Easy to program, flexible to use.

Pulse Streamer 8/2
Synchronous digital and analog waveform generator
- digital out: 8 channels, 1 GSa/s, 3 V into 50 Ω
- analog out: 2 channels, 125 MSa/s, ±1 V into 50 Ω
- 1 Gbit ethernet interface
- three-year warranty
- free software and firmware updates

Pulse Streamer 8/2
3 990 €
All prices excl. VAT and local taxes. Prices are subject to change.

Send an email to sales@swabianinstruments.com to get a quotation or to place a purchase order.

www.swabianinstruments.com | info@swabianinstruments.com | +49 711 4004790
Swabian Instruments GmbH | Frankenstr. 39 | 71701 Schwieberdingen | Germany

Pulse Streamer 8/2
Synchronous digital and analog waveform generator

Key features
- 8 digital outputs (1 GSa/s), 2 analog outputs (125 MSa/s)
- synchronous digital and analog output
- efficiently define complex pulse patterns
- instant device upload and execution
- benefit from a large memory, 1 M pulses
- repeat modes 1, N, infinite
- modern and easy to handle API
Simple and powerful: Run Length Encoding (RLE)

How would you intuitively describe a digital pattern that controls your experiment? Say you want the laser on for 2 ns, then a microwave pulse for 12 μs, then everything off for 1 ms. A graphic representation of this pulse sequence could look like this:

\[ \text{2 ns, [ laser ] } \quad 12 \mu s, [ \text{microwave} ] \quad 1 \text{ ms, [ ]} \]

One way to represent this sequence in a computer readable format is ‘Run Length Encoding’. In pseudo code, the above sequence could look like this:

```
2 ns, [ laser ] 12 μs, [ microwave ] 1 ms, [ ]
```

This is how you represent digital patterns for our Pulse Streamer 8/2. No data blocks, no predefined chunk lengths. You’ll be surprised how simple, readable and efficient your experiment control becomes.

**Applications**

The Pulse Streamer 8/2 enables you to implement complex digital and analog control sequences rapidly. Start using it for your experiments!

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**Specifications**

**Digital Output**
- Output channels: 8x SMA
- Sampling rate: 1 GSa/s
- Output voltage: 3 V, 50 Ω
- Rise and fall time: < 2 ns

**Analog Output**
- Output channels: 2x SMA
- Sampling rate: 125 MSa/s
- Bandwidth: 35 MHz
- Output voltage: -1 to 1 V, 50 Ω

**Pattern Generation**
- Max. Pattern length: 1 M pulses
- Repeat modes: 1, N, infinite
- Trigger modes: internal, external

**Mechanical Parameters**
- Interface: Ethernet (1 Gbit/s)
- Dimensions: 185 x 145 x 60 mm

All specifications are subject to change without notice.

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**Typical pulse response (digital output)**

- Rise: 1.6 ns
- Fall: 1.1 ns
Simple and powerful: Run Length Encoding (RLE)

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```
laser
```

```
microwave
```

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Typical pulse response (digital output)

![Typical pulse response](chart.png)

- rise: 1.6 ns
- fall: 1.1 ns

Applications:
- Cold Atoms, EIT
- Pulsed ESR / NMR
- Ion Traps
- Quantum Dots
- Quantum Optics
- Circuit QED
Easy to program, flexible to use.

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