

TECHNICAL REFERENCE MANUAL

IOLITE® V26-1



Physical			
Dimensions	483 x 148 x 133 mm	266 x 169 x 139 mm	321 x 155 x 151 mm
Weight	IOLITE-RACK: 2.85 kg IOLITE-GATE (4× RJ45): 260 g IOLITE-GATE-L (2× LEMO, 2× RJ45): 280g	2.6 kg	2.6 kg
1) Extended operating temperature range depends of module configuration			

Hint



For detailed explanation of IOLITE-R8 and IOLITE-R8r chassis shock and vibration specifications check this [LINK](#).

Interface	IOLITE Single channel	IOLITE Multi channel
Data interface	EtherCAT	EtherCAT
Data Rate	100 Mbps Full Duplex bus speed	100 Mbps Full Duplex bus speed
Sync Accuracy	< 200 ns within same EtherCAT chain < 2 µs using sync for multiple EtherCAT chains below 1 sample to Sirius®	< 200 ns within same EtherCAT chain < 2 µs using sync for multiple EtherCAT chains below 1 sample to Sirius®
Bus connectors	Ethernet RJ45	Ethernet RJ45
Max. cable length between devices	100 m	100 m
Max. Throughput per Chain	From 6 MB/s to 10 MB/s (see 1)	From 6 MB/s to 10 MB/s
Data interface connection	Ethernet RJ45, Single cable for data, power and sync, daisy chainable	Ethernet RJ45, single cable for data, power and sync, daisy chainable (see 2)
Power		
Power supply	9 V - 48 V	9 V - 48 V
Power consumption	~2 W (see individual modules)	~4 W (see individual modules)
Power supply connector	-	SCDN-THR 3.81/04/90G 3.2SN BK BX
Environmental		
Operating Temperature	-20 to 60 °C	-40 to 85 °C
Storage Temperature	-20 to 60 °C	-40 to 85 °C
Humidity	95 %, no condensation	95 %, no condensation
IP rating	IP20	IP20
Physical		
Dimensions	82 x 62 x 52 mm (might differ for different modules)	137 x 119 x 35 (might differ for different modules)
Weight	130 g (might differ for different modules)	530 g (might differ for different modules)
1) 55 per chain (@ 20 kS/s total sample rate per device), multiple chains possible. Additional power injectors are necessary.		
2) Passive PoE is supported for devices produced after September 2024.		

6.5.4. IOLITEi 8xRTD v3

The IOLITEi 8xRTD v3 module is used for measurements with universal platinum thermometer probes, thermistors, as well as for resistance and voltage measurements.

IOLITEi-8xRTD v3 module has 8 isolated measurement channels and it comes with 24-pin terminal block connectors.



IOLITEi-8xRTD v3

6.5.4.1. IOLITEi 8xRTD v3: Specifications

Analog inputs		
Input types	Voltage, Resistance, Universal PTxxx inputs	
Number of channels	8	
ADC Type	24-bit delta-sigma	
Sampling Rate IOLITE	Simultaneous 10, 20, 40, 50, 80, 100, 200, 500, 1k, 2k, 5k, 10k S/s	
Sampling Rate OBSIDIAN	100 S/s	
Voltage mode		
Ranges	±1 V	±100 mV
Input Accuracy	±0.02 % of reading ±0.01 % of range	±0.02 % of reading ±0.02 % of range
Typical Noise Floor @ 10 / 100 /	-130 dB / -120 dB / -110 dB / -104 dB	-120 dB / -108 dB / -98 dB / -90 dB

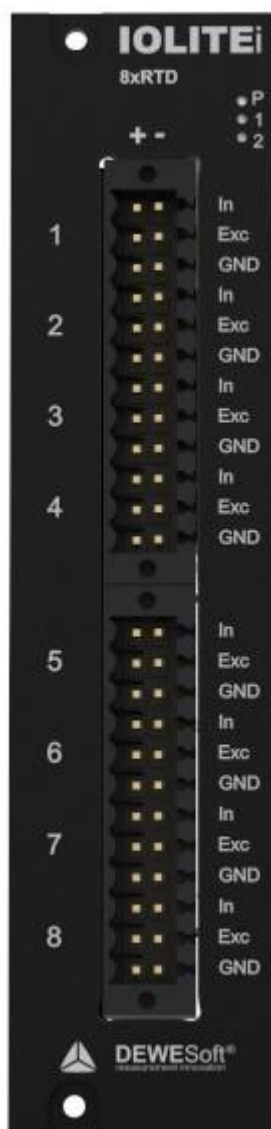
1k / 10k S/s						
Offset Drift	Typ. 0.05 μV/K (Max. 0.2 μV/K)	Typ. 0.01 μV/K (Max. 0.1 μV/K)				
Gain Drift	Typ. 2 ppm/K (Max. 10 ppm/K)					
Gain Linearity	< 0.007 %					
Input Coupling	DC					
Input Impedance	10 MΩ					
Temperature mode						
Ranges	PT2000, PT1000, PT500	PT200, PT100, PT50				
Excitation current	145 uA	420 uA				
Excitation type	DC or square wave from 5 Hz to 50 Hz					
Measurement range	-200 °C to +850 °C					
Accuracy	±0.02 % of reading ±0.2 °C					
Temperature Drift	Typ. ±2 ppm/K (Max. ±10 ppm/K)					
Input Connection	2-wire, 3-wire, 4-wire					
Resistance mode						
Ranges	0...10 MΩ	0...1 MΩ	0...100 kΩ	0...10 kΩ	0...1 kΩ	0...100 Ω
Accuracy	±0.02 % of reading ±0.02% of range	±0.02 % of reading ±0.008 % of range				
Excitation current	225 nA	1 uA	17.2 uA	145 uA	420 uA	1.7 mA
Excitation type	DC or square wave from 5 Hz to 50 Hz					
Input Connection	2-wire, 3-wire, 4-wire					
Additional Specifications						
Rack	IOLITEir-8xRTD v3					
Input connectors	Terminal Block Weidmueller S2L 3.50/24/90F 3.5SN BK BX					
Isolation voltage	210 Vdc or 150 Vacrms channel to ground & channel to channel					
Power supply	9 - 48 V DC					
Power consumption	Typ. 4 W (Max. 5.5 W)					
Weight	330 g					
Dimensions	128.4 x 115.4 x 30.1 mm					
Additional Specifications						
Modular	IOLITEi-8xRTD v3					
Input connectors	Terminal Block Weidmueller S2L 3.50/24/90F 3.5SN BK BX					
Isolation voltage	210 Vdc or 150 Vacrms channel to ground & channel to channel					
Power supply	9 - 48 V DC					
Power consumption	Typ. 4 W (Max. 6 W)					
Weight	500 g					
Dimensions	137 x 115.0 x 35.0 mm					

6.5.4.2. IOLITEi 8xRTD v3: Connectors

IOLITEi 8xRTD v3 is offered with 24-pin terminal block connectors (IOLITEir-8xRTD-2T3A24 and IOLITEi-8xRTD-2T3A24).

6.5.4.2.1. IOLITEi 8xRTD v3: Terminal block connector

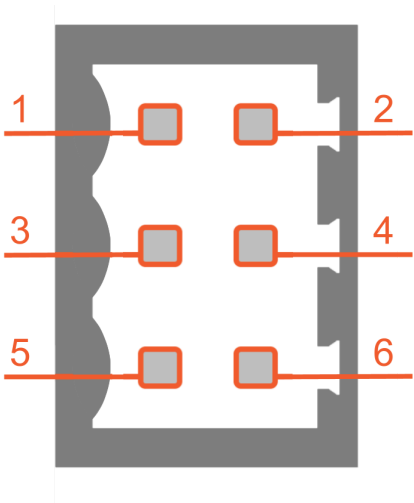
IOLITEi-8xRTD-2T3A24 and IOLITEir-8xRTD-2T3A24 modules have 8 terminal block Weidmueller SL 3.50-24 (T3A24) female connectors.



IOLITEir-8xRTD v3 front

6.5.4.2.1.1. IOLITEi-8xRTD v3: 2T3A24 Connector: Pinout

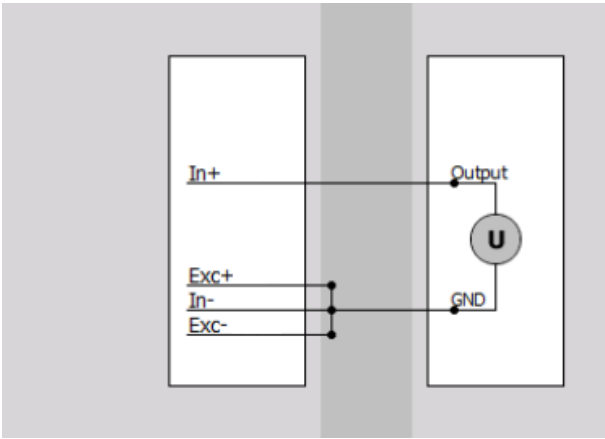
RTD v3 connector: pin-out (TBLOCK male)



Pin	Name	Description
1	In+	Input+
2	In-	Input-
3	Exc+	Excitation+
4	Exc-	Excitation-
5	GND	Ground
6	GND	Ground

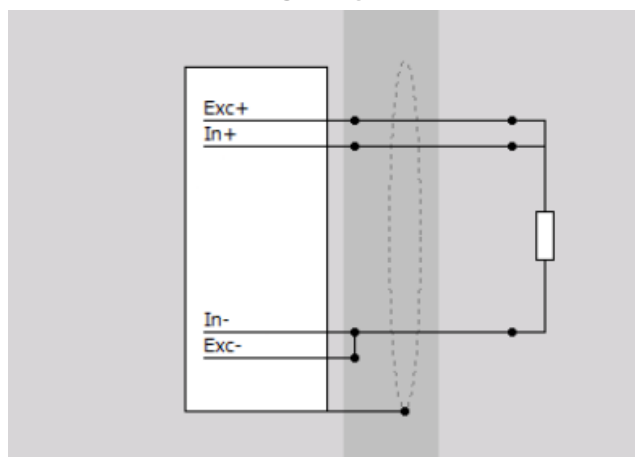
6.5.5.2.1.2. IOLITEi-8xRTD: 2T3A24 Connector: Wiring diagram

Voltage

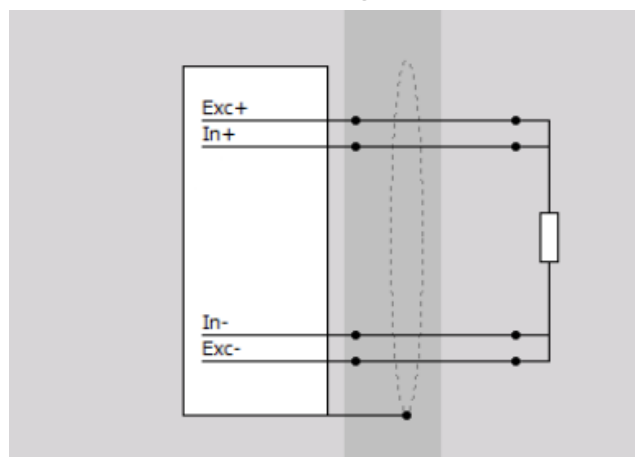


Resistance

3-wire

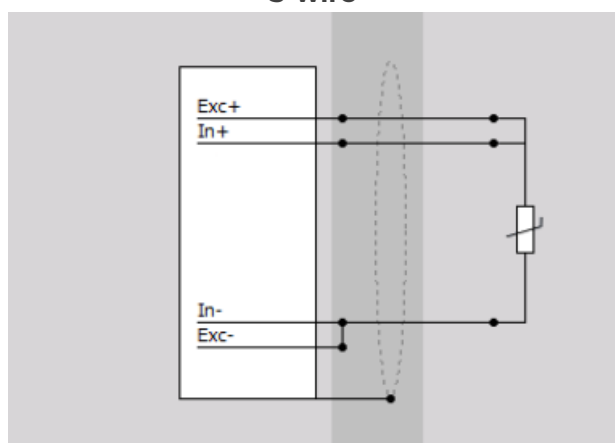


4-wire



Temperature

3-wire



4-wire

