

# PHASE INVERTER

## Model INV10



## GENERAL PURPOSE PHASE INVERTER

VOLTAGE

$\pm 10$  V

FIXED GAIN

-1 X

BROADBAND

DC to 5 MHz

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## GENERAL DESCRIPTION

The **INV10** is a general purpose, low voltage phase inverter designed for laboratory use. It is based on broadband operational amplifiers with a feedback network chosen to give a voltage amplification of -1. Any function or arbitrary waveform generator with low output impedance and output voltage up to  $\pm 10$  V can be used as an input device.

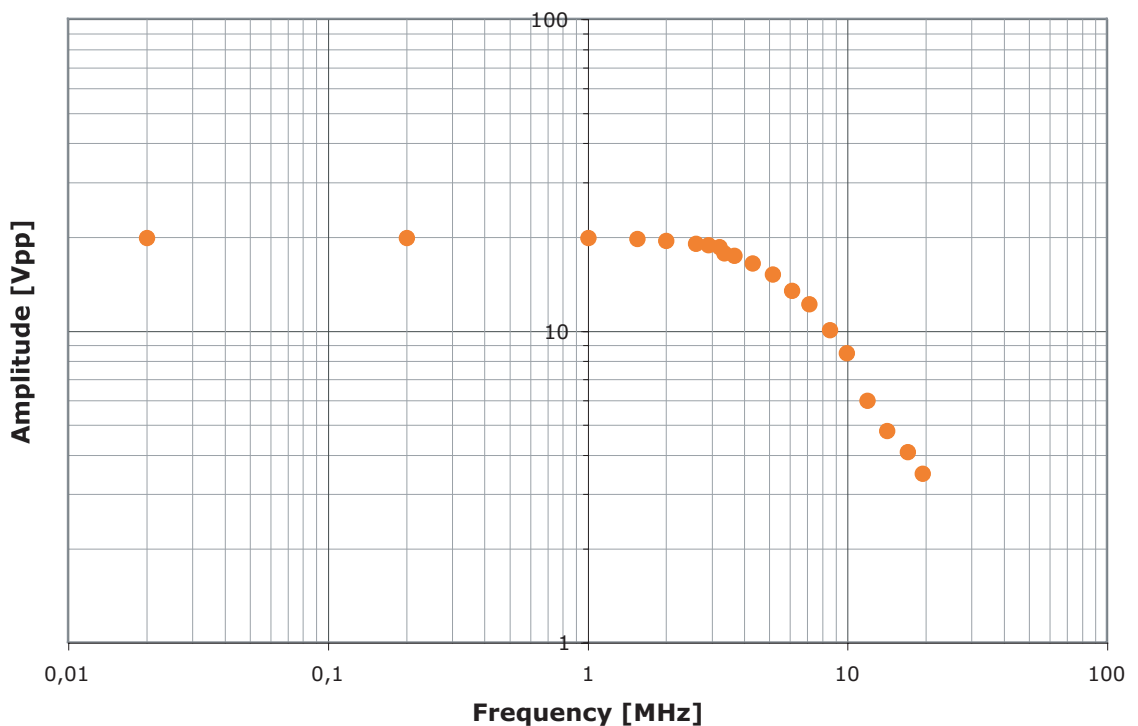
## INPUT AMPLITUDE

The input amplitude should normally be kept within  $\pm 10$  V and not exceed  $\pm 12$  V. This is most important since the input protection network will limit the signal amplitude and cause distortion. The input protection network effectively cuts accidental spikes and overshoots. It is equipped with a fuse rated at 15 mA, which will be blown if the input voltage exceeds 500% of the maximum.

## LOAD

The amplifier is intended to be used as a signal source for devices with high input impedance. Maximum output current is 50 mA.

## FREQUENCY RESPONSE



## SUMMARY OF TECHNICAL DATA

<b>Bandwidth:</b>		DC to ca 5 MHz
<b>Amplification:</b>		-1 times, fixed
<b>Load:</b>	type	resistive    capacitive
<b>Impedance:</b>	input	1 M $\Omega$    30 pF
	output	10 $\Omega$
<b>Voltage:</b>	input	nominal $\pm 10$ V
<b>Current:</b>	output	max 50 mA
<b>Input protection fuse:</b>		15 mA (Littelfuse, part number 273.015) one spare fuse provided inside the instrument, additional fuses available from FLC Electronics AB.
<b>Operating Ambient Temperature:</b>		0°C to 30°C
<b>Storage Temperature:</b>		0°C to 60°C
<b>Relative Humidity:</b>		up to 90% (operation) 30% to 50% (storage)
<b>Power Requirements:</b>		either 100/110 V or 220/230 V, 50/60 Hz (factory set)
<b>Fuse:</b>		100/110 V: 2x 630 mA (slow), 220/230 V: 2x 315 mA (slow)
<b>Dimensions (H/W/L):</b>		105 x 60 x 210 (mm)
<b>Weight:</b>		1.4 kg
<b>Country of Origin:</b>		Sweden

*Note:* Specifications apply to instruments operating at 23°C $\pm$ 5°C ambient temperature after 5 min warm-up time. Due to ongoing product development, specifications are subject to change without notice.

**WARNING** It is not allowed to connect the 100...230V AC line power input of the amplifier to DC-AC converters or solid state AC generators with non-sinusoidal output.

## WARRANTY

FLC Electronics warrants that this product will be free from defects in materials and workmanship for a period of **two years** from the date of the shipment.

If any such product proves defective during this warranty period, FLC Electronics, at its option, either will repair the defective product without charge for parts and labour, or will provide a replacement for the defective product. In order to obtain service under this warranty, Customer must notify FLC Electronics of the defect before the expiration of the warranty period and make suitable arrangements for the performance of the service. Customer shall be responsible for packing and shipping the defective product to the service center designed by FLC Electronics, with shipping charges prepaid. FLC Electronics shall pay for the return of the product to the Customer if the shipment is to a location within the country in which the FLC Electronics service center is located. Customer shall be responsible for paying all shipping charges, duties, taxes, and any other charges for products returned to any other locations.

This warranty shall not apply to any defect, failure or damage caused by improper use or inadequate maintenance and care. FLC Electronics shall not be obligated to furnish service under this warranty

- to repair damage resulting from attempts by personnel other than FLC Electronics representatives to install, repair or service the product;
- to repair damage resulting from improper use or connection to incompatible equipment;
- to service a product that has been modified or integrated with other products when the effect of such modification or integration increases the time or difficulty of servicing the product.

This warranty is given by the FLC Electronics with respect to this product in lieu of any other warranties, expressed or implied. FLC Electronics and its vendors disclaim any implied warranties of merchantability or fitness for a particular purpose. FLC Electronics' responsibility to repair or replace defective products is sole and exclusive remedy provided to the customer for breach of this warranty. FLC Electronics and its vendors will not be liable for any indirect, special, advance notice of the possibility of such damages.

The instrument may generate hazardous voltage levels! It should be operated by qualified personnel only. The instrument is to be used in normal room temperature and humidity.

The manufacturer cannot be held responsible for damage to any device connected to the instrument. It is recommended that samples or equipment sensitive to voltage spikes are disconnected from the high-voltage outputs when turning the power to the instrument ON or OFF.