

TECHNICAL REFERENCE MANUAL

IOLITE® V26-1



6.5.7. IOLITEi 8xRTDp

The IOLITEi 8xRTDp module is used for measurements with universal platinum thermometer probes, thermistors, as well as for resistance and voltage measurements. Module supports lower, more precise resistance range and also selectable current excitation (DC or AC). AC excitation removes DC offset error due to temperature drift and thermal noise sources. It also offers greater immunity to RF interference.

IOLITEi 8xRTDp module has 8 isolated measurement channels and it comes with LEMO 0B 6-pin connectors (IOLITEir-8xRTDp and IOLITEi-8xRTDp).



IOLITEir-8xRTDp



IOLITEi-8xRTDp

6.5.7.1. IOLITEi 8xRTDp: Specifications

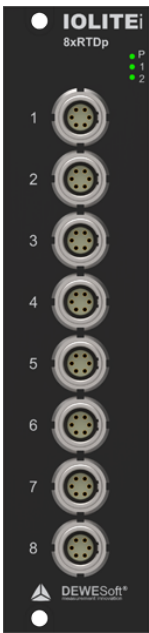
Analog inputs			
Input types	Voltage, resistor or universal PTxxx inputs		
Number of channels	8		
ADC Type	24-bit delta-sigma		
Sampling Rate	Simultaneous 100 S/s		
Voltage Mode			
Ranges	±1 V	±100 mV	
Input Accuracy	±0.02 % of reading ±0.01 % of range ±10 µV	±0.02 % of reading ±0.01 % of range ±10 µV	
Typical Noise floor @ 10/100 s/sec	-117 dB / -107 dB	-111 dB / -101 dB	
Gain Drift	Typical 4 ppm/K (max. 10 ppm/K)	Typical 4 ppm/K (max. 10 ppm/K)	
Offset Drift	Typical 0.05 µV/K (max. 0.2 µV/K)	Typical 0.05 µV/K (max. 0.2 µV/K)	
Gain Linearity	< 0.01 %	< 0.01 %	
Input Coupling	DC	DC	
Input Impedance	1 MΩ	1 MΩ	
Temperature Mode			
Ranges	PT200, PT500, PT1000, PT2000	PT100	
Excitation current	0.4 mA or ±0.4 mA	2 mA or ±2 mA	
Excitation type	DC or square wave from 5 Hz to 50 Hz	DC or square wave from 5 Hz to 50 Hz	
Measurement range	-200 °C to +850 °C	-200 °C to +850 °C	
Accuracy	±0.05 % of reading ±0.2 °C	±0.05 % of reading ±0.2 °C	
Temperature Drift	typ. ±5 ppm/K (max. ±12 ppm/K ±0.003 °C/K)	typ. ±5 ppm/K (max. ±12 ppm/K ±0.003 °C/K)	
Input Connection	2-wire or 4-wire	2-wire or 4-wire	
Resolution	< 0.001 °C	< 0.001 °C	
Resistance Mode			
Ranges	0...10 kΩ	0...1 kΩ	0...100 Ω
Excitation current	0.4 mA or ±0.4 mA	2 mA or ±2 mA	2 mA or ±2 mA
Excitation type (See 1)	DC or square wave from 5 Hz to 50 Hz	DC or square wave from 5 Hz to 50 Hz	DC or square wave from 5 Hz to 50 Hz
Accuracy	±0.02 % of reading ±0.01 % of range	±0.02 % of reading ±0.01 % of range	±0.02 % of reading ±0.01 % of range
Input Connection	2-wire or 4-wire	2-wire or 4-wire	2-wire or 4-wire
Additional Specifications			
Input connectors	Lemo 0B 6pin EEA.0B.306.CLN		
Isolation voltage	210 Vdc or 150 Vacrms channel to ground & channel to channel		
Power supply	9 - 48 V DC		

Power consumption	Typ. 2.1 W, Max. 2.7 W
Weight	330 g
Dimensions	128.4 x 115.4 x 30.1 mm
Rev: 1667583000	
1) The frequency of the square wave is related to the SR/2.	

6.5.7.2. IOLITEi 8xRTDp: Connectors

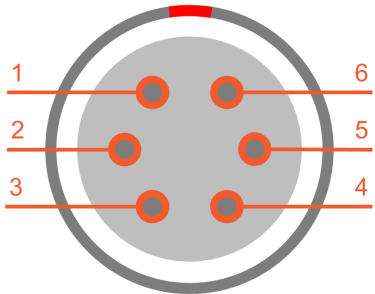
6.5.7.2.1. IOLITEi 8xRTDp: L0B6f Connector

IOLITEir-8xRTDp modules have eight 6-pin LEMO 0B female connectors.



IOLITEir-8xRTD-HS front

6.5.7.2.1.1. IOLITEi 8xRTDp: L0B6f Connector: Pinout



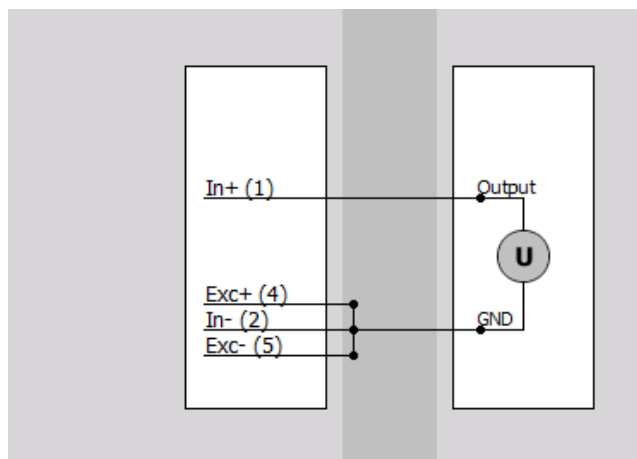
IOLITEi 8xRTD-HS connector: pin-out (6-pin LEMO female)

RTD connector (on the device): EEA.0B.306.CLN
Mating connector (for the cable): FGA.0B.306.CLAD22Z

Pin	Name	Description
1	In+	Input+
2	In-	Input-
3	NC	Do not connect
4	Exc+	Excitation+
5	Exc-	Excitation-
6	iGnd	Isolated Ground

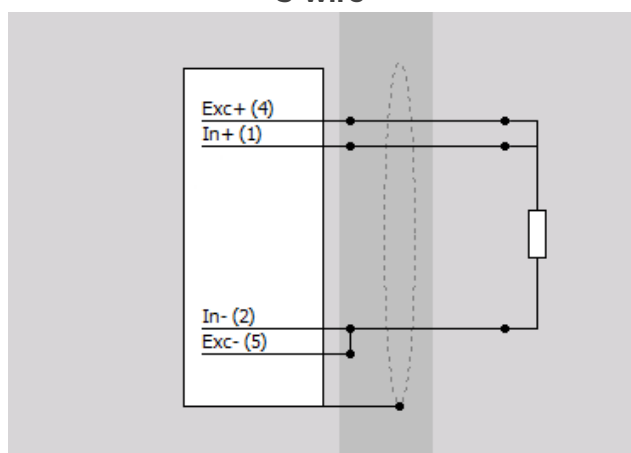
6.5.7.2.1.2. IOLITEi 8xRTDp: L0B6f Connector: Wiring diagram

Voltage

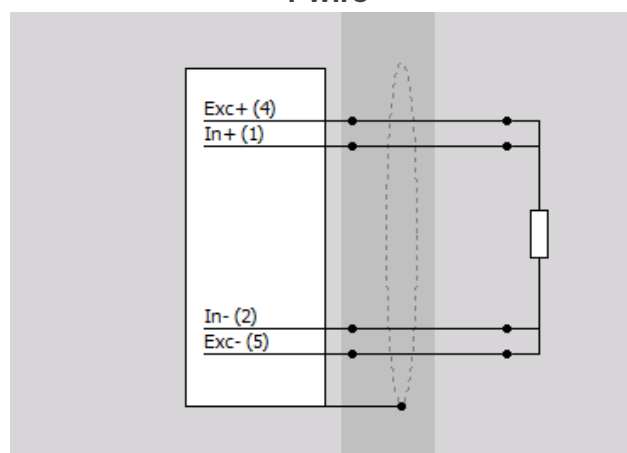


Resistance

3-wire

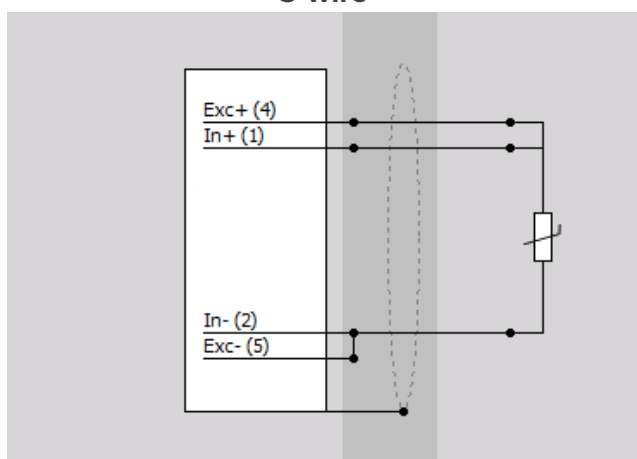


4-wire



Temperature

3-wire



4-wire

