

# Totalizers electronic

## Small impulse counters and position displays

### Display LCD, 8-digits

#### ISI30, ISI31, ISI32, ISI33



ISI30 - Totalizer

#### Features

- ISI30 - Impulse counter
- ISI31 - Up/down, difference counter
- ISI32 - Up/down counter
- ISI33 - Position display

#### Technical data - electrical ratings

|                         |   |
|-------------------------|---|
| Voltage supply          | Lithium battery<br>(approx. 8 years at 20 °C) |
| Display                 | LCD, 7-segment display                        |
| Backlit                 | 24 VDC $\pm$ 20 %, 50 mA                      |
| Number of digits        | 8-digits                                      |
| Display range           | -9999999...+99999999                          |
| Digit height            | 8 mm  |
| Reset                   | Button and electric                           |
| Keylock                 | Yes, electric (keylock)                       |
| Emitted interference    | DIN EN 61000-6-4                              |
| Interference immunity   | DIN EN 61000-6-2                              |
| Programmable parameters | Count mode                                    |
| Approvals               | UL/cUL, CE conform                            |

#### ISI30

|            |  |
|------------|--|
| Function   | Fast and slow counting                                 |
| Count mode | Adding or subtracting                                  |
| Control    | NPN, PNP, Floating contact,<br>Pulses 10...260 VAC/VDC |

#### ISI31

|             |  |
|-------------|--|
| Function    | Counting with direction signal<br>Difference counter |
| Count modes | INP A and INP B (up/down)<br>INP A - INP B           |
| Control     | NPN, PNP, Pulses<br>10...260 VAC/VDC                 |

#### ISI32

|            |                                |
|------------|--------------------------------|
| Function   | Counting with direction signal |
| Count mode | INP B and INP A (Up/Down)      |
| Control    | Pulses 10...260 VAC/VDC        |

#### Technical data - electrical ratings

#### ISI33

|             |  |
|-------------|--|
| Function    | Position display   |
| Count modes | A 90° B phase evaluation x1<br>A 90° B phase evaluation x2 |
| Control     | NPN, PNP   |

#### Technical data - mechanical design

|                         |   |
|-------------------------|---|
| Operating temperature   | -10...+60 °C                              |
| Storing temperature     | -20...+70 °C                              |
| Relative humidity       | 80 % non-condensing                       |
| Core cross-section      | 2.5 mm <sup>2</sup> fine wire AWG 12      |
| Protection DIN EN 60529 | IP 65 face with seal                      |
| Housing type            | Housing for control panel<br>installation |
| Housing colour          | Deep grey, RAL 7021                       |
| Dimensions W x H x L    | 48 x 24 x 48 mm                           |
| Installation depth      | 47.7 mm                                   |
| Mounting                | Clip frame or screw mount                 |
| Cutout dimensions       | 25 x 50 mm (+0.5)                         |
| Weight approx.          | 50 g                                      |

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#### Type table

##### ISI30 - Impulse counter

| Without backlit<br>With backlit | ISI30.010AA01<br>ISI30.010AB01                    | ISI30.012AA01<br>ISI30.012AB01                    | ISI30.013AA01<br>ISI30.013AB01  |
|---------------------------------|---|---|---------------------------------|
| Version                         | NPN   | PNP   | AC/DC                           |
| Brief description               | Fast and slow counting processes                  | Fast and slow counting processes                  | Slow counting processes         |
| Signal input INP A              | Fast counting<br>NPN<br>7 kHz                     | Fast counting<br>PNP<br>12 kHz                    | Slow counting<br>AC/DC<br>30 Hz |
| Signal input INP B              | Slow counting<br>NPN or floating contact<br>30 Hz | Slow counting<br>NPN or floating contact<br>30 Hz | External reset<br>AC/DC<br>–    |
| Operating mode                  | Adding or subtracting                             | Adding or subtracting                             | Adding                          |

##### ISI31 - Up/down counter / Difference counter

| Without backlit<br>With backlit | ISI31.010AA01<br>ISI31.010AB01   | ISI31.011AA01<br>ISI31.011AB01   | ISI31.013AA01<br>ISI31.013AB01                               |
|---------------------------------|--|--|--|
| Version                         | NPN  | PNP  | AC/DC  |
| Brief description               | Fast counting processes with direction signal (Up/Down) or difference counting   | Fast counting processes with direction signal (Up/Down) or difference counting   | Slow difference counting                                     |
| Signal input INP A, INP B       | NPN, 7 kHz   | PNP, 12 kHz  | AC/DC, 30 Hz   |
| Operating mode                  | Counting with direction signal<br>INP A - Counting input<br>INP B - Direction signal<br><br>Difference counting<br>INP A - Adding<br>INP B - Subtracting | Counting with direction signal<br>INP A - Counting input<br>INP B - Direction signal<br><br>Difference counting<br>INP A - Adding<br>INP B - Subtracting | Difference counting<br>INP A - Adding<br>INP B - Subtracting |

##### ISI32 - Up/down counter / ISI33 - Position display

| Without backlit<br>With backlit | ISI32.013AA01<br>ISI32.013AB01                | ISI33.010AA01<br>ISI33.010AB01  | ISI33.011AA01<br>ISI33.011AB01  |
|---------------------------------|---|---|---|
| Version                         | AC/DC   | NPN   | PNP   |
| Brief description               | Slow, direction-controlled counting processes | For position display or length measurement in conjunction with an incremental encoder | For position display or length measurement in conjunction with an incremental encoder |
| Signal input INP A              | Direction signal<br>AC/DC<br>30 Hz            | Counting input 0°<br>NPN<br>3 kHz   | Counting input 0°<br>PNP<br>6 kHz   |
| Signal input INP B              | Direction signal<br>AC/DC<br>30 Hz            | Counting input 90° out of phase<br>NPN<br>3 kHz                                       | Counting input 90° out of phase<br>PNP<br>6 kHz                                       |
| Operating mode                  | Counting with direction signal                | INP A 90° INP B x1 or<br>INP A 90° INP B x2   | INP A 90° INP B x1 or<br>INP A 90° INP B x2   |

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##### Part number

ISI30.01 

|  |   |  |    |
|--|---|--|----|
|  | A |  | 01 |
|--|---|--|----|

- Display
  - A Not backlit
  - B Backlit
- Design
  - 0 NPN 7 kHz, contact 30 Hz
  - 2 PNP 12 kHz, contact 30 Hz
  - 3 AC/DC 30 Hz

ISI31.01 

|  |   |  |    |
|--|---|--|----|
|  | A |  | 01 |
|--|---|--|----|

- Display
  - A Not backlit
  - B Backlit
- Design
  - 0 NPN 7 kHz (Up/Down, A-B)
  - 1 PNP 12 kHz (Up/Down, A-B)
  - 3 AC/DC 30 Hz (A-B)

ISI32.01 

|   |   |  |    |
|---|---|--|----|
| 3 | A |  | 01 |
|---|---|--|----|

- Display
  - A Not backlit
  - B Backlit
- Design
  - 3 AC/DC 30 Hz (Up/Down)

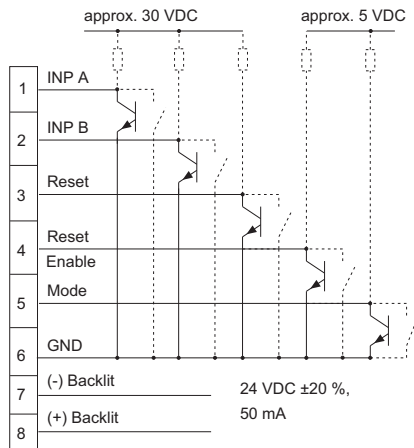
ISI33.01 

|   |   |  |    |
|---|---|--|----|
| 1 | A |  | 01 |
|---|---|--|----|

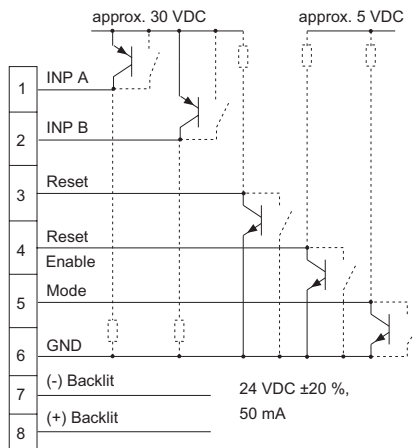
- Display
  - A Not backlit
  - B Backlit
- Design
  - 1 PNP 6 kHz (A 90° B)

##### Connection diagram

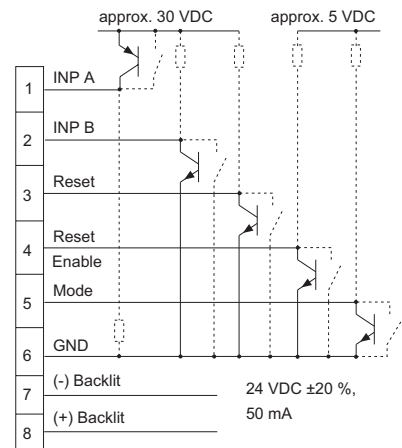
###### ISI30, ISI31, ISI33, DC, NPN



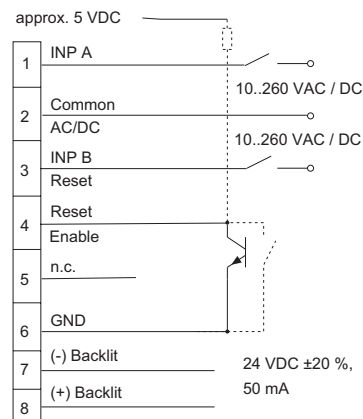
###### ISI31, ISI33, DC, PNP



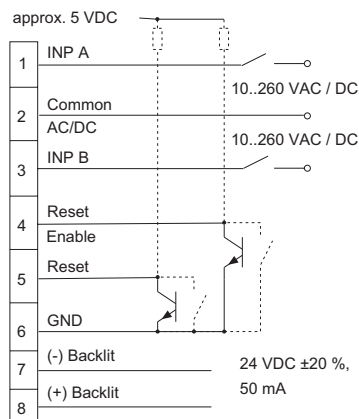
###### ISI30, DC, PNP



###### ISI30, AC/DC



###### ISI31, ISI32, AC/DC



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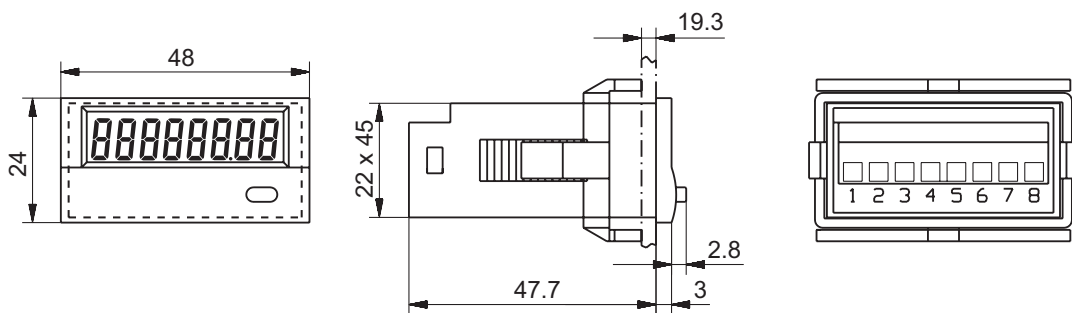
ISI30, ISI31, ISI32, ISI33

#### Trigger level

| Inputs            | Input circuit               | Inputs                    | Input circuit                |
|-------------------|-----------------------------|---------------------------|------------------------------|
| <b>NPN inputs</b> | <b>Comparator (pin 1+2)</b> | <b>AC/DC inputs</b>       | <b>Optocoupler (pin 1+3)</b> |
| Input level Low   | 0...0.7 VDC                 | Input level Low           | 0...2 VDC/VAC                |
| Input level High  | 3...30 VDC                  | Input level High          | 10...260 VDC/VAC             |
| Input resistance  | 1 MΩ                        | Input resistance          | 160 kΩ                       |
| <b>PNP inputs</b> | <b>Comparator (pin 1+2)</b> | <b>NPN control inputs</b> | <b>Pin 4, 5</b>              |
| Input level Low   | 0...0.7 VDC                 | Input level Low           | 0...0.7 VDC                  |
| Input level High  | 4...30 VDC                  | Input level High          | 3...5 VDC                    |
| Input resistance  | 100 kΩ                      | Input resistance          | 2.2 MΩ                       |

#### Dimensions

ISI30, ISI31, ISI32, ISI33



Front frame for screw/clip mount (included with delivery)

