bmcm
bmc messsysteme gmbh

ZU-CS250R

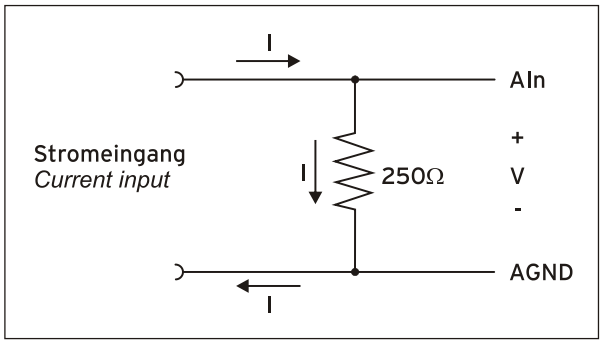
Current Shunt

For current measurement.

Simply reconfigure DAQ systems from bmcm for current measurement by using ZU-CS250R: The current shunt can be installed for each input separately allowing simultaneous measurement of voltage and current at different channels with the same DAQ system.

4..20mA. Industrial standard.

The principle of current shunts is based on Ohm's law. Because of the integrated 250Ω precision resistor of the ZU-CS250R, current signals in the ±20mA range can be measured with a DAQ system providing 5V inputs. Ideal for using industrial standard sensors with 0/4..20mA output current.



Functional diagram

Plug in and ready.

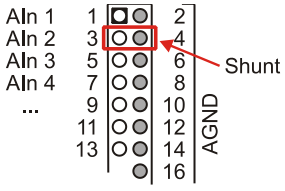
The DAQ cards PCI-BASEII, PCIe-BASE and and the external DAQ systems LAN-AD16fx, USB-AD16f, USB-AD14f feature internal pin connectors for the analog inputs. ZU-CS250R is plugged on the pins of the channel at which current is to be measured.

Parameterize. NextView® makes it simple.

Show signals as they are. So easy with the optional DAQ software NextView®. Just enter the conversion factors and the measured voltages of a sensor are displayed as a physical quantity (e.g. force, temperature, current).

1 Installation

The internal connectors are designed as two 16-way, two 20-way, or one 40-way pin connector(s) depending on the data acquisition system. The pin assignment of the internal plugs of the respective DAQ system is listed in the following tables. Please refer to the corresponding data sheet of your DAQ system for information about the position of the internal pin connectors.



○ AIn = Analogeingang / *analog input*

● AGND = analoge Masse / *analog ground*

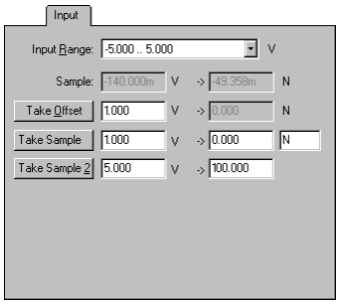
- LAN-AD16fx, USB-AD16f, USB-AD14f (1x 40-way pin connectors):

LAN-AD16f, USB-AD16f, USB-AD14f	Pin	Analog In
40-pin male	1, 3, … , 29, 31 2, 4, … , 30, 32	1, 2, … , 15, 16 ground (AGND)

- PCI-BASEII, PCIe-BASE (2x 20-way pin connectors):

PCI-BASEII	PCIe-BASE	Pin	Analog In
K1 (module 1)	K1 (module 1)	1, 3, … , 17, 19 2, 4, … , 18, 20	1, 2, … , 9, 10 ground (AGND)
K2 (module 1)	K2 (module 1)	1, 3, … , 9, 11 2, 4, … , 10, 12	11, 12, … , 15, 16 ground (AGND)

2 Parameterizing the software



With NextView®, the software for data acquisition and analysis, inputs can easily be configured.
One example: A force sensor (0..100N) returns 4..20mA output current being equivalent to 1..5V output voltage. Enter the reference values in the dialog and NextView® does the conversion of the measured data.
A free, fully functional 14-day trial version can be downloaded from the website (www.nextview.de).

3 Important notes for using ZU-CS250R

- ZU-CS250R is only suitable for extra-low voltages - please observe the relevant regulations!
- All accessible pins are electrostatic sensitive devices. Provide for an earthed conductive work place when installing.
- Only use non-solvent detergents for cleaning. The product is designed to be maintenance-free.
- The product must not be used for safety-relevant tasks. With the use of the product, the customer becomes manufacturer by law and is therefore fully responsible for the proper installation and use of the product. In the case of improper use and/or unauthorized interference, our warranty ceases and any warranty claim is excluded.

Do not dispose of the product in the domestic waste or at any waste collection places. It has to be either duly disposed according to the WEEE directive or can be returned to bmcm at your own expense.

4 Technical data

Resistance // Accuracy // Conversion:	250Ω, 0.25W (voltage drop at 20mA ≅ 5V) // 0.1% ; TK 50 // 4mA/V
CE standards:	EN61000-6-1, EN61000-6-3, EN61010-1; for decl. of conformity (PDF) visit www.bmcm.de
ElektroG // ear registration:	RoHS and WEEE compliant // WEEE Reg.-No. DE75472248
Temperature ranges // Rel. humidity:	operating and storage temperature -25..70□C // 0-90% (not condensing)
Dimensions (L x W x H):	14mm x 5mm x 2,5mm
Delivery:	product, description
Use for DAQ systems:	PCI-BASEII, PCIe-BASE, LAN-AD16f, USB-AD16f, USB-AD14f
Warranty:	2 years from date of purchase at bmcm, claims for damages resulting from improper use excluded