGE Without battery - 40 ÷ +85°C * <small>*LiPo batteries can be charged in the range 0 ÷ +45°C while discharge is allowed in the range of -20 ÷ +70°C. If the temperature is out of range, the LiPo battery will be inhibited by the electronics</small>	PHYSICAL
CASE Anodized aluminum case (AISI 316 stainless steel option) PROTECTION GRADE IP67, IP68 optional DIMENSIONS 18 x 18 x 10 cm WEIGHT \approx 3 Kg minimum, depending on the sensor INSTALLATION Mounting plate or spikes available on request	

