

- Low-profile, only 15.7 mm high
- DC coil versions
- 8 mm, 6 kV(1.2/50 μs) between coil and contacts
- Ambient temperature +85°C
- Sockets and accessories: see 95 and 99 series

### 41.31

### 41.52

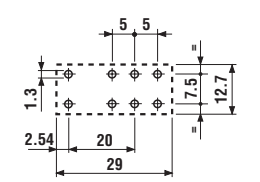
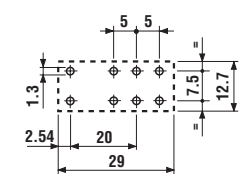
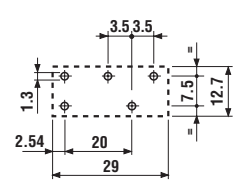
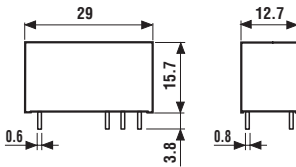
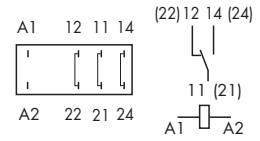
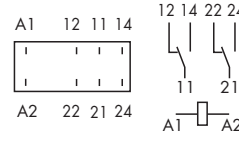
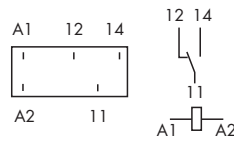
### 41.61



- 1 pole  
- low profile, 3.5 mm pinning  
- PCB / for use with 95 series sockets

- 2 pole  
- low profile, 5 mm pinning  
- PCB / for use with 95 series sockets

- 1 pole  
- low profile, 5 mm pinning  
- PCB / for use with 95 series sockets



\* for 400 V applications, requirements for pollution degree 2 are met.

Contact specifications					
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 in AC1	VA		3,000	2,000	4,000
Rated load in AC15 (230 VAC)	VA		600	400	750
Single phase motor rating (230 VAC)	kW/HP		0.5/0.75	0.3/0.5	0.5/0.75
Breaking capacity in DC1: 30/110/220V	A		12/0.4/0.12	8/0.4/0.12	16/0.4/0.12
Minimum switching load	mW (V/mA)		300 (5/5)	300 (5/5)	300 (5/5)
Standard contact material			AgNi	AgNi	AgNi
Coil specifications					
Nominal voltage (U <sub>N</sub> )	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/sens. DC	VA (50 Hz)/W		—/0.4	—/0.4	—/0.4
Operating range	AC (50 Hz)		—	—	—
	DC		(0.7...2.5)U <sub>N</sub>	(0.7...2.5)U <sub>N</sub>	(0.7...2.5)U <sub>N</sub>
Holding voltage	AC/DC		—/0.4U <sub>N</sub>	—/0.4 U <sub>N</sub>	—/0.4 U <sub>N</sub>
Must drop-out voltage	AC/DC		—/0.1U <sub>N</sub>	—/0.1 U <sub>N</sub>	—/0.1 U <sub>N</sub>
Technical data					
Mechanical life AC/DC	cycles		—/30·10 <sup>6</sup>	—/30·10 <sup>6</sup>	—/30·10 <sup>6</sup>
Electrical life at rated load AC1	cycles		150 · 10 <sup>3</sup>	80 · 10 <sup>3</sup>	70 · 10 <sup>3</sup>
Operate/release time (bounce included)	ms		7/8	7/8	7/8
Insulation according to EN 61810-5			3.6kV/3	3.6kV/3	3.6kV/3
Insulation between coil and contacts (1.2/50μs)		kV	6 (8mm)	6 (8mm)	6 (8mm)
Dielectric strenght between open contacts		V AC	1,000	1,000	1,000
Ambient temperature range		°C	−40...+85	−40...+85	−40...+85
Protection category			IP 50	IP 50	IP 50

**Approvals:** (according to type)



## ORDERING INFORMATION

Example: a 41 series low-profile P.C.B. relay with 2 CO (DPDT) contacts, with coil rated 24 V DC.

4

1

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5

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2

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9

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0

2

4

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0

0

0

0

**Series** —————

**Type** —————  
 3 = P.C.B. - 3.5 mm pinning  
 5 = P.C.B. - 5 mm pinning  
 6 = P.C.B. - 5 mm pinning

**No. of poles** —————  
 1 = 1 CO (SPDT) for  
     41.31, 12 A  
     41.61, 16A  
 2 = 2 CO (DPDT)  
     for 41.52, 8 A

**Coil version** —————  
 9 = DC

**Coil voltage** —————  
 see coil specifications

**A: Contact material**  
 0 = AgNi Standard

**B: Contact circuit**  
 0 = Standard

**C: Options**  
 0 = Standard

**D: Special applications**  
 0 = Standard

## TECHNICAL DATA

### INSULATION

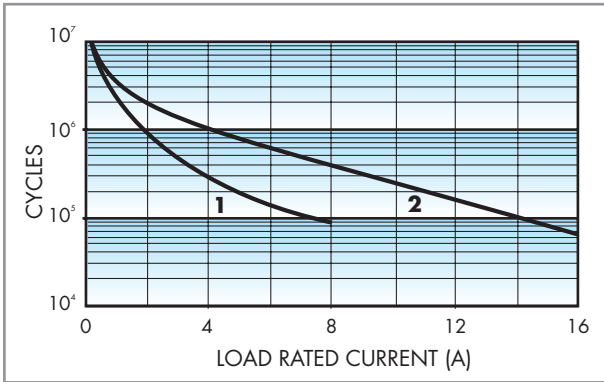
INSULATION according to EN 61810-5	insulation rated voltage	V	250
	rated impulse withstand voltage	kV	3.6
	pollution degree		3
	overvoltage category		III

### OTHER DATA

VIBRATION RESISTANCE (10...55Hz): NO/NC	g/g	20/5		
POWER LOST IN 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 RELAY mounted on P.C.B.s	mm	≥5		

## CONTACT SPECIFICATIONS

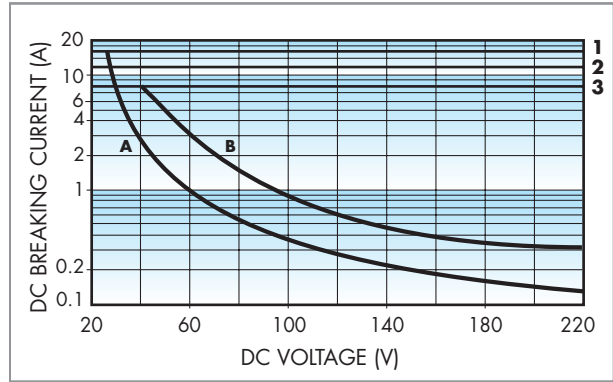
### F 41



Contact life vs AC1 load.

- 1** - Type 41.52 (8 A) at 360 cycles/h.
- 2** - Type 41.31 (12 A) at 360 cycles/h.  
Type 41.61 (16 A) at 360 cycles/h.

### H 41



Breaking capacity for DC1 load.

- 1** - type 41.61
- 2** - type 41.31
- 3** - type 41.52
- A** - load applied to 1 contact
- B** - load applied to 2 contacts in series

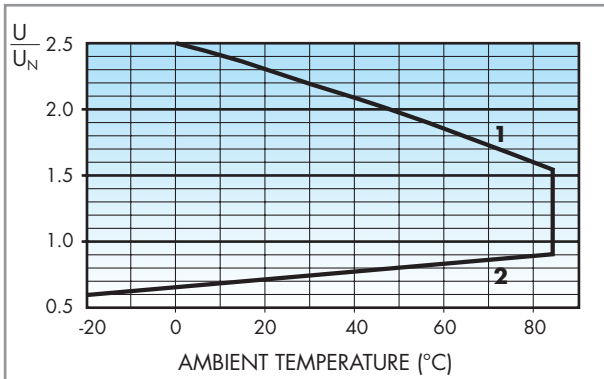
- When switching a resistive load (DC1) having voltage and current values under the curve the expected electrical life is  $\geq 100 \cdot 10^3$  cycles.
- In case of DC13 loads the connection of a diode in parallel with the load will permit the same electrical life as for a DC1 load.
- Note:** the release time of load will be increase.

## COIL SPECIFICATIONS

### DC VERSION DATA

Nominal voltage $U_N$ V	Coil code	Operating range		Resistance	Rated coil absorption $I$ at $U_N$ mA
		$U_{min}$ V	$U_{max}$ V	$R$ $\Omega$	
12	<b>9.012</b>	8.4	30.6	360	33.3
24	<b>9.024</b>	16.8	61.2	1,440	19.7
48	<b>9.048</b>	33.6	122	5,520	8.7
60	<b>9.060</b>	42.0	153	7,340	8.1
110	<b>9.110</b>	77.0	280	26,600	4.1

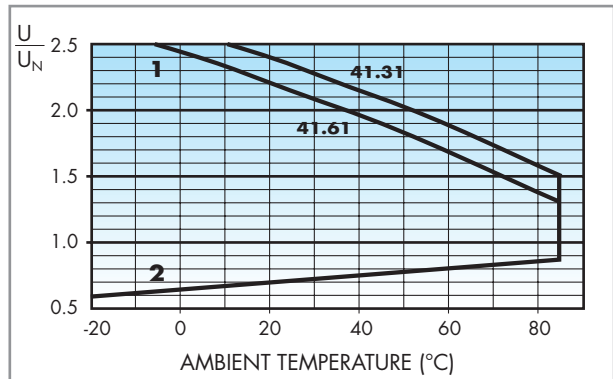
### R 41/1 DC



**Type 41.52** operating range vs ambient temperature.

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

### R 41/2 DC



**Type 41.31, 41.61** operating range vs ambient temperature.

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



95.05

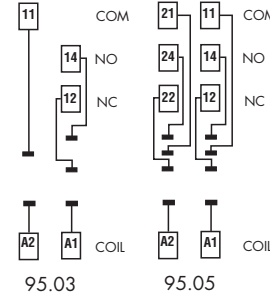
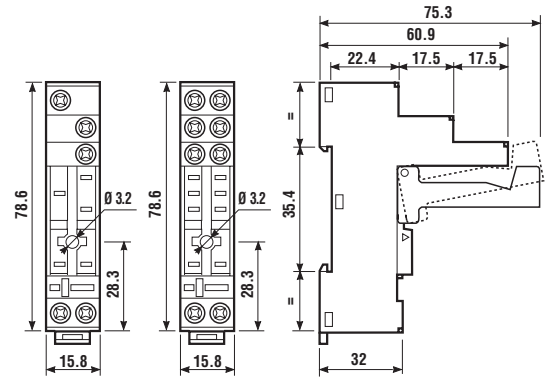
Approvals  
(according to type):



- RATED VALUES: 10 A - 250 V  
*with a current >10 A, the contact terminal must be connected in parallel (21 with 11, 24 with 14, 22 with 12)*
- INSULATION:  $\geq 6$  kV (1.2/50 $\mu$ s) between coil and contacts
- PROTECTION CATEGORY: IP 20
- AMBIENT TEMPERATURE: (-40...+70) °C
- TORQUE: 0.5 Nm
- MAX WIRE SIZE:

	solid wire	flexible wire
mm <sup>2</sup>	1x6 / 2x2.5	1x4 / 2x2.5
AWG	1x14 / 2x12	1x14 / 2x12

Relay type		41.31	41.52, 41.61
Screw terminal socket: panel or 35 mm rail (EN 50022) mount	BLUE	95.03	95.05
	BLACK*	95.03.0	95.03.0
Identification tag		095.00.4	095.00.4
Modules		99.02	99.02
Timer modules		86.10, 86.20	86.10, 86.20
8-way jumper link for 95.03 and 95.05 sockets		095.18	095.18



99.02

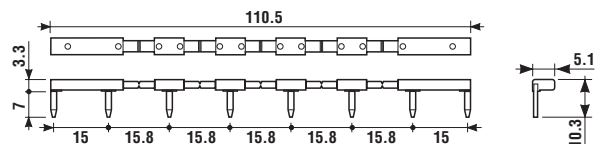
99 Series modules for 95.03 and 95.05 sockets		BLUE	BLACK*
Diode	(6...220) V DC	99.02.3.000.00	99.02.3.000.00.0
Diode (inverted polarity)	(6...220) V DC	99.02.2.000.00	99.02.2.000.00.0
LED	(6...24) V DC/AC	99.02.0.024.59	99.02.0.024.59.0
LED	(28...60) V DC/AC	99.02.0.060.59	99.02.0.060.59.0
LED	(110...240) V DC/AC	99.02.0.230.59	99.02.0.230.59.0
LED + Diode	(6...24) V DC	99.02.9.024.99	99.02.9.024.99.0
LED + Diode	(28...60) V DC	99.02.9.060.99	99.02.9.060.99.0
LED + Diode	(110...220) V DC	99.02.9.220.99	99.02.9.220.99.0
LED + Diode (inverted polarity)	(6...24) V DC	99.02.0.024.79	99.02.0.024.79.0
LED + Diode (inverted polarity)	(28...60) V DC	99.02.9.060.79	99.02.9.060.79.0
LED + Diode (inverted polarity)	(110...220) V DC	99.02.9.220.79	99.02.9.220.79.0
LED + Varistor	(6...24) V DC/AC	99.02.0.024.98	99.02.0.024.98.0
LED + Varistor	(28...60) V DC/AC	99.02.0.060.98	99.02.0.060.98.0
LED + Varistor	(110...240) V DC/AC	99.02.0.230.98	99.02.0.230.98.0
RC	(6...24) V DC/AC	99.02.0.024.09	99.02.0.024.09.0
RC	(28...60) V DC/AC	99.02.0.060.09	99.02.0.060.09.0
RC	(110...240) V DC/AC	99.02.0.230.09	99.02.0.230.09.0
No - remanence	(110...240) V AC	99.02.8.230.07	99.02.8.230.07.0

<b>8-way jumper link for 95.03, and 95.05 sockets</b>	095.18
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095.18

- RATED VALUES: 10 A - 250 V



\* Available on request

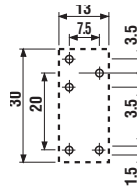
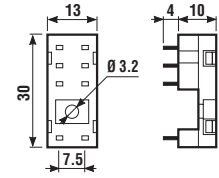
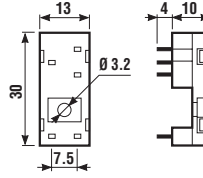


Relay type	41.31	41.52, 41.61	
P.C.B. socket	BLUE	95.13	95.15
	BLACK*	95.13.0	95.15.0
Metal retaining clip	095.41	095.41	
Plastic retaining clip	095.42	095.42	

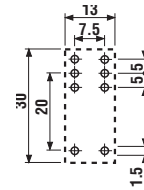
Approvals  
(according to type):



- RATED VALUES: 10 A - 250 V
- INSULATION:  $\geq 6$  kV (1.2/50 $\mu$ s) between coil and contacts
- PROTECTION CATEGORY: IP 20
- AMBIENT TEMPERATURE: (-40...+70) °C



95.13



95.15