

TECHNICAL REFERENCE MANUAL

IOLITE® V26-1



6.2.6. IOLITE 8xLVe

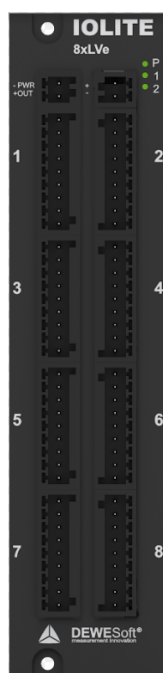
The 8-channel low voltage module comes with unipolar excitation in the range between 2V and 24V. IOLITE 8xLVe module comes with either DSUB-37 (IOLITEr-8xLVe-D37f and IOLITE-8xLVe-D37f) or terminal block connectors (IOLITEr-8xLVe and IOLITE-8xLVe) for analog input.



IOLITEr-8xLVe-D37f



IOLITE-8xLVe-D37f



IOLITE-8xLVE



IOLITE-8xLVE

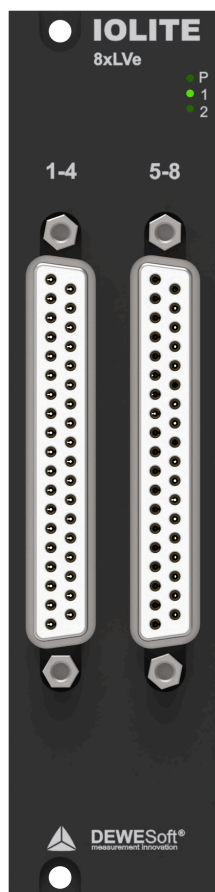
6.2.6.1. IOLITE 8xLVE: Specifications

Inputs		
Input types	Voltage, Potentiometer, Current (Ext. shunt)	
ADC Type	24-bit delta-sigma with anti-aliasing filter (-3 dB @ 160 kHz) Butterworth 2nd order	
Sampling Rate	Simultaneous 20 kS/s	
Voltage Mode		
Ranges	±100 V	±5 V
Accuracy	±0.03 % of reading ±0.02 % of range	
Typ. Noise floor @ 10 kS/sec	-114 dB	-99 dB
Typ. THD (10 kS/s, -1 dBFS sine wave @ 1 kHz)	-	-103 dB
Typ. SFDR (10 kS/s, -1 dBFS sine wave @ 1 kHz)	-	114 dB
Typ. CMR @ 50 Hz / 400 Hz / 1 kHz	100 dB / 85 dB / 85 dB	96 dB / 88 dB / 88 dB
Gain Linearity	<0.02 %	<0.01 %
Gain Drift	Typical 5 ppm/K, Max. 20 ppm/K	
Offset Drift	Typical 5 ppm of range/K, Max. 10 ppm of range/K	
Channel Crosstalk	-130 dB	
Input Coupling	DC	

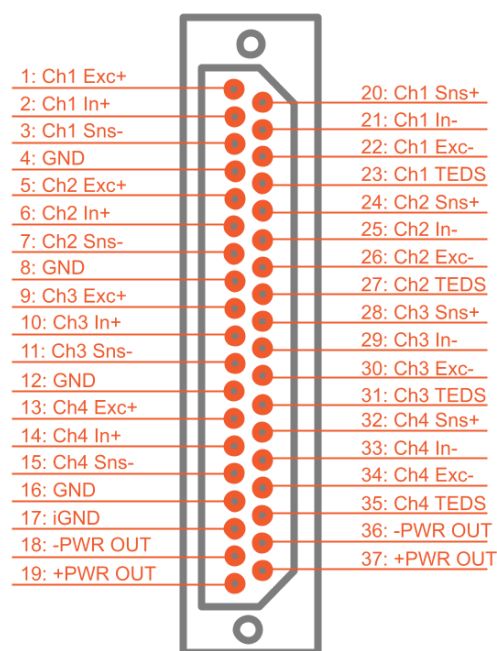
Input Impedance	800 kΩ (between In+ and In-)	
Max. common mode voltage	±200 V	
Input Overvoltage Protection	In+ to In-: 200 V continuous, 350 Vpeak (100 ms)	
Isolation	250 V functional isolation (channel to power supply ground)	
Analog input performance		
Bandwidth (-3 dB)	0.433*fs	
Alias-free Bandwidth	DC to 0.499*fs (DC to 0.44*fs @ < 5 kS/s)	
Alias Rejection	-105 dB (all sample rates)	
Delay Through ADC	34 / fs	
Oversampling	128	
Excitation Voltage		
Excitation voltage	Unipolar 2 ... 24V DC	
Current limit	2.8 W max. power per channel , 22.4 W per slice (MAX: 500mA)	
Excitation accuracy	0.05 % ± 2 mV	
Drift	±20 ppm/K ± 60 µV/K	
Stability 10 % to 90 % load	< 0.06 % @ 5 V exc (< 0.01 % @ 24 V exc)	
Noise @ 10 V / 350 Ω	<150 µVrms @ 10 kS	
Line regulation over 10 Ω of change	< 0.04 % @ 120 Ω load	
Protection	Continuous short to ground	
Additional Specifications		
Rack	IOLITEr-8xLVe	
Input connector	Terminal block	DSUB-37
TEDS support	Yes	
Power supply	9 - 48 V DC	
Power consumption	Analog input only: Typ. 3.3 W (Max. 4.2 W) With Excitation: 6.9 W 120 Ω load @ 5 V, 38 W 120 Ω load @ 20 V	
Weight	310 g	300 g
Slice Dimensions	128.4 x 118.4 x 30.14 mm	
Additional Specifications		
Modular	IOLITE-8xLVe	
Input connector	Terminal block	DSUB-37
TEDS support	Yes	
Power supply	9 - 48 V DC	
Power consumption	Analog input only: Typ. 3.3 W (Max. 4.2 W) With Excitation: 6.9 W 120 Ω load @ 5 V, 38 W 120 Ω load @ 20 V	
Weight	550 g	540 g
Slice Dimensions	136.75 x 115.0 x 35.0 mm	
Rev.: 1721714400		

6.2.6.2. IOLITE 8xLVe: Connectors

6.2.6.2.1. IOLITE 8xLVe: DSUB Connector: Pinout



IOLITEr-8xLVe-D37f front



IOLITEr-8xLVe-D37f connector: Pin-out

6.2.6.2.2. Waterproof version: IOLITErw-8xLVe-D37f

Connector on the module: DSUB37 IP67 version (61803729321 - IP ver.)

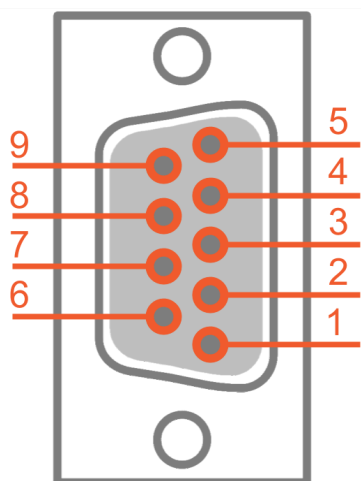
Mating connector: compatible with DSUB37m IP67 and standard non-waterproof connectors



Note

There is a 2xD37m to 4xD9f with TEDS adapter available (D37m-4xD9f-TEDS). The D37m-4xD9f adapter simplifies the calibration of the IOLITE 8xLVE-D37 module.

The adapter has a male D-SUB37 connector to connect it to the IOLITE module and breakout lines to four female D-SUB9 connectors with Dewesoft's standard pinout with TEDS.

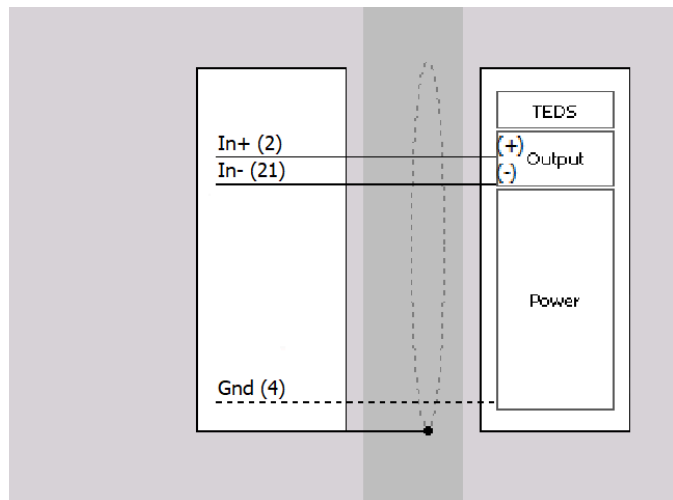


D37m-4xD9f-TEDS: pin-out (DSUB-9 female)

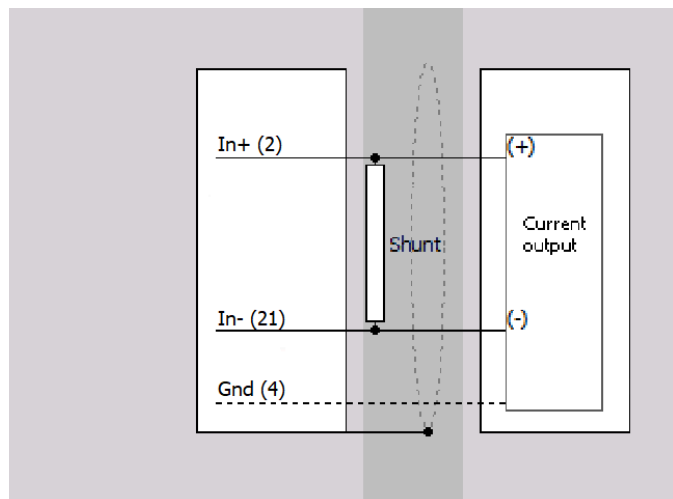
Pin	Name	Description
1	Exc+	Excitation+
2	In+	Input+
3	Sns-	Sense-
4	GND	Ground
5	NC	Do not connect
6	Sns+	Sense+
7	In-	Input-
8	Exc-	Excitation-
9	TEDS	TEDS

6.2.6.2.3. IOLITE 8xLVe: DSUB Connector: Wiring diagram

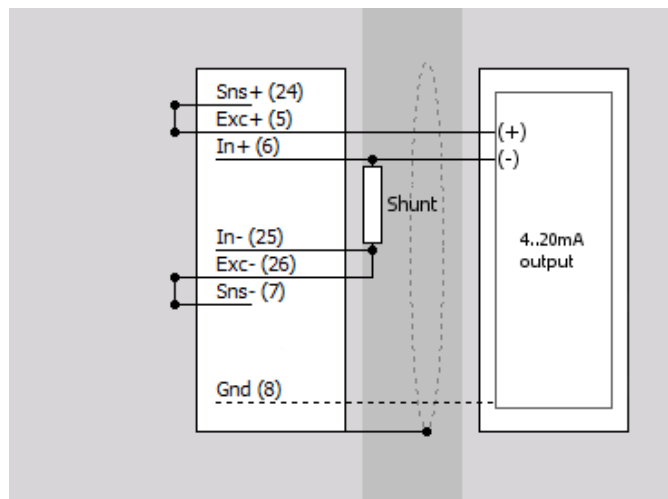
Voltage



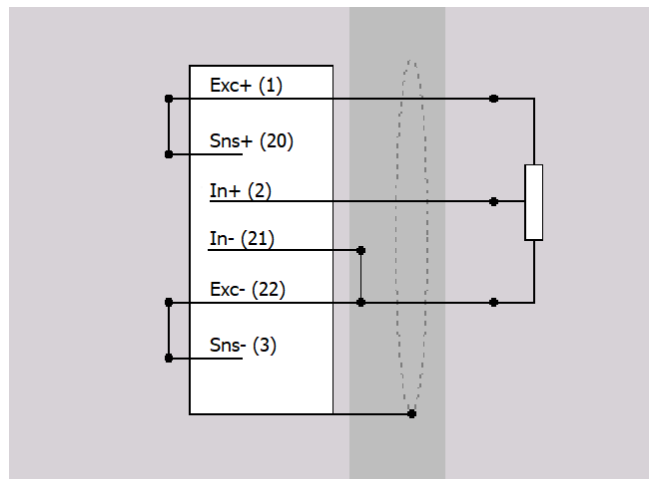
Current



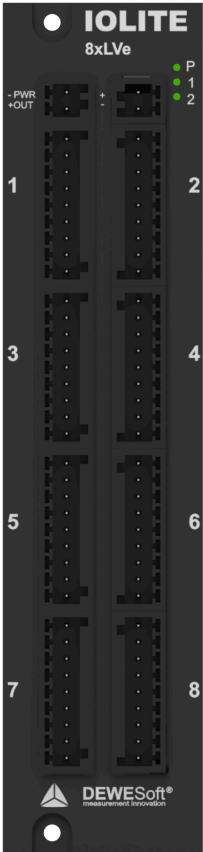
Current (Ext. loop powered shunt)



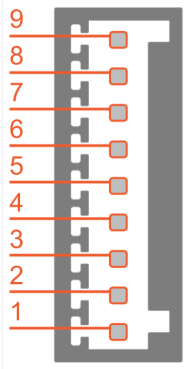
Potentiometer



6.2.6.2.4. IOLITE 8xLVe: T2A9f Connector: Pinout

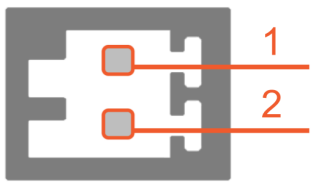


IOLITEr-8xLVe



IOLITEr-8xLVe: T2A9f Analog input: Pinout

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



IOLITEr-8xLVe: T2A2f Power OUT: Pinout

Pin	Name	Description
1	+PWR OUT	V _{supply} output
2	-PWR OUT	Non-isolated GND

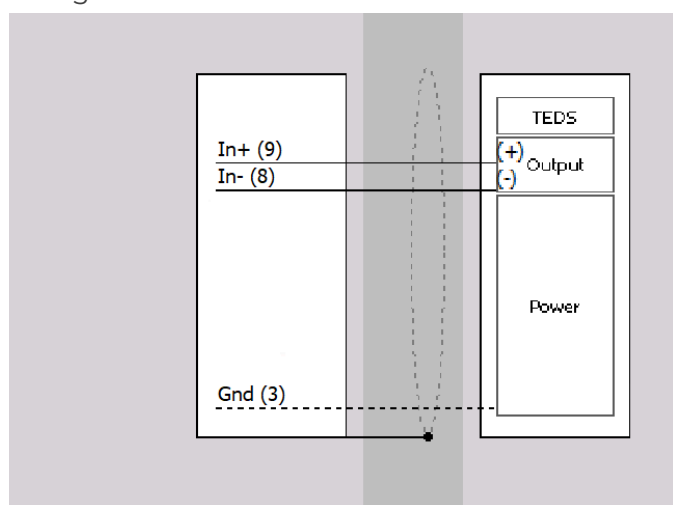


Caution

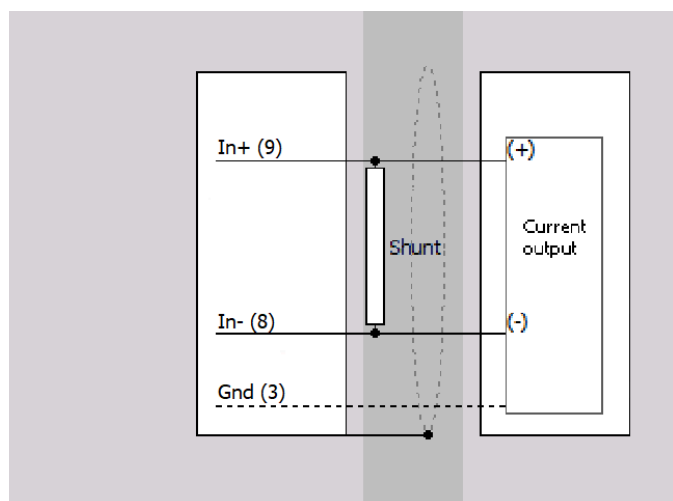
PWR OUT pins are intended to supply external loads. Do not connect the external power supply to the PWR OUT pins! It can damage the equipment.
Current limit of PWR OUT source is 2 A per module.
Current limit of the IOLITE system is 16 A!

6.2.6.2.5. IOLITE 8xLVe: T2A9f Connector: Wiring diagram

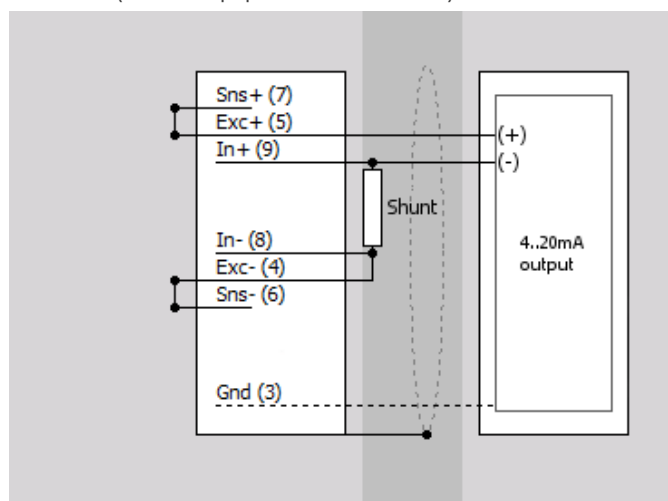
Voltage



Current



Current (Ext. loop powered shunt)



Potentiometer

