

**Card SN Relay V23030**

- Low profile, therefore particularly suited for flat pack components grouping
- For relays with 1 or 2 form C (CO) contacts:
  - creepage and clearance distances between contacts and frame >5mm or >10mm (depending on the relay version)
  - dielectric strength between contacts and frame 4kV<sub>rms</sub> or 6kV<sub>rms</sub>

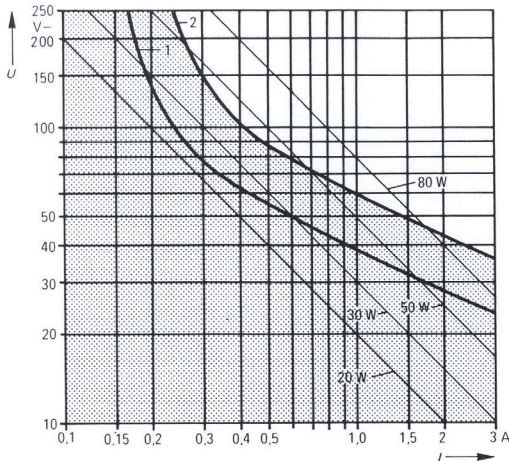
Typical applications  
measuring and control systems, alarm and security equipment, road traffic and railway signaling systems



Contact Data	A104	A106	A204	A206
Contact arrangement	4 form C, (4 CO)	6 form C, (6 CO)	4 form C, (4 CO)	6 form C, (6 CO)
Max. switching voltage	250VDC 250VAC	250VDC 250VAC	30VDC 36VAC	30VDC 36VAC
Limiting continuous current				
≤50°C ambient	2A	2A	2A	2A
≤75°C ambient	1A	1A	1A	1A
Limiting making/breaking current				
	3A <sup>1)</sup>	3A <sup>1)</sup>	0.2A	0.2A
Contact material	Ag, Au-flashed	Ag, Au-flashed	Gold F <sup>2)</sup>	Gold F <sup>2)</sup>
Contact style	bifurcated contacts			
Frequency of operation, without load	max. 30 operations/s			
Operate / release time approx.	8/2ms			

**Max. DC breaking capacity** (contacts Ag, gold flashed)

Curve 1: arc extinguished within contact transit period (limit curve I)  
Curve 2: safe breaking, arc extinguished (limit curve II)



**Electrical endurance**

Type	Load	Operations
Ag, gold-flashed	2.4A, 24VDC, resistive	appr. 1x10 <sup>6</sup>
Ag, gold-flashed	3A, 24VDC, resistive	appr. 0.3x10 <sup>6</sup>
Ag, gold-flashed	1.35A, 30VDC, resistive	appr. 6x10 <sup>6</sup>
Ag, gold-flashed	0.85A, 40VDC, resistive	appr. 2x10 <sup>7</sup>
Ag, gold-flashed	0.36A, 60VDC, resistive	appr. 8x10 <sup>7</sup>
Ag, gold-flashed	0.21A, 110VDC, resistive	appr. 10x10 <sup>7</sup>
Ag, gold-flashed	2.4A, 24VDC, resistive+100µH3)	appr. 1x10 <sup>6</sup>
Ag, gold-flashed	0.6A, 60VDC, resistive+100µH3)	appr. 10x10 <sup>6</sup>
Ag, gold-flashed	0.24A, 110VDC, resistive+100µH3)	40x10 <sup>6</sup>

**Contact Data** (continued)

Mechanical endurance	appr. 10 <sup>8</sup> operations
1) The current of 3 A for max 4s at 10% on-time.	
2) Gold F on request only	
3) Self inductance in accordance with IEC 255-0-20	

**Coil Data**

Magnetic system	neutral, monostable
Coil voltage range	5 to 60VDC
Max. coil temperature	110°C
Thermal resistance	35K/W

**Coil versions, monostable**

Coil code	Rated voltage VDC	Operate voltage VDC 4/6 pole	Limiting Voltage VDC	Coil resistance Ω±10% <sup>4)</sup>	Rated coil power mW
032	5	3.3/4.0	10.8	38	658
012	6	3.9/4.6	12.4	50	720
017	12	7.8/9.5	24.0	185	778
021	24	15.5/18.5	47.0	730	789
026	48	32/37	88.0	2700 <sup>4)</sup>	853
014	60	38/45	109.0	4100 <sup>4)</sup>	878

4) Coil resistance ±15%

All figures are given for coil without pre-energization, at ambient temperature +23°C

The operating voltage limits U<sub>I</sub> and U<sub>II</sub> depend on temperature according to the following formula:

$$U_{I \text{ t amb}} = k_I * U_I 20^\circ\text{C}, U_{II \text{ t amb}} = k_{II} * U_{II} 20^\circ\text{C}; t_{\text{amb}} = \text{ambient temperature,}$$

U<sub>I t amb</sub> = minimum voltage at ambient temperature,

U<sub>II t amb</sub> = maximum voltage at ambient temperature, k<sub>I</sub> and k<sub>II</sub> are factors.

t <sub>amb</sub>	20°C	30°C	40°C	50°C	60°C	70°C
k <sub>I</sub>	1	1.04	1.085	1.13	1.17	1.21
k <sub>II</sub>	1	0.93	0.86	0.79	0.7	0.6

**Insulation Data**

Initial dielectric strength	
between coil and frame	500V <sub>rms</sub>
between contact and contact	1000V <sub>rms</sub>
between contact and frame	1000V <sub>rms</sub>
between contact and coil	1000V <sub>rms</sub>

**Card SN Relay V23030** (Continued)

**Other Data**

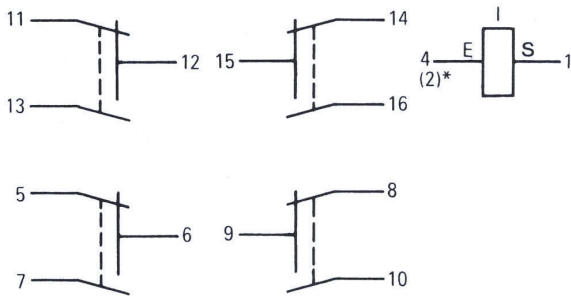
Material compliance: EU RoHS/ELV, China RoHS, REACH, Halogen content refer to the Product Compliance Support Center at [www.te.com/customersupport/rohssupportcenter](http://www.te.com/customersupport/rohssupportcenter)

Ambient temperature	-40 to +70°C
Category of environmental protection IEC 61810	RT I - dust protected, RT III - immersion cleanable
Degree of protection, IEC 60529	IP30, IP67
Terminal type	PCB-THT
Weight	
V23030-Axxx	approx. 12g
V23030-Cxxx	approx. 30g
V23030-Hxxx	approx. 25g
V23030-Jxxx	approx. 30g
Ultrasonic cleaning	not recommended
Packaging unit	5 pcs.

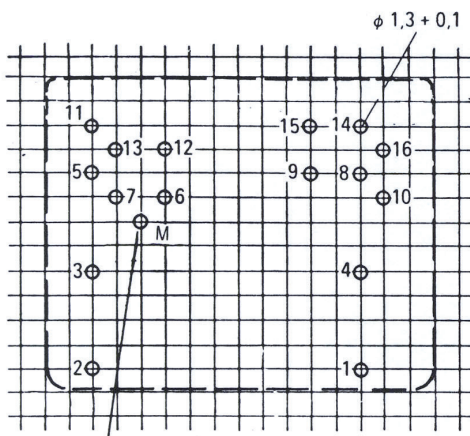
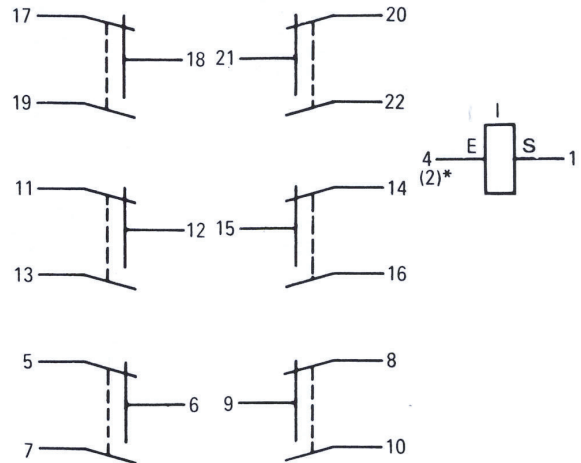
**PCB layout / terminal assignment**

Bottom view on solder pins

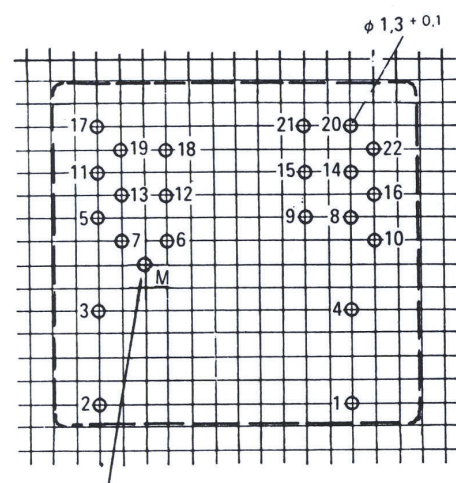
4 form C (4 CO) contacts  
V23030-Axxxx-xx04  
V23030-Hxxxx-xx04



6 form C (6 CO) contacts  
V23030-Axxxx-xx04  
V23030-Hxxxx-xx04



Hole M required only for relays with earth connection.

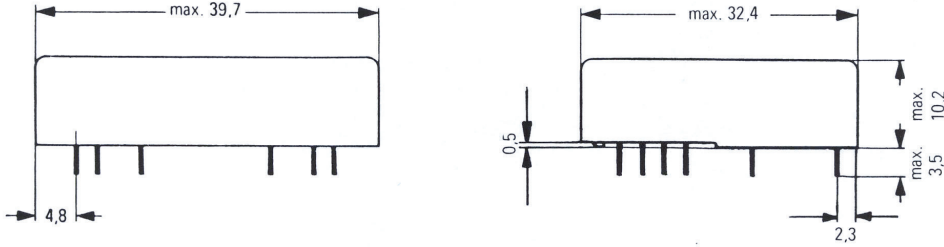


Hole M required only for relays with earth connection.

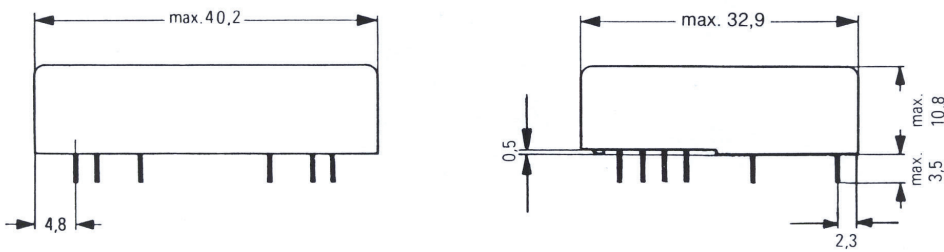
**Card SN Relay V23030** (Continued)

**Dimensions**

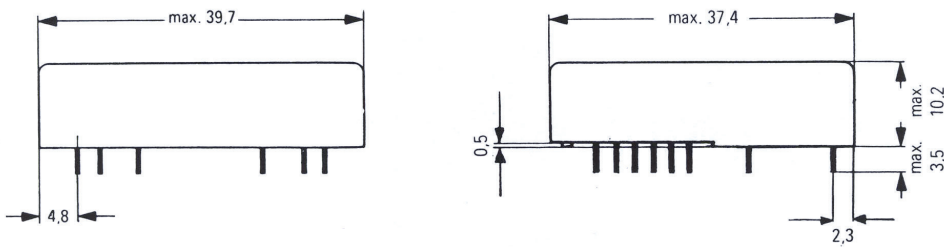
V23030-Axxx, 4 form C (4 CO) contacts, dust protected



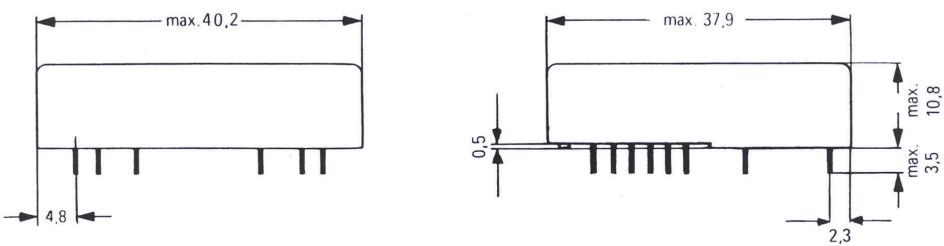
V23030-Hxxx, 4 form C (4 CO) contacts, immersion cleanable



V23030-Cxxx, 6 form C (6 CO) contacts, dust protected



V23030-Jxxx, 6 form C (6 CO) contacts, immersion cleanable



**Card SN Relay V23030** (Continued)

<b>Product code structure</b>		Typical product code	<b>V23030</b>	<b>-A</b>	<b>1</b>	<b>021</b>	<b>-A1</b>	<b>04</b>
<b>Type</b>		Card SN Relay						
<b>Contact arrangement</b>		<b>A</b> 4 form C, 4 CO, dust proof <b>C</b> 6 form C, 6 CO, dust proof <b>H</b> 4 form C, 4 CO, immersion cleanable <b>J</b> 6 form C, 6 CO, immersion cleanable						
<b>Earth connection</b>		<b>1</b> Without earth connection <b>2</b> With earth connection						
<b>Coils</b>		Coil code: please refer to coil versions table						
<b>Contact material</b>		<b>A1</b> Silver, gold flashed <b>A2</b> Gold F						
<b>Contact arrangement</b>		<b>04</b> 4 form C, 4 CO <b>06</b> 6 form C, 6 CO						

Other types on request

Product code	Version	Coil	Arrangement	Enclosure	Part number
<b>V23030-A1xxx, 4 pole, without earth connection, dust protected</b>					
V23030-A1017-A104	4 pole, without earth conn.	12VDC	4 form C (4 CO)	Dust protected	3-1393801-6
V23030-A1021-A104	4 pole, without earth conn.	24VDC	4 form C (4 CO)	Dust protected	3-1393801-8
V23030-A1026-A104	4 pole, without earth conn.	48VDC	4 form C (4 CO)	Dust protected	4-1393801-1
<b>V23030-A2xxx, 4 pole, with earth connection, dust protected</b>					
V23030-A2012-A104	4 pole, with earth conn.	6VDC	4 form C (4 CO)	Dust protected	4-1393801-4
V23030-A2017-A104	4 pole, with earth conn.	12VDC	4 form C (4 CO)	Dust protected	4-1393801-8
V23030-A2017-A204	4 pole, with earth conn.	12VDC	4 form C (4 CO)	Dust protected	4-1393801-9
V23030-A2021-A104	4 pole, with earth conn.	24VDC	4 form C (4 CO)	Dust protected	5-1393801-0
V23030-A2026-A104	4 pole, with earth conn.	48VDC	4 form C (4 CO)	Dust protected	5-1393801-2
V23030-A2014-A104	4 pole, with earth conn.	60VDC	4 form C (4 CO)	Dust protected	4-1393801-6
<b>V23030-C1xxx, 6 pole, without earth connection, dust protected</b>					
V23030-C1017-A104	6 pole, without earth conn.	12VDC	6 form C (6 CO)	Dust protected	6-1393801-2
V23030-C1021-A104	6 pole, without earth conn.	24VDC	6 form C (6 CO)	Dust protected	6-1393801-3
V23030-C1021-A204	6 pole, without earth conn.	24VDC	6 form C (6 CO)	Dust protected	6-1393801-4
V23030-C1026-A104	6 pole, without earth conn.	48VDC	6 form C (6 CO)	Dust protected	6-1393801-7
<b>V23030-C2xxx, 6 pole, with earth connection, dust protected</b>					
V23030-C2012-A104	6 pole, with earth conn.	6VDC	6 form C (6 CO)	Dust protected	6-1393801-9
V23030-C2017-A104	6 pole, with earth conn.	12VDC	6 form C (6 CO)	Dust protected	7-1393801-1
V23030-C2017-A204	6 pole, with earth conn.	12VDC	6 form C (6 CO)	Dust protected	7-1393801-2
V23030-C2021-A104	6 pole, with earth conn.	24VDC	6 form C (6 CO)	Dust protected	7-1393801-3
V23030-C2014-A104	6 pole, with earth conn.	60VDC	6 form C (6 CO)	Dust protected	7-1393801-0