

## Inline function terminal - IB IL SGI 2/F-PAC - 2878638

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Inline analog strain gauge input terminal, complete with accessories (connector and labeling field), 2 fast inputs, 4, 6-wire connection method

### Product Description

The terminal is designed for use within an Inline station.  
 This terminal is a fast input module used to connect load cells, force transducers, mass pressure transducers, and similar devices based on strain gauges.  
 The strain gauges can be connected using 6 or 4-wire technology.  
 The strain gauge output signals are measured in each bus cycle and updated in the process data (bus-synchronous process data update).  
 The terminal is suitable for control applications with increased speed requirements.  
 There are two options for data exchange:  
 - via process data (both inputs in one bus cycle)  
 - via PCP Compact (both inputs in the "Analog Values" PCP object)The measured values are represented by standardized 16-bit values.  
 The measured values are represented by standardized 16-bit values.

### Your advantages

- 2 fast inputs for strain gauge
- Connection of the strain gauges with 6- and 4-wire technology
- Sensor supply voltage provided by the terminal, no external power supply required
- Communication either via process data or parameter channel (PCP Compact)
- Channels are parameterized independently of one another via the bus system
- Bus-synchronous process data update



### Key Commercial Data

Packing unit	1 pc
GTIN	
GTIN	4017918996406

### Technical data

#### Note

Utilization restriction	EMC: class A product, see manufacturer's declaration in the download area
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## Technical data

### Dimensions

Width	48.8 mm
Height	136 mm
Depth	71.5 mm

### Ambient conditions

Ambient temperature (operation)	-25 °C ... 55 °C
Ambient temperature (storage/transport)	-25 °C ... 85 °C
Permissible humidity (operation)	10 % ... 95 % (non-condensing)
Permissible humidity (storage/transport)	10 % ... 95 % (non-condensing)
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)
Degree of protection	IP20

### General

Mounting type	DIN rail
Color	green
Net weight	190 g
Operating mode	Process data operation with 3 words, PCP with 1 word
Diagnostics messages	Failure of the power supply at $U_{ANA}$ Error message in the process data
	Failure of or insufficient communications power $U_L$ I/O error message sent to the bus coupler
	I/O error Error message in the process data

### Interfaces

Designation	Inline local bus
No. of channels	2
Connection method	Inline data jumper
Transmission speed	500 kbps
Transmission physics	Copper

### Inline potentials

Designation	Communications power ( $U_L$ )
Supply voltage	7.5 V DC (via voltage jumper)
Current consumption	typ. 75 mA
	max. 85 mA
Designation	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 consumption	typ. 8 mA (without strain gauge)
	typ. 32 mA (with maximum load of 58.3 $\Omega$ when $U_V = 5$ V)
Power consumption	typ. 0.76 W (Device in nominal operation)

### Analog inputs

Description of the input	Input channels for strain gauge
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### Technical data

#### Analog inputs

Number of inputs	2
Connection technology	6 or 4-wire, twisted pair shielded cable
Bridge difference $U_d$	Measuring range specified by selecting the characteristic and the bridge voltage
Bridge voltage $U_0$	3.3 V
Characteristics	+1 mV/V, +2 mV/V, +3 mV/V, +4 mV/V
	$\pm 1$ mV/V, $\pm 2$ mV/V, $\pm 3$ mV/V, $\pm 4$ mV/V
Measured value representation	15 bit + sign bit

#### Analog outputs

Output description	Voltage output
Number of outputs	2
Impedance	> 58.3 $\Omega$ (typical; permissible total resistance of the strain gauge)
Output voltage	5 V
	3.3 V
Output current	typ. 55 mA (with $U_v = 3.3$ V)
	typ. 85 mA (with $U_v = 5$ V)

#### Electrical isolation

Test section	Logic/analog I/O (digital isolator) 500 V AC 50 Hz 1 min.
	Functional ground/analog I/O (isolating distance) 500 V AC 50 Hz 1 min.
	Logic/functional ground (isolating distance) 500 V AC 50 Hz 1 min.

#### Standards and Regulations

Connection in acc. with standard	CUL
Protection class	III (IEC 61140, EN 61140, VDE 0140-1)

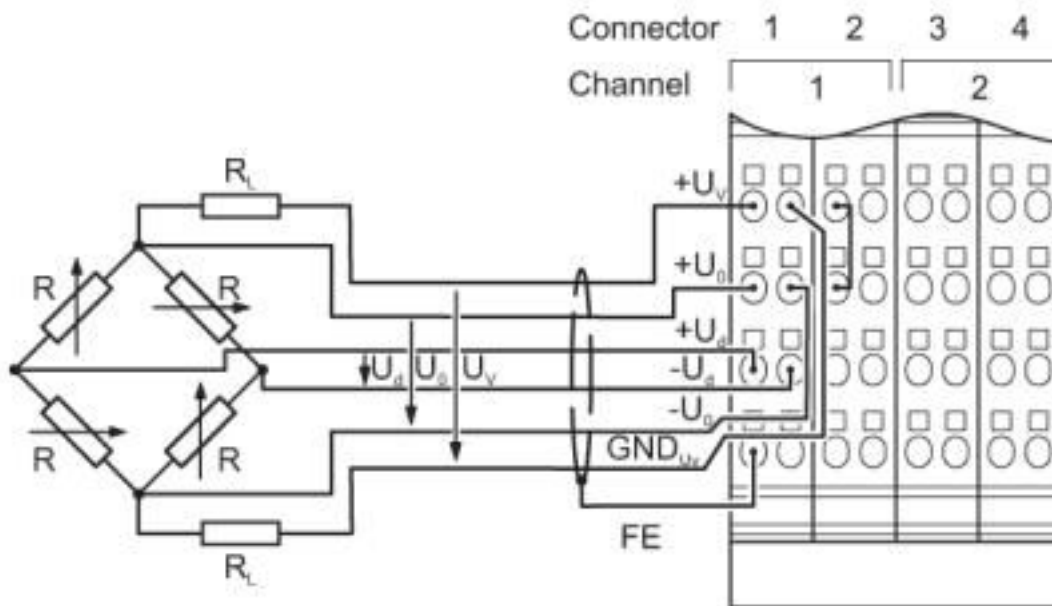
#### Environmental Product Compliance

China RoHS	Environmentally friendly use period: unlimited = EFUP-e
	No hazardous substances above threshold values

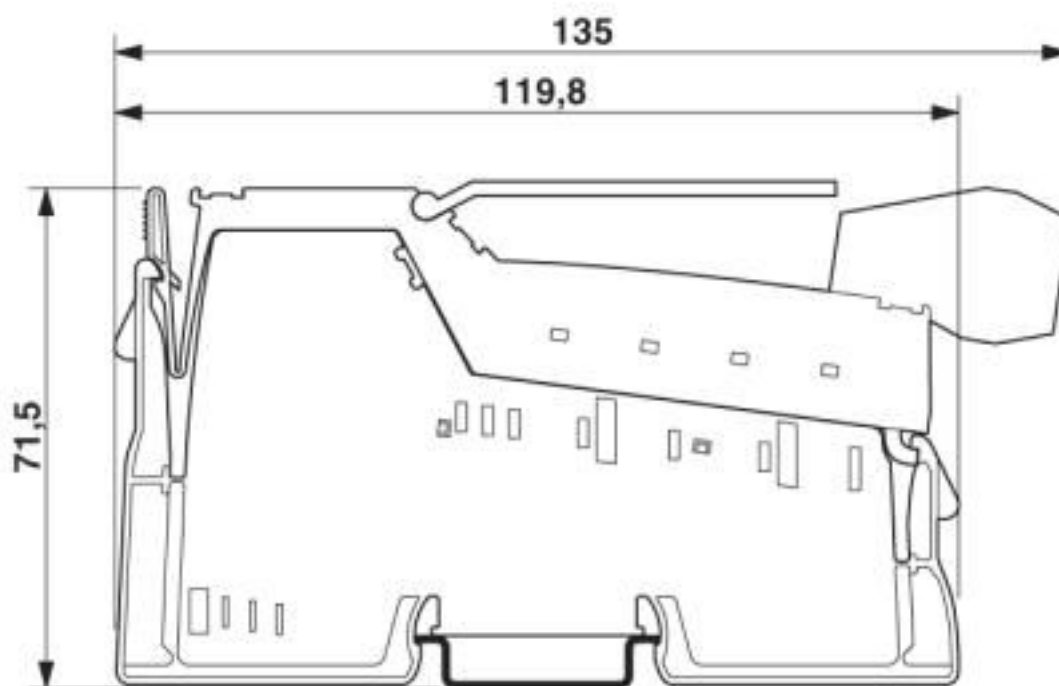
### Drawings

# Inline function terminal - IB IL SGI 2/F-PAC - 2878638

Connection diagram



Dimensional drawing



## Classifications

eCl@ss

eCl@ss 10.0.1	27242601
eCl@ss 4.0	27250300

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## Classifications

### eCl@ss

eCl@ss 4.1	27250300
eCl@ss 5.0	27250300
eCl@ss 5.1	27242600
eCl@ss 6.0	27242600
eCl@ss 7.0	27242601
eCl@ss 8.0	27242601
eCl@ss 9.0	27242601

### ETIM

ETIM 2.0	EC001431
ETIM 3.0	EC001596
ETIM 4.0	EC001596
ETIM 5.0	EC001596
ETIM 6.0	EC001596
ETIM 7.0	EC001596

### UNSPSC

UNSPSC 6.01	43172015
UNSPSC 7.0901	43201404
UNSPSC 11	43172015
UNSPSC 12.01	43201404
UNSPSC 13.2	32151602
UNSPSC 18.0	32151602
UNSPSC 19.0	32151602
UNSPSC 20.0	32151602
UNSPSC 21.0	32151602

## Approvals

### Approvals

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Approvals

UL Recognized / cUL Recognized / cULus Recognized

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Ex Approvals

UL Listed / cUL Listed / cULus Listed

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### Approval details

# Inline function terminal - IB IL SGI 2/F-PAC - 2878638

## Approvals

UL Recognized		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 140324
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cUL Recognized		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 140324
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cULus Recognized			
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## Accessories

### Accessories

#### Device parameterization

Software - AX+ BASIC - 2985068



Software CD for FDT container for integrating device DTMs (free download)

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## Installation terminal block

Connection terminal block - AKG 4 GNYE - 0421029



Connection terminal block, connection method: Screw connection, load current: 41 A, cross section: 0.5 mm<sup>2</sup> - 6 mm<sup>2</sup>, width: 7 mm, color: green-yellow

Connection terminal block - AKG 4 BK - 0421032



Connection terminal block, connection method: Screw connection, load current: 41 A, cross section: 0.5 mm<sup>2</sup> - 6 mm<sup>2</sup>, width: 7 mm, color: black

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## Neutral conductor rail

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### Accessories

Neutral busbar - NLS-CU 3/10 SN 1000MM - 0402174



Neutral busbar, width: 10 mm, height: 3 mm, DIN VDE 0611-4: 1991-02, material: Copper, tin-plated, length: 1000 mm, color: silver

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### Pick-off terminal block

Connection terminal block - AK 4 - 0404017



Connection terminal block, connection method: Screw connection, load current: 41 A, cross section: 0.5 mm<sup>2</sup> - 6 mm<sup>2</sup>, width: 7 mm, color: silver

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### Plug

Inline shield connector - IB IL SCN-6 SHIELD - 2726353



Inline shield connector

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Inline connector - IB IL SCN-8 - 2726337



Connector, for digital 1, 2 or 8-channel Inline terminals

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### Programming

Software - AX DTM LIB - 2988065



DTM library

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### Shield connection clamp

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### Accessories

Shield connection clamp - SK 8 - 3025163



Shield connection clamp, for shield on busbars, contact resistance <math>< 1 \text{ m}\Omega</math>

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Shield connection clamp - SK 14 - 3025176



Shield connection clamp, for shield on busbars, contact resistance <math>< 1 \text{ m}\Omega</math>

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Shield connection clamp - SK 20 - 3025189



Shield connection clamp, for shield on busbars, contact resistance <math>< 1 \text{ m}\Omega</math>

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Shield connection clamp - SK 35 - 3026463



Shield connection clamp, for shield on busbars, contact resistance <math>< 1 \text{ m}\Omega</math>

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### Support

Support bracket - AB-SK - 3025341



Support bracket for busbars

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## Inline function terminal - IB IL SGI 2/F-PAC - 2878638

### Accessories

Support bracket - AB-SK 65 - 3026489

Support bracket, Bracket for busbars, set every 20 cm, length: 95.5 mm, width: 6.2 mm, number of positions: 1, color: gray



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Support bracket - AB-SK/E - 3026476

Support bracket, Bracket for busbars, set every 20 cm, length: 10 mm, width: 56 mm, height: 20 mm, number of positions: 2, color: silver



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