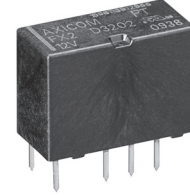


**FX2 Relay**

- Slim line 15x7.3mm (.590x.287")
- 2 form C bifurcated contacts (2 CO), switching current 2A
- High sensitivity for low power consumption, 80mW/140mW
- High dielectric characteristic, up to 2100Vrms between open contact
- High surge capability (1.2/50µs and 10/700µs) meets Telcordia GR 1089 and FCC Part 68, up to 2900V between open contacts, up to 6000V between coil and contacts
- High mechanical shock, up to 1500g survival
- Hermetically sealed (RT V)



Typical applications

Communications equipment, linecard application - analog, ISDN, xDSL, PABX, voice over IP, office and business equipment, measurement and control equipment, consumer electronics, set top boxes, HiFi, medical equipment



**Approvals**

UL 508 File No. E 111441  
Technical data of approved types on request

**Contact Data**

Contact arrangement	2 form C (CO)
Max. switching voltage	220VDC, 250VAC
Rated current	2A
Limiting continuous current	2A
Switching power	60W, 62.5VA
Contact material	PdRu, Au covered
Contact style	bifurcated contacts
Min. recommended contact load	100µV/1µA
Initial contact resistance	<70mΩ
Thermoelectric potential	<10µV
Operate time	typ. 3ms, max. 4ms
Release time	
without diode in parallel	typ. 1ms, max. 3ms
with diode in parallel	typ. 3ms, max. 4ms
Set/reset time min.	20ms
Bounce time max.	typ. 1ms, max. 5ms
Electrical endurance	
at contact application 0 (≤ 30mV / ≤ 10mA)	min. 2.5x10 <sup>6</sup> operations
cable load open end resistive, 24V / 1.25A - 30W	min. 2.0x10 <sup>6</sup> operations
resistive, 30VDC / 2A - 60W	min. 5x10 <sup>5</sup> operations
resistive, 125VDC / 0.24A - 30W	min. 5x10 <sup>5</sup> operations
UL contact rating	
30VDC, 2A, 60W	
125VDC, 0.5A, 62.5W	
120VDC, 1.25A, 150W	
Mechanical endurance	100x10 <sup>6</sup> operations

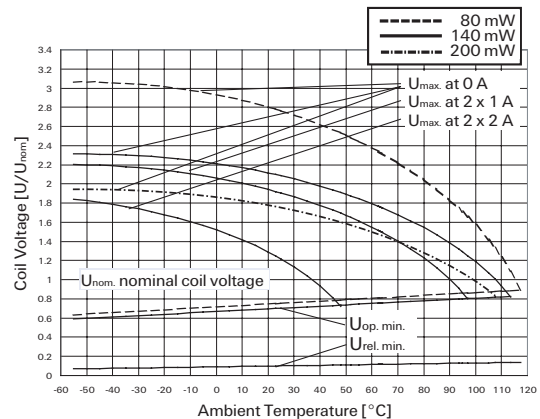
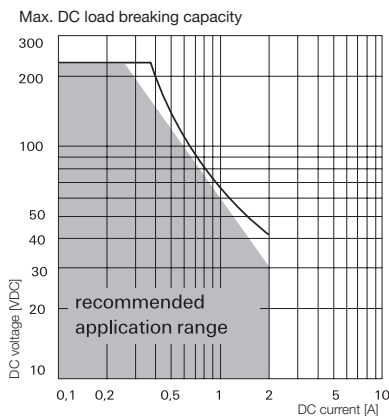
**Coil Data**

Magnetic system	polarized, monostable, bistable
Coil voltage range	3 to 48VDC
Max. coil temperature	125°C.
Thermal resistance	<165K/W

**Coil versions, monostable**

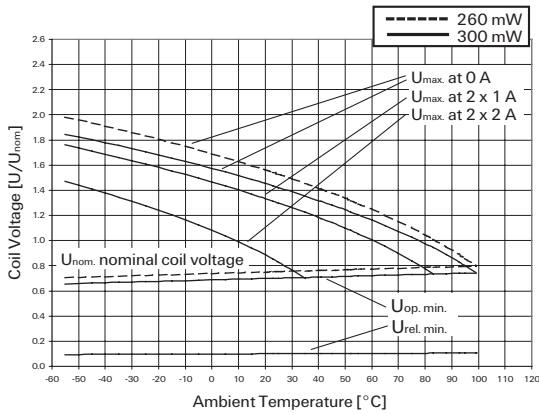
Coil code	Rated voltage VDC	Operate voltage VDC	Limiting voltage VDC	Release voltage VDC	Coil resistance Ω±10%	Rated coil power mW
<b>Standard version, monostable, 1 coil</b>						
06	3	2.10	6.30	0.30	64	140
07	4	2.80	8.40	0.40	114	140
04	4.5	3.15	9.40	0.45	145	140
09	5	3.50	10.50	0.50	178	140
05	6	4.20	12.60	0.60	257	140
10	9	6.30	18.90	0.90	574	140
02	12	8.40	25.20	1.20	1028	140
12	24	16.80	42.20	2.40	2880	200
13	48	33.60	68.90	4.80	7680	300
<b>High sensitive version, monostable, 1 coil</b>						
21	3	2.10	8.30	0.30	113	80
22	4.5	3.15	11.10	0.45	253	80
23	5	3.50	12.50	0.50	313	80
24	6	4.20	13.90	0.60	450	80
25	9	6.30	16.70	0.90	1013	80
26	12	8.40	33.40	1.20	1800	80
27	24	16.80	50.40	2.40	4114	140
28	48	36.00	70.00	4.80	8882	260
<b>High dielectric version, monostable, 1 coil</b>						
91	3	2.25	6.3	0.30	45	200
92	4.5	3.15	9.45	0.45	101	200
96	12	8.40	25.2	1.20	720	200

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



**FX2 Relay** (Continued)

**Coil Data** (continued)



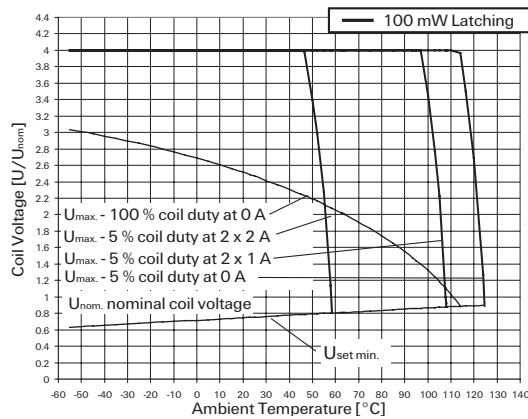
**Coil versions, bistable 1 coil**

Coil code	Rated voltage VDC	Set voltage VDC	Limiting voltage VDC	Reset voltage VDC	Coil resistance $\Omega \pm 10\%$	Rated coil power mW
<b>Standard, bistable 1 coil</b>						
41	3	2.25	7.50	-2.25	90	100
42	4.5	3.38	11.20	-3.38	203	100
43	5	3.75	12.40	-3.75	250	100
44	6	4.50	14.90	-4.50	360	100
45	9	6.75	22.40	-6.75	810	100
46	12	9.00	29.80	-9.00	1440	100
47	24	18.00	48.70	-18.00	3840	150

**High dielectric version, bistable 1 coil**

62	4.5	3.15	11.20	-3.15	203	100
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All figures are given for coil without pre-energization, at ambient temperature +23°C.



Other coil voltages on request.

$U_{max}$  upper limit of the operative range of the coil voltage (limiting voltage) when coils are continuously energized

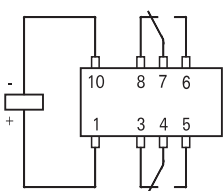
$U_{op.min}$  lower limit of the operative range of the coil voltage (reliable operate voltage)

$U_{rel.min}$  lower limit of the operative range of the coil voltage (reliable release voltage)

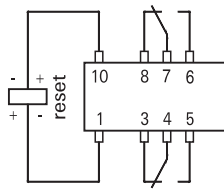
**Terminal assignment**

TOP view on component side of PCB

Monostable



Bistable, 1 coil



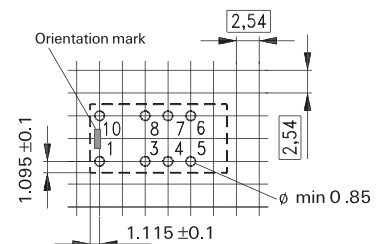
Contacts are shown in reset condition.

Both coils can be used as either set or reset coils.

Contact position might change during transportation and must be reset before use.

**PCB layout**

TOP view on component side of PCB



**Insulation**

	standard	high dielectric
Initial dielectric strength		
between open contacts	1800V <sub>rms</sub>	2100V <sub>rms</sub>
between contact and coil	1800V <sub>rms</sub>	4000V <sub>rms</sub>
between adjacent contacts	1800V <sub>rms</sub>	2100V <sub>rms</sub>
Initial surge withstand voltage		
between open contacts	2500V	2900V
between contact and coil	3500V	6000V
between adjacent contacts	2500V	2900V
Initial insulation resistance		
between insulated elements	>10 <sup>9</sup> Ω	>10 <sup>9</sup> Ω
Capacitance		
between open contacts		max. 4pF
between contact and coil		max. 2pF
between adjacent contacts		max. 2pF
Cross talk at 100MHz/900MHz		-34.0dB/-15.1dB
Insertion loss at 100MHz/900MHz		0.03dB/0.60dB
Voltage standing wave ratio (VSWR) at 100MHz/900MHz		1.07/1.45

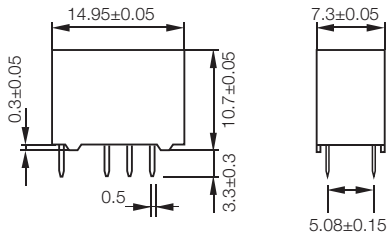
**Other Data**

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

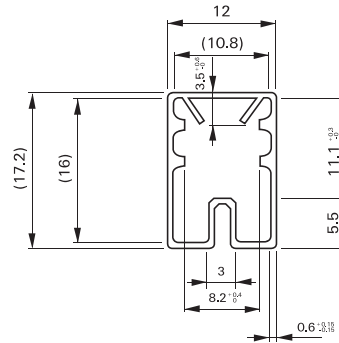
Ambient temperature	-40°C to +85°C
Category of environmental protection	IEC 61810
Degree of protection, IEC 60529	IP 67, immersion cleanable
Vibration resistance (functional)	20g, 10 to 500Hz
Shock resistance (functional), half sinus 11ms	50g
Shock resistance (destructive), half sinus 0.5ms	1500g
Weight	max. 2.5g
Resistance to soldering heat THT	IEC 60068-2-20
	265°C/10s
Ultrasonic cleaning	not recommended
Packaging/unit	tube/50 pcs., box/1000 pcs.

**FX2 Relay** (Continued)

**Dimensions**



**Packing**



**Product code structure**

Typical product code **D32 04**

**Type**

**D32** Signal Relays FX2  
2 form C, 2 CO

**Coil**

- Coil code: please refer to coil versions table  
Performance and coil type
- 0x, 1x** Standard version, monostable
  - 2x** High sensitive version, monostable
  - 4x** Standard version bistable
  - 9x** High dielectric version, monostable
  - 6x** High dielectric version, bistable

Product code	Arrangement	Perf. type	Coil type	Coil	Part number			
D3206	2 form C (2 CO)	Standard	Monostable	3VDC	1462034-6			
D3207				4VDC	1462034-8			
D3204				4.5VDC	1462034-2			
D3209				5VDC	1462034-9			
D3205				6VDC	1462034-5			
D3210				9VDC	1-1462034-3			
D3202				12VDC	1462034-1			
D3212				24VDC	1-1462034-4			
D3213				48VDC	1-1462034-5			
D3221				2 form C (2 CO)	High sensitive	Monostable	3VDC	1-1462034-9
D3222	4.5VDC	2-1462034-0						
D3223	5VDC	2-1462034-1						
D3225	9VDC	2-1462034-3						
D3226	12VDC	2-1462034-4						
D3227	24VDC	2-1462034-5						
D3228	48VDC	2-1462034-6						
D3241	2 form C (2 CO)	Standard	Bistable				3VDC	2-1462034-8
D3242				4.5VDC	2-1462034-9			
D3243				5VDC	3-1462034-0			
D3246				12VDC	3-1462034-3			
D3247				24VDC	3-1462034-4			
D3291				2 form C (2 CO)	High dielectric	Monostable	3VDC	6-1462034-6
D3292							4.5VDC	6-1462034-8
D3296	12VDC	6-1462034-7						
D3262	4.5VDC	6-1462034-3						

This list represents the most common types and does not show all variants covered by this data sheet.  
Other types on request