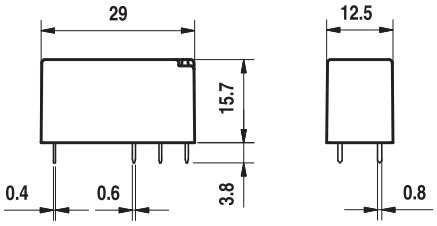
Features

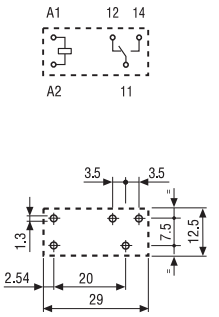
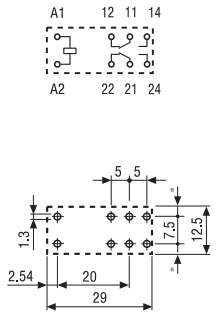
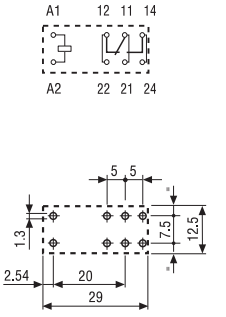
1 & 2 Pole - Low profile (15.7 mm height)
41.31 - 1 Pole 12 A (3.5 mm pin pitch)
41.52 - 2 Pole 8 A (5 mm pin pitch)
41.61 - 1 Pole 16 A (5 mm pin pitch)

PCB mount
- direct or via PCB socket
35 mm rail mount
- via screw and screwless sockets

- DC coils - 400 mW
- 8 mm, 6 kV (1.2/50 µs) isolation, coil-contacts
- Cadmium Free contact materials
- Flux proof: RT II standard, (RT III option)

NEW 41.31	NEW 41.52	NEW 41.61
		
• 3.5 mm contact pin pitch • 1 Pole 12 A • PCB direct or via socket	• 5 mm contact pin pitch • 2 Pole 8 A • PCB direct or via socket	• 5 mm contact pin pitch • 1 Pole 16 A • PCB direct or via socket



41.31	41.52	41.61
		
Copper side view	Copper side view	Copper side view

For UL Horsepower and Pilot Duty ratings
See "General technical information" page V

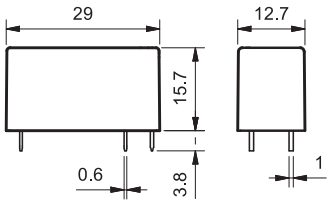
Contact specification				
Contact configuration		1 CO (SPDT)	2 CO (DPDT)	1 CO (SPDT)
Rated current/Maximum peak current	A	12/25	8/15	16/30
Rated voltage/Maximum switching voltage	V AC	250/400	250/400	250/400
Rated load AC1	VA	3,000	2,000	4,000
Rated load AC15 (230 V AC)	VA	600	400	750
Single phase motor rating (230 V AC)	kW	0.5	0.3	0.5
Breaking capacity DC1: 30/110/220 V	A	12/0.3/0.12	8/0.3/0.12	16/0.3/0.12
Minimum switching load	mW (V/mA)	300 (5/5)	300 (5/5)	300 (5/5)
Standard contact material		AgNi	AgNi	AgNi
Coil specification				
Nominal voltage (U_N)	V AC (50/60 Hz)	–	–	–
	V DC	12 - 24 - 48 - 60 - 110	12 - 24 - 48 - 60 - 110	12 - 24 - 48 - 60 - 110
Rated power AC/DC	VA (50 Hz)/W	–/0.4	–/0.4	–/0.4
Operating range	AC	–	–	–
	DC	$(0.7...1.5)U_N$	$(0.7...1.5)U_N$	$(0.7...1.5)U_N$
Holding voltage	AC/DC	$-/0.4U_N$	$-/0.4\ U_N$	$-/0.4\ U_N$
Must drop-out voltage	AC/DC	$-/0.1U_N$	$-/0.1\ U_N$	$-/0.1\ U_N$
Technical data				
Mechanical life AC/DC	cycles	$-/30{\cdot}10^6$	$-/30{\cdot}10^6$	$-/30{\cdot}10^6$
Electrical life at rated load AC1	cycles	$150 \cdot 10^3$	$80 \cdot 10^3$	$70 \cdot 10^3$
Operate/release time	ms	5/4	5/4	5/4
Insulation between coil and contacts (1.2/50 µs)	kV	6 (8 mm)	6 (8 mm)	6 (8 mm)
Dielectric strength between open contacts	V AC	1,000	1,000	1,000
Ambient temperature range	°C	–40...+85	–40...+85	–40...+85
Environmental protection		RT II	RT II	RT II
Approvals (according to type)				

Features

Solid State Relays

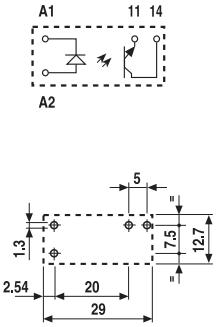
Printed circuit mount:
- direct or via PCB socket
35 mm rail mount:
- via screw or screwless sockets

- Single circuit output switching options
  - 5 A 24 V DC
  - 3 A 240 V AC
- Silent, high speed switching with long electrical life
- Low profile (15.7 mm)
- Wash tight: RT III
- 2,500 V insulation, input-output



NEW 41.81 - 9024

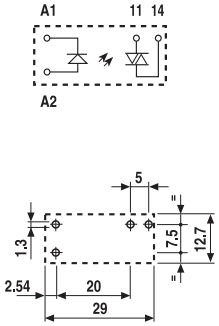
- 5 A, 24 V DC output switching
- PCB or 93 Series sockets



Copper side view

NEW 41.81 - 8240

- 3 A, 240 V AC output switching
- Zero crossing switching
- PCB or 93 Series sockets



Copper side view

Output circuit			
Contact configuration		1 NO (SPST-NO)	1 NO (SPST-NO)
Rated current/Maximum peak current (100 µs)	A	5/40	3/40
Rated voltage/Maximum blocking voltage	V	(24/35)DC	(240/275)AC
Switching voltage range	V	(1.5...35)DC	(12...275)AC
Minimum switching current	mA	1	50
Max. "OFF-state" leakage current	mA	0.01	1
Max. "ON-state" voltage drop	V	0.3	1.1
Input circuit			
Nominal voltage	V DC	24	24
Operating range	V DC	10...32	10...32
Control current	mA	9	9
Release voltage	V DC	9	9
Impedance	Ω	2,600	2,600
Technical data			
Operate/release time	ms	0.05/0.25	10/10
Dielectric strength between input/output	V	2,500	2,500
Ambient temperature range	°C	–20...+60	–20...+60
Environmental protection		RT III	RT III
Approvals (according to type)		CE cULus	

Ordering information

Electromechanical relay (EMR)

Example: 41 series low-profile PCB relay, 2 CO (DPDT), 24 V DC coil.

								A	B	C	D		
4	1	.	5	2	.	9	.	0	2	4	.	0	0	1	0

Series

Type
3 = PCB - 3.5 mm pinning
5 = PCB - 5 mm pinning
6 = PCB - 5 mm pinning

No. of poles
1 = 1 pole for
41.31, 12 A
41.61, 16 A
2 = 2 pole for
41.52, 8 A

Coil version
9 = DC

Coil voltage
See coil specifications

A: Contact material
0 = Standard AgNi
4 = $AgSnO_2$
5 = AgNi + Au (5 µm)

B: Contact circuit
0 = CO (nPDT)
3 = NO (nPST)

C: Options
1 = None

D: Special versions
0 = Flux proof (RT II)
1 = Wash tight (RT III)

Selecting features and options: only combinations in the same row are possible.
Preferred selections for best availability are shown in **bold.**

Type	Coil version	A	B	C	D
41.31	DC	**0** - 4 - 5	**0** - 3	**1**	**0** - 1
41.52	DC	**0** - 5	**0** - 3	**1**	**0** - 1
41.61	DC	**0** - 4	**0** - 3	**1**	**0** - 1

Solid state relay (SSR)

Example: 41 series SSR relay, 5 A output, 24 V DC supply.

4	1	.	8	1	.	7	.	0	2	4	.	9	0	2	4

Series

Type
8 = SSR type

Output
1 = 1 NO (SPST-NO)

Input circuit
See input specifications

Output circuit
9024 = 5 A - 24 V DC
8240 = 3 A - 240 V AC

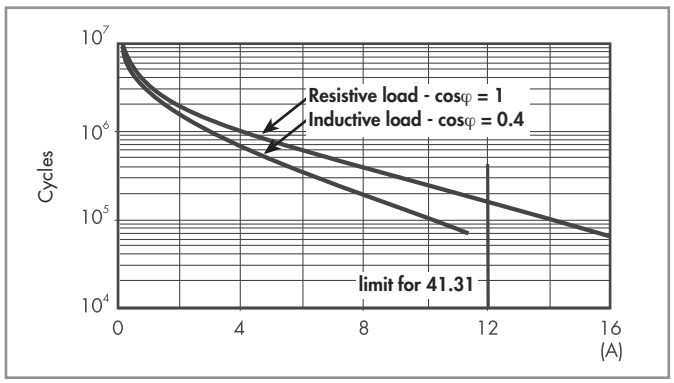
Electromechanical relay

Technical data

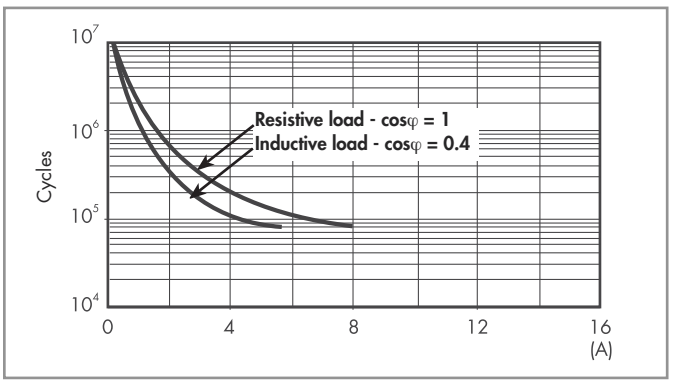
Insulation according to EN 61810-1						
			1 pole		**2 pole**	
Nominal voltage of supply system		V AC	230/400		230/400	
Rated insulation voltage		V AC	250	400	250	400
Pollution degree			3	2	3	2
Insulation between coil and contact set						
Type of insulation			Reinforced (8 mm)		Reinforced (8 mm)	
Overvoltage category			III		III	
Rated impulse voltage		kV (1.2/50 µs)	6		6	
Dielectric strength		V AC	4,000		4,000	
Insulation between adjacent contacts						
Type of insulation			—		Basic	
Overvoltage category			—		III	
Rated impulse voltage		kV (1.2/50 µs)	—		4	
Dielectric strength		V AC	—		2,000	
Insulation between open contacts						
Type of disconnection			Micro-disconnection		Micro-disconnection	
Dielectric strength		V AC/kV (1.2/50 µs)	1,000/1.5		1,000/1.5	
Conducted disturbance immunity						
Burst (5...50)ns, 5 kHz, on A1 - A2			EN 61000-4-4		level 4 (4 kV)	
Surge (1.2/50 µs) on A1 - A2 (differential mode)			EN 61000-4-5		level 3 (2 kV)	
Other data						
Bounce time: NO/NC		ms	2/5			
Vibration resistance (5...55)Hz: NO/NC		g	15/2			
Shock resistance		g	16			
Power lost to the environment	without contact current	W	0.4			
	with rated current	W	1.7 (41.31)	1.2 (41.52)	1.8 (41.61)	
Recommended distance between relays mounted on PCB		mm	≥ 5			

Contact specification

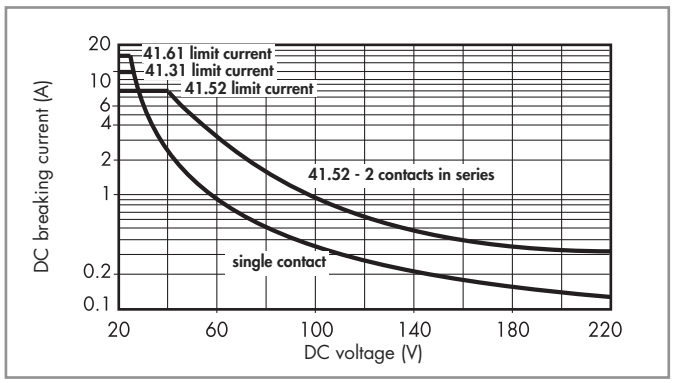
F 41 - Electrical life (AC) v contact current
Types 41.31/61



F 41 - Electrical life (AC) v contact current
Type 41.52



H 41- Maximum DC1 breaking capacity



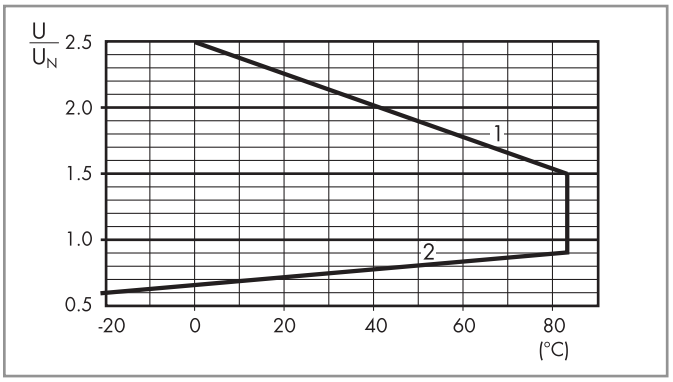
- When switching a resistive load (DC1) having voltage and current values under the curve, an electrical life of ≥ $100 \cdot 10^3$ can be expected.
- In the case of DC13 loads, the connection of a diode in parallel with the load will permit a similar electrical life as for a DC1 load.
  Note: the release time for the load will be increased.

Coil specifications

DC coil data

Nominal voltage U_N	Coil code	Operating range U_{min}	Operating range U_{max}	Resistance R	Rated coil consumption I at U_N
V		V	V	Ω	mA
12	**9**.012	8.4	18	360	33.3
24	**9**.024	16.8	36	1,440	16.7
48	**9**.048	33.6	72	5,760	8.3
60	**9**.060	42	90	9,000	6.6
110	**9**.110	77	165	24,200	4.5

R 41 - DC coil operating range v ambient temperature



1 - Max. permitted coil voltage.
2 - Min. pick-up voltage with coil at ambient temperature.

Solid state relay

Technical data

Other data			41.81 - 9024	41.81 - 8240
Power lost to the environment	without current	W	0.25	0.25
	with maximum current	W	1.75	3.5

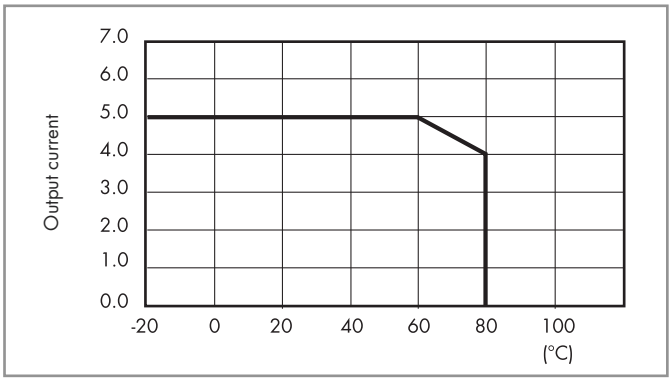
Input specification

Input data - DC types

Nominal voltage U_N	Input code	Operating range U_{min}	Operating range U_{max}	Release voltage	Impedance	Control current I at U_N
V		V	V	V	Ω	mA
24	**7**.024	10	32	9	2,600	9

Output specification

L 41 - Output current v ambient temperature
SSR - 5 A DC output types



L 41 - Output current v ambient temperature
SSR - 3 A AC output types