



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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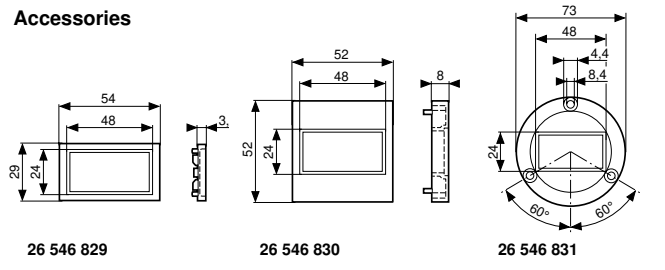
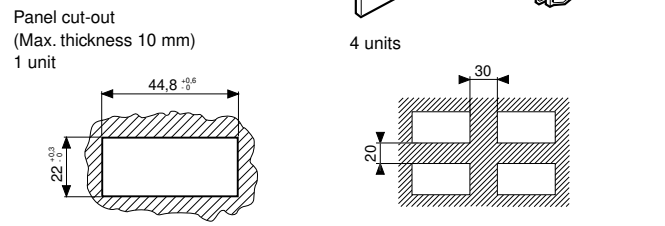
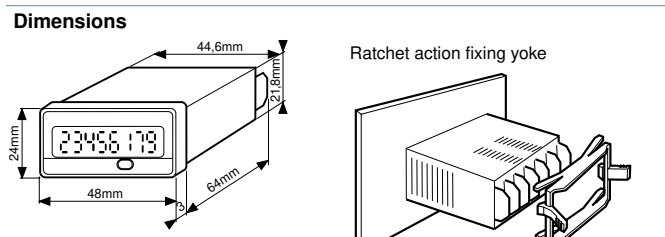
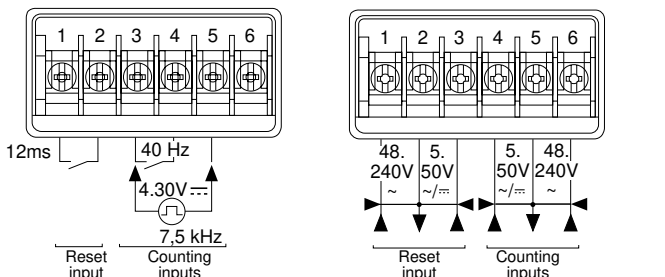
- Display : 8 digit LCD, 7 mm height
- Supply : alkaline batteries or lithium batteries
- Counting input : solid state (4-30 VDC) or voltage (up to 240 VAC)
- Dimensions DIN - 24 x 48 mm
- Reset to zero : front panel or external with inhibit facility
- Bezels 25 x 50, 45 x 45, Ø50



Characteristics		
Function		Impulse counter
Display		8 digit LCD
Height of digits		7 mm
Counting capacity		0 • 99,999,999
<b>Inputs</b>		
2231	1 input for slow counting signal from volt-free contact or NPN open-collector transistor (terminals 3 - 4)	•
	1 input for high-speed counting signal from voltage level (terminals 3 - 5)	4 - 30 V $\overline{\text{---}}$
	Low level	0 - 0.7 V $\overline{\text{---}}$
	High level	4 - 30 V $\overline{\text{---}}$
2232	1 input for slow counting 2 voltage levels terminals 4 - 5	•
		5 - 50 V $\sim$ / $\overline{\text{---}}$
	terminals 5 - 6	48 - 240 V $\sim$
<b>Reset</b>		
Front panel	Switch no.2 to OFF	Inhibited
	Switch no.2 to ON	Allowed
External	2231 Volt-free contact or open collector NPN transistor (terminals 1 - 2)	•
	2232 Voltage terminals 2 - 3 terminals 1 - 2	5 - 50 V $\sim$ / $\overline{\text{---}}$ 48 - 240 V $\sim$
The reset is galvanically isolated from the counting input		
<b>Counting speed</b>		
<b>Slow counting</b>		40 Hz
Minimum pulse time	Low level	12 ms
	High level	12 ms
<b>High-speed counting (2231)</b>		7.5 kHz max.
	Low level	70 $\mu$ s
	High level	70 $\mu$ s
Input levels		4 - 30 VDC
Input impedance		3.5 k $\Omega$ min.
<b>Supply</b>		
2 alkaline batteries - Life (years)		4
1 lithium battery - Life (years)		8
Supply can be switched off via dipswitch no.1 situated underneath the unit.		
<b>General specifications</b>		
Material		Self-extinguishing
Connection : by 6 screw terminals at rear of case		•
Terminal capacity		2 x 1.5 mm <sup>2</sup>
Fixing by yoke		•
Front panel protection		IP 66
Temperature limits	Use	- 10 + 55 °C
	Stored	- 20 + 70 °C
Insulation resistance (IEC 255.5)		100 M $\Omega$ (500 V $\overline{\text{---}}$ )
Dielectric strength (IEC 255.5)		2000 V / 50 HZ / 1 min.
Conformity to standards VDE 0110 - IEC 664 - IEC 348 - IEC 255.4 - IEC 255.5 - IEC 801.2 - IEC 801.4		
Weight	2231	60 g
	2232	65 g

Types	2231	2232
<b>Part numbers</b>		
Solid state input, lithium battery	87 610 040	
Voltage input, lithium battery		87 610 050
<b>Accessories</b>		
Adaptor for	25x50 mm (dimensions 29x54 mm)	26 546 829
panel cut-out	45x45 mm (dimensions 52x52 mm)	26 546 830
	Ø50 mm (dimensions Ø73 mm)	26 546 831

- Terminal markings**
- 2231**
- 1 - Reset input
  - 2 - 0V Reset
  - 3 - 0V Counting
  - 4 - Slow counting
  - 5 - High-speed counting
- 2232**
- 1 - Reset 48 to 240V  $\sim$
  - 2 - 0V Reset
  - 3 - Reset 5 to 50V  $\sim$  /  $\overline{\text{---}}$
  - 4 - 5 to 50 V  $\sim$   $\overline{\text{---}}$
  - 5 - 0V
  - 6 - 48 to 240 V  $\sim$




Other information	To order, specify :						
For connections see page 2/19	<table border="0"> <tr> <td style="background-color: #cccccc;">Standard products</td> <td><b>1</b> Part number</td> <td><b>2</b> Accessory</td> </tr> <tr> <td></td> <td colspan="2">Example : Totalizer/counter 87 610 040 - Adaptor 26 546 829</td> </tr> </table>	Standard products	<b>1</b> Part number	<b>2</b> Accessory		Example : Totalizer/counter 87 610 040 - Adaptor 26 546 829	
Standard products		<b>1</b> Part number	<b>2</b> Accessory				
	Example : Totalizer/counter 87 610 040 - Adaptor 26 546 829						
Alkaline battery versions available. Please consult us.							

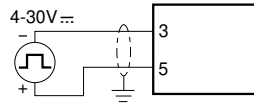
# Connections 2231/32 - 2213/14 - 2293/94

2231 - 2213 - 2293

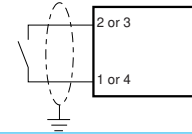
 High-speed counting input 2231

 Slow counting input or reset input - 2231  
Start-stop input or reset input - 2213  
Counting and general reset input - 2293

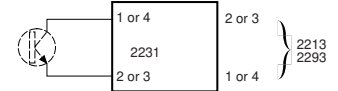
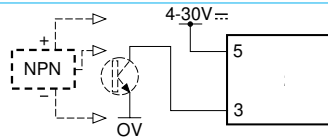
Voltage



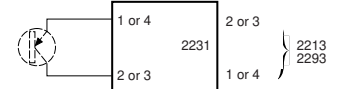
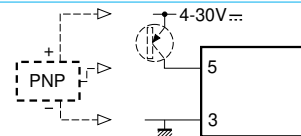
Volt-free contact



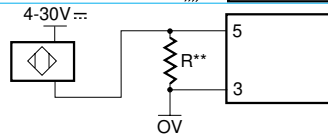
NPN transistor (2213-2293)  
NPN transistor or 3-wire NPN proximity switch\* (2231)



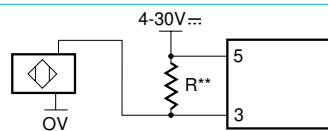
PNP transistor (2213-2293)  
PNP transistor or 3-wire PNP proximity switch\* (2231)



2-wire proximity switch




2-wire proximity switch

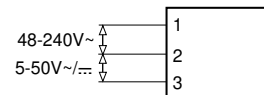
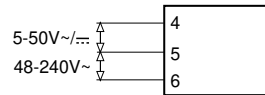


2232 - 2214 - 2294

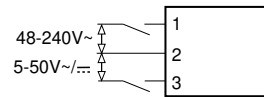
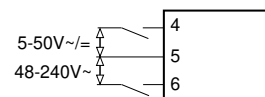
 Counting input 2232 - 2294  
Start/stop input 2214

 Reset 2232 - 2214 - 2294

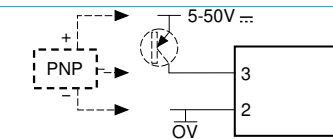
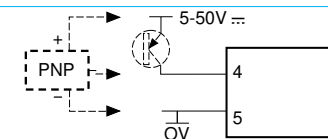
Voltage



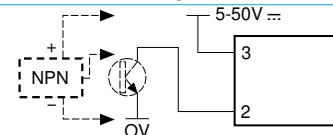
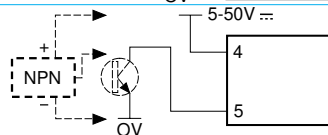
Live contact



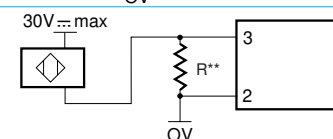
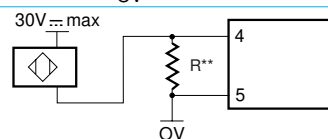
PNP transistor or 3-wire PNP proximity switch\*



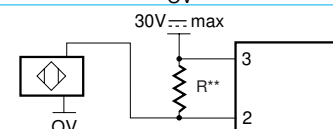
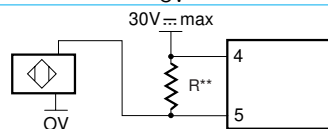
NPN transistor or 3-wire NPN proximity switch\*



2-wire proximity switch



2-wire proximity switch



\* For switch with leakage current  $\leq 0.1$  mA

\*\*  $R = 470 \Omega / 2 W$  for a 2-wire switch with leakage current  $\leq 1.5$  mA