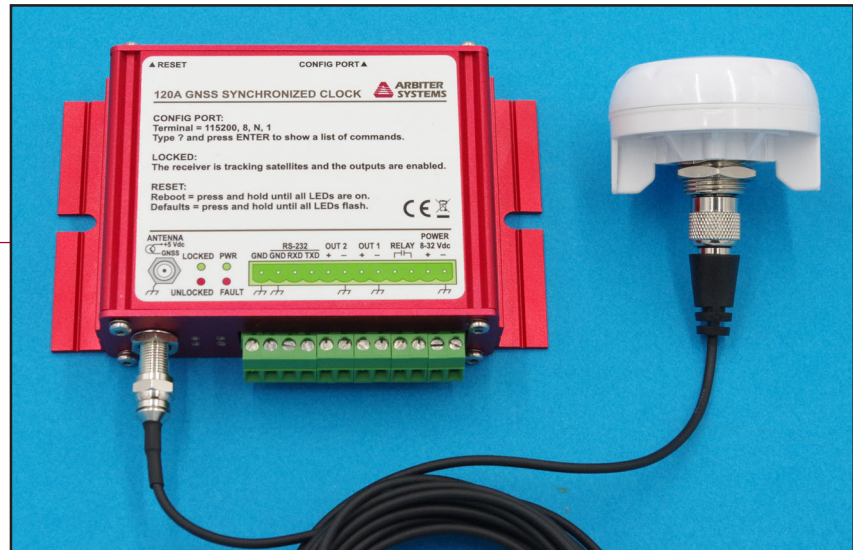


Model 120A GNSS Synchronized Clock

Specifications subject to change.



The Arbiter Systems®, Inc. Model 120A GNSS Synchronized Clock is a multi-satellite system (GPS, Galileo, GLONASS, BeiDou) timing source. Designed as an economical solution for reclosers and other enclosed installations, including a rugged, low-profile, bulkhead-mount antenna with 5 meters of cable. The Model 120A has a seventy-two channel receiver, capable of tracking up to 3 satellite constellations systems simultaneously providing a 100 ns worst-case accuracy. Two pluggable terminal strip outputs provide IRIG-B unmodulated, 1 PPS, or Programmable Pulse; software selectable. These outputs are configurable to a 50 ohm driver or a high capacity driver. The Model 120A comes standard with two communication ports, one RS-232 and one USB. A SPST relay is also included and is configurable to Out of Lock, Fault, Alarm, Stabilized, or Programmable Pulse. Power input accepts + 8 Vdc to + 32 Vdc

Receiver Characteristics

Timing Accuracy

Specifications apply at the output when receiving satellite signals, as of date of publication.

UTC/USNO ± 100 ns rms

Position Accuracy

2.5 meters, rms

Satellite Tracking

Seventy-two (72) channel receiver: GPS L1C/A, GLONASS L1OF, BeiDou B1I, Galileo E1B/C

Acquisition

50 seconds, typical, cold start

25 seconds, typical, hot start

I/O Configuration

Connectors

12-position pluggable terminal strip:

- Out 1: IRIG-B unmodulated, 1 PPS or Programmable Pulse; software configurable
- Out 2: IRIG-B unmodulated, 1 PPS or Programmable Pulse; software configurable
- RS-232: Transmit, Receive, and Ground
- Relay: SPST fail-safe, 0.12 A at 400 Vdc (400 mW); software configurable
- Power

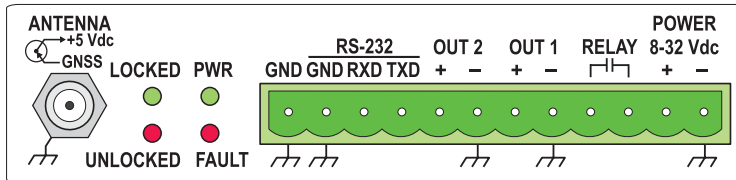
USB micro connector

USB 2.0 serial port emulation, supports terminal configuration and firmware updates

F-Connector

Antenna, 5 Vdc compatible

Model 120A Specifications



I/O Configuration (cont.)

Programmable Pulse Output

Two programmable output pulses Out 1 and Out 2.

Modes:

- IRIG-B unmodulated
- Every 1 to 999 seconds
- Hourly at a specified offset
- Daily at a specified time of day
- DCF77

Serial Broadcast

Modes:

- Standard ASCII (IRIG-J)
- Vorne
- Extended ASCII
- ASCII with time-quality
- Custom
- NEMA \$GPGLL
- NEMA \$GPZDA

Interface

Operator

Status LEDs	Locked (green) Power (green) Unlocked (red) Fault (red)
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System

USB	Management and configuration Terminal emulation: 115200 baud; 8 data bits; 1 stop bits; no parity
RS-232	1200 to 115200 baud; 7 or 8 data bits; 1 or 2 stop bits; even/odd/no parity Pluggable terminal strip (Txd, Rxd, Gnd) Configuration and Broadcasts

Power Requirements

Standard

Voltage	+ 8 Vdc to + 32 Vdc, 5 W maximum
Inlet	Pluggable terminal strip

General

Physical

Size	110 x 85 x 30 mm (4.3 x 3.4 x 1.2 in) Mounting flanges included. 254 mm x 152 mm x 102 mm (10 x 6 x 4 in), shipping
Weight	0.45 kg (1 lb), net 0.9 kg (2 lbs), shipping
Antenna	Bulkhead (0.8 in threaded nut) Cable Connection: TNC Size: 60 dia. x 30 mm (2.4 x 1.2 in) Weight: 125 grams (4.4 oz)
Antenna Cable	RG-174/U, 5 m (16 ft) provided Weight: 85 grams (3 oz)

Environmental

Temperature	Operating: -40 °C to + 85 °C
Humidity	Noncondensing

Certifications and Approvals

CE mark/label and certificate

Accessories

Included

Description	Order No.
GPS Antenna with 5 m (16 ft) Cable	AS0111600
Setup Guide	PD0058300

Available

Description	Order No.
Micro USB Cable, 1.8 m (6 ft)	CA0033700
BNC (Female) Breakout to 100 mm Wires	AP0008900
BNC (Male) Breakout to Screw Terminal	AP0015000
Manual	AS0111700