

# 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 (approx. 8 years at 20 °C)
Display	LCD, 7-segment display
Display illumination	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
Approval	UL/cULus

#### ISI30

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

#### ISI31

Function	Counting with direction signal, Difference counter
Count modes	INP A and INP B (up/down) INP A - INP B
Control	NPN, PNP, Pulses 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 A 90° B phase evaluation x2
Control	NPN, PNP

#### Technical data - mechanical design

Ambient temperature	-10...+60 °C
Storage 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	Built-in housing
Housing colour	Deep grey, RAL 7021
Dimensions W x H x L	48 x 24 x 48 mm
Mounting depth	47.7 mm
Mounting	Clip frame or screw mount
Cutout dimensions	45 x 22.2 mm (+0.3)
Weight approx.	50 g

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#### Type table

##### ISI30 - Impulse counter

Without backlit With backlit	ISI30.010AA01 ISI30.010AB01	ISI30.012AA01 ISI30.012AB01	ISI30.013AA01 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 NPN, 7 kHz	Fast counting PNP, 12 kHz	Slow counting AC/DC, 30 Hz
Signal input INP B	Slow counting NPN or floating contact, 30 Hz	Slow counting PNP or floating contact, 30 Hz	External reset AC/DC, –
Operating mode	Adding or subtracting	Adding or subtracting	Adding

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

Without backlit With backlit	ISI31.010AA01 ISI31.010AB01	ISI31.011AA01 ISI31.011AB01	ISI31.013AA01 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 INP A - Counting input INP B - Direction signal Difference counting INP A - Adding INP B - Subtracting	Counting with direction signal INP A - Counting input INP B - Direction signal Difference counting INP A - Adding INP B - Subtracting	Difference counting INP A - Adding INP B - Subtracting

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

Without backlit With backlit	ISI32.013AA01 ISI32.013AB01	ISI33.010AA01 ISI33.010AB01	ISI33.011AA01 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 AC/DC, 30 Hz	Counting input 0° NPN, 3 kHz	Counting input 0° PNP, 6 kHz
Signal input INP B	Direction signal AC/DC, 30 Hz	Counting input 90° out of phase NPN, 3 kHz	Counting input 90° out of phase PNP, 6 kHz
Operating mode	Counting with direction signal	INP A 90° INP B x1 or INP A 90° INP B x2	INP A 90° INP B x1 or INP A 90° INP B x2

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##### Part number

ISI30.01 

	A		01
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- 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
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- 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
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- Display
  - A Not backlit
  - B Backlit
- Design
  - 3 AC/DC 30 Hz (Up/Down)

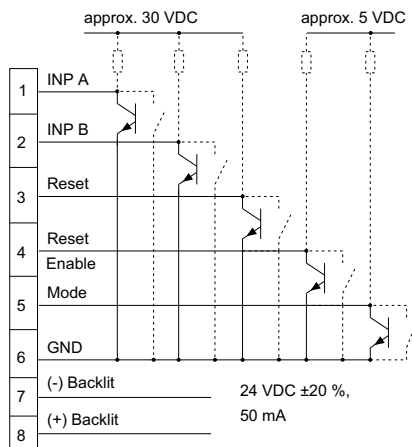
ISI33.01 

1	A		01
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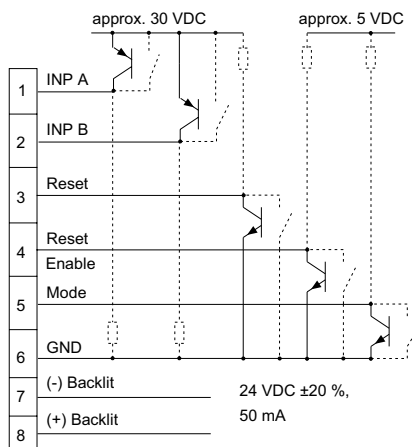
- Display
  - A Not backlit
  - B Backlit
- Design
  - 1 PNP 6 kHz (A 90° B)

##### Connection diagram

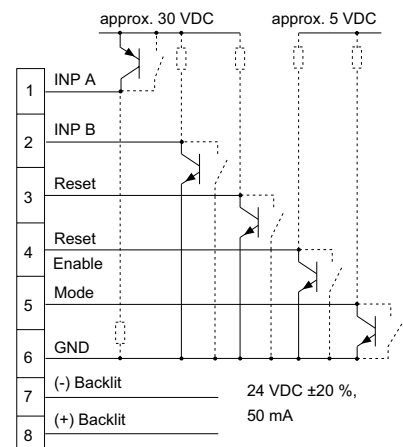
###### ISI30, ISI31, ISI33, DC, NPN



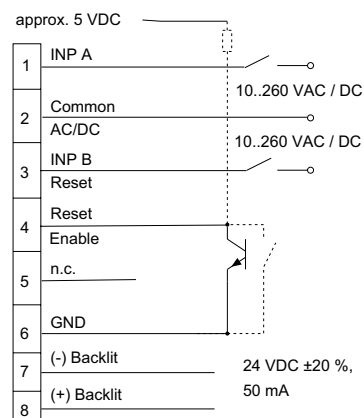
###### ISI31, ISI33, DC, PNP



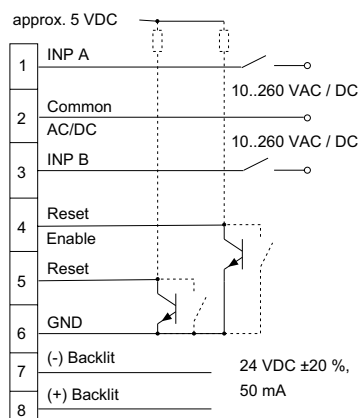
###### ISI30, DC, PNP



###### ISI30, AC/DC



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



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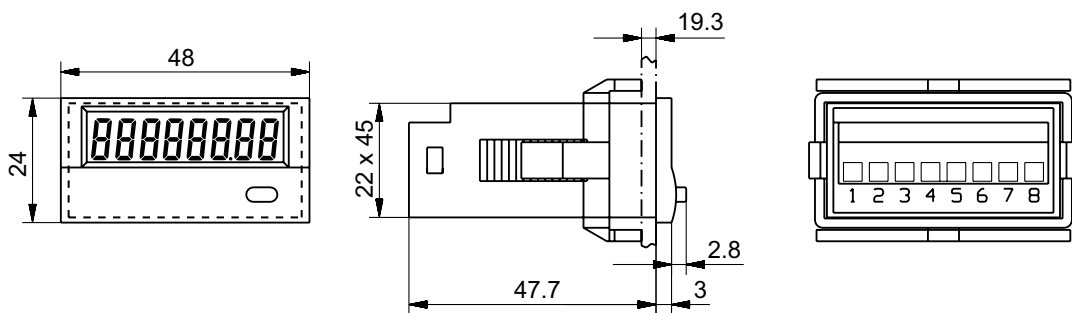
ISI30, ISI31, ISI32, ISI33

#### 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

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

