

**Aumictech**

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Data Sheet

August 6, 2026

KEITHLEY

Keithley 3401-F Pulse/Pattern Generator, Single-Channel

The Keithley 3401-F is a single-channel pulse/pattern generator, designed for generating a wide range of digital signals. It offers programmable pulse width, delay, and amplitude, making it suitable for various applications. This generator features flexible triggering options and user-friendly interface for creating complex pulse patterns.



MODEL

Keithley 3401-F

CALIBRATION

Available on request

CONDITION

Used

STATUS

In stock

RFQ / SKU

3401-F

LISTING

<https://aumictechlabs.com/products/3401-f-2/>

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Keithley 3401-F is a single-channel pulse and pattern generator delivering precise digital signal synthesis across 1 mHz to 165 MHz. This instrument supports four operational modes Pulse, Pattern, Burst, and External Width - enabling everything from simple pulse generation to complex user-defined bit sequences. Pulse amplitude ranges from 100 mV to +10 V into 50 Ω or 200 mV to +20 V into 1 k Ω , with $\pm(0.5\% + 30 \text{ mV})$ accuracy and selectable 50 Ω or 1 k Ω source impedance. Pulse width is programmable from 3.02 ns to (period - 3.02 ns) with $\pm 0.5\% \pm 250 \text{ ps}$ accuracy (typical, self-calibrated). Delay timing ranges from 0 to (period - 3.02 ns) at $\pm 0.5\% \pm 0.5 \text{ ns}$ accuracy. Rise and fall times are programmable from 2.5 ns to 200 ms with $\pm 10\% \pm 200 \text{ ps}$ accuracy; minimum rise/fall time is 2.5 ns at 10 V p-p. Pattern mode supports NRZ and RZ formats with data lengths from 2 to 16,384 bits. Burst mode generates 2 to 65,536 pulses per trigger.

Period accuracy reaches $\pm 0.01\%$ via PLL or $\pm 0.5\%$ typical with VCO self-calibration. Jitter performance is $0.001\% + 15 \text{ ps}$ (PLL) or $0.015\% + 20 \text{ ps}$ (VCO). Output short-circuit current is $\pm 400 \text{ mA}$. Level window spans $\pm 10 \text{ V}$ into 50Ω or $\pm 20 \text{ V}$ into $1 \text{ k}\Omega$.

Features & description

From manufacturer datasheet

Features

- Single channel; front-panel connectors (-F)
- Frequency: 1 mHz to 165 MHz
- Amplitude: ± 10 V (50 Ω) / ± 20 V (1 k Ω)
- Pulse width: ~ 3 ns to (period - ~ 3 ns); up to ~ 1000 s
- Edge times: 2.0 ns to 200 ms independent
- 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

3401F Characteristics / Specifications

PARAMETER	VALUE
Model	3401-F
Manufacturer	Keithley Instruments (Tektronix)
Instrument Type	Single-Channel Pulse/Pattern Generator
Family	Series 3400
Alias	3401-F; Keithley 3401-F Frequency / Output 1 mHz–165 MHz; ±10 V / ±20 V class Operational Notes
Frequency	1 mHz to 165 MHz
Amplitude	±10 V (50 Ω) / ±20 V (1 kΩ)
Pulse width	~3 ns to (period – ~3 ns); up to ~1000 s
Edge times	2.0 ns to 200 ms independent
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

3401F Specifications

PARAMETER	VALUE
Technical Specifications	Model: 3401-F
Frequency / Output	1 mHz–165 MHz; ± 10 V / ± 20 V class
Operational Notes	Rear-connector sibling: 3401-R. Dual-channel: 3402-F/R. Prefer 3400S-900 manual.

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	3401-F
Manufacturer	Keithley Instruments (Tektronix)
Instrument Type	Single-Channel Pulse/Pattern Generator
Family	Series 3400
Alias	3401-F; Keithley 3401-F

Frequency / Output

1 mHz-165 MHz; ±10 V / ±20 V class

Operational Notes

Rear-connector sibling: 3401-R. Dual-channel: 3402-F/R. Prefer 3400S-900 manual.

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.