

IB ST ZF 24 BAI 8/EF - I/O module

2701957

<https://www.phoenixcontact.com/us/products/2701957>

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INTERBUS-ST analog input module, 8 inputs, 0 - 5 V, 0 - 10 V 0 - 25 V, 0 - 50 V, 0 - 20 mA, 4 - 20 mA, 0 - 40 mA, 0 - 60 mA, degree of protection IP20, comprising: Terminal part with spring-cage connection and module electronics

Image shows IB ST 24 BAI 4 RTD (2700843) version

Your advantages

- 8 analog inputs for the connection of either voltage or current signals
- Connection of sensors in 2-conductor technology

Commercial data

Item number	2701957
Packing unit	1 pc
Minimum order quantity	1 pc
Product key	DRI341
GTIN	4046356895767
Weight per piece (including packing)	570.2 g
Weight per piece (excluding packing)	570.2 g
Country of origin	DE

Technical data

Dimensions

Width	118 mm
Height	116 mm
Depth	117 mm

Interfaces

ST local bus

No. of channels	2
Connection method	ST local bus connector
Transmission speed	500 kbps
Transmission physics	Copper

System properties

Programming data

Length code (hex)	4
ID code (dec.)	127
Length code (dec)	4
Input address area	8 Byte
Output address area	0 Byte
Parameter channel (PCP)	0 Byte
Register length (bus)	8 Byte

Input data

Analog:

Input name	Analog inputs
Number of inputs	max. 8 (Voltage or current)
A/D conversion time	max. 10 μ s (per channel)
Connection technology	2, 3-conductor
Measuring principle	Successive approximation
Measured value representation	8 bit straight binary (default) or 12 bit two's complement (can be parameterized)

Analog:

Number of inputs	8 (Voltage inputs)
Voltage input signal	0 V ... 10 V
	0 V ... 5 V
	0 V ... 25 V
	0 V ... 50 V
Input resistance of voltage input	150 k Ω
A/D converter resolution	12 bit (4096 steps; 2.44 mV/quantization steps)
	8 bit (256 steps; 39 mV/quantization steps)

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Analog:

Number of inputs	8 (Current inputs)
A/D conversion time	max. 10 μ s
Current input signal	4 mA ... 20 mA
	0 mA ... 20 mA
	0 mA ... 40 mA
	0 mA ... 60 mA (rms)
	0 mA ... 100 mA (peak)
Input resistance current input	77 Ω
A/D converter resolution	12 bit (4096 steps; 3.91 μ A/quantization steps)
	8 bit (256 steps; 62.7 μ A/quantization steps)

Product properties

Product type	I/O component
Type	modular
	INTERBUS Smart Terminal
Operating mode	Process data mode with 4 words
Diagnostics messages	Failure of the internal I/O supply I/O error message sent to the bus coupler
	F1 fuse failure I/O error message sent to the bus coupler
	I/O supply failure I/O error message sent to the bus coupler

Electrical properties

Maximum power dissipation for nominal condition	0.5 W
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Supply: Module electronics

Connection method	ST local bus connector
Designation	Communications power
Supply voltage	9 V DC (from the ST local bus)
Current consumption	typ. 54 mA
	max. 80 mA
Power consumption	typ. 0.5 W

Supply:

Designation	U_S
Supply voltage	24 V DC
Supply voltage range	19.5 V DC ... 30.2 V DC (including all tolerances, including ripple)
Current consumption	typ. 45 mA ($I_b = 0$ mA (I_b = total current for supplying passive sensors for all channels))
	typ. 120 mA ($I_b = 100$ mA (I_b = total current for supplying passive sensors for all channels))

Supply: Passive sensor supply

Designation	U_B (generated internally)
Supply voltage	15 V \pm 6 %
Current consumption	max. 100 mA (Total for all channels)

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Electrical isolation/isolation of the voltage ranges

Test voltage: Bus/Inputs	500 V AC, 50 Hz, 1 min
Test voltage: Supply voltage/inputs	500 V AC, 50 Hz, 1 min
Test voltage: Supply voltage/Ground conductor	500 V AC, 50 Hz, 1 min
Test voltage: I/O voltage/Ground conductor	500 V AC, 50 Hz, 1 min

Connection data

Connection technology

Connection name	Terminal block
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Terminal block

Connection method	Spring-cage connection
Conductor cross-section, rigid	0.2 mm ² ... 2.5 mm ²
Conductor cross-section, flexible	0.2 mm ² ... 2.5 mm ²
Conductor cross-section AWG	24 ... 12
Stripping length	8 mm

Environmental and real-life conditions

Ambient conditions

Ambient temperature (operation)	-25 °C ... 55 °C
Degree of protection	IP20
Air pressure (operation)	80 kPa ... 106 kPa (up to 2000 m above sea level)
Air pressure (storage/transport)	80 kPa ... 106 kPa (up to 2000 m above sea level)
Ambient temperature (storage/transport)	-25 °C ... 70 °C
Permissible humidity (operation)	10 % ... 95 % (non-condensing)
Permissible humidity (storage/transport)	10 % ... 95 % (non-condensing)

Standards and regulations

Protection class	III (IEC 61140, EN 61140, VDE 0140-1)
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Mounting

Mounting type	DIN rail mounting
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Classifications

ECLASS

ECLASS-13.0	27242601
ECLASS-15.0	27242601

UNSPSC

UNSPSC 21.0	32151600
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Environmental product compliance

EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	6(a), 6(a)-I, 6(c), 7(a), 7(c)-I

China RoHS

Environment friendly use period (EFUP)	EFUP-E
	No hazardous substances above the limits

EU REACH SVHC

REACH candidate substance (CAS No.)	Lead(CAS: 7439-92-1)
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