20 bit Dual Reference Source

DRS20

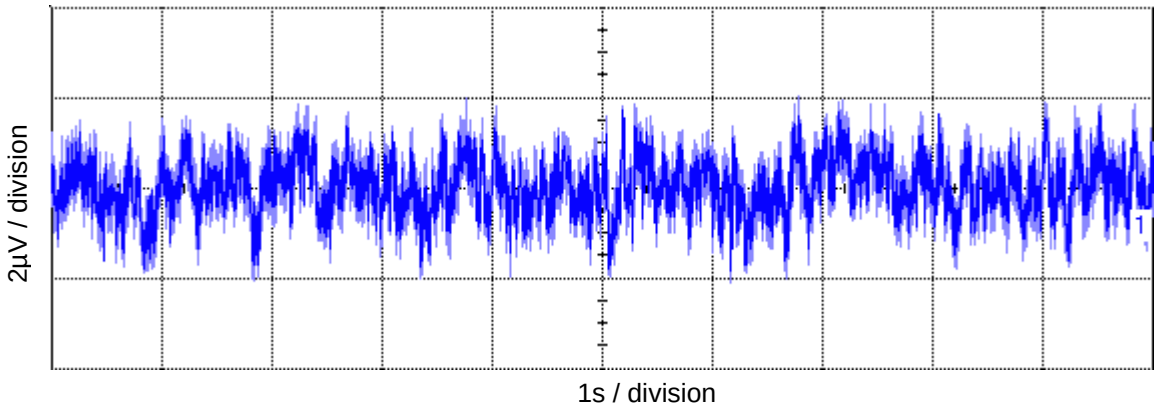
- Ultra High precision DC source
- Dual channel
- 20 bit resolution
- +/-10V output swing
- +/-10mA max. current,1µV/mA load regulation
- 2ppm Linearity
- 5µVrms wide band output noise (DC-100kHz)
- High precision voltage measure capability
- For ATX series hardware platform

The DRS20 is a dual-channel reference source offering ultra high precision and stability and provides a +/-10V output. The output current can be up to 10mA and the 4 wire connection provides a 1µV/mA load regulation. The high precision and stability is achieved by using a temperature controlled voltage reference. All internal nodes are calibrated using a built in 24-bit precision DVM that continuously checks the internal nodes relative to this reference. Therefore the accuracy is only determined by the temperature controlled voltage reference. This ensures a negligible drift when sourcing over a long period of time. The same DVM can be used to measure external voltages with extremely high precision.

The output has a very low noise level. Special attention has been paid to low frequent noise (<10Hz) since this is very difficult to filter away afterwards.

The unit is very suitable as the reference source for data converter testing.

0.1Hz to 10Hz output noise at 5V / 5mA



APPLICOS
MEASUREMENT & CONTROL

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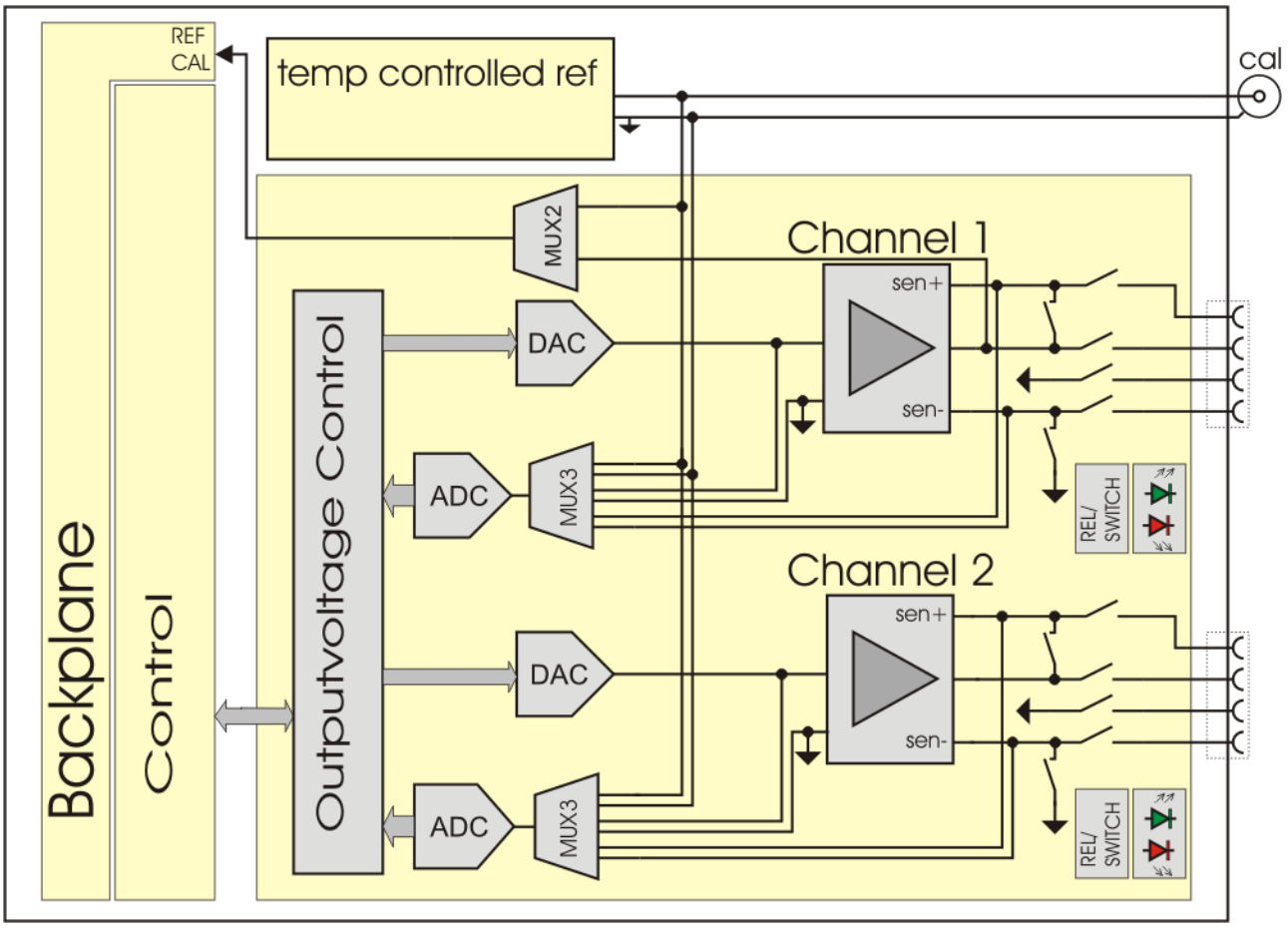
Block diagram



Specifications (conditions: after 1 hour warm-up, T_A=25ºC)

General

Channels	2
Resolution	20-bit
Output range	-10V to +10V
full accuracy output current	10mA
Maximum Output current	30mA typical.
Output configuration	2 or 4-wire
Settling time for full accuracy	20ms (*)

(*) The settling time is programmable to allow a trade-off between settling time and accuracy.

Accuracy

Accuracy	±(25µV + 10ppm of Value)
Linearity (typical)	2ppm
Temperature drift (typical)	±(2µV + 1ppm of value)/ºC
Load regulation (typical)	1µV/mA
Output noise (typical)	5µVrms (DC to 100kHz)
0.1Hz to 10Hz noise (typical)	4µVpp
Voltage measure resolution	2.7µV

Calibration output

Connector style	SMB
Output voltage	7.2V

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