

- 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



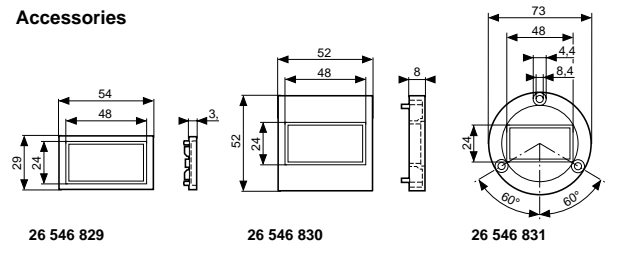
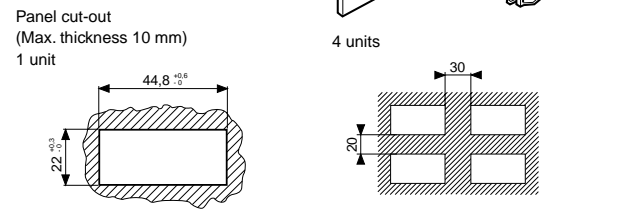
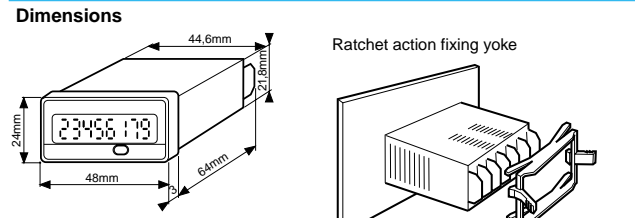
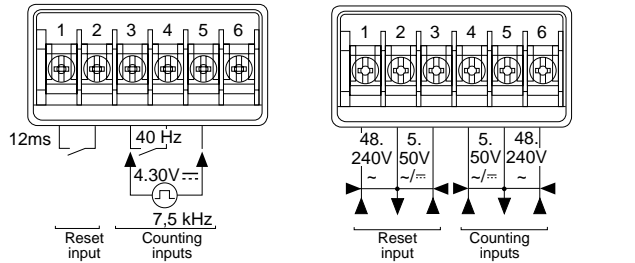
Characteristics		
Function	Impulse counter	
Display	8 digit LCD	
Height of digits	7 mm	
Counting capacity	0 • 99,999,999	
<b>Inputs</b>		
<b>2231</b>	1 input for slow counting signal from volt-free contact or NPN open-collector transistor (terminals 3 - 4)	•
	1 input for high-speed counting signal from voltage level (terminals 3 - 5)	4 - 30 V $\equiv$
	Low level	0 - 0.7 V $\equiv$
	High level	4 - 30 V $\equiv$
<b>2232</b>	1 input for slow counting 2 voltage levels terminals 4 - 5	•
	terminals 5 - 6	5 - 50 V $\sim$ / $\equiv$
	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 $\sim$ / $\equiv$ 48 - 240 V $\sim$
The reset is galvanically isolated from the counting input		•
<b>Counting speed</b>		
<b>Slow counting</b>		
Minimum pulse time	Low level 40 Hz High level 12 ms	
<b>High-speed counting (2231)</b>		
Low level	7.5 kHz max.	
High level	70 $\mu$ s	
Input levels	70 $\mu$ s	
Input impedance	4 - 30 VDC 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 Use limits	- 10 + 55 °C	
Stored	- 20 + 70 °C	
Insulation resistance (IEC 255.5)	100 M $\Omega$ (500 V $\equiv$ )	
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  $\sim$  /  $\equiv$   
 4 - 5 to 50V  $\sim$   $\equiv$   
 5 - 0V  
 6 - 48 to 240V  $\sim$



**Other information**

For connections see page 2/19

Alkaline battery versions available. Please consult us.

**To order, specify :**


Standard products


1 Part number  
 Example : Totalizer/counter 87 610 040 -  
 Adaptor 26 546 829

2 Accessory

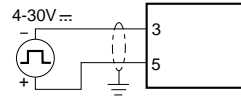
# Connections 2231/32 - 2213/14 - 2293/94

2231 - 2213 - 2293

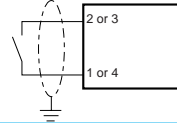
 High-speed counting input 2231

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

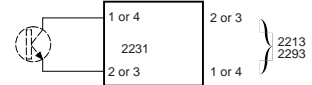
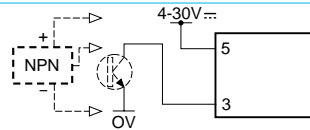
Voltage



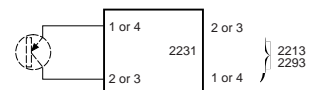
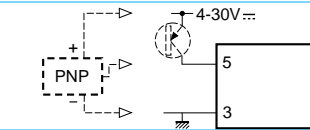
Volt-free contact



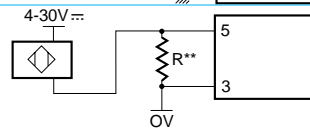
NPN transistor (2213-2293)  
NPN transistor or 3-wire NPN proximity switch\* (2231)



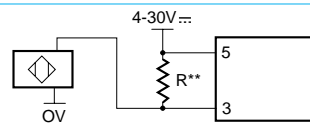
PNP transistor (2213-2293)  
PNP transistor or 3-wire PNP proximity switch\* (2231)




2-wire proximity switch




2-wire proximity switch

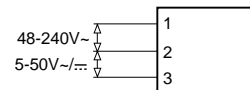
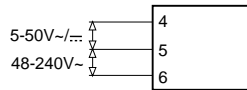


2232 - 2214 - 2294

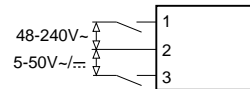
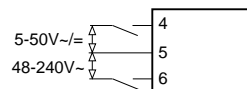
 Counting input 2232 - 2294  
Start/stop input 2214

 Reset 2232 - 2214 - 2294

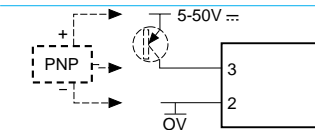
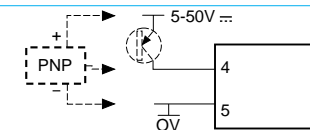
Voltage



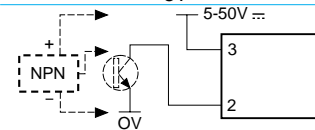
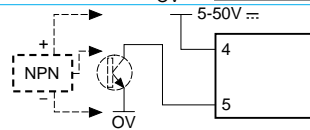
Live contact



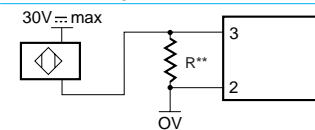
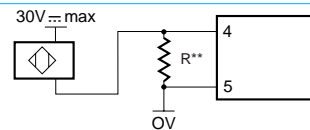
PNP transistor or 3-wire PNP proximity switch\*



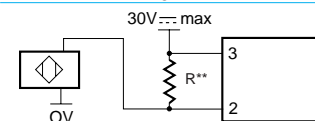
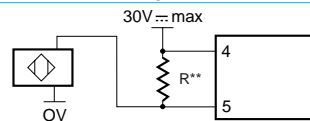
NPN transistor or 3-wire NPN proximity switch\*



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

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