



WF 2144

4-Channel USB Programmable Resistor Module

The WF 2144 from WireFlow is a USB 2.0 compatible 4-channel, 16 bit, programmable resistor module. Each channel is galvanically isolated, making it ideal for sensor simulation.

The 16 bit resolution is non-linear with finer steps at lower resistance values. It could, for example, be used to emulate a PT100 sensor with a range of 40–180Ω/-150–+200°C with a resolution of 0.1°C.

An open API using the Modbus standard with Python and LabVIEW drivers makes it compatible with most computer architectures and operating systems.

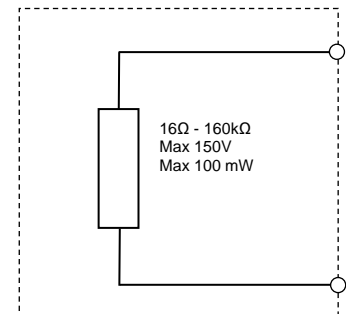
Application areas

- Resistive sensor simulation; Pressure sensors, Thermistors, RTDs etc.
- ATE (Automatic Test Equipment)
- HiL testing (Hardware in the Loop)
- Laboratory testing of electronic control units
- Automated calibration and alignment
- Automation of manual controls



Features

- Four independent, galvanically isolated channels
- Entirely solid-state simulation
- High resolution with non-linear scaling
- Wide resistance range
- Enhanced accuracy mode
- On-board calibration memory
- Open Modbus API
- LabVIEW and Python driver included
- Combines permutations of real resistors to achieve desired value



Specifications

Channels	4
Max Voltage (over resistor terminals)	150 V
Max Power (through resistor terminals)	100 mW/channel
Range	16 Ω - 160 kΩ
Max update rate	200 Hz
Max error in Normal mode:	
R < 100 Ω	0.03%
R < 1 kΩ	0.1 %
R < 10 kΩ	1 %
R < 160 kΩ	10 %
Enhanced mode	32 Ω < R < 160kΩ 0.25%

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WF 2144 Data Sheet
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