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Data Sheet

August 5, 2026

KEITHLEY

Keithley 3402-F Pulse/Pattern Generator, Dual-Channel, 165MHz

The Keithley 3402-F is a dual-channel Pulse/Pattern Generator with a frequency of 165MHz. It provides versatile signal generation capabilities for various electronic testing and research applications. It has dual-channel functionality for generating complex pulse and pattern sequences.



MODEL

Keithley 3402-F

CALIBRATION

Available on request

CONDITION

Used

STATUS

In stock

RFQ / SKU

3402-F

LISTING

<https://aumictechlabs.com/products/3402-f-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Keithley 3402-F is a dual-channel pulse and pattern generator delivering precise signal generation from 1 MHz to 165 MHz. It generates pulses with widths from 3 ns to 1000 s and amplitudes up to ± 10 V (50 Ω) or ± 20 V (1k Ω), with rise/fall times as fast as 2.5 ns maximum. The instrument operates in four modes Pulse, Burst, Pattern, and External Width - enabling single-pulse generation, multi-pulse bursts, serial data pattern simulation in NRZ or RZ formats, and externally modulated outputs. Each channel features independent pattern programming with delay accuracy of $\pm 0.5\% \pm 0.5$ ns and timing jitter of 0.01% + 15 ps RMS. Housed in a 2U full-rack design, the 3402-F integrates GPIB and USB control interfaces with IEEE 488.2 and SCPI compliance for straightforward system integration. Technical Specifications Frequency Range: 1 mHz to 165 MHz Pulse Width: 3 ns to 1000 s Pulse Amplitude: ± 10 V (50 Ω source) or ± 20 V (1k Ω)

source); $\pm(0.5\% + 30 \text{ mV})$ accuracy Offset Accuracy: $\pm 100 \text{ mV}$ Output Resolution: 10 mV (50Ω) or 20 mV ($1\text{k}\Omega$) Rise/Fall Time: 2.5 ns maximum (10 V p-p) to 200 ms ; $\pm 10\%$ $\pm 200 \text{ ps}$ accuracy Delay: 0 to (period – 3.02 ns) with $\pm 0.5\%$ $\pm 0.5 \text{ ns}$ accuracy Delay/Width Jitter: $0.01\% + 15 \text{ ps RMS}$ Source Impedance: 50Ω or $1\text{k}\Omega$ selectable Input Impedance: 50Ω or $10\text{k}\Omega$ Short Circuit Current: $\pm 400 \text{ mA}$ Key Features Four operating modes: Pulse, Burst, Pattern, and External Width Independent pattern generation per channel (NRZ/RZ formats) Adjustable rise/fall times across eight selectable ranges from 2 ns – 20 ns to 10 ms – 200 ms Timing resolution to 20 ps with 3.5-digit delay and width precision Overshoot/pre-shoot/ringing limited to $\pm 5\%$ $\pm 20 \text{ mV}$ Typical Applications Functional characterization of serial data interfaces Pulse-based circuit testing and protocol simulation Timing and edge-control validation in high-speed designs Compatibility & Integration GPIB and USB interfaces with full IEEE 488.2 and SCPI command support. External connectors include BNC outputs per channel, CLK IN, EXT IN, TRIG OUT, STROBE OUT, and REF OSC IN/OUT.

Features & description

From manufacturer datasheet

Features

- Dual channel; front-panel connectors (-F) • Frequency: 1 mHz to 165 MHz • Amplitude: ± 10 V (50 Ω) / ± 20 V (1 k Ω) • Pulse width: ~ 3.02 ns to (period – 3.02 ns); up to ~ 1000 s class • Edge times: 2.0 ns to 200 ms, independent rise/fall • Modes: Pulse, Burst, Pattern, External Width • Pattern: 2–16384 bits; PRBS $2^n - 1$ (n=5–14); NRZ/RZ • Channel add (3402 only) • Interfaces: GPIB, USB • Power: 100–240 V; 165 VA max

3402F Characteristics / Specifications

PARAMETER	VALUE
Model	3402-F
Manufacturer	Keithley Instruments (Tektronix)
Instrument Type	Dual-Channel Pulse/Pattern Generator
Family	Series 3400
Alias	3402-F; Keithley 3402-F Frequency / Timing 1 mHz–165 MHz; edges from 2.0 ns; width from ~3 ns Output ±10 V into 50 Ω; ±20 V into 1 kΩ source impedance settings Operational Notes Rear-connector sibling is 3402-R. Prefer Keithley Series 3400 user’s manual 3400S-900.
Frequency	1 mHz to 165 MHz
Amplitude	±10 V (50 Ω) / ±20 V (1 kΩ)
Pulse width	~3.02 ns to (period – 3.02 ns); up to ~1000 s class
Edge times	2.0 ns to 200 ms, independent rise/fall
Modes	Pulse, Burst, Pattern, External Width
Pattern	2–16384 bits; PRBS 2^n–1 (n=5–14); NRZ/RZ
Interfaces	GPIB, USB
Power	100–240 V; 165 VA max

3402F Specifications

PARAMETER	VALUE
Applications	Device characterization; serial pattern stress; materials/semiconductor pulse testing; dual-channel timing.
Technical Specifications	Model: 3402-F
Frequency / Timing	1 mHz–165 MHz; edges from 2.0 ns; width from ~3 ns
Output	±10 V into 50 Ω; ±20 V into 1 kΩ source impedance settings
Operational Notes	Rear-connector sibling is 3402-R. Prefer Keithley Series 3400 user's manual 3400S-900.

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	3402-F
Manufacturer	Keithley Instruments (Tektronix)
Instrument Type	Dual-Channel Pulse/Pattern Generator
Family	Series 3400
Alias	3402-F; Keithley 3402-F

Frequency / Timing

1 mHz-165 MHz; edges from 2.0 ns; width from ~3 ns

Output

±10 V into 50 Ω; ±20 V into 1 kΩ source impedance settings

Operational Notes

Rear-connector sibling is 3402-R. Prefer Keithley Series 3400 user's manual 3400S-900.

Available from Aumictech

Used and refurbished unit evaluated in-house. Calibration: Available on request. Used · In stock.

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

Aumictech

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