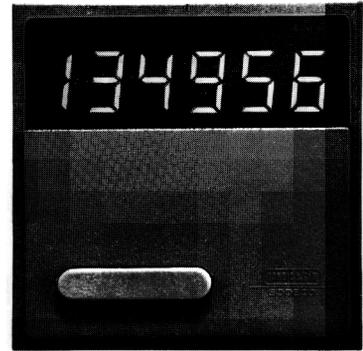


Electronic totalizing counters CKG



- The possibilities offered by the mask-programmed microprocessor enable various functions to be specified or altered by the operator.
- The following functions can be selected by the reset key: (The bold typeface denotes the standard versions)
 - **with** (on) or without (off) manual zero-resetting,
 - counting frequency of up to a max. of **50** or 1000 pulses per second,
 - **without** or with LED-decimal point (choice of 4 positions)
 For details see 'Programming', page 15.
- Choice of the input mode or mode of pulse generator by wire bridges.
- On request: Electric resetting active at High (> 16 V or > 10 V) instead of Low (< 3 V).

Technical data

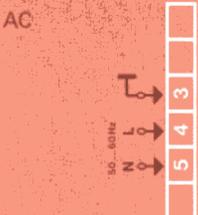
General data

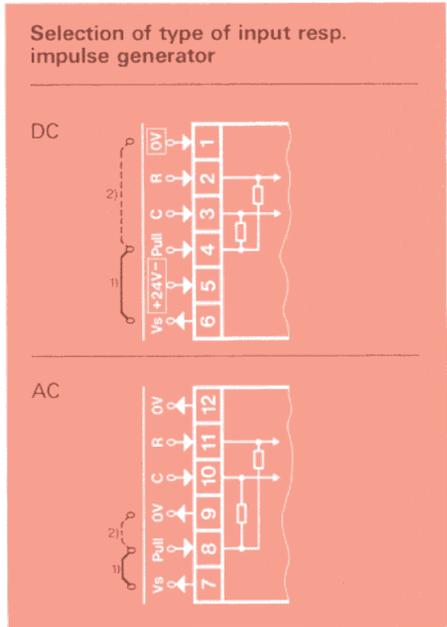
Count	
Counting capacity	999,999 (exceeding the counting capacity is indicated by the illumination of the pre-zeros)
Counting direction	up
Counting frequency max.	50i/s or 1000i/s (For details, see 'Programming', page 15)
Display	
	LED 7-segment display, red, 9 x 4.5 mm, with pre-zero suppression, without or with fixed LED-decimal point .9, .99, .999, .9999 (For details, see 'Programming', page 15)
Reset	
	to zero; manual and electrical or electrical only (For details, see 'Programming', page 15) special: with safety pushbutton (requires the use of a pointed object, eg. a pencil)
Data storage	
	In the event of an interruption to voltage supply, an internal, electronic, retentive memory (EAROM) stores the counter reading without the need for an auxiliary supply. Duration of storage: min. 12 months at up to +50°C
Mounting	
	flush-mounting, fixing with clamping spring or front frame and screws, in any mounting position (see dimension drawings page 27)
Connections	
	screw terminals (M3, for wires from min. 0.75 mm ² to max. 2 x 1.5 mm ²) in combination with tags (2.8 x 0.8 mm) for push-on connectors or soldering
Immunity to interference	
	2.5 kV at inputs and outputs, in conformity with IEC 255-4, test procedure E5, class III
Ambient temperature	
	operation: -10°C to +50°C. In store: -25°C to +65°C
Climatic conditions	
	climate G in conformity with DIN 40040
Vibration strength	
	operational reliability 2g; mechanical strength 2g; in conformity with IEC 68-2-6, test FC in 3 planes at 10...500Hz
Protection class (front)	
	IP40 in conformity with DIN 40050 (IP54 resp. IP65 see 'Protection accessories', page 28)
Weight	
	170g (DC) resp. 350g (AC)

Electrical data

Main supply	
Supply voltage	DC: 24VDC; residual ripple max. 5%; voltage tolerance -15% / +10% AC: 24VAC, 48VAC, 110VAC, 220...240VAC; 50/60Hz; voltage tolerance -15% / +10%
Power consumption	
	approx. 3.5W (DC) resp. 6VA (AC)
Insulation voltage	
	1.5kVAC (24...48VAC) resp. 2.5kVAC (110...240VAC) across the main supply and input connections in conformity with VDE 435
Protective measures	
Surge voltage strength	1kV 1/50µs (DC) resp. 5kV 1/50µs (AC) in conformity with IEC, publication 60
Polarity reversal	
	integrated diode (pole reversal-resistant)
Over-voltages	
	short-circuit protected by integrated fuse-links (AC)
Earth connection	
	recommended protective measures

Main supply connection diagrams





Jumper 1): Pull-up (state as supplied)
 Jumper 2): Pull-down (jumper to be moved).
Important: Input R must either be driven or connected to Vs in order to bring reset to its rest position.
 The type selected applies to inputs C and R.

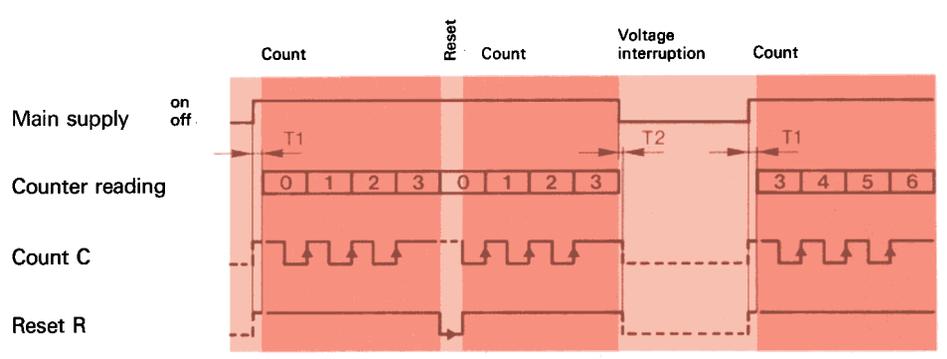


Inputs (count and reset)

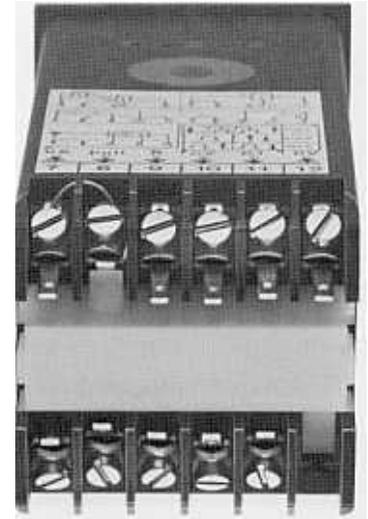
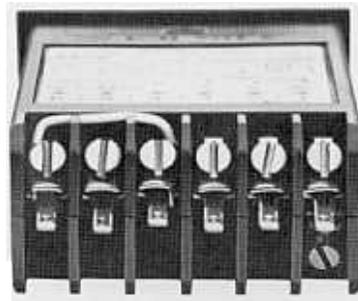
Impulse generator types contacts, all types of electronic sensors, voltage pulses.
 By means of a jumper at the back of the counter it is possible to define the type of input (pull-up or pull-down) and thus the type of impulse generator (see diagram opposite)

Impulse data	Count 50i/s	1000i/s	Reset
	Impulse length	min. 10ms	min. 10ms
	Impulse interval	min. 10ms	min. 10ms
Input voltage	see 'Input data summary', page 14		
Input resistance	2.2kΩ (DC) resp. 4.7kΩ (AC)		
Protective measures			
Input filtering	RC-filter. Schmitt-trigger with 5V (DC) resp. 2.5V (AC) hysteresis		
Over-voltages	integrated diodes		
Interference	see 'Immunity to interference' under 'General data'		
Sensor supply	voltage Vs DC: 23VDC (-15%/+20%) AC: 12VDC (-10%/+5%) current max. 25mA SAIA® Proximity Switches of voltage ranges 'G' (NPN/PNP, 3-wire) and 'N' (NAMUR, 2-wire) are compatible with the CKG inputs. The sensor supply is sufficient for 2 proximity switches (eg. count and reset). See also page 31.		
Connection diagrams	see 'Input data summary', page 14		

Function diagram



Delay times T
 T1 max. 700 ms delay between switching on main supply and the counter ready-to-operate state.
 T2 max. 500 ms delay between switching off main supply and termination of the counter ready-to-operate state (count or reset impulses are accepted).
 No count impulses are taken into account during the reset impulse or the period of actuation of the pushbutton 'R'.



Input data summary

Type of input	Impulse generator	Input voltage		Input signal (pulse)		Input connection diagrams		
		DC version	AC version	Count	Reset	DC	AC	
Pull-up inputs C and R driven via OV jumper in supply position	Contact							
	NPN proximity switch NO ¹⁾ undamped NC ¹⁾ damped damped undamped							
Pull-down ¹⁾ inputs C and R driven via Vs jumper to be moved	Contact							
	PNP proximity switch NO ¹⁾ damped NC ¹⁾ undamped undamped damped							
	NAMUR proximity switch undamped damped							
	Voltage pulses ³⁾ ie. when using an external impulse generator supply							

¹⁾ Important: With input mode pull-down, input R must either be driven or connected to Vs in order to bring the reset to its rest state.
²⁾ Voltage supply must be maintained at input R for 500 ms in order that a voltage interruption does not cause reset.
³⁾ The impulse converter supplied as an accessory (order No. CJB20) is to be used to carry out trouble-free electrical resetting with a voltage pulse, or the special version «R active at High» can be used (on request).

CKG

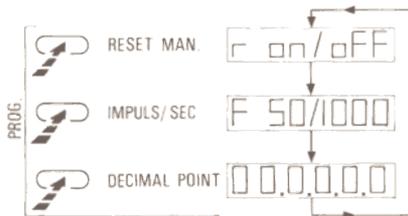
Ordering details

Programming

1. Call up the programming mode:
 - press reset key and keep it depressed
 - switch on mains supply
 - keep reset key depressed until «P» appears on the screen.



2. Determine or change the functions:
 - the functions are displayed alternately
 - and can be selected by pressing the key.



3. Leave the programming mode:
 - switch off the mains supply.



I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII	XIII	
C	K	G	3	6							0	N	0

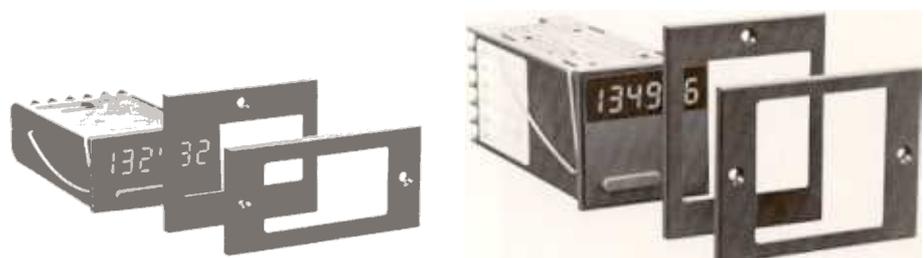
2 AC version (48 × 48 mm)
6 DC version (24 × 48 mm)

Supply voltage
M4 24 VDC
B4 24 VAC, 50/60 Hz
C1 48 VAC, 50/60 Hz
C8 110 VAC, 50/60 Hz
E1 220...240 VAC, 50/60 Hz

N manual standard-reset
A manual reset with safety pushbutton

Mounting (see page 27)
A fixing with front frame 60 × 75 mm (AC)
C fixing with front frame 50 × 60 mm (DC)
D fixing with front frame 37.5 × 75 mm (DC)
E fixing with clamping spring (AC and DC)

Note: The bold typeface denotes the standard versions.
 Ordering can be by means of the above ASN-code or in plain language.
Example: Electronic totalizing counter CKG
 24 VDC, fixing with clamping spring
 or
 CKG 366 M4 NONO E



Fixing by means of clamping spring or front frame and screws

Dimension drawings

Dimensions	CNG/CNT/CKG DC	CNP/CKG AC/CKP/CKH
Cut-out for flush-mounting applicable to both methods of fixing		
Fixing with clamping spring. The clamping spring is supplied with the counter when mounting 'E' is quoted in the ordering details.		
Fixing with front frame and 2 countersunk-head screws M3/90°. The front frame is supplied with the counter when the ordering details include mounting 'C', 'D' or 'A'.	<p data-bbox="406 1601 518 1624">Mounting 'C'</p> <p data-bbox="406 1881 518 1904">Mounting 'D'</p>	<p data-bbox="981 1601 1093 1624">Mounting 'A'</p>