

**Aumictech**

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Data Sheet

August 6, 2026

KEITHLEY

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

Keithley Pattern Generators. Frequency range: 1 mHz to 165 MHz, Accuracy: $\pm(0.5\%$ amplitude + 30 mV), Accuracy: ± 100 mV.



MODEL

Keithley 3401-R

CALIBRATION

Available on request

CONDITION

Used

STATUS

In stock

RFQ / SKU

3401-R

LISTING

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

NIST-traceable cal

SAM registered

30-day returns

NAICS 423690 · 811210 · 541380

This unit

The Keithley 3401-R is a single-channel pulse/pattern generator engineered for precise signal generation across component testing, signal simulation, and automated test system integration. It delivers programmable pulse control from sub-nanosecond to kilosecond timescales, with selectable output impedance and four operating modes including pulse, burst, pattern, and external width generation. Technical Specifications Frequency & Timing Frequency range: 1 mHz to 165 MHz Pulse period: 6.06 ns to 1000 s Pulse width: <3 ns to 1000 s (programmable) Rise/fall time: 2 ns minimum, adjustable <2.5 ns to 200 ms Delay: 0 to (period – 3.02 ns); fixed delay 22 ns nominal Period jitter (RMS): VCO 0.015% + 20 ps; PLL 0.001% + 15 ps Delay and width jitter (RMS): 0.01% + 15 ps Amplitude & Output Output amplitude: ± 10 V (50 Ω); ± 20 V (1k Ω); 100 mV to +10 V (50 Ω into 50 Ω); 200 mV to +20 V (1k Ω into 50 Ω) Amplitude accuracy: $\pm(0.5\%$ amplitude + 30 mV) Offset accuracy: ± 100 mV Output impedance: Selectable 50 Ω or 1k Ω Output resolution: 10 mV (50 Ω into 50 Ω); 20 mV (1k Ω into 50 Ω) Short circuit current: ± 400 mA Overshoot/pre-

shoot/ringing: $\pm 5\%$ ± 20 mV Accuracy & Resolution Pulse width accuracy: $\pm 0.5\%$ ± 250 ps typical (with self-calibration) Delay accuracy: $\pm 0.5\%$ ± 0.5 ns typical (with self-calibration) Period accuracy: PLL $\pm 0.01\%$; VCO $\pm 0.5\%$ typical Delay and width resolution: 3.5 digits (20 ps best case) Key Features Single-channel design for point-source signal generation Pattern generation with serial data simulation capability Programmable duty cycle control Reference oscillator: 10 MHz, 0 dBm typical input (20 dBm max); 1 V p-p typical output Typical Applications Component and device characterization Digital signal simulation and timing verification Pulse train generation for transient testing Serial pattern stimulus in automated test environments Compatibility & Integration Control via front-panel GUI, GPIB (IEEE 488.2, SCPI compliant), and USB Trigger Out, Strobe Out, Clock In, External In connectors Reference oscillator inputs/outputs on rear panel Universal input: 100–240 V, 50/60 Hz, 165 VA max Operating range: 0°C to 50°C; up to 80% RH at 35°C Dimensions: 439 mm W $\times$ 87 mm H $\times$ 393 mm D; 6.80 kg

Features & description

From manufacturer datasheet

Features

- Single channel; all connectors on rear panel (-R)
- Frequency: 1 mHz to 165 MHz
- Amplitude: ± 10 V ($50\ \Omega$) / ± 20 V ($1\ \text{k}\Omega$)
- Pulse width: ~ 3 ns to (period – ~ 3 ns)
- Edge times: 2.0 ns to 200 ms independent
- Modes: Pulse, Burst, Pattern, External Width
- Pattern/PRBS as Series 3400
- GPIB and USB; SCPI; 2U rack

3401R Characteristics / Specifications

PARAMETER	VALUE
Model	3401-R
Manufacturer	Keithley Instruments (Tektronix)
Instrument Type	Single-Channel Pulse/Pattern Generator
Family	Series 3400
Alias	3401-R; Keithley 3401-R Frequency / Output
Frequency	1 mHz to 165 MHz
Amplitude	±10 V (50 Ω) / ±20 V (1 kΩ)
Pulse width	~3 ns to (period – ~3 ns)
Edge times	2.0 ns to 200 ms independent
Modes	Pulse, Burst, Pattern, External Width

3401R Specifications

PARAMETER	VALUE
Technical Specifications	Model: 3401-R
Frequency / Output	Same as 3401-F: 1 mHz–165 MHz; ± 10 V / ± 20 V class
Operational Notes	Front-panel sibling: 3401-F. Prefer Keithley 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.

performance matches the 3401-F: 1 mHz-165 MHz, $\pm 10\text{ V}$ / $\pm 20\text{ V}$ amplitude class, independently adjustable edges from 2.0 ns, pulse/burst/pattern/external-width modes. All signal connectors on the rear for ATE rack cabling.

Applications

Rack/ATE single-channel pulse and pattern stimulus; semiconductor and RF device characterization.

Key Features

- Single channel; all connectors on rear panel (-R)
- Frequency: 1 mHz to 165 MHz
- Amplitude: $\pm 10\text{ V}$ (50 Ω) / $\pm 20\text{ V}$ (1 k Ω)
- Pulse width: $\sim 3\text{ ns}$ to (period - $\sim 3\text{ ns}$)
- Edge times: 2.0 ns to 200 ms independent
- Modes: Pulse, Burst, Pattern, External Width
- Pattern/PRBS as Series 3400
- GPIB and USB; SCPI; 2U rack

Technical Specifications

Technical Specifications

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

Frequency / Output

Same as 3401-F: 1 mHz-165 MHz; $\pm 10\text{ V}$ / $\pm 20\text{ V}$ class

Operational Notes

Front-panel sibling: 3401-F. Prefer Keithley 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.