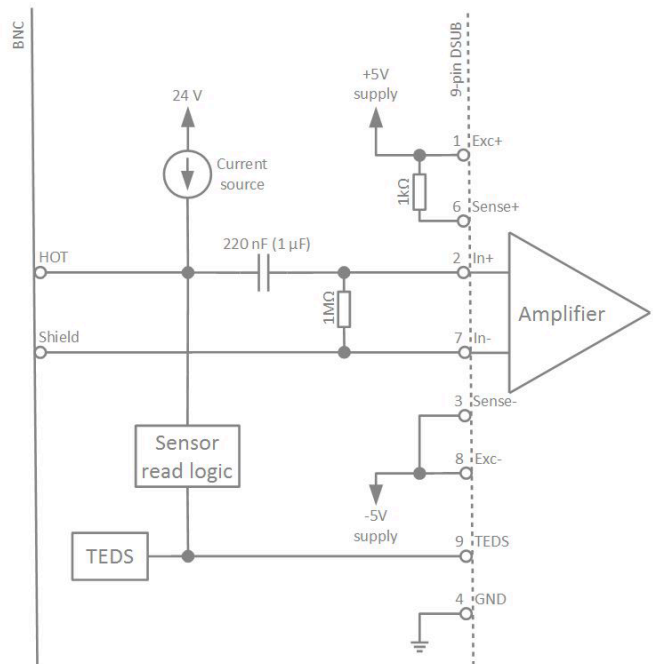


2.8. DSI-ACC / DSIw-ACC

The DSI-ACC is designed to operate with IEPE sensors and IEPE compatible sensors (e.g. ICP®). The adapter provides a constant current source and high pass filter. Depending on the application, different excitation levels and high pass filters are available. There is also a waterproof (DSIw-ACC) available for IEPE sensors.



DSI-ACC



Basic circuit design of DSI-ACC



Important

In operation with the isolated SIRIUSi modules you will get a fully isolated amplifier. In operation with differential modules (SIRIUS®, Krypton™, DEWE-43, IOLITE) the input configuration is single-ended.

2.8.1. DSI-ACC / DSIw-ACC Specifications

Inputs specifications				
Sensor connector	BNC			
Supported sensors	IEPE / ICP			
Amplifier settings	Automatically selected by software - Measurement: Voltage - Range: ± 0.1 V to ± 10 V - Excitation: 10 V			
	DSI-ACC	DSI-ACC-0.16Hz	DSI-ACC-20mA	DSI-ACC-0.16Hz-20mA
Sensor excitation	4 mA ± 10 %	4 mA ± 10 %	20 mA ± 15 %	20 mA ± 15 %
Compliance voltage	> 22 Volt	> 22 Volt	> 20 Volt	> 20 Volt
Accuracy 30 Hz to 30 kHz	0.3 %	0.07 %	0.3 %	0.07 %
High pass filter	0.8 Hz	0.16 Hz	0.8 Hz	0.16 Hz
Power consumption	300 mW	300 mW	800 mW	800 mW
Supported Amplifiers (exceptions)	-	-	Only on: SIRIUS LV/LV+, STG/STG+, HS-LV/HS-LV+, HS-STG/HS-STG+	Only on: SIRIUS LV/LV+, STG/STG+, HS-LV/HS-LV+, HS-STG/HS-STG+
Gain drift	50 ppm/°C			
Max. input offset	12 mV			
Input impedance	1 M Ω			
Supply voltage	± 5 V (± 1 %)			
Input configuration	Isolated (max. 350 VDC) when using with isolated SIRIUSi modules, else single ended			
Bandwidth	up to 500 kHz (limited by bandwidth of host amplifier)			
Low-pass filter	10 Hz to 100 kHz (depending on host amplifier)			
Ranges	100 mV, 1000 mV, 10000 mV (SIRIUS-HS series offers more ranges)			
Typical SNR @ 30 kHz bandwidth				
10000 mV	up to 125 dB (limited by the SNR of the host amplifier)			
1000 mV	up to 110 dB (limited by the SNR of the host amplifier)			



Important

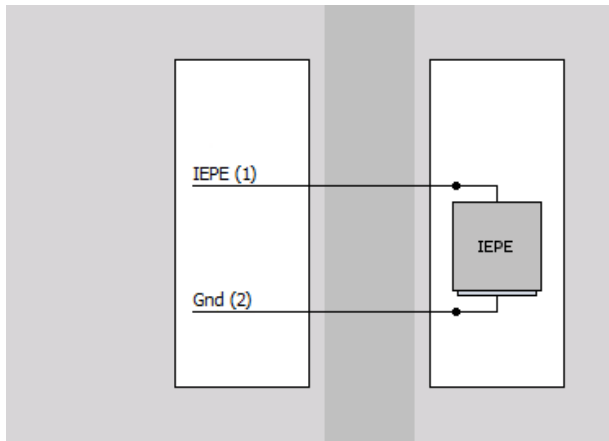
Additionally to HW high-pass filter (HPF), a SW IIR filter Butterworth 2nd order is applied. Its cut-off frequency is 1/10 of the cut-off frequency of the HW HPF filter.

Example:

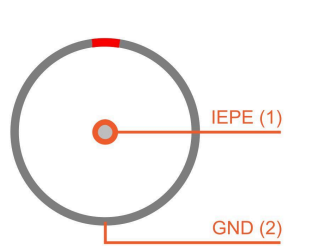
DSI-ACC has an additional SW filter, Butterworth, 2nd order HPF, $f_c = 0.08$ Hz.

DSI-ACC-0.16Hz has additional SW filter, Butterworth, 2nd order HPF, $f_c = 0.016$ Hz

2.8.2. DSI-ACC / DSIw-ACC Input Connection



2.8.3. DSI-ACC / DSIw-ACC connector pinout



Pin	Description
1	IEPE
2	Gnd

ACC connector: pin-out (BNC)