



**PI-5/100 PULSE INVERTER
FOR PPG AND PPM SERIES
PULSE GENERATORS**

USER MANUAL

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APPLICATION OF PI-5/100 PULSE INVERTER

The PI-5/100 pulse inverter reverses the polarity of high voltage pulses with a duration from 100 picoseconds to 100 nanoseconds. It can be used together with PPG and PPM series pulse generators and allows for the generation of negative pulses when using a pulser with a positive output, or vice versa.

The typical waveforms of the input pulse of positive polarity and the output reversed pulse of negative polarity are shown in Fig. 1.

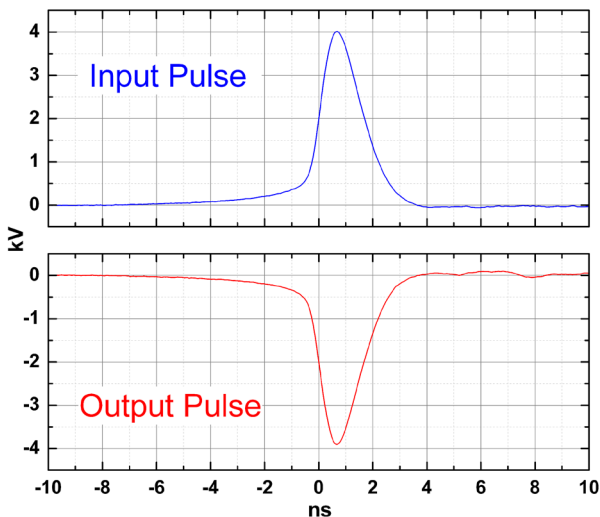


Fig. 1. The typical waveforms of PI-5/100 input pulse and reversed polarity output pulse.



Fig. 2. PI-5/100 high-voltage ultra-wide-band pulse inverter.

PACKAGE CONTENT

Please check the package for the following items:

- PI-5/100 pulse inverter;
- 50 cm in length semirigid coaxial cable assembly with N-type connectors.

SAFETY MANUAL

Electrical safety

- PI-5/100 pulse inverter is a high-voltage equipment. Please be careful when working with high voltage equipment and operate it only by qualified personnel.
- Improper use may result in electric shock, strong electromagnetic interference, or damage to other electronic equipment.
- It is strongly prohibited to connect or disconnect the inverter to or from the system while the HV pulse generator is turned on, as well as leave the output N-type connector open, i.e. without attached output cable and load. The arcing across the open N-type connector may damage it.

Operation safety

- Please read this manual before installing and using the inverter.
- Make sure that all the cables are applicable and undamaged. All the connectors should be clean and dry.
- The inverter should operate in normal laboratory conditions. Please, avoid dust, humidity, and temperature extremes.
- If you encounter any technical problems with the inverter, then contact Megaimpulse Ltd. Do not try to repair it by yourself.

TECHNICAL SPECIFICATION

| | |
|--|--|
| Maximum pulse amplitude | 7 kV (< 1ns pulse width) 5 kV (< 10 ns pulse width) 4 kV (> 10 ns pulse width) |
| Pulse polarity | any |
| Pulse rise time | 100 ps |
| Maximum pulse width (time domain window) | 100 ns |
| Square pulse top skew | < 6% at 100 ns |
| Estimated bandwidth | 200 kHz ... 2 GHz |
| Input and output impedance | 50 Ohm |
| Connectors | N-type, symmetrical design |
| Size | 129 x 48 x 28 mm ³ |

➔ To prevent damage to the inverter do not exceed the maximum pulse amplitude.

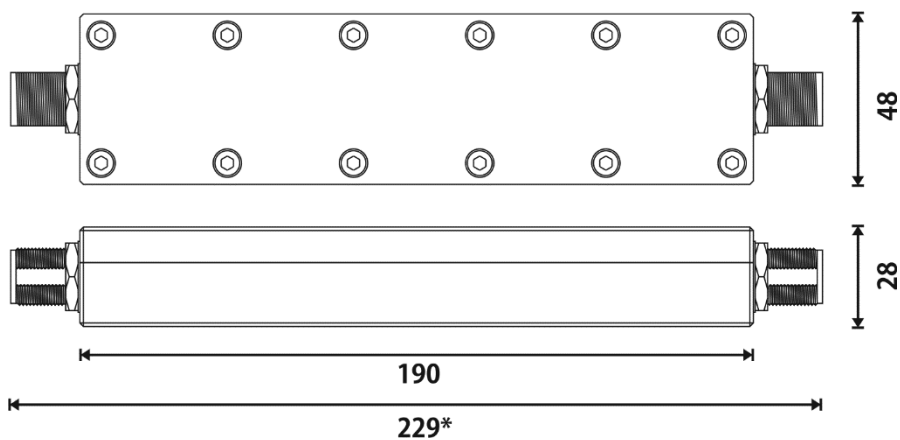


Fig. 3. The drawing of PI-5/100 pulse inverter. All the dimensions are in mm.

PI-5/100 has symmetrical design. Input and output are interchangeable.

WARRANTY

Please see your sales agreement to determine the warranty period and condition. Removing the warranty seals and labels terminates the warranty.