

## References

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IEEE Transactions on Instrumentation and Measurement, Volume: 60 , Issue: 7 , 2011 , Pages: 2359-2365

# Justervesenet

The JV AC-DC current shunt suite

Justervesenet  
Box 170, N-2027 KJELLER, Norway  
Phone: +47 64 84 84 84

[www.justervesenet.no](http://www.justervesenet.no)

The JV AC-DC current  
shunt suite

*Justervesenet invites NMIs to  
purchase current shunts in the range  
30 mA to 20 A*



*A set of current shunts with nominal  
values ranging from 30 mA to 20 A  
showing 30 mA to 20 A*

Justervesenet

## Current shunt suite

Justervesenet is now offering a complete current shunt suite ranging from 30 mA to 20 A. The shunts are primarily intended as AC-DC standards to be used with 90  $\Omega$  planar multi-junction thermal converters.

### Range

The current shunts are produced in these nominal values: 30 mA, 100 mA, 300 mA, 1 A (N-contact or banana plugs), 3 A, 5 A, 10 A and 20 A. The low current ranges, 30 mA and 100 mA, are covered by "planar" shunts, whereas the current ranges 300 mA to 20 A are covered by shunts of the coaxial "modified cage" design.

All of the shunts being coaxial, their external stray magnetic fields are kept to a minimum in order to minimize possible interference to other measurement circuits.

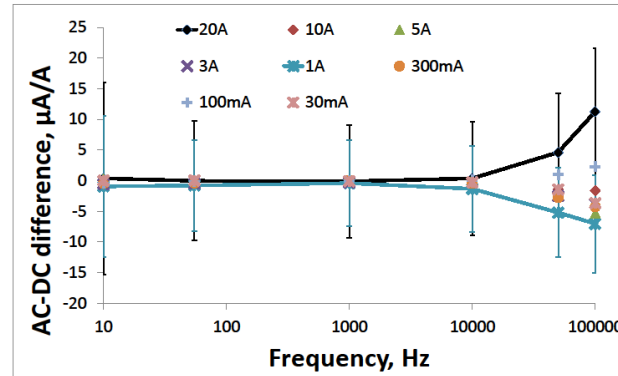
The shunts are designed for a frequency range from DC to 100 kHz, but they can be used well above this with predictable behaviour.



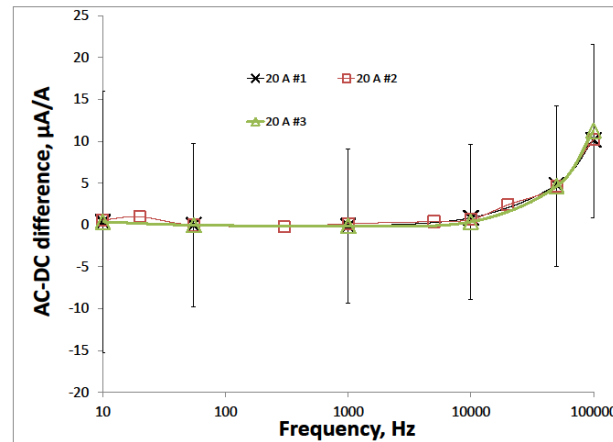
20 A prototype current shunt.

## Typical AC-DC difference data for some shunts

Below are charts showing typical frequency response curves for the current shunts.



*AC-DC difference measured at frequencies of 10 Hz to 100 kHz for a set of current shunts with nominal values from 30 mA to 20 A. The error bars indicate calculated uncertainties in the AC-DC difference.*



*AC-DC difference measured at frequencies of 10 Hz to 100 kHz for three 20 A current shunts, produced in the same batch. The error bars indicate calculated uncertainties in the AC-DC difference.*

## Price estimates

The current shunts have been produced in two batches, which are almost sold out. We will produce a new batch, if there are interested buyers. The prices of the shunts are between EUR 1300 and EUR 3500 per unit increasing with current. For complete sets of shunts there will be a discount of 10 %.

Calibration will be offered as an additional option.

[Please indicate interest for a third batch production.](#)

In order to give prices and delivery times, we invite interested institutes to indicate their interest. We ask you to send this to:

Contact:

Helge Malmbekk, Ph.D  
hma@justervesenet.no  
Shunts2012@justervesenet.no  
Phone: +47 64 84 84 84

Send your indication of interest to Helge Malmbekk by e-mail for easy processing.