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Data Sheet

August 3, 2026

STANFORD RESEARCH

Stanford Research FS740 GPS/GNSS Time and Frequency System

Stanford Research Systems FS740 GPS/GNSS Time and Frequency System The FS740 provides a GNSS-disciplined 10 MHz time and frequency system from Stanford Research Systems. Long-term stability is better than 1×10^{-13} when locked. A built-in receiver tracks GPS, GLONASS, BeiDou, or Galileo. The instrument time-tags external events relative to UTC or GPS, measures user frequencies, and synthesizes DDS sine, pulse, and AUX/IRIG-B outputs. Standard TCXO, optional OCXO (Option 01), or optional rubidium (Option 02) timebases are available. The FS740 provides a GNSS-disciplined 10 MHz time and frequency system from Stanford Research Systems. Long-term stability is better than 1×10^{-13} when locked. A built-in receiver tracks GPS, GLONASS, BeiDou, or Galileo. The instrument time-tags external events relative to UTC or GPS, measures user frequencies, and synthesizes DDS sine, pulse, and AUX/IRIG-B outputs. Standard TCXO, optional OCXO (Option 01), or optional rubidium (Option 02) timebases are available. Laboratory 10 MHz frequency distribution; UTC/GPS-referenced time tagging; frequency counter measurements; IRIG-B and arbitrary AUX waveform distribution; holdover-capable reference when GNSS is lost.

No photo

MODEL

**Stanford Research
FS740**

CALIBRATION

**N/A — off-catalog
OEM datasheet**

CONDITION

**See OEM
documentation**

STATUS

**Not listed on
Aumictech
inventory**

RFQ / SKU

FS740

LISTING

**Off-catalog — OEM dat
asheet only**

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

Features & description

From manufacturer datasheet

Features

- GNSS-disciplined 10 MHz reference; long-term stability better than 1×10^{-13}
- Tracks GPS, GLONASS, BeiDou, or Galileo; antenna bias +5 V, 50 Ω BNC; net antenna gain +20 to +32 dBi after cable loss
- UTC accuracy <100 ns; timing wander <15 ns rms (over-determined clock mode)
- Satellite acquisition typically <1 minute; almanac ~15 minutes when continuously tracking
- Frequency counter: measurement stability $<5 \times 10^{-12}$ (1 s gate, synchronous with fast averaging) or $<5 \times 10^{-11}$ otherwise; time-tag resolution 1 ps; time-tag jitter <50 ps rms
- Front/rear SINE: 1 MHz to 30.1 MHz, 1 μ Hz resolution; amplitude 10 mVpp to 1.414 Vpp; harmonics <-40 dBc; spurious <-70 dBc
- Pulse: 1 MHz to 25 MHz; period 40 ns to 1000 s; width 5 ns to (period - 5 ns); period/width resolution 1 ps; jitter <50 ps rms; +5 V CMOS; transition <2 ns
- Fixed 10 MHz output: 13 dBm ± 1.5 dBm; harmonics <-50 dBc; spurious <-90 dBc (100 kHz BW)
- AUX: sine/triangle/square, 100 MHz, AM IRIG-B; Ethernet 10/100 Base-T and RS-232
- Optional distribution amplifiers (up to three modules, five additional outputs each for 10 MHz / Sine / Pulse)

FS740 Characteristics / Specifications

PARAMETER	VALUE
Model	FS740
Manufacturer	Stanford Research Systems (SRS)
Instrument Type	GPS/GNSS Time and Frequency System
Alias	FS740 Standard TCXO Timebase
Temp. Stability	$<2 \times 10^{-10}$ (20 to 30 °C)
Aging	<0.0005 ppm/year (undisciplined)
Stability	$<1 \times 10^{-11}$ (1 s); $<1 \times 10^{-11}$ (10 s); $<1.5 \times 10^{-11}$ (100 s); $<1 \times 10^{-11}$ (1000 s); $<5 \times 10^{-13}$ (24 hr) Rubidium Timebase (Option 02)
Holdover	$<40 \mu\text{s}$ / 24 hr OCXO Timebase (Option 01)
Holdover (lost GNSS)	better than $1 \mu\text{s/day}$ (OEM catalog) Sine Output
Frequency Range	1 mHz to 30.1 MHz
Frequency Resolution	1 μHz
Frequency Error	$<10 \text{ pHz}$ + timebase error $\times$ FC
Phase Settability	1 mDeg; phase accuracy $<1 \text{ ns}$ to internal reference
Amplitude	10 mVpp to 1.414 Vpp; resolution $<1\%$; accuracy $\pm 5\%$
Output	DC-coupled, $50 \Omega \pm 2\%$; reverse protection $\pm 5 \text{ VDC}$ 10 MHz Output
Harmonics	$<-50 \text{ dBc}$; Spurious: $<-90 \text{ dBc}$ (100 kHz BW) Time and Frequency Input
Time Tag Resolution	1 ps; jitter $<50 \text{ ps rms}$
Measurement Stability	$<5 \times 10^{-12}$ (1 s gate, synchronous) / $<5 \times 10^{-11}$ otherwise Interfaces
Ethernet	10/100 Base-T, TCP/IP & DHCP
AC Power	90 to 264 VAC, 47 to 63 Hz with PFC; 90 W
Dimensions	8.5" $\times$ 3.5" $\times$ 13" (W $\times$ H $\times$ L)
Weight	10 lbs
EMI	FCC Part 15 Class B, CISPR-22 ClassB Standard Operating Conditions Performance as published by SRS after warm-up; GNSS requires adequate antenna view and net gain in the stated range. Operational Notes Select TCXO, OCXO, or rubidium based on holdover and phase-

PARAMETER	VALUE
	noise requirements. Optional rear distribution amplifiers expand 10 MHz, SINE, PULSE, or AUX copies.
Frequency counter	measurement stability $<5 \times 10^{-12}$ (1 s gate, synchronous with fast averaging) or $<5 \times 10^{-11}$ otherwise; time-tag resolution 1 ps; time-tag jitter <50 ps rms
Front/rear SINE	1 mHz to 30.1 MHz, 1 μ Hz resolution; amplitude 10 mVpp to 1.414 Vpp; harmonics <-40 dBc; spurious <-70 dBc
Pulse	1 mHz to 25 MHz; period 40 ns to 1000 s; width 5 ns to (period – 5 ns); period/width resolution 1 ps; jitter <50 ps rms; +5 V CMOS; transition <2 ns
Fixed 10 MHz output	13 dBm ± 1.5 dBm; harmonics <-50 dBc; spurious <-90 dBc (100 kHz BW)
AUX	sine/triangle/square, 100 MHz, AM IRIG-B; Ethernet 10/100 Base-T and RS-232

Full OEM specifications

Complete technical content extracted from the manufacturer datasheet. Sparse OEM tables are reconstructed as tables below; other text is preserved as paragraphs.

Specifications

Specifications

PARAMETER	VALUE
Model	FS740
Manufacturer	Stanford Research Systems (SRS)
Instrument Type	GPS/GNSS Time and Frequency System
Alias	FS740

Standard TCXO Timebase

Temp. Stability: $<2\times10^{-6}$ (20 to 30 °C)

Aging: <5 ppm/year (undisciplined)

Phase Noise (SSB, typ.): <-105 dBc/Hz

Stability: $<3\times10^{-10}$ (1 s); $<3\times10^{-10}$ (10 s); $<2\times10^{-10}$ (100 s); $<2\times10^{-11}$ (1000 s); $<1\times10^{-12}$ (24 hr)

Holdover: $<40\text{ }\mu\text{s}$ / 24 hr

OCXO Timebase (Option 01)

Temp. Stability: $<2\times10^{-9}$ (20 to 30 °C)

Aging: <0.2 ppm/year (undisciplined)

Phase Noise (SSB, typ.): <-130 dBc/Hz

Stability: $<1\times10^{-11}$ (1 s); $<1\times10^{-11}$ (10 s); $<1.5\times10^{-11}$ (100 s); $<1\times10^{-11}$ (1000 s); $<5\times10^{-13}$ (24 hr)

Rubidium Timebase (Option 02)

Temp. Stability: $<2\times10^{-10}$ (20 to 30 °C)

Aging: <0.0005 ppm/year (undisciplined)

Phase Noise (SSB, typ.): <-130 dBc/Hz

Stability: $<3\times10^{-11}$ (1 s); $<1\times10^{-11}$ (10 s); $<3\times10^{-12}$ (100 s); $<2\times10^{-12}$ (1000 s); $<5\times10^{-13}$ (24 hr)

Holdover (lost GNSS): better than $1\text{ }\mu\text{s/day}$ (OEM catalog)

Sine Output

Specifications

PARAMETER	VALUE
Frequency Range	1 mHz to 30.1 MHz
Frequency Resolution	1 μHz
Frequency Error	$<10\text{ pHz} + \text{timebase error} \times \text{FC}$
Phase Settability	1 mDeg; phase accuracy $<1\text{ ns}$ to internal reference
Amplitude	10 mVpp to 1.414 Vpp; resolution $<1\%$; accuracy $\pm5\%$
Output	DC-coupled, $50\text{ }\Omega\pm2\%$; reverse protection $\pm5\text{ VDC}$

10 MHz Output

Amplitude: 13 dBm; accuracy $\pm1.5\text{ dBm}$

Harmonics: $<-50\text{ dBc}$; Spurious: $<-90\text{ dBc}$ (100 kHz BW)

Time and Frequency Input

Time and Frequency Input

PARAMETER	VALUE
Time Tag Resolution	1 ps; jitter <50 ps rms
Frequency Resolution	1 µHz
Measurement Stability	<5×10 ⁻¹² (1 s gate, synchronous) / <5×10 ⁻¹¹ otherwise

Interfaces
Ethernet: 10/100 Base-T, TCP/IP & DHCP
RS-232: 4.8k–115.2k baud, RTS/CTS
General

Specifications

PARAMETER	VALUE
AC Power	90 to 264 VAC, 47 to 63 Hz with PFC; 90 W
Dimensions	8.5" × 3.5" × 13" (W×H×L)
Weight	10 lbs
EMI	FCC Part 15 Class B, CISPR-22 ClassB Standard Operating Conditions

Performance as published by SRS after warm-up; GNSS requires adequate antenna view and net gain in the stated range.

Operational Notes
Select TCXO, OCXO, or rubidium based on holdover and phase-noise requirements. Optional rear distribution amplifiers expand 10 MHz, SINE, PULSE, or AUX copies.

Available from Aumictech

Used and refurbished unit evaluated in-house. Calibration: N/A — off-catalog OEM datasheet. See OEM documentation · Not listed on Aumictech inventory.

Request a quote: sales@aumictech.com · +1 (484) 841-9341

Aumictech

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<https://aumictechlabs.com>

NIST-traceable calibration · SAM registered ·
30-day returns
NAICS 423690 · 811210 · 541380
Generated August 3, 2026

Technical content from manufacturer specifications. Unit photo/stock from Aumictech listing when available. Specifications subject to OEM documentation and unit condition.