

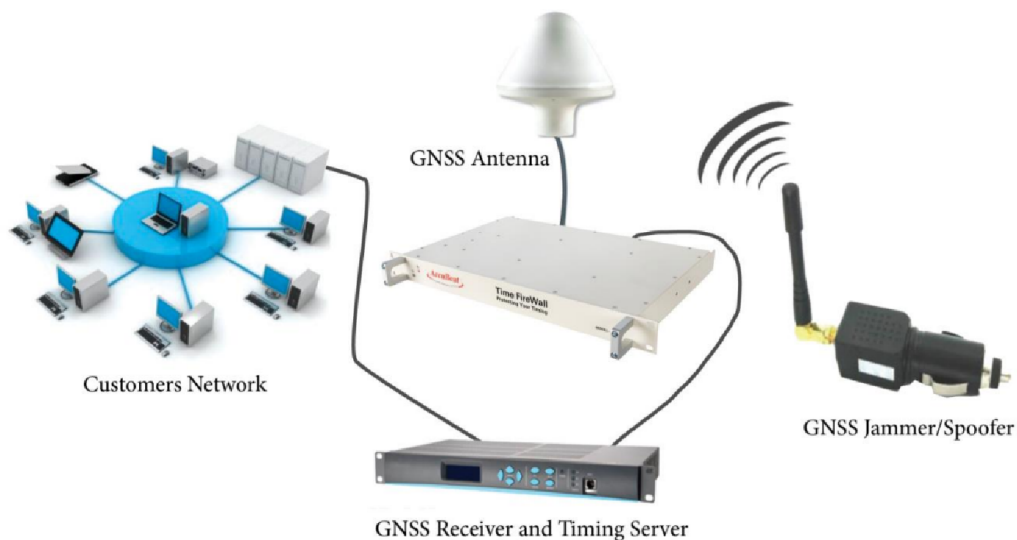
TFW Time Firewall[™]

Protects your system against GPS Spoofing & Jamming

Key features:

- Delivers continuous & valid GPS signals even under jamming or spoofing attacks
- Add on - Plug & Play solution
- Provides a spoofing alert
- Built in Rubidium atomic clock
- Nano-seconds accuracy
- Timing drift under attack : 40ns / hour
- Input : GPS L1 band antenna
- Output : GPS L1 band signals
- 19" 1U Rack mounted unit
- Patented solution, number 235356

AccuBeat's patented Time FireWall[™] is a 19" 1U unit which is easily inserted between the user's antenna and the user's existing GNSS (GPS) receiver. The Time FireWall[™] receives a GNSS (GPS) signal from the antenna and performs an integrity test on the signal using a local Rubidium clock and other proprietary methods. As long as the GNSS signal is found to be authentic, the Time FireWall[™] enables the GNSS signal to pass through to the receiver with "a seal of integrity". If the Time FireWall[™] determines that the GNSS signal is unreliable (due to jamming, spoofing or any other malicious attacking), it sends a warning alarm and simulates an alternate GNSS signal with timing derived from the local Rubidium clock operating in "Holdover" mode. This action allows continuous and uninterrupted timing and synchronization signals even in a GNSS denied or spoofed environment.



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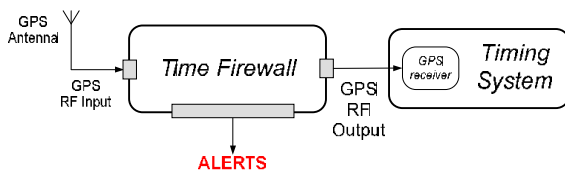
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Unprotected customer system:

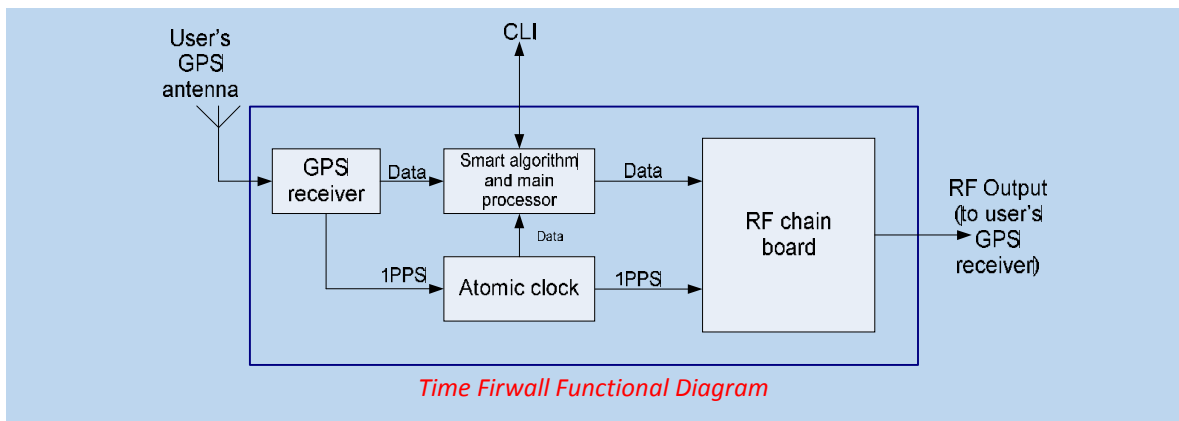


The GPS antenna is connected directly to the Timing system without any protection and is vulnerable to spoofing or jamming attack

Protected customer system with Time FireWall:



The Time FireWall protects the customer's system against spoofing and jamming attacks and sends an alert on detection of an attack



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Inputs & Outputs

Power Input (J1 or J2)	AC or DC input J1 - 110/220VAC , 50/60Hz (Option: J2 - DC power supply. Contact factory)
GPS Antenna Input (J5)	GPS Antenna (L1 band) – TNC Connector RF input level: -100dBm to -145dBm DC output (for active antenna): 5V (option for other DC voltage – contact factory)
RF Output (J8)	GPS RF signals (L1 band) - N Type connector RF level: -130dBm ± 5dB Output DC voltage: 0V (DC blocked)
Communication – RS232 (J4)	CLI (Command Line Interface), RS232 alerts and control (Baud rate: 19,200, Control: 1, N, 8) – D type 9 pin
Factory use (J3, J6, J7)	Factory use

Performance & Power

		Specifications (*)
Time accuracy	Without spoofing / jamming attack	50ns @ 25°C
	Under spoofing / jamming attack	≤ ±40ns / hour (typical)
Power consumption	Warm-up (≤ 10 minutes)	≤ 30 W
	Steady-state	≤ 20 W
Initialization time for full performance		12 hours
Temperature range		Operating : 0°C to +35°C (for wide range temperature contact factory) Storage : -40°C to +85°C



Front panel



Rear panel

Note – the RF output is N Type (and not SMA as appear in the photo above)

Time FireWall DATA SHEET- REVISION: 22.08.2018

SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE. THE BINDING SPECIFICATIONS ARE ONLY THOSE STATED IN OUR QUOTATION/PROPOSAL/CONTRACT. THIS PRODUCT IS COVERED BY THE FOLLOWING Patent 235356 Israel

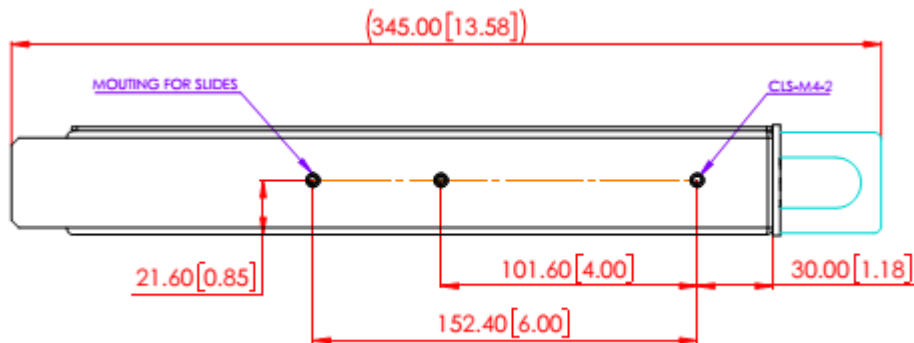
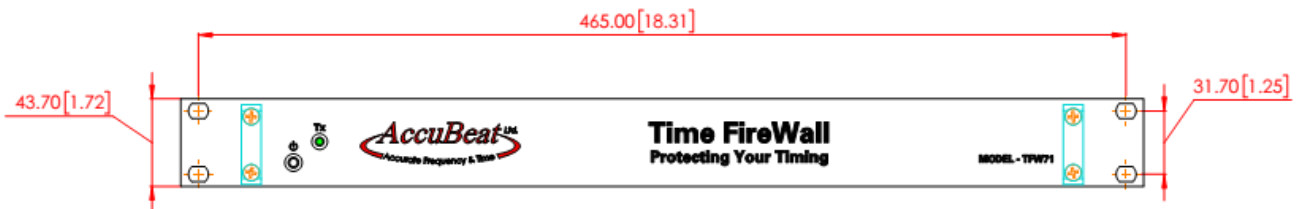
Email: marketing@accubeat.com, Web site: www.accubeat.com

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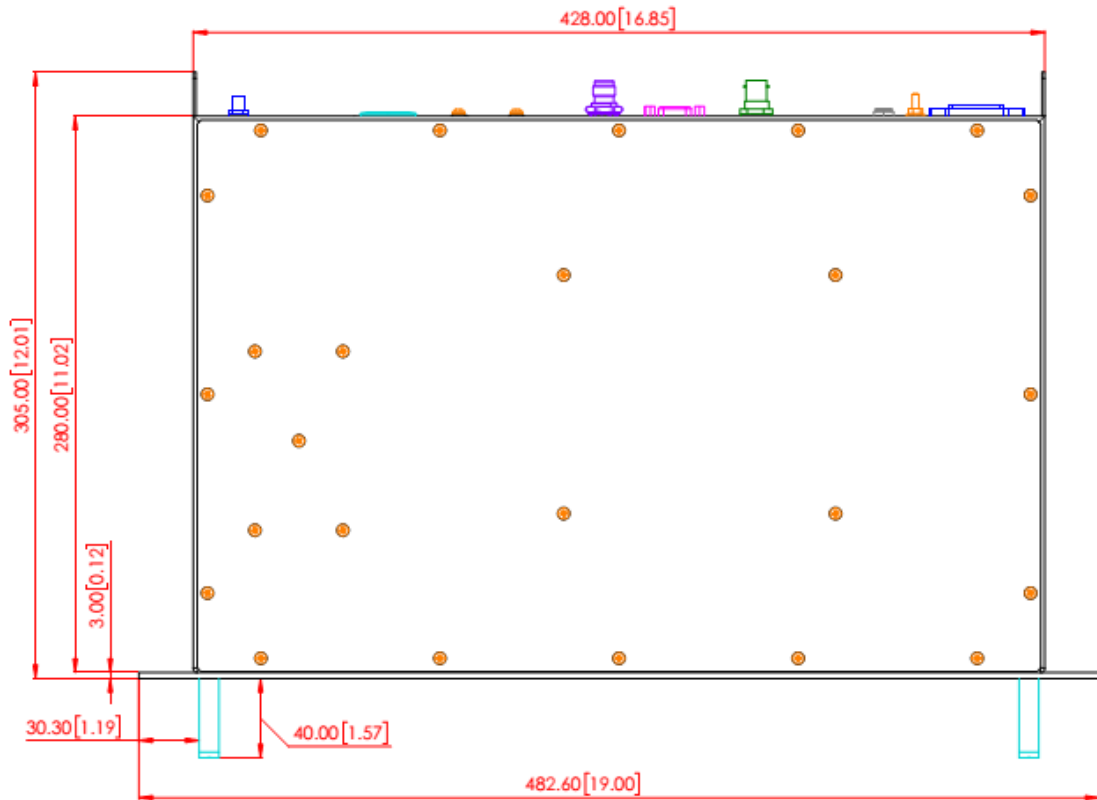
Mechanical dimensions & Weight

Dimensions	19" / 1U Rack mount Depth: 280 mm Option for slides
Weight	≤ 5 Kg



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The Time FireWall TFW71 is for indoor application – contact factory for other applications.

(*) All specs are @ 25°C, quiescent conditions and sea level ambient unless otherwise specified