

**IM Relay**

- Slim line 10x6mm, low profile 5.65mm and min. board-space 60mm<sup>2</sup>
- Switching current 2/5A, switching power 60W/62.5VA and switching voltage 220VDC/250VAC
- Low coil power consumption, 140mW standard, 100mW for high sensitive version, 50mW for ultra high sensitive version and 100mW for bistable version
- High dielectric and surge capability up to 2500Vrms between open contacts and 2500Vrms between coil and contacts
- High mechanical shock resistance up to 50g functional

Typical applications

Telecommunication, access and transmission equipment, optical network terminals, modems, office and business equipment, consumer electronics, measurement and test equipment, industrial control, medical equipment, automotive applications

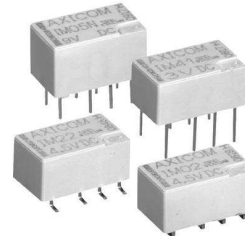
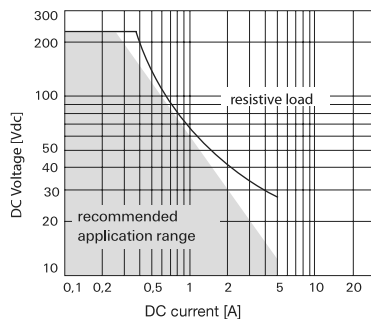
**Approvals**

UL 508 File No. E 111441

Technical data of approved types on request

Contact Data	standard, C	D	P
	standard and high dielectric version	high current version	high contact stability version
Contact arrangement	2 form C, 2 CO		
Max. switching voltage	220VDC, 250VAC	220VDC, 250VAC	220VDC, 250VAC
Rated current	2A	5A	2A
Limiting continuous current	2A	5A	2A
Switching power	60W, 62.5VA		
Contact material	PdRu +Au covered	AgNi +Au covered	PdRu +Au covered
Contact style	twin contacts		
Minimum switching voltage	100µV		
Initial contact resistance	<50mΩ at 10mA/30mV		
Thermoelectric potential	<10µV		
Operate time	typ. 1ms, max. 3ms		
Release time	typ. 1ms, max. 3ms		
without diode in parallel	typ. 3ms, max. 5ms		
with diode in parallel	typ. 1ms, max. 5ms		
Bounce time max.	typ. 1ms, max. 5ms		

**Max. DC load breaking capacity**



IM



**Contact Data (continued)**

Electrical endurance at contact application 0 (≤30mV/≤10mA)	min. 2.5x10 <sup>6</sup> operations
cable load open end	min. 2.0x10 <sup>6</sup> operations
resistive, 125VDC / 0.24A - 30W	min. 5x10 <sup>5</sup> operations
resistive, 220 VDC / 0.27A - 60W	min. 1x10 <sup>5</sup> operations
resistive, 250VAC / 0.25A - 62.5VA	min. 1x10 <sup>5</sup> operations
resistive, 30VDC / 1A - 30W	min. 5x10 <sup>5</sup> operations
resistive, 30VDC / 2A - 60W	min. 1x10 <sup>5</sup> operations
UL contact rating	30VDC, 2A, 60W, NO only
	110VDC, 0.3A, 33W
	220VDC, 0.27A, 60W
	125VAC, 0.5A, 62.5W
	250VAC, 0.25A, 62.5W
Mechanical endurance	10 <sup>8</sup> operations

**Coil Data**

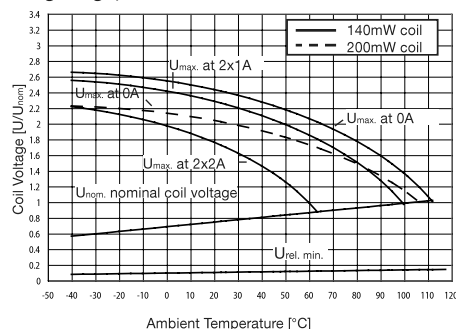
Magnetic system	monostable, bistable
Coil voltage range	1.5 to 24VDC

**Coil versions, standard version, monostable, 1 coil**

Coil code	Rated voltage VDC	Operate voltage VDC	Release voltage VDC	Coil resistance Ω±10%	Rated coil power mW
00	1.5	1.13	0.15	16	140
08	2.4	1.80	0.24	41	140
01	3	2.25	0.30	64	140
02	4.5	3.38	0.45	145	140
03	5	3.75	0.50	178	140
04	6	4.50	0.60	257	140
05	9	6.75	0.90	579	140
06	12	9.00	1.20	1029	140
07	24	18.00	2.40	2880	200

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

**Coil operating range, standard version**



**IM Relay (Continued)**

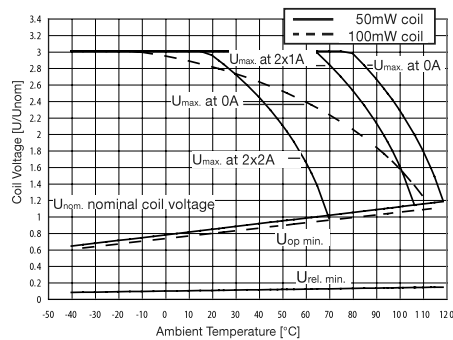
**Coil Data (continued)**

Coil versions, sensitive version, monostable, 1 coil					
Coil code	Rated voltage VDC	Operate voltage VDC	Release voltage VDC	Coil resistance $\Omega_{\pm 10\%}$	Rated coil power mW
11	3	2.40	0.30	91	100
12	4.5	3.60	0.45	194	100
13	5	4.00	0.50	234	100
16	12	9.60	1.20	1315	110
17	24	19.20	2.40	4120	140

Coil versions, ultra high sensitive version, monostable, 1 coil					
Coil code	Rated voltage VDC	Operate voltage VDC	Release voltage VDC	Coil resistance $\Omega_{\pm 10\%}$	Rated coil power mW
21	3	2.55	0.30	180	50
22	4.5	3.83	0.45	405	50
23	5	4.25	0.50	500	50
26	12	10.20	1.20	2880	50

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

**Coil operating range, sensitive and ultra high sensitive coil**

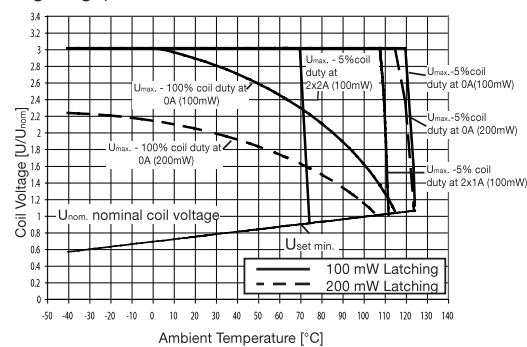


**Coil versions, standard, bistable 1 coil**

Coil code	Rated voltage VDC	Set voltage VDC	Reset voltage VDC	Coil resistance $\Omega_{\pm 10\%}$	Rated coil power mW
40	1.5	1.13	-1.13	23	100
48	2.4	1.80	-1.80	58	100
41	3	2.25	-2.25	90	100
42	4.5	3.38	-3.38	203	100
43	5	3.75	-3.75	250	100
44	6	4.50	-4.50	360	100
45	9	6.75	-6.75	810	100
46	12	9.00	-9.00	1440	100
47	24	18.00	-18.00	2880	200

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

**Coil operating range, bistable 1 coil**



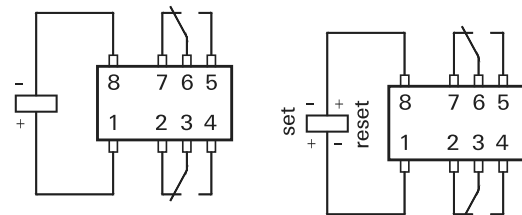
Insulation Data	standard	C	D,P
	standard, sensitive, ultra high sensitive version	high dielectric version	high current, high contact stability version
Initial dielectric strength			
between open contacts	1000V <sub>rms</sub>	1500V <sub>rms</sub>	750V <sub>rms</sub>
between contact and coil	1800V <sub>rms</sub>	1800V <sub>rms</sub>	1500V <sub>rms</sub>
between adjacent contacts	1000V <sub>rms</sub>	1800V <sub>rms</sub>	750V <sub>rms</sub>
Initial surge withstand voltage			
between open contacts	1500V	2500V	1000V
between contact and coil	2500V	2500V	2000V
between adjacent contacts	1500V	2500V	1000V
Initial insulation resistance			
between insulated elements	>10 <sup>9</sup> Ω	>10 <sup>9</sup> Ω	>10 <sup>9</sup> Ω
Capacitance			
between open contacts		max. 1pF	
between contact and coil		max. 2pF	
between adjacent contacts		max. 2pF	

RF Data	
Isolation at 100MHz/900MHz	37.0dB/18.8dB
Insertion loss at 100MHz/900MHz	0.03dB/0.33dB
Voltage standing wave ratio (VSWR) at 100MHz/900MHz	1.06/1.49

Other Data	
Material compliance:	EU RoHS/ELV, China RoHS, REACH, Halogen content refer to the Product Compliance Support Center at <a href="http://www.te.com/customer-support/rohssupportcenter">www.te.com/customer-support/rohssupportcenter</a>
Ambient temperature	-40°C to +85°C
Thermal resistance	<150K/W
Category of environmental protection	IEC 61810 RT V - hermetically sealed
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	500g
Mounting position	any
Weight	max. 0.75g
Resistance to soldering heat THT	Peak value
IEC 60068-2-20	265°C/10s
Resistance to soldering heat SMT	
IEC 60068-2-58	265°C/10s
Moisture sensitive level, JEDEC J-Std-020D	MSL3
related only to SMT relays	
packed in original dry-packs	

Ultrasonic cleaning	not recommended
Packaging/unit	
THT version	tube/50pcs., box/1000 pcs.
SMT version	reel/1000 pcs., box/1000 or 5000 pcs.

Terminal assignment	
TOP view on relay	
Monostable version	
rest condition	
Bistable version, 1 coil	
reset condition	



Contacts are shown in reset condition. Contact position might change during transportation and must be reset before use.