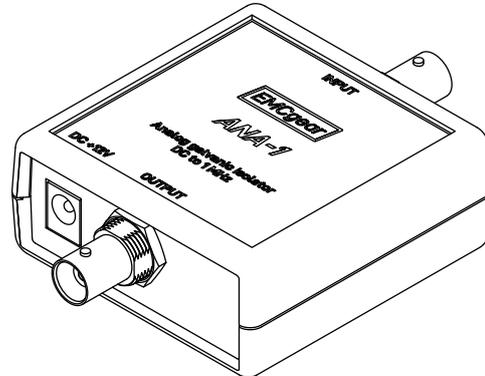


## Analog galvanic isolator, DC to 1 MHz

### Features

- Wide frequency range from DC up to 1 MHz
- Excellent out of the box accuracy, perfectly flat frequency characteristics
- Compatible with the most oscilloscope probes, multimeters and other measurement systems
- Input side completely galvanic isolated with isolation barrier of 4200V / > 10 G Ohm
- Downloadable compensation data



### Product description

**EMCgear Analog isolator ANA-1** is versatile measuring equipment based on high-accuracy optical isolator in combination with isolated DC-DC converter. Input side is isolated from output as well as power supply jack and doesn't require separate power supply.

**Using isolator with oscilloscope and probe**, makes probe differential and eliminate galvanic connection between probe and earth reference of the oscilloscope. This allows to make measurements between any two points of scoped circuit without shorting them with probe GND clip (e.g. high-side measurements in SMPS, measurement between floating points,..)

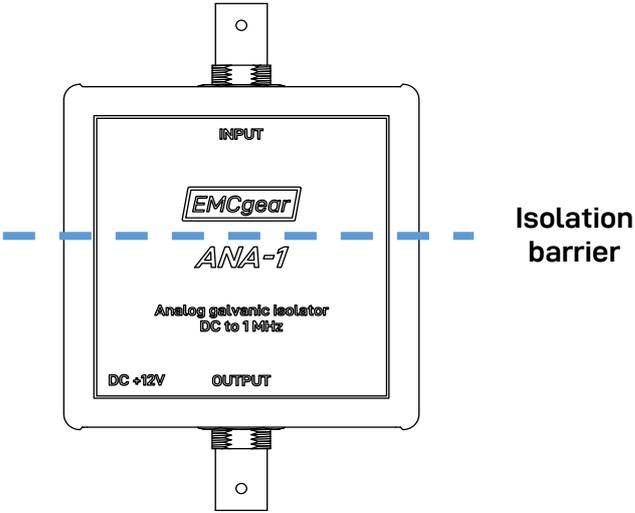
Thanks to the excellent accuracy **can be also used for any type of measurements in DC / AC** with basic accuracy better than 1%.

### Technical parameters

Input / output terminal	<i>BNC female</i>
Input impedance	<i>1 M Ohm</i>
Input parasitic capacitance	<i>&lt; 10 pF</i>
Input voltage range	<i>± 20 V DC/AC</i>
Output impedance	<i>50 Ohm</i>
Output voltage range	<i>± 2 V DC/AC</i>
Output noise	<i>&lt; 2 mV AC RMS</i>
Output zero offset	<i>&lt; 10 mV</i>
Operating frequency (operating range)	<i>DC to 1 MHz</i>
Operating frequency (-3dB point)	<i>1 MHz</i>
Input/output ratio (lin. / log.)	<i>10:1 / -20 dB</i>
Input/output ratio error (lin. / log.)	<i>&lt; 1 % / &lt; 0,5 dB</i>
Isolation barrier	<i>4200 V</i>
Isolation resistance	<i>&gt; 10 G Ohm</i>
Isolation production test	<i>4200 V / 10 sec.</i>
Power supply voltage	<i>12 ± 2 V DC</i>
Power supply terminal	<i>Jack 5.5/2.5mm</i>
Current consumption	<i>Max. 100 mA</i>
Operating temperature	<i>23 ± 5 °C</i>

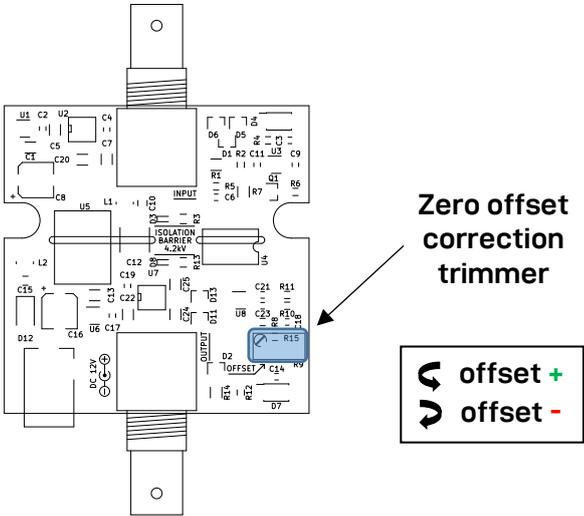
Usage hints

- Never use analog isolator on high power systems!
- Specified input voltage range should be respected although isolator input can be overloaded without any damage up to 1000 V AC/DC. (outside specified range is output saturated)
- Always use supplied power adapter or isolated voltage source to supply analog isolator (DC +12V jack). Both input and output terminals are using floating GND potential and for proper function there shouldn't be galvanic connection between them and GND pole of DC +12V jack.
- To maintain isolation barrier, never interconnect shield between input and output BNC connector.



Zero offset correction

When analog isolator is used in conditions with ambient temperature outside specified value, zero offset can occur. This can be compensated using internal correction trimmer. First unscrew two Phillips screws from bottom side and remove top cover. Trimmer is located as drawn bellow. Before doing any correction please allow min. 30 minutes for temperature stabilization. **For safety reasons always remove all terminals from analog isolator before start of disassembly!**



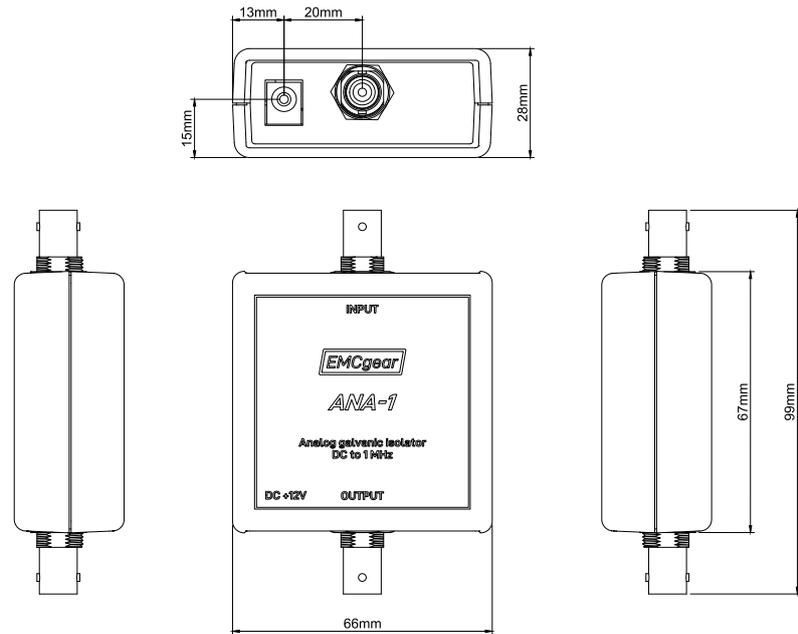
### Scope of delivery

Analog galvanic isolator, DC to 1 MHz	ANA-1
Power adapter 110-230V AC to 12 V / 1 A	-
Compensation data (downloadable)	-

### Warranty

2-year manufacturer warranty

### Mechanical dimensions



### Optional accessories

Description	Order code
RF adapter BNC male to banana plug	RFAD-BCMBA
BNC to BNC cable, RG58, 1m	C-BCBC10R58



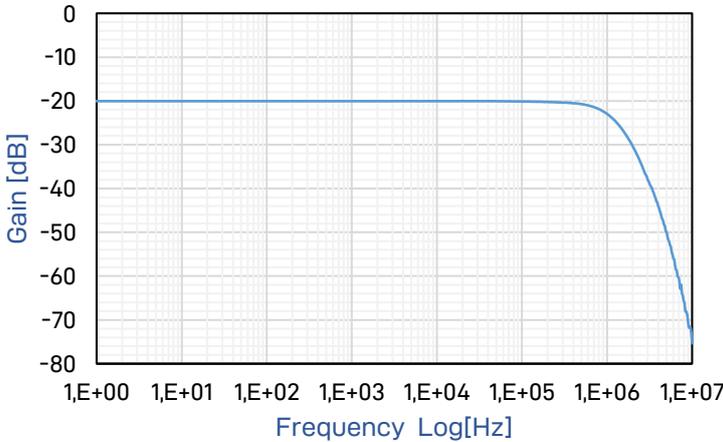
RF adapter BNC male to banana plug  
**RFAD-BCMBA**



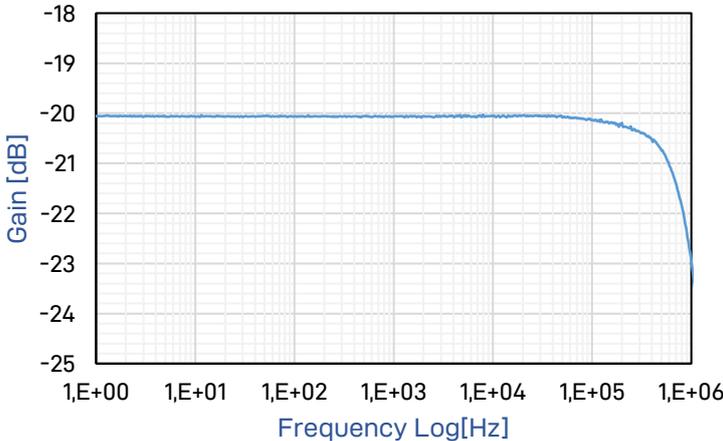
BNC to BNC cable, RG58, 1m  
**C-BCBC10R58**

*Frequency characteristics*

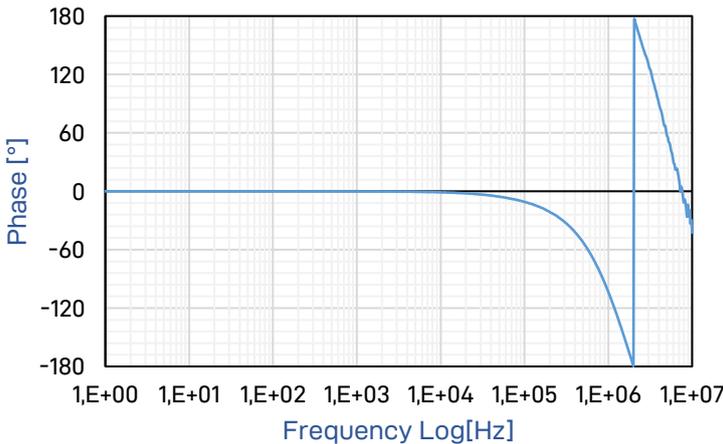
*Bode plot – gain  
(1 Hz to 10 MHz)*



*Bode plot - gain  
(1 Hz to 1 MHz)*



*Bode plot – phase  
(1 Hz to 10 MHz)*



<sup>1)</sup> Gain of -20 dB corresponds to 10:1 transfer ratio.