

# ILB IB AI4 AO2


Order No.: 2878777



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Inline Block IO analog input/output module, INTERBUS, inputs: 0-20 mA, 4-20 mA,  $\pm 20$  mA, 0-5 V,  $\pm 5$  V, 0-10 V,  $\pm 10$  V, Pt 100, Pt 1000, Ni 1000..., outputs: 0-5 V,  $\pm 5$  V, 0-10 V,  $\pm 10$  V, 0-20 mA,  $\pm 20$  mA, 4-20 mA, 2, 3, 4-wire connection



Commercial data	
GTIN (EAN)	 4 046356 075121
Note	Made-to-order
sales group	K440
Pack	1 pcs.
Customs tariff	85389091
Catalog page information	Page 150 (AX-2011)

### Product notes

WEEE/RoHS-compliant since:  
06/03/2008



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### Product description

The multifunctional, analog Inline Block I/O modules can be used universally. The four inputs either offer the difference measured between analog current / voltage signals or the option of connecting resistance thermometers (RTDs). Furthermore, the current or voltage actuators can be connected at the two outputs. In addition, all channels are equipped with shield connections as a standard and are provided with the 2, 3 or 4-conductor system. The analog signals are made available with a resolution of 16 bits.

The connectors can be labeled using hinged labeling fields. The fields have insert cards that can be labeled individually to suit the application. Additionally, there is the proven ZBFM-6... Zack marker strip for labeling the terminal points.

## Technical data

### General data

Width	156 mm
Height	141 mm
Depth	59 mm
Weight	465 g
Mounting type	DIN rail
Ambient temperature (operation)	-25 °C ... 60 °C
Ambient temperature (storage/transport)	-25 °C ... 85 °C
Permissible humidity (operation)	10 % ... 85 % (no condensation)
Permissible humidity (storage/transport)	10 % ... 95 % (no condensation)
Air pressure (operation)	80 kPa ... 108 kPa (up to 2000 m above sea level)
Air pressure (storage/transport)	66 kPa ... 108 kPa (up to 3500 m above mean sea level)
Degree of protection	IP20
Protection class	III, IEC 61140, EN 61140, VDE 0140-1
Mechanical tests	Vibration resistance in acc. with IEC 60068-2-6 5 g
	Shock test in acc. with IEC 60068-2-27 30 g

### Interface

Fieldbus system	INTERBUS
Name	Inline local bus
Connection method	Inline connectors
Transmission speed	500 kbps
	500 kBit/s
Transmission physics	Copper

### Inline potential routing

Communications power $U_L$	24 V DC
Power supply at $U_L$	max. 8 A
Current consumption from $U_L$	Typ. 100 mA
	max. 175 mA (AO-I nominal load)
Segment supply voltage $U_S$	24 V DC
Power supply at $U_S$	max. 8 A
Current consumption from $U_S$	max. 220 mA (Maximum full load)

**Analog inputs**

Number of inputs	max. 4 (2 differential inputs, voltage or current can be chosen separately)
Connection method	Spring-cage connection
	2, 3, 4-wire (shielded)
Input name	Analog inputs
A/D conversion time	Typ. 180 µs
Resolution A/D	16 bit
Limit frequency (3 dB)	120 Hz (default for 4.5 ms filter)
	450 Hz (for 1.1 ms filter)
Measured value resolution	16 bits (15 bits + sign)
Current input signal	0 mA ... 20 mA
	4 mA ... 20 mA
	-20 mA ... 20 mA
Input resistance current input	Typ. 107 Ω
Voltage input signal	0 V ... 5 V
	-5 V ... 5 V
	0 V ... 10 V
	-10 V ... 10 V
Input resistance of voltage input	Typ. 276 kΩ
Number of inputs	4 (differential inputs, voltage)
Type of protection	Electronic short-circuit protection
Open circuit response	Goes to 0 V
Voltage input signal	0 V ... 5 V
	-5 V ... 5 V
	0 V ... 10 V
	-10 V ... 10 V
Input resistance of voltage input	Typ. 276 kΩ
Number of inputs	4 (differential inputs, current)
Type of protection	Electronic short-circuit protection
Open circuit response	Going to 0 mA; open-circuit detection from 4 mA ... 20 mA
Current input signal	0 mA ... 20 mA
	4 mA ... 20 mA
	-20 mA ... 20 mA
Input resistance current input	Typ. 107 Ω
Number of inputs	4

Input name	Analog RTD inputs
Sensor types (RTD) that can be used	Pt100, Pt500, Pt1000, Ni100, Ni1000, Ni1000 L&G
Linear resistance measuring range	0 Ω ... 3200 Ω
	0 Ω ... 9500 Ω
Protective circuit	Overload protection, short-circuit protection of sensor supply

### Analog outputs

Number of outputs	2
Connection method	Spring-cage connection
	2-wire (shielded)
Output name	Analog outputs
D/A conversion time	Typ. 70 μs
D/A resolution	16 Bit
Type of protection	Short-circuit protection of outputs
Protective circuit/component	Electronic
Data formats	IB IL, IB ST, IB RT, standardized representation, S7 compatible
Representation of output values	16 bits (15 bits + sign)
Process data update	17 ms
Current output signal	0 mA ... 20 mA
	4 mA ... 20 mA
	-20 mA ... 20 mA
Load/output load current output	to 500 Ω
Voltage output signal	0 V ... 5 V
	-5 V ... 5 V
	0 V ... 10 V
	-10 V ... 10 V
Load/output load voltage output	> 2 kΩ

### Certificates / Approvals



Certification CUL, UL

**Accessories**

Item	Designation	Description
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**Assembly**

3022276	CLIPFIX 35-5	Snap-on end bracket, for NS 35/7.5 or NS 35/15 DIN rail, can be fitted with Zack strip ZB 5 and ZBF 5, terminal strip marker KLM 2 and KLM, parking facility for FBS...5, FBS...6, KSS 5, KSS 6, width: 5,15 mm, color: gray
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**Marking**

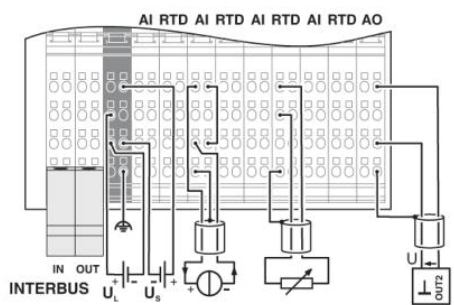
0809492	ESL 62X10	Insert strip for laser printer, lettering field: 62 x 10 mm
2727501	IB IL FIELD 2	Labeling field, width: 12.2 mm
0808778	ZBF 6:SO/CMS	Zack strip, flat, 10-section, divisible, special printing, marking according to customer requirements
0803618	ZBFM 6/WH:UNBEDRUCKT	Zack marker sheet, flat, unprinted: 100-section, 10 strips à 10 markers, sufficient for 100 terminal blocks, for all terminal blocks, pitch 6.2 mm, labeling with M-PEN or CMS system, color: white
0803650	ZBFM 6:SO/CMS	Special printing, Zack marker sheet, flat, 100-section, divisible, marking according to customer requirements

**Plug/Adapter**

2740245	IB IL SCN 6-SHIELD-TWIN	Inline shield connector
2726353	IB IL SCN-6 SHIELD	Inline shield connector
2863151	IB IL SCN-6 SHIELD-CP	Shield connector, for INTERBUS connection
2726337	IB IL SCN-8	Connector, for digital 1, 2 or 8-channel Inline terminals

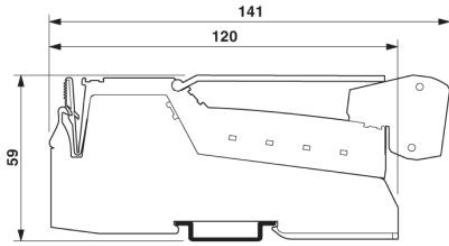
**Diagrams/Drawings**

Connection diagram



Dimensioned drawing

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