

TECHNICAL REFERENCE MANUAL

IOLITE® V26-1



4.3.5. IOLITE: Multi channel device

IOLITE multi-channel modules are fully compatible with the DIN rail mount. The chassis offers an easy clip-in mechanism for mounting to all standard industrial DIN rail mounts.

IOLITE DAQ devices use RJ45 connectors which allow easy connection of modules with standard low-cost Ethernet/EtherCAT cables.



Important

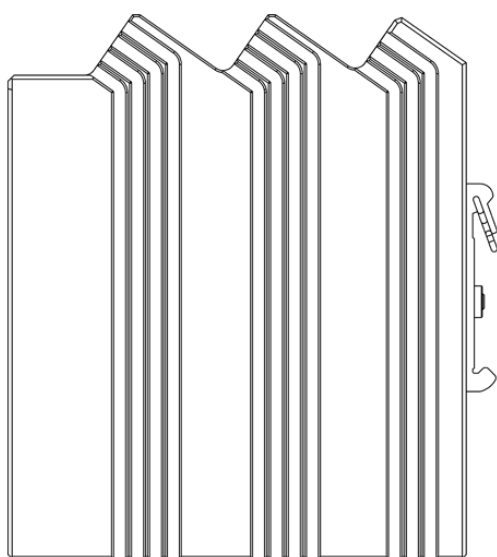
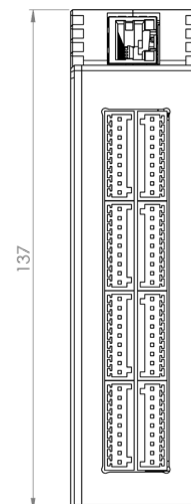
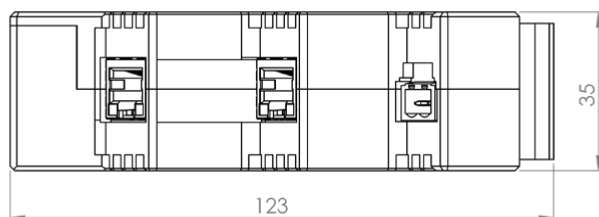
For the power supply we have two terminal block connectors so the devices can be daisy chained with each other.

4.3.5.1. IOLITE - Multi channel: Renders



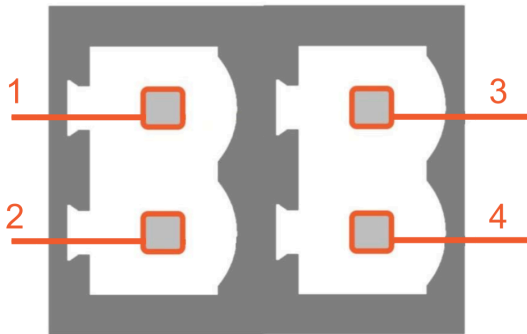
IOLITE multi channel device

4.3.5.2. IOLITE - Multi channel: Dimension



4.3.5.3. IOLITE - Multi channel: Connectors

4.3.5.3.1. IOLITE - Multi channel: PWR IN

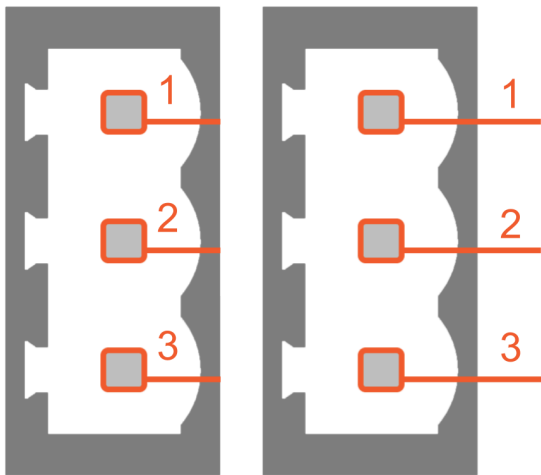


Power in connector: pin-out (4-pin male)

Pin	Name	Description
1	+	PWR +
2	-	PWR -
3	+	PWR +
4	-	PWR -

Connector (on the device):
SCDN-THR 3.81/04/90G 3.2SN BK BX

Mating Connectors (for the cable):
BCF 3.81/02/180 SN BK BX



Power in connector: pin-out (two 3-pin connectors)

Pin	Name	Description
1	Chassis	Connected to chassis
2	-	PWR-
3	+	PWR +

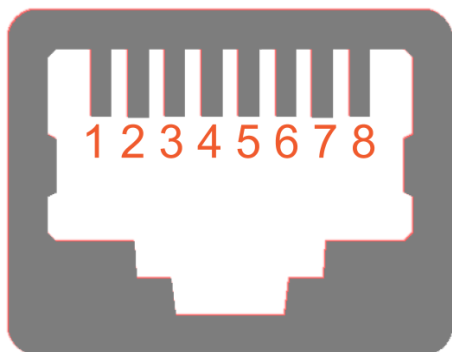
Connector (on the device):
2x3 OMNIMATE SC 3.81/03/180

Mating Connectors (for the cable):
2x3 OMNIMATE BCF 3.81/03/180;

4.3.5.3.2. EtherNET - IN (Data, Sync)

The connector used on the device is a standard Ethernet connector (RJ45).

Standard ethernet cable with standard connector can be used to connect IOLITE - Multi channel to PC.



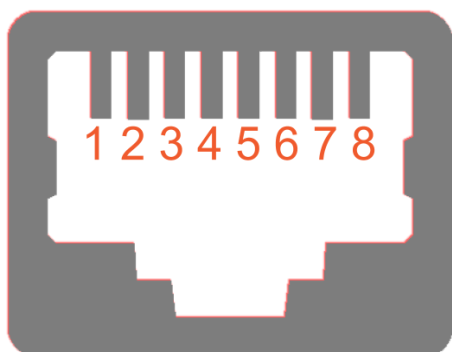
EtherCAT connector: pin-out (RJ-45 female)

Pin	Name	Description
1	TX_P	Transmission +
2	TX_N	Transmission -
3	RX_P	Reception +
4	-	-
5	-	-
6	RX_N	Reception -
7	-	-
8	-	-

4.3.5.3.3. EtherNET - OUT (Data, Sync)

The connector used on the device is a standard Ethernet connector (RJ45).

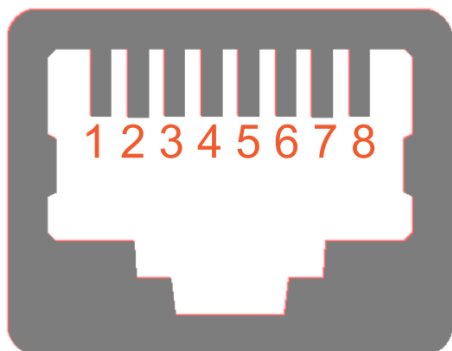
Standard ethernet cable with standard connector can be used to connect IOLITE Multi channel device with an additional IOLITE Multi channel device



EtherCAT connector: pin-out (RJ-45 female)

Pin	Name	Description
1	TX_P	Transmission +
2	TX_N	Transmission -
3	RX_P	Reception +
4	-	-
5	-	-
6	RX_N	Reception -
7	-	-
8	-	-

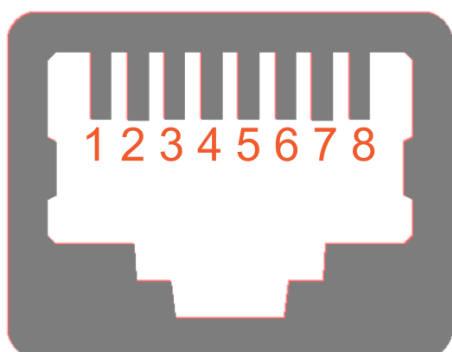
4.3.5.3.4. PoE - ECAT - IN (Data, Sync, PWR)



EtherCAT connector: pin-out (RJ-45 female)

Pin	Name	Description
1	TX_P	Transmission +
2	TX_N	Transmission -
3	RX_P	Reception +
4	DC +	PoE +
5	DC +	PoE +
6	RX_N	Reception -
7	DC -	PoE -
8	DC -	PoE -

4.3.5.3.5. PoE - ECAT - OUT (Data, Sync, PWR)



EtherCAT connector: pin-out (RJ-45 female)

Pin	Name	Description
1	TX_P	Transmission +
2	TX_N	Transmission -
3	RX_P	Reception +
4	DC +	PoE +
5	DC +	PoE +
6	RX_N	Reception -
7	DC -	PoE -
8	DC -	PoE -

Caution



If the device is supplied on PWR IN, PoE voltage (DC+ / DC- on ECAT OUT) is equal to Vin (PWR+ / PWR-) on PWR IN (max. current 3 A). If you chain the devices, the voltage on ECAT OUT is the same as connected to the ECAT IN. There is no protection.

If PoE with power and PWR IN are connected at the same time, PWR IN power will be chosen, but only if it is within the specifications (9-48 V).

Be sure to check the connection possibilities in chapter [3.2. Connecting IOLITE®](#).

6.2.2. IOLITEi 8xLV

IOLITEi 8xLV is the perfect choice for general-purpose low voltage input data acquisition due to its high accuracy and high isolation. The 8-channel module has channel-to-channel isolation and comes with either BNC (IOLITEir-8xLV and IOLITEi-8xLV) or terminal block connectors (IOLITEir-8xLV-T2A2f and IOLITEi-8xLV-T2A2f) and a maximum range of 100 V.



IOLITEir-8xLV



IOLITEi-8xLV



IOLITEi-8xLV-T3A2f



IOLITEi-8xLV-T3A2f

6.2.2.1. IOLITEi 8xLV: Specifications

Analog input		
Input type	Isolated voltage	
Number of channels	8	
ADC Type	24-bit oversampled SAR	
Sampling Rates	Simultaneous 20k, 10k, 5k, 2k, 1k, 500, 200, 100 S/s (software-selectable)	
Voltage Mode		
Ranges	±100 V	±10 V
Accuracy	±0.03 % of reading ±50 mV	±0.03 % of reading ±5 mV
Typ. SNR (10 kS/s, -1 dBFS sine wave @ 1 kHz)	91 dB	90 dB
Typical noise floor @ 10 kS	-105 dB	-98 dB
Typ. THD (10 kS/s, -1 dBFS sine wave @ 1 kHz)	-91 dB	-91 dB
Typ. SFDR (10 kS/s, -1 dBFS sine wave @ 1 kHz)	93 dB	92 dB
Typical IMR @ 400 Hz / 1 kHz	98 dB / 90 dB	83 dB / 75 dB

Gain Drift	Typical 10 ppm/K, Max. 40 ppm/K	
Offset Drift	Typical 2 ppm of range/K, Max. 10 ppm of range/K	
Gain Linearity	< 0.02 %	
Input Coupling	DC	
Input Impedance	1 MΩ	
Overvoltage Protection	In+ to In-: 200 V continuous, 350 Vpeak (100 ms)	
Analog input performance		
Bandwidth (-3 dB)	0.49*fs	
Alias-free Bandwidth	DC to 0.453*fs	
Alias Rejection	-100 dB (all sample rates)	
Delay Through ADC	37 / fs	
Oversampling	32	
Additional Specifications		
Rack	IOLITEir-8xLV	
Input Connectors	BNC	Terminal block 2 pole
Power supply	9 - 48 V DC	
Isolation Voltage	450 Vpeak channel to ground & channel to channel	
Power Consumption	Typ. 2.4 W, Max. 3.5 W	
Weight	310 g	270 g
Slice Dimensions	128.4 x 127.6 x 30.1 mm	
Additional Specifications		
Modular	IOLITEi-8xLV	
Input Connectors	BNC	Terminal block 2 pole
Power supply	9 - 48 V DC	
Isolation Voltage	450 Vpeak channel to ground & channel to channel	
Power Consumption	Typ. 2.7 W, Max. 3.3 W	
Weight	545 g	505 g
Slice Dimensions	137 x 115.0 x 35.0 mm	
Rev: 1681991028		

6.2.2.2. IOLITEi 8xLV: Connectors

IOLITEi 8xLV (rack and standalone version) is available with BNC and terminal block connectors.

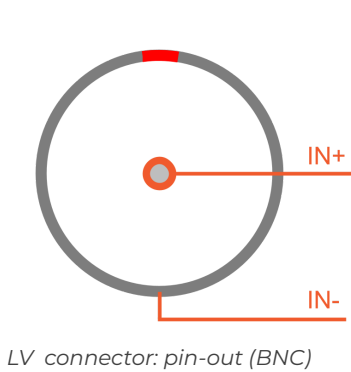
6.2.2.2.1. IOLITEi 8xLV: BNC Connector

The IOLITEi-8xLV and IOLITEir-8xLV modules have 8 BNC connectors for analog input.



IOLITEir-8xLV front

6.2.2.2.1.1. IOLITEi 8xLV: BNC Connector: Pin out



Pin	Name	Description
1	IN+	Analog input
2	IN-	Analog input -



Note
IOLITEi-8xLV has a single-ended input where IN- (Analog input -) represents isolated ground.

6.2.2.2.1.2. IOLITEi 8xLV: BNC Connector: Wiring diagram

Voltage

