

TECHNICAL REFERENCE MANUAL

DSI ADAPTERS V25-3



2.3.1. Features of DSI adapters:

- **EXTEND ANALOG INPUTS:** DSI adapters are compatible with any Dewesoft amplifier with a DSUB-9 analog input, independent of the product family. They will fit SIRIUS DAQ system, KRYPTON DAQ modules, IOLITE DAQ and Control System, MINITAURS or DEWE-43 DAQ instrument.
- **PLUG-AND-PLAY WITH TEDS:** All DSI adapters have a TEDS chip built-in for automatic sensor detection and plug-and-play setup. Just connect the sensor to the DSI adapter and DSI adapter to one of our DSUB-9 analog inputs and everything from scaling, units, calibration data, etc. will be configured automatically.
- **COMPACT AND RUGGED:** All electronics are built into small and rugged DSUB-9 aluminum housing with screw connectors to firmly screw adapters to the analog input channel.



Hint

When isolation is required, you must use the DSI-adapters on isolated DewesoftX® devices: e.g. Sirius modules.

All DSI-adapters are the size of a DSUB-9 housing, which contains the electronics as well as the sensor connector. The miniature electronics of each DSI sensor also contain a TEDS chip in which the identification, calibration and configuration data of the DSI are stored. TEDS data are read automatically by the DewesoftX® software and are immediately applied to the channel setup.



Hint

When using DSI® adapters, DewesoftX® can read the TEDS information of the adapter and also the TEDS information of any sensors that are connected to the adapter (the old MSI adapters could not read the TEDS of the connected sensor).

*The Bridge Completion Adapters are available in a separate [technical reference manual](#).

2.4. DSI: General Specifications

Connectors	
DAQ interface connector	DB9 Male
Sensor connector	See individual adapter specification
Environmental	
Operating Temperature	-10 to 60 °C
Storage Temperature	-40 to 85 °C
Humidity	5 to 95 % RH non-condensing at 50 °C
IP rating	IP50
RFI susceptibility	±0.5 % span error at 400 MHz, 5 W, 3 m
Shock & Vibration	Vibration sweep sinus (EN 60068-2-6:2008) Vibration random (EN 60721-3-2: 1997 - Class 2M2) Shock (EN 60068-2-27:2009) MIL-STD-810D

2.4.1. Calibration

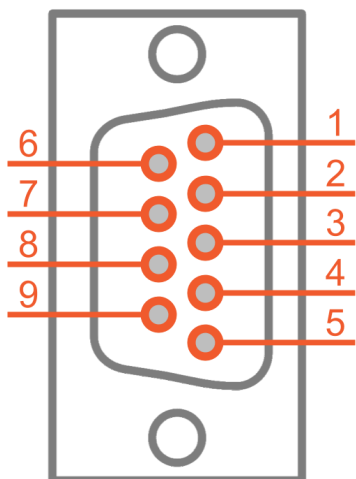
The DSI-adapters are calibrated at 23 °C ± 3 °C and meet their specifications when leaving the factory. The time interval for calibration depends on environmental conditions. A two year calibration interval is recommended.



Important

Total measurement accuracy depends on the adapter accuracy and host amplifier accuracy!

2.4.2. DSI: Pin-out



DSI connector: pin-out (DSUB-9 male)

Pin	Name	Description
1	Exc +	Excitation +
2	In+	Input +
3	Sns-	Sense -
4	GND	Ground
5	N.C.	Not connected
6	Sns+	Sense +
7	In-	Input -
8	Exc-	Excitation -
9	TEDS	TEDS

2.4.3. Environmental



Warning

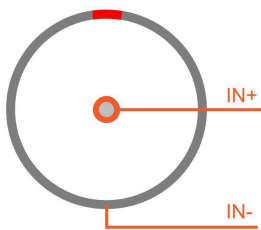
All DSI® specifications within this manual are valid at 25 °C.
All DSI-adapters are produced according to ISO 9001 and ISO 14001.

2.4.4. DSI adapters / TEDS sensor support

Since there is an inbuilt TEDS device in the adapter itself and if ☒ DSI adapters/TEDS sensors under hardware setup are selected, adapter will be recognised and proper EXC. Voltage will be set automatically.

Please check if you are using the latest software where LVDT Adapter is supported.

2.9.3. DSI-CHG-50 connector pinout



DSI-CHG-50 connector: pin-out (BNC)

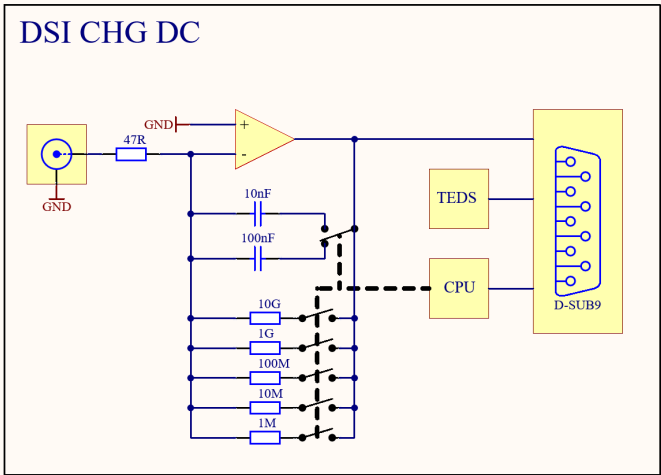
Pin	Description
1	In+
2	In-

2.10. DSI-CHG-DC

The DSI-CHG-DC adapter can be used for charge sensors up to 50,000 pC with Dewesoft devices.



DSI-CHG-DC

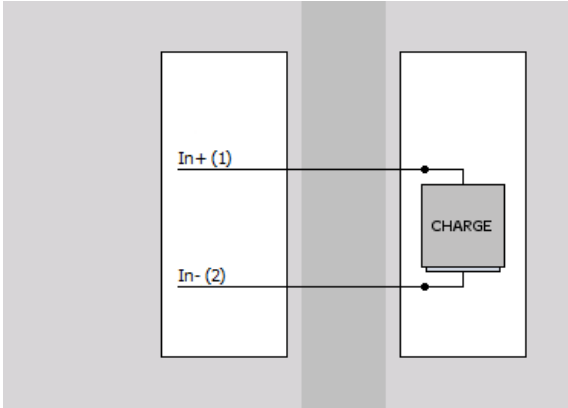


Important
If the adapter is not recognized on some amplifiers (SIRIUS-STG), set Excitation to more than 0 V.

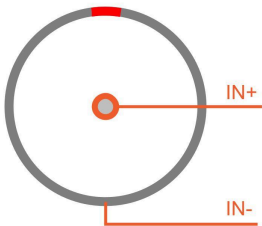
2.10.1. DSI-CHG-DC Specifications

Inputs specifications	
Sensor connector	BNC
Supported sensors	Charge sensors
Supply voltage	12 V to 15 V ($\pm 1\%$)
Power consumption	Max. 0.8 W
Input configuration	Isolated (max. 350 VDC) when using with isolated SIRIUSi modules, else single-ended
Accuracy	0.5 % of reading
Bandwidth	20 kHz (500000 pC range) to 200 kHz (50000 pC) Bandwidth may be limited on amplifiers with < 500 mW Exc. power supply
Range	500000 pC 50000 pC 10000 pC 1000 pC
High-pass filter	500000 pC range: - DC (filter off) - 0.14 mHz (time constant > 1000 s) - 1.4 mHz (time constant > 100 s) - 14 mHz (time constant > 10 s) - 0.14 Hz (time constant > 1 s) 50000 pC / 10000 pC / 1000 pC range: - DC (filter off) - 1.4 mHz (time constant > 100 s) - 14 mHz (time constant > 10 s) - 0.14 Hz (time constant > 1 s) - 1.4 Hz (time constant > 0.1 s)
DC drift	500000 pC range: typ. < 0.1 pC/s (max. < 1 pC/s) 50000 pC / 10000 pC / 1000 pC range: typ. < 0.05 pC/s (max. < 0.5 pC/s)
Supported Amplifiers	SIRIUS LV/LV+, MULTI, STGM/STGM+, STG/STG+, UNI/UNI+, HD-LV, HD-STGS, HS-LV/HS-LV+, HS-STG/HS-STG+, KRYPTON-6xSTG, IOLITE-6xSTG *Other amplifiers support pending

2.10.2. DSI-CHG-DC Input Connection



2.10.3. DSI-CHG-DC connector pinout



DSI-CHG-DC connector: pin-out (BNC)

Pin	Description
1	In+
2	In-