

# Counters

## 24 x 48 digital counters

### Types FKA



- 8 digit LCD display
- 8mm digits
- Reset button with locking function
- 8 years battery lifetime
- Up-down counting mode (through electrical control)
- For front panel mounting
- 24 x 48mm housing
- Filter function for bounce-free counting with mechanical contacts

### Product Description

24x48mm up to 2 inputs up-down counters for flush mounting. NPN, PNP or voltage inputs allow connection to any type of sensors or open collector output. The front key, which can be locked, allows fast and easy counting reset.

### Ordering Key

**FKA 01 A12 8 5 0**

Model \_\_\_\_\_  
 Input mode \_\_\_\_\_  
 Housing \_\_\_\_\_  
 Number of digit \_\_\_\_\_  
 Backlight 5= no  
 6= yes

Input type \_\_\_\_\_  
 Stock items: FKA01A12850  
 FKA01A12852  
 FKA01A12853

### Approvals



### Input Modes

Input Mode	Operating Mode	Counting Inputs					
		Input A			Input B		
01	Count	0...0.7VDC	NPN	7kHz	0...0.7VDC	NPN	30Hz
01		4...30VDC	PNP	12kHz	0...0.7VDC	NPN	
01		10... 260V	AC/DC	30Hz	10...260V	AC/DC	-
02	Count direction up/down	0...0.7VDC	NPN	7kHz	0...0.7VDC	NPN	7kHz
02		4...30VDC	PNP	12kHz	4...30VDC	PNP	12kHz
02	up / down	10... 260V	AC/DC	30Hz	10... 260V	AC/DC	30Hz
03	Count direction	10... 260V	AC/DC	30Hz	10... 260V	AC/DC	30Hz
04	Quad / Quad2	0...0.7VDC	NPN	3kHz	0...0.7VDC	NPN	3kHz
04		4... 30VDC	PNP	6kHz	4...30VDC	PNP	6kHz

### Input Type

Input Type	Input A			Input B		
	Value	Polarity	Max. Freq.	Value	Polarity	Max. Freq.
0	0...0.7VDC	NPN	7kHz	0...0.7VDC	NPN	30Hz
1 <sup>1</sup>	4...30VDC	PNP	12kHz	4...30VDC	PNP	12Hz
2 <sup>2</sup>	4...30VDC	PNP	12kHz	0...0.7VDC	NPN	30Hz
3	10...26VAC/DC	AC/DC	30Hz	10...260VAC/DC	AC/DC	Reset

1: Only used for input mode 02 and 04  
 2: Only used for input mode 01

## DC Input Operating Modes

<b>Count</b>	Input A Input B	Fast counting input Slow counting input
<b>Counting direction</b>	Input A Input B	Counting input Counting direction input
<b>Up/Down</b>	Input A Input B	Adding counting input Subtracting counting input
<b>Quad</b> (phase discriminator)	Input A Input B	0° counting input 90° counting input
<b>Quad</b> (phase discriminator with pulse doubling)	Input A Input B	0° counting input 90° counting input

## AC Input Operating Modes

<b>Count</b>	Input A Input B	AC/DC counting input AC/DC reset input
<b>Counting direction</b>	Input A Input B	Counting direction input Counting input
<b>Up/Down</b> (phase discriminator)	Input A  Input B	AC/DC subtracting counting input AC/DC adding counting input

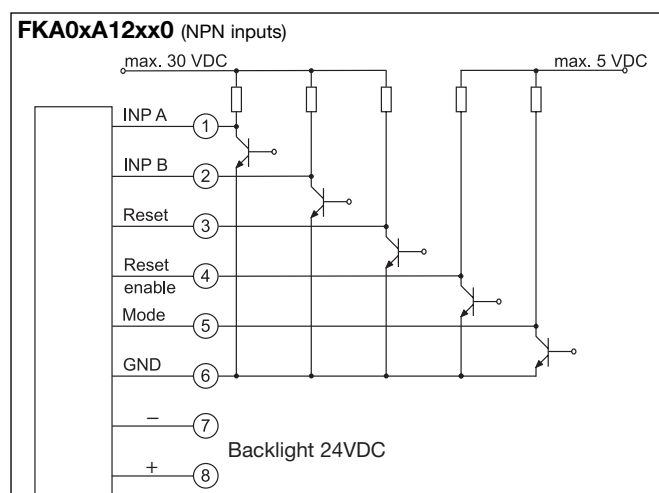
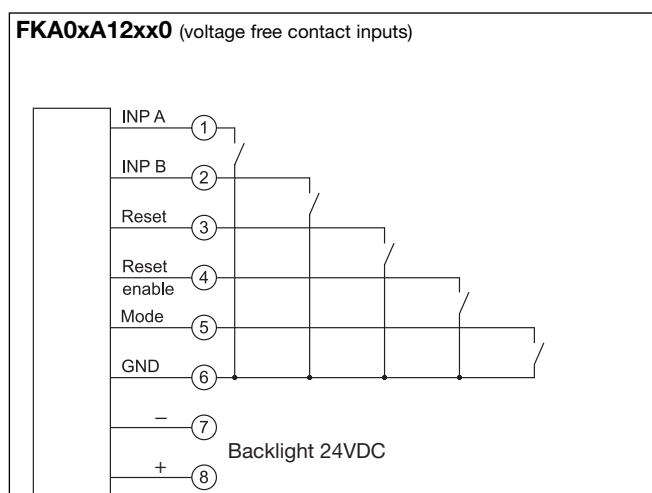
## General Specifications

<b>Power supply</b>	Non-replaceable lithium battery (lifetime up to 8 years at 20°C)
<b>Display</b>	-9999999 to 99999999 with overflow display
<b>Housing</b>	24x48mm (0.94"x1.89") (acc. to DIN43700)
<b>Colour</b>	RAL 7021
<b>Backlight consumption</b>	24VDC ±50mA
<b>Weight</b>	50g (1.76oz)
<b>Screw terminals</b>	
Tightening torque	Max 0.5Nm acc. to IEC EN 60947
<b>Connection wires</b>	0.4...2.3mm single wire AWG28...AWG12
<b>Environment</b> (acc. to EN 60529)	
Degree of protection	IP 65 front
Pollution degree	2
Operating temperature	-10...+55°C (14...131°F), R.H.<85%
Storage temperature	-20...+70°C (-4...158°F)
<b>Low voltage directive</b> (Input type 3 only)	Overvoltage category II contamination cat. 2 (acc. to EN 61010 Part 1)
<b>EMC</b> Electromagnetic compatibility	
emitted:	Acc. to EN55011 class B
immunity:	Acc. to EN61000-6-2

## Package Content

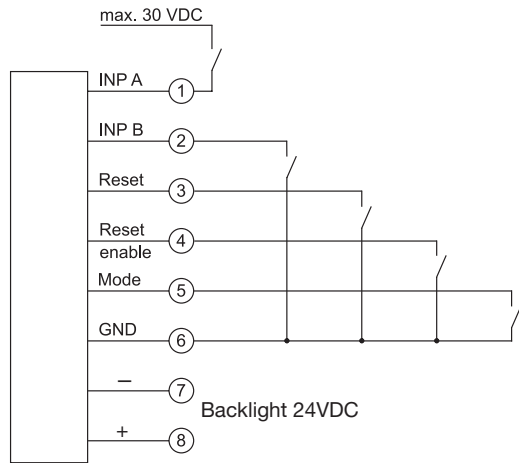
1	Instrument FKA
1	Panel mounting clip
1	Bezel for screw mounting (56x40mm/2.205x1.575"), panel cut-out (50x25mm/1.969x0.984)
1	Bezel for clip mounting (53x28mm/2.087x1.103"), panel cut-out (50x25mm/1.969x0.984)
1	Seal
1	Multilingual operating manual

## Wiring Diagram

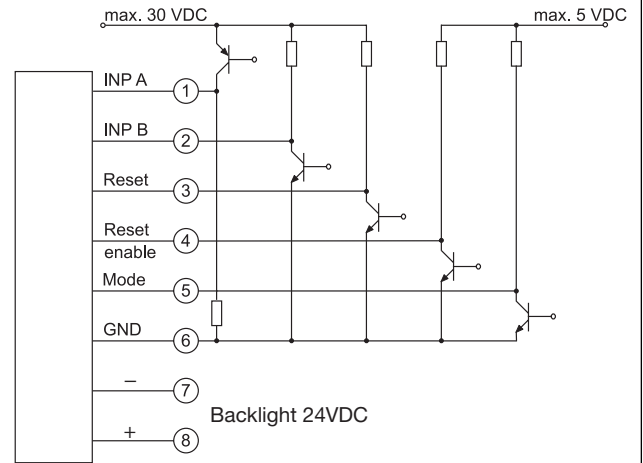


## Wiring Diagram (cont.)

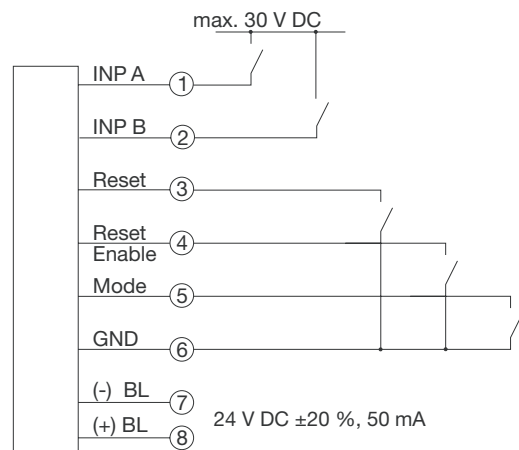
**FKA01A12xx2** (voltage free contact inputs, except for INP A)



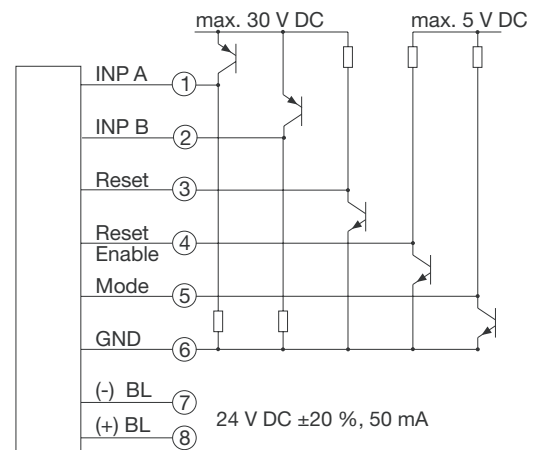
**FKA01A12xx2** (NPN inputs, except for INP A (PNP))



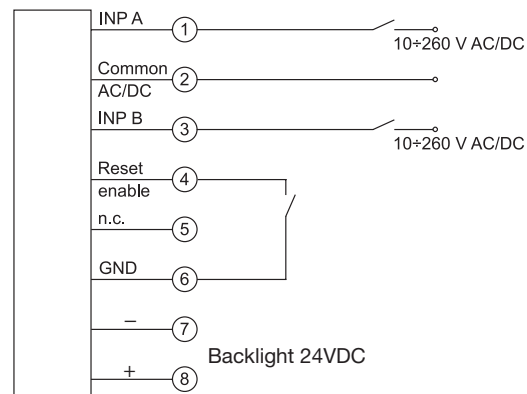
**FKA02A12xx1 + FKA04A12xx1**



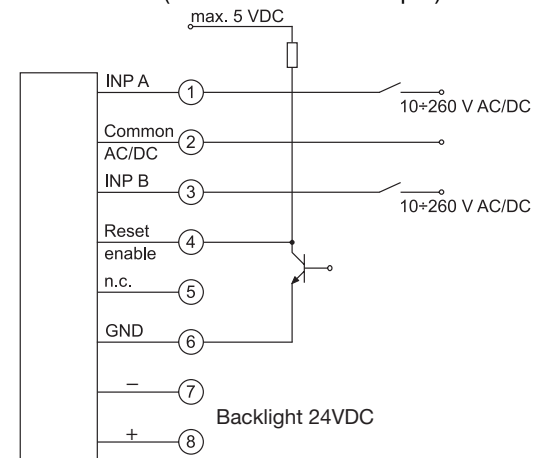
**FKA02A12xx1 + FKA04A12xx1**



**FKA01A12xx3** (Reset enable: voltage free contact input)

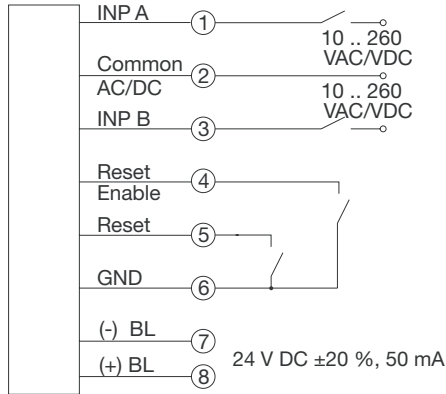


**FKA01A12xx3** (Reset enable: NPN input)



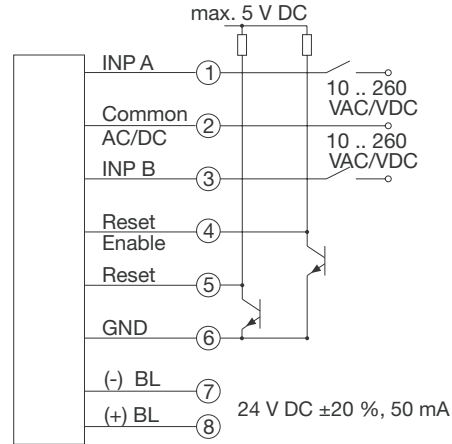
## Wiring Diagram (cont.)

**FKA02A12xx3 + FKA03A12xx3**



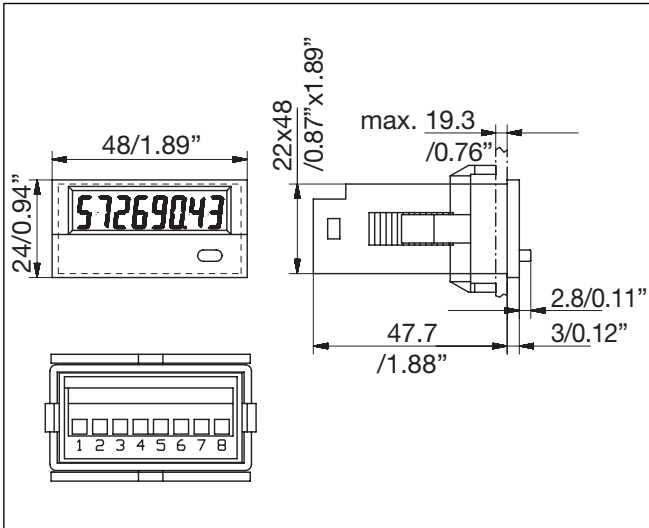
BL = backlight

**FKA02A12xx3 + FKA03A12xx3**



BL = backlight

## Dimensions (mm/inches)



## Dimensions for Bezels (mm/inches)

