

## Inline function terminal - IB IL UTH 4/J-ECO - 2702502

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Inline ECO, Temperature measurement terminal, Analog UTH inputs: 4 (type J), connection method: 2-wire, transmission speed in the local bus: 500 kbps, degree of protection: IP20, including Inline connector

### Product Description


The terminal is designed for use within an Inline station.  
This terminal can be used to acquire signals from standard thermocouples.  
The terminal supports type J thermocouples according to DIN EN 60584-1.  
The measured values are depicted in standardized representation format.  
Inline ECO terminals are approved for the temperature range from 0°C to +55°C. The electronics base and Inline connector are supplied as standard.

### Your advantages

- 4 differential inputs for thermocouples
- Measuring range: -210 °C ... +1200 °C
- Connection of sensors in 2-wire technology
- Diagnostic information in the process data word
- Diagnostic indicator



### Key Commercial Data

|                                      |                                                                                                         |
|--------------------------------------|---------------------------------------------------------------------------------------------------------|
| Packing unit                         | 1 pc                                                                                                    |
| GTIN                                 | <br>4 055626 206059 |
| GTIN                                 | 4055626206059                                                                                           |
| Weight per Piece (excluding packing) | 69.000 g                                                                                                |
| Custom tariff number                 | 85389091                                                                                                |
| Country of origin                    | Germany                                                                                                 |

### Technical data

#### Note

|                         |                                                                           |
|-------------------------|---------------------------------------------------------------------------|
| Utilization restriction | EMC: class A product, see manufacturer's declaration in the download area |
|-------------------------|---------------------------------------------------------------------------|

#### Dimensions

# Inline function terminal - IB IL UTH 4/J-ECO - 2702502

## Technical data

### Dimensions

|        |          |
|--------|----------|
| Width  | 12.2 mm  |
| Height | 119.8 mm |
| Depth  | 71.5 mm  |

### Ambient conditions

|                                          |                                                   |
|------------------------------------------|---------------------------------------------------|
| Ambient temperature (operation)          | 0 °C ... 55 °C                                    |
| Ambient temperature (storage/transport)  | -25 °C ... 85 °C                                  |
| Permissible humidity (operation)         | 10 % ... 95 % (according to DIN EN 61131-2)       |
| Permissible humidity (storage/transport) | 10 % ... 95 % (according to DIN EN 61131-2)       |
| 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                    | 69 g                                                                         |
| Note on weight specifications | with connector                                                               |
| Diagnostics messages          | Failure of the internal I/O supply I/O error message sent to the bus coupler |
|                               | Checksum error I/O error message sent to the bus coupler                     |

### Interfaces

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

### Inline potentials

|                      |                                                                    |
|----------------------|--------------------------------------------------------------------|
| Designation          | Communications power ( $U_L$ )                                     |
| Supply voltage       | 7.5 V DC (via voltage jumper)                                      |
| Current consumption  | typ. 38 mA                                                         |
|                      | max. 55 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. 32 mA                                                         |
|                      | max. 39 mA                                                         |
| Power consumption    | typ. 1.05 W (total)                                                |

### Analog inputs

|                          |                     |
|--------------------------|---------------------|
| Number of inputs         | 4 (type J)          |
| Input name               | Analog UTH inputs   |
| Description of the input | Differential inputs |

## Inline function terminal - IB IL UTH 4/J-ECO - 2702502

### Technical data

#### Analog inputs

|                                          |                                |
|------------------------------------------|--------------------------------|
| Connection method                        | Inline connector               |
| Connection technology                    | 2-wire                         |
| Note regarding the connection technology | shielded                       |
| Sensor types that can be used (TC)       | J                              |
| Measuring principle                      | Sigma/Delta process            |
| Measured value representation            | 16 bits (15 bits + sign bit)   |
| A/D conversion time                      | typ. 120 ms                    |
| A/D converter resolution                 | 24 bit                         |
| Process data update                      | < 10 ms                        |
| Type of protection                       | Transient protection of inputs |

#### Electrical isolation

|              |                                                                   |
|--------------|-------------------------------------------------------------------|
| Test section | Bus logic (local bus, communications power) 500 V AC 50 Hz 1 min. |
|              | Analog I/O 500 V AC 50 Hz 1 min.                                  |
|              | Functional earth ground 500 V AC 50 Hz 1 min.                     |

#### Standards and Regulations

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

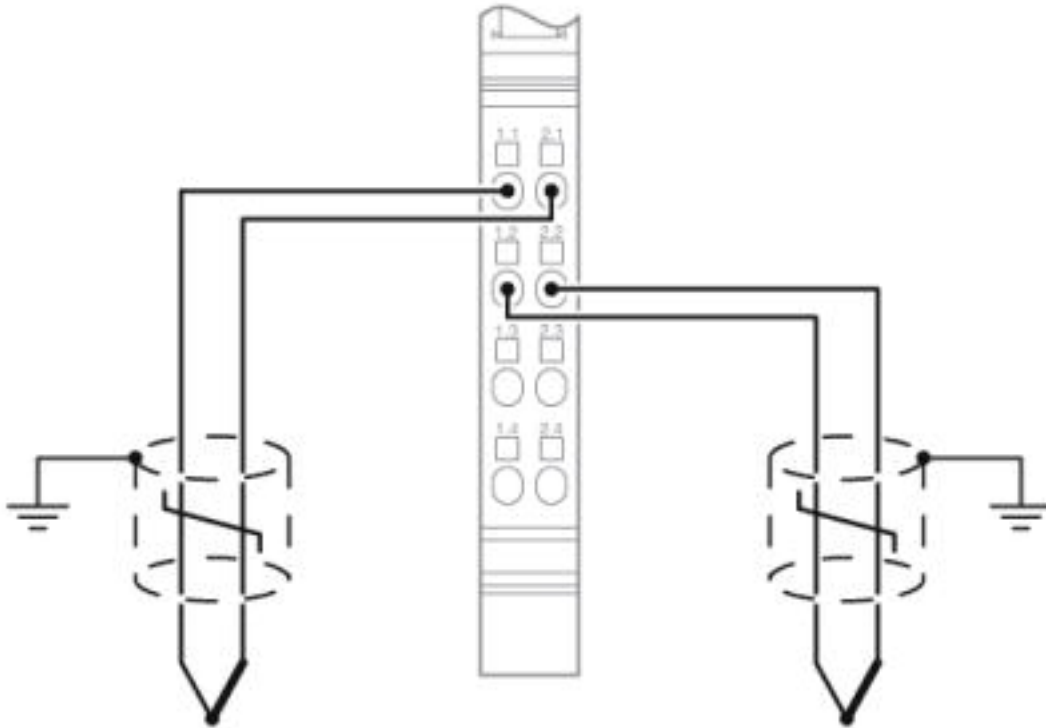
#### Environmental Product Compliance

|            |                                                         |
|------------|---------------------------------------------------------|
|            | Lead 7439-92-1                                          |
| China RoHS | Environmentally friendly use period: unlimited = EFUP-e |
|            | No hazardous substances above threshold values          |

### Drawings

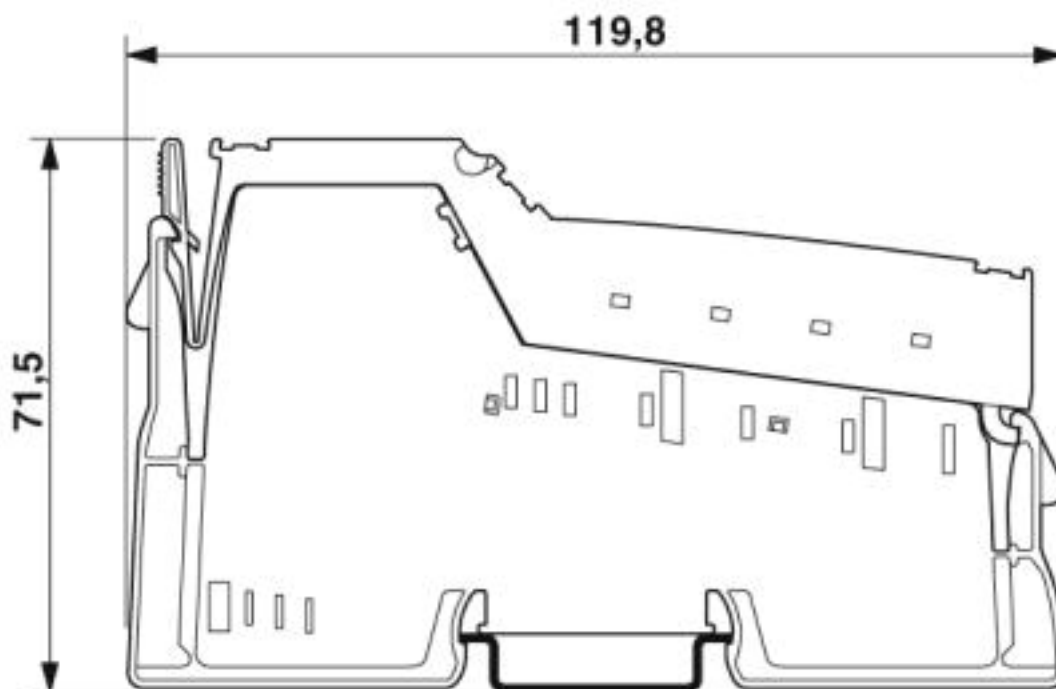
# Inline function terminal - IB IL UTH 4/J-ECO - 2702502

Connection diagram



Connecting the sensors

Dimensional drawing



## Inline function terminal - IB IL UTH 4/J-ECO - 2702502

### Classifications

#### eCl@ss

|            |          |
|------------|----------|
| eCl@ss 4.0 | 27250303 |
| eCl@ss 4.1 | 27250303 |
| eCl@ss 5.0 | 27250303 |
| eCl@ss 5.1 | 27242601 |
| 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 Listed / cUL Listed / cULus Listed

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##### Ex Approvals

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#### Approval details

## Inline function terminal - IB IL UTH 4/J-ECO - 2702502

### Approvals

|           |  |                                                                                                                                                       |               |
|-----------|--|-------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| UL Listed |  | <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 238705 |
|-----------|--|-------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|

|            |  |                                                                                                                                                       |               |
|------------|--|-------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| cUL Listed |  | <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 238705 |
|------------|--|-------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|

|              |  |  |  |
|--------------|--|--|--|
| cULus Listed |  |  |  |
|--------------|--|--|--|

### Accessories

#### Accessories

##### Feed-through terminal block

Thermoelectric voltage terminal block pair - MTKD-FE/CUNI - 3100046



Thermoelectric voltage terminal block pair, TC type J, nom. voltage: 400 V, nominal current: 1 A, connection method: Screw connection, number of connections: 4, number of positions: 2, cross section: 0.2 mm<sup>2</sup> - 4 mm<sup>2</sup>, AWG: 24 - 12, width: 10.4 mm, color: gray, mounting type: NS 35/7,5, NS 35/15, NS 32

##### 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

##### Labeling panel

## Inline function terminal - IB IL UTH 4/J-ECO - 2702502

### Accessories

Labeling field - IB IL FIELD 2 - 2727501

Labeling field, width: 12.2 mm



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### Neutral conductor rail

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 connector - IB IL SCN-8 - 2726337

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



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### Shield connection clamp

Shield connection clamp - SK 8 - 3025163



Shield connection clamp, for shield on busbars, contact resistance < 1 mΩ

## Inline function terminal - IB IL UTH 4/J-ECO - 2702502

### Accessories

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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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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## Inline function terminal - IB IL UTH 4/J-ECO - 2702502

### Accessories

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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