IB IL AI 2/SF-ME - Analog module

2863944

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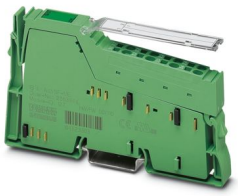


Inline, Analog input terminal, Analog inputs: 2, 0 V ... 10 V, -10 V ... 10 V, 0 mA ... 20 mA, 4 mA ... 20 mA, -20 mA ... 20 mA, connection technology: 2-conductor, transmission speed in the local bus: 500 kbps, degree of protection: IP20, including Inline connector and labeling field

Product description

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

Your advantages

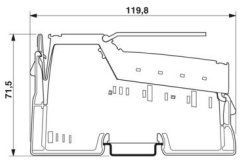
- 2 analog single-ended signal inputs for the connection of either voltage or current signals
- Connection of sensors in 2-conductor technology
- Current ranges: 0 mA ... 20 mA, 4 mA ... 20 mA, ±20 mA
- Voltage ranges: 0 V ... 10 V, ±10 V
- The channels are parameterized independently of one another via the bus system
- Measured values can be represented in four different formats
- Resolution: 12 bits + sign bit
- Process data update of both channels within a max. of 1.5 ms

Commercial data

Item number	2863944
Packing unit	1 pc
Minimum order quantity	1 pc
Product key	DRI141
Catalog page	Page 134 (C-6-2019)
GTIN	4017918962654
Weight per piece (including packing)	81.5 g
Weight per piece (excluding packing)	81.5 g
Customs tariff number	85389099
Country of origin	DE

Technical data

Dimensions

Dimensional drawing	
Width	12.2 mm
Height	119.8 mm
Depth	71.5 mm
Note on dimensions	Housing dimensions

Notes

Utilization restriction

CCCex note	Use in potentially explosive areas is not permitted in China.

Interfaces

Inline local bus

Number of interfaces	2
Connection method	Inline data jumper
Transmission speed	500 kbps

System properties

Module

ID code (dec.)	127
ID code (hex)	7F
Length code (hex)	02
Length code (dec)	02
Process data channel	32 bit
Input address area	4 Byte
Output address area	4 Byte
Register length	32 bit
Required parameter data	6 Byte
Required configuration data	4 Byte

Input data

Analog: General

Input name	Analog inputs
Description of the input	Single-ended inputs, voltage or current

Number of inputs	2
A/D conversion time	typ. 120 µs (per channel)
Connection method	Inline connector
Connection technology	2-conductor
Current input signal	0 mA ... 20 mA
	4 mA ... 20 mA
	-20 mA ... 20 mA
Input resistance current input	50 Ω (Shunt)
Voltage input signal	0 V ... 10 V
	-10 V ... 10 V
Input resistance of voltage input	> 220 kΩ
Data formats	IB IL, IB ST, IB RT, standardized representation
Limit frequency (3 dB)	40 Hz
Common mode voltage range signal - ground	40 V (Between current input and functional ground)
	40 V (between voltage input and functional ground)
Measuring principle	Successive approximation
Measured value resolution	13 bits (12 bits + sign bit)
Measured value representation	13 bits (12 bits + sign bit)
Protective circuit	Surge protection; Suppressor diodes in the analog inputs

Product properties

Product type	I/O component
Product family	Inline
Type	modular
Scope of delivery	including Inline connector and labeling field
Operating mode	Process data operation with 2 words
Diagnostics messages	Failure of the internal I/O supply yes
	I/O error Error message in the process data
	User error Error message in the process data

Insulation characteristics

Overvoltage category	II (IEC 60664-1, EN 60664-1)
Pollution degree	2 (IEC 60664-1, EN 60664-1)

Electrical properties

Maximum power dissipation for nominal condition	1.87 W

Potentials

Power consumption	typ. 662 mW
	max. 882 mW

Potentials: Communications power (U_L)

Supply voltage	7.5 V DC (via voltage jumper)
Current draw	max. 60 mA
	typ. 45 mA

Potentials: Supply of analog modules (U_{ANA})

Supply voltage	24 V DC (via voltage jumper)
Supply voltage range	19.2 V DC ... 30 V DC (including all tolerances, including ripple)
Current draw	max. 18 mA
	typ. 13 mA

Electrical isolation/isolation of the voltage ranges

Test voltage: 7.5 V supply (bus logic), 24 V supply U_{ANA} / I/O	500 V AC, 50 Hz, 1 min.
Test voltage: 7.5 V supply (bus logic), 24 V supply U_{ANA} / functional ground	500 V AC, 50 Hz, 1 min.
Test voltage: I/O/functional ground	500 V AC, 50 Hz, 1 min.

Connection data

Connection technology

Connection name	Inline connector

Conductor connection

Connection method	Spring-cage connection
Conductor cross section rigid	0.08 mm² ... 1.5 mm²
Conductor cross section flexible	0.08 mm² ... 1.5 mm²
Conductor cross section AWG	28 ... 16
Stripping length	8 mm

Inline connector

Connection method	Spring-cage connection
Conductor cross section, rigid	0.08 mm² ... 1.5 mm²
Conductor cross section, flexible	0.08 mm² ... 1.5 mm²
Conductor cross section AWG	28 ... 16
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)	70 kPa ... 106 kPa (up to 3000 m above sea level)
Air pressure (storage/transport)	70 kPa ... 106 kPa (up to 3000 m above sea level)
Ambient temperature (storage/transport)	-25 °C ... 85 °C
Permissible humidity (operation)	10 % ... 95 % (non-condensing)
Permissible humidity (storage/transport)	10 % ... 95 % (non-condensing)

Standards and regulations

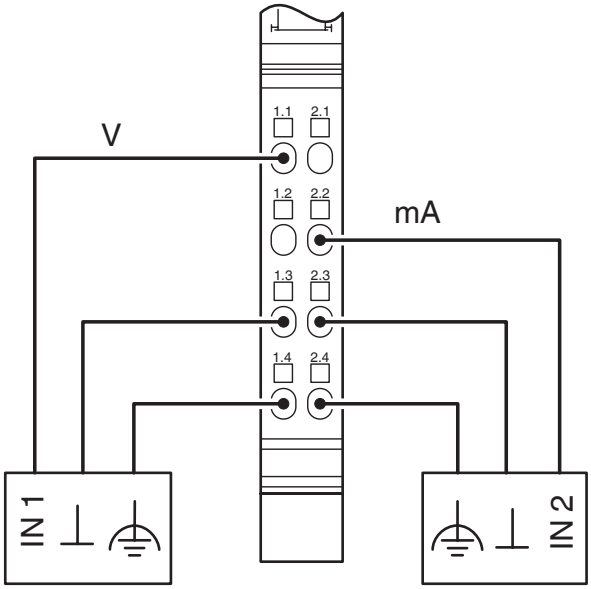
Protection class	III (IEC 61140, EN 61140, VDE 0140-1)

Mounting

Mounting type	DIN rail mounting

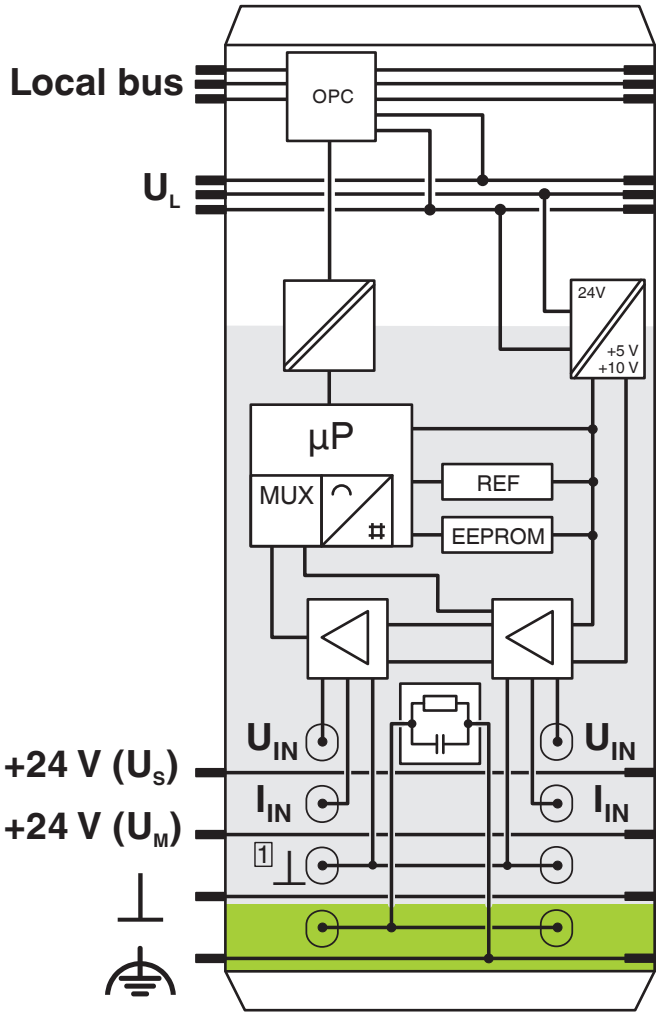
Drawings

Connection diagram



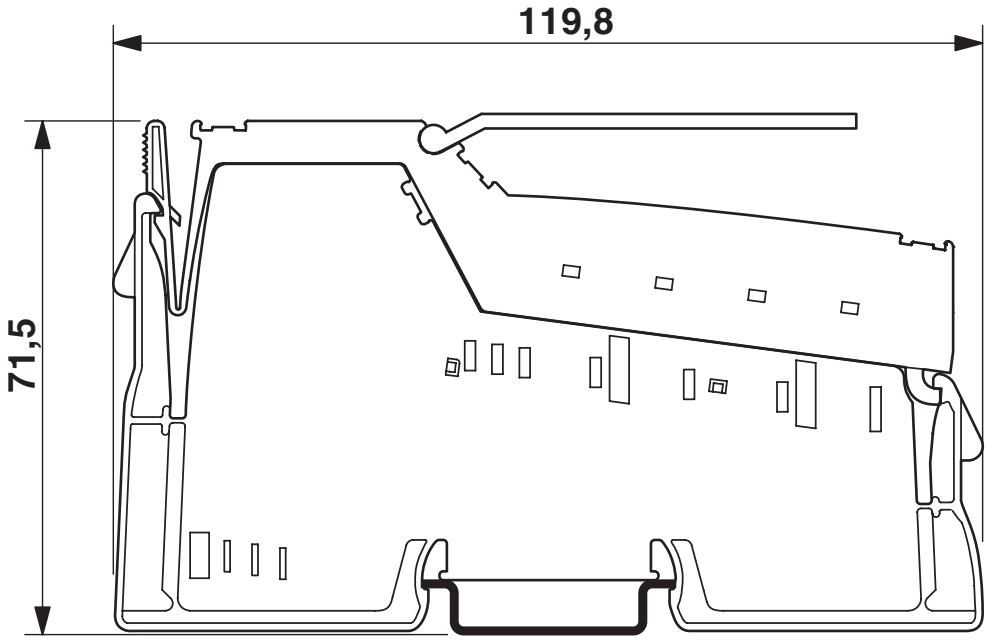
Connection example

Block diagram



Internal wiring of the terminal points

Dimensional drawing



Approvals

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cUL Recognized
Approval ID: FILE E 140324

UL Recognized
Approval ID: FILE E 140324

EAC
Approval ID: TR TS_D_01921-19

UAE-RoHS
Approval ID: 22-04-13078

cUL Listed
Approval ID: FILE E 199827

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Classifications

ECLASS

ECLASS-11.0	27242601
ECLASS-12.0	27242601
ECLASS-13.0	27242601

ETIM

ETIM 9.0	EC001596

UNSPSC

UNSPSC 21.0	32151600

Environmental product compliance

EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	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)
SCIP	8ed59981-2d0f-4784-8012-926bd2933d02

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