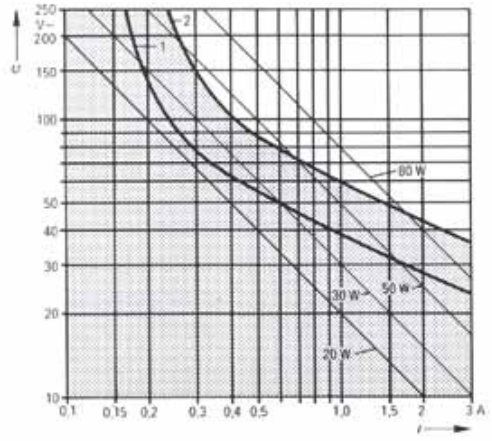
Card SN Relay V23030

- **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$_{rms}$ or 6kV$_{rms}$**
- **PTB certificate for safe electrical separation between intrinsically safe and not intrinsically safe circuit**

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[1)]	3A[1)]	0.2A	0.2A
Contact material	Ag, Au-flashed	Ag, Au-flashed	Gold F[2)]	Gold F[2)]
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, erc extinguished (limit curve II)

Electrical endurance

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

Contact Data (continued)

Mechanical endurance	aaprox. 10^8 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 4/6 pole VDC	Limiting Voltage VDC	Coil resistance Ω±10%[4)]	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[4)]	853
014	60	38/45	109.0	4100[4)]	878

4) Coil resistance ±15%

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

The operating voltage limits U_I and U_{II} depend on temperature according to the following formula:
$U_{I\,tamb} = k_I * U_I$ 20°C, $U_{II\,tu} = k_{II} * U_{II}$ 20°C; t_{amb} = ambient temperature,
$U_{I\,tamb}$ = minimum voltage at ambient temperature,
$U_{II\,tamb}$ = maximum voltage at ambient temperature, k_I and k_{II} are factors.

t_{amb}	20°C	30°C	40°C	50°C	60°C	70°C
k_I	1	1.04	1.085	1.13	1.17	1.21
k_{II}	1	0.93	0.86	0.79	0.7	0.6

Insulation Data

Initial dielectric strength	
between coil and frame	500V$_{rms}$
between contact and contact	1000V$_{rms}$
between contact and frame	1000V$_{rms}$
between contact and coil	1000V$_{rms}$

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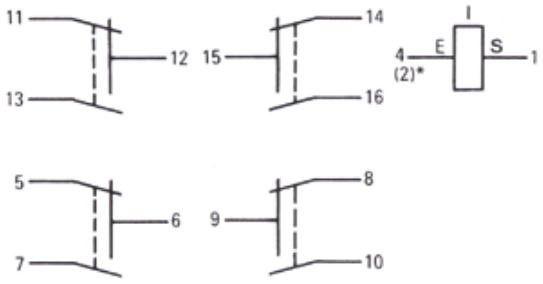
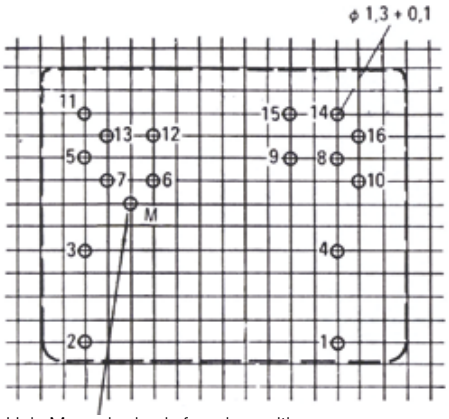
Other Data	
Material compliance: EU RoHS/ELV, China RoHS, REACH, Halogen content refer to the Product Compliance Support Center at www.tycoelectronics.com/customersupport/rohssupportcenter	
Ambient temperature	-40 to +70°C
Category of environmental protection	
IEC 61810	RT I - dust protected, RT III - 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

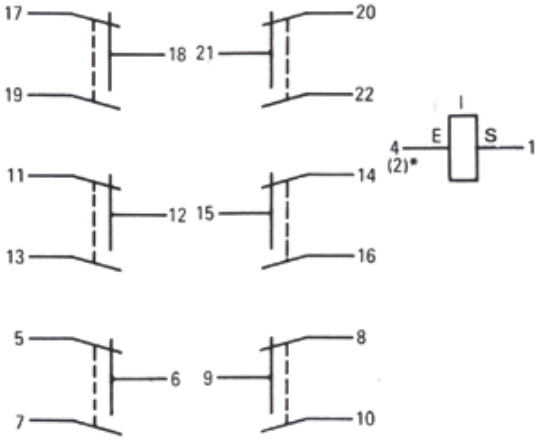
4 form C (4 CO) contacts
V23030-Axxxx-xx04
V23030-Hxxxx-xx04

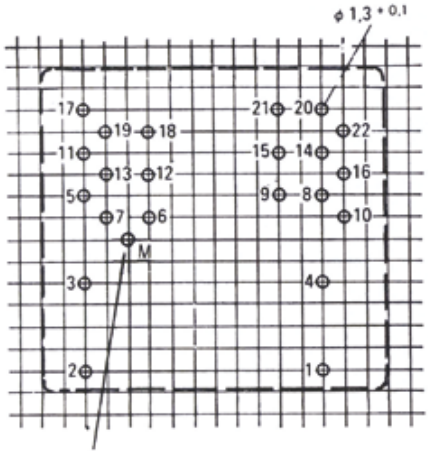




Hole M required only for relays with earth connection.

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





Hole M required only for relays with earth connection.

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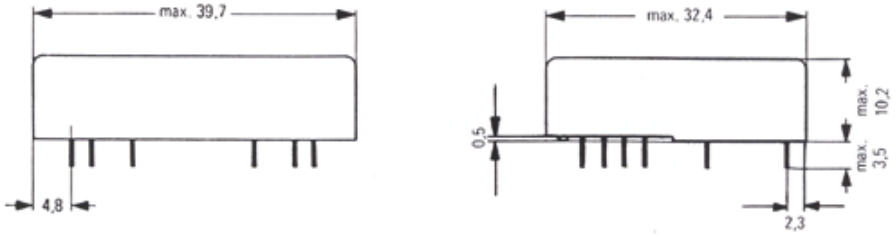
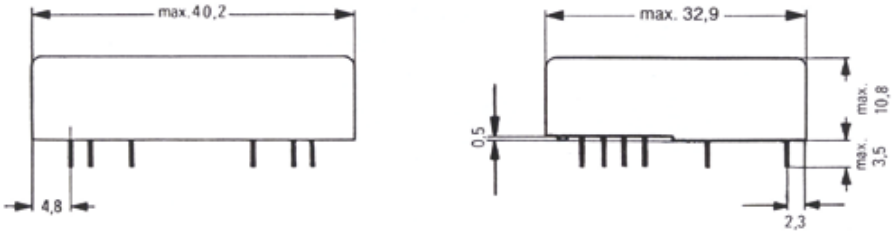
Card SN Relay V23030 (Continued)

Dimensions

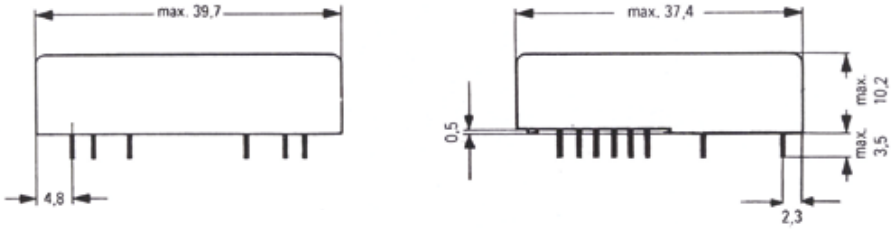
V23030-Axxx, 4 form C (4 CO) contacts, dust protected



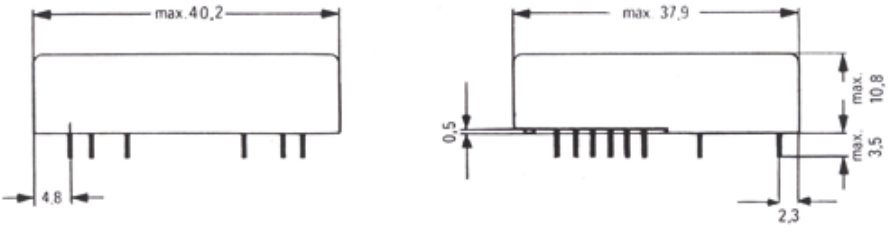
V23030-Hxxx, 4 form C (4 CO) contacts, immersion cleanable



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



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



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Card SN Relay V23030 (Continued)

Product code structure Typical product code **V23030 -A 1 021 -A1 04**

Type
V23030 Card SN Relay

Contact arrangement
A 4 form C, 4 CO, dust proof
C 6 form C, 6 CO, dust proof
H 4 form C, 4 CO, immersion cleanable
J 6 form C, 6 CO, immersion cleanable

Earth connection
1 Without earth connection
2 With earth connection

Coils
Coil code: please refer to coil versions table

Contact material
A1 Silver, gold flashed **A2** Gold F

Contact arrangement
04 4 form C, 4 CO **06** 6 form C, 6 CO

Other types on request

Product code	Version	Coil	Arrangement	Enclosure	Part number
V23030-A1xxx, 4 pole, without earth connection, dust protected					
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
V23030-A2xxx, 4 pole, with earth connection, dust protected					
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
V23030-C1xxx, 6 pole, without earth connection, dust protected					
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
V23030-C2xxx, 6 pole, with earth connection, dust protected					
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

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