

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



2700842

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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, IP20 protection, consisting of: terminal part with screw connection and module electronics

## Product description

The module is designed for use within an ST station.  
It is used to acquire analog voltage and current signals.

## 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	2700842
Packing unit	1 pc
Sales key	DR03
Product key	DRI341
GTIN	4046356660631
Weight per piece (including packing)	591.5 g
Weight per piece (excluding packing)	591.5 g
Customs tariff number	85389091
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

#### Module

ID code (dec.)	127
ID code (hex)	7F
Length code (hex)	4
Length code (dec)	4
Input address area	8 Byte
Output address area	0 Byte
Register length	8 Byte

### Input data

#### Analog: General

Input name	Analog inputs
Number of inputs	max. 8 (Voltage or current)
A/D conversion time	max. 10 $\mu$ 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: Voltage inputs

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 $\Omega$
A/D converter resolution	12 bit (4096 steps; 2.44 mV/quantization steps)
	8 bit (256 steps; 39 mV/quantization steps)

## Analog: Current inputs

Number of inputs	8 (Current inputs)
A/D conversion time	max. 10 $\mu$ 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 $\Omega$
A/D converter resolution	12 bit (4096 steps; 3.91 $\mu$ A/quantization steps)
	8 bit (256 steps; 62.7 $\mu$ 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

### 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: Periphery supply voltage

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)

## 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	Screw connection
Conductor cross-section, rigid	0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
Conductor cross-section, flexible	0.2 mm <sup>2</sup> ... 2.5 mm <sup>2</sup>
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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### EF3.1 Climate Change

CO2e kg	0.838 kg CO2e
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