finder
RELAYING INNOVATION

56
SERIES

Miniature power relays 12 A

- Industrial furnaces and ovens
- Control and management of electric power
- Industrial motors
- Circuit breakers and switches
- Panels for electrical distribution
- Control panels
- Carousel warehouses
- Vending machines

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Plug-in - 12 A Power relay, 2 & 4 pole

- Flange mount option - (Faston 187, 4.8 x 0.5 mm termination)
- AC coils & DC coils
- Lockable test button and mechanical flag indicator
- Cadmium Free contacts (standard version)
- Contact material options
- 96 series sockets
- Coil EMC suppression
- Accessories
- European Patent

56.32/56.34

- 2 or 4 pole changeover contact
- Plug-in/Faston 187

56.32-0300

- 2 pole normally open contact (≥ 1.5 mm gap)
- Plug-in/Faston 187

* For 4 CO (4PDT) only.

For UL ratings see:
"General technical information" page IX

For outline drawing see page 8

		56.32	56.34	56.32-0300
Contact specification				
Contact configuration		2 CO (DPDT)	4 CO (4PDT)	2NO (DPST-NO) - ≥ 1.5 mm gap
Rated current/Maximum peak current	A	12/20		12/20
Rated voltage/ Maximum switching voltage	V AC	250/400		250/400
Rated load AC1	VA	3000		3000
Rated load AC15 (230 V AC)	VA	700		700
Single phase motor rating (230 V AC)	kW	0.55		0.55
Breaking capacity DC1: 24/110/220 V	A	12/0.5/0.25		12/1/0.5
Minimum switching load	mW (V/mA)	500 (10/5)		500 (10/5)
Standard contact material		AgNi		AgNi
Coil specification				
Nominal voltage (U_N)	V AC (50/60 Hz)	6 - 12 - 24 - 48 - 60 - 110 - 120 - 230 - 240 - 400*		
	V DC	6 - 12 - 24 - 48 - 60 - 110 - 125 - 220		—
Rated power AC/DC	VA (50 Hz)/W	1.5/1	2/1.3	1.5/—
Operating range	AC	(0.8…1.1)U_N		(0.85…1.1)U_N
	DC	(0.8…1.1)U_N	(0.8…1.1)U_N	—
Holding voltage	AC/DC	0.8 U_N / 0.6 U_N		0.85 U_N/—
Must drop-out voltage	AC/DC	0.2 U_N / 0.1 U_N		0.2 U_N/—
Technical data				
Mechanical life AC/DC	cycles	$20 \cdot 10^6$/$50 \cdot 10^6$		$20 \cdot 10^6$/—
Electrical life at rated load AC1	cycles	$100 \cdot 10^3$		$100 \cdot 10^3$
Operate/release time	ms	9/6	11/11	8/4
Insulation between coil and contacts (1.2/50 µs)	kV	4	5	4
Dielectric strength between open contacts	V AC	1000		2000
Ambient temperature range	°C	–40…+70		–40…+70
Environmental protection		RT I		RT I
Approvals (according to type)				

Printed circuit mount
12 A Power relay

- 2 & 4 pole
- AC coils & DC coils
- Cadmium Free contacts (standard version)
- Contact material option

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	56.42/56.44		56.42-0300
	• 2 or 4 pole changeover contact • PCB mount		• 2 pole normally open contact (≥ 1.5 mm gap) • PCB mount
	56.42 Copper side view	56.44 Copper side view	56.42-0300 Copper side view

* For 4 CO (4PDT) only.

For UL ratings see:
"General technical information" page IX

For outline drawing see page 8

Contact specification				
Contact configuration		2 CO (DPDT)	4 CO (4PDT)	2NO (DPST-NO) - ≥ 1.5 mm gap
Rated current/Maximum peak current	A	12/20		12/20
Rated voltage/ Maximum switching voltage	V AC	250/400		250/400
Rated load AC1	VA	3000		3000
Rated load AC15 (230 V AC)	VA	700		700
Single phase motor rating (230 V AC)	kW	0.55		0.55
Breaking capacity DC1: 24/110/220 V	A	12/0.5/0.25		12/1/0.5
Minimum switching load	mW (V/mA)	500 (10/5)		500 (10/5)
Standard contact material		AgNi		AgNi
Coil specification				
Nominal voltage (U_N)	V AC (50/60 Hz)	6 - 12 - 24 - 48 - 60 - 110 - 120 - 230 - 240 - 400*		
	V DC	6 - 12 - 24 - 48 - 60 - 110 - 125 - 220		—
Rated power AC/DC	VA (50 Hz)/W	1.5/1	2/1.3	1.5/—
Operating range	AC	(0.8…1.1)U_N		(0.85…1.1)U_N
	DC	(0.8…1.1)U_N	(0.8…1.1)U_N	—
Holding voltage	AC/DC	0.8 U_N / 0.6 U_N		0.85 U_N/—
Must drop-out voltage	AC/DC	0.2 U_N / 0.1 U_N		0.2 U_N/—
Technical data				
Mechanical life AC/DC	cycles	$20 \cdot 10^6$/$50 \cdot 10^6$		$20 \cdot 10^6$/—
Electrical life at rated load AC1	cycles	$100 \cdot 10^3$		$100 \cdot 10^3$
Operate/release time	ms	9/6	11/11	8/4
Insulation between coil and contacts (1.2/50 µs)	kV	4	5	4
Dielectric strength between open contacts	V AC	1000		2000
Ambient temperature range	°C	–40…+70		–40…+70
Environmental protection		RT I		RT I
Approvals (according to type)				

V-2024, www.findernet.com

Ordering information

Example: 56 series plug-in relay, 2 CO (DPDT), 12 V DC coil, lockable test button and mechanical indicator.

| | | |

Technical data

* Only in applications where over voltage category II is permitted. In applications of over voltage category III: Micro-disconnection.

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Insulation according to EN 61810-1		2 CO - 4 CO		2 NO	
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		Basic		Basic	
Overvoltage category		III		III	
Rated impulse voltage	kV (1.2/50 µs)	4		4	
Dielectric strength	V AC	2500		2500	
Insulation between adjacent contacts					
Type of insulation		Basic		Basic	
Overvoltage category		III		III	
Rated impulse voltage	kV (1.2/50 µs)	4		4	
Dielectric strength	V AC	2500		2500	
Insulation between open contacts					
Type of disconnection		Micro-disconnection		Full-disconnection*	
Overvoltage category		—		II	
Rated impulse voltage	kV (1.2/50 µs)	—		2.5	
Dielectric strength	V AC/kV (1.2/50 µs)	1000/1.5		2000/3	
Insulation between coil terminals					
Rated impulse voltage (surge) differential mode (according to EN 61000-4-5)	kV (1.2/50 µs)	4			
Other data					
Bounce time: NO/NC	ms	1/4 (2 CO) , 1/7 (4 CO)		3/— (normally open)	
Vibration resistance (5…55)Hz: NO/NC	g	17/14			
Shock resistance	g	20/14			
Power lost to the environment — without contact current	W	1 (56.32, 56.42)		1.3 (56.34, 56.44)	
Power lost to the environment — with rated current	W	3.8 (56.32, 56.42)		6.9 (56.34, 56.44)	
Recommended distance between relays mounted on PCB	mm	≥ 5			

Contact specification

F 56 - Electrical life (AC) v contact current

2 - 4 pole relays

H 56 - Maximum DC1 breaking capacity

Changeover version

H 56 - Maximum DC1 breaking capacity

Normally open version

- When switching a resistive load (DC1) having voltage and current values under the curve, an electrical life of ≥ 100 · 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 of the load will be increased.

Coil specifications

DC coil data, 2 pole relay

Nominal voltage U_N	Coil code	Operating range U_{min}	U_{max}	Resistance R	Rated coil consumption I at U_N
V		V	V	Ω	mA
6	**9**.006	4.8	6.6	40	150
12	**9**.012	9.6	13.2	140	86
24	**9**.024	19.2	26.4	600	40
48	**9**.048	38.4	52.8	2400	20
60	**9**.060	48	66	4000	15
110	**9**.110	88	121	12500	8.8
125	**9**.125	100	138	17300	7.2
220	**9**.220	176	242	54000	4

AC coil data, 2 pole relay

Nominal voltage U_N	Coil code	Operating range U_{min}*	U_{max}	Resistance R	Rated coil consumption I at U_N (50 Hz)
V		V	V	Ω	mA
6	**8**.006	4.8	6.6	12	200
12	**8**.012	9.6	13.2	50	97
24	**8**.024	19.2	26.4	190	53
48	**8**.048	38.4	52.8	770	25
60	**8**.060	48	66	1200	21
110	**8**.110	88	121	3940	12.5
120	**8**.120	96	132	4700	12
230	**8**.230	184	253	17000	6
240	**8**.240	192	264	19100	5.3

* U_{min} = 0.85 U_N for normally open version.

DC coil data, 4 pole relay

Nominal voltage U_N	Coil code	Operating range U_{min}	U_{max}	Resistance R	Rated coil consumption I at U_N
V		V	V	Ω	mA
6	**9**.006	4.8	6.6	32.5	185
12	**9**.012	9.6	13.2	123	97
24	**9**.024	19.2	26.4	490	49
48	**9**.048	38.4	52.8	1800	27
60	**9**.060	48	66	3000	20
110	**9**.110	88	121	10400	10.5
125	**9**.125	100	138	14200	8.8
220	**9**.220	176	242	44000	5

AC coil data, 4 pole relay

Nominal voltage U_N	Coil code	Operating range U_{min}	U_{max}	Resistance R	Rated coil consumption I at U_N (50 Hz)
V		V	V	Ω	mA
6	**8**.006	4.8	6.6	5.7	300
12	**8**.012	9.6	13.2	22	150
24	**8**.024	19.2	26.4	81	90
48	**8**.048	38.4	52.8	380	37
60	**8**.060	48	66	600	30
110	**8**.110	88	121	1900	16.5
120	**8**.120	96	132	2560	13.4
230	**8**.230	184	253	7700	9
240	**8**.240	192	264	10000	7.5
400	**8**.400	320	440	26000	4.9

R 56 - DC coil operating range v ambient temperature
2 and 4 pole relay

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

R 56 - AC coil operating range v ambient temperature
2 pole relay

R 56 - AC coil operating range v ambient temperature
4 pole relay

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

A

Outline drawings

Types 56.32/32-0300

Type 56.34

Types 56.42/42-0300

Type 56.44

Accessories

056.25

056.25 with relay

Top flange mount adaptor for 56.32 | 056.25

056.25 with relay

056.26

056.26 with relay

Rear flange mount adaptor for 56.32 | 056.26

056.26 with relay

056.27

056.27 with relay

Top 35 mm rail (EN 60715) adaptor for 56.32 | 056.27

056.27 with relay

056.45

056.45 with relay

Top flange mount adaptor for 56.34 | 056.45

056.45 with relay

056.47

056.47 with relay

Top 35 mm rail (EN 60715) adaptor for 56.34 | 056.47

056.47 with relay

060.48

Sheet of marker tags for relay type 56.34, plastic, 48 tags, 6 x 12 mm, for CEMBRE thermal transfer printers | 060.48

96 SERIES
Sockets and accessories for 56 series relays

96.02
Approvals
(according to type):

96.04
Approvals
(according to type):

094.91.3

Box clamp socket 35 mm rail mount (EN 60715)		**96.02** **Blue**	**96.02.0** **Black**	**96.04** **Blue**	**96.04.0** **Black**
For relay type		56.32		56.34	
Accessories					
Metal retaining clip (supplied with socket - packaging code SMA)		094.71		096.71	
Plastic retaining and release clip (supplied with socket - packaging code SPA)		094.91.3	094.91.30	—	—
6-way jumper link		094.06	094.06.0	—	—
Identification tag		095.00.4		090.00.2	
Modules (see table below)		99.02			
Timer modules (see table below)		86.30		86.00, 86.30	
Sheet of marker tags for retaining and release clip 094.91.3, plastic, 48 tags, 6 x 12 mm, for CEMBRE thermal transfer printers		060.48		—	
Technical data					
Rated values		12 A - 250 V			
Dielectric strength		2 kV AC			
Protection category		IP 20			
Ambient temperature	°C	–40…+70 (see diagram L96)			
Screw torque	Nm	0.8			
Wire strip length	mm	8			
Max. wire size for 94.02/04 sockets		solid wire		stranded wire	
	mm²	1 x 6 / 2 x 2.5		1 x 4 / 2 x 2.5	
	AWG	1 x 10 / 2 x 14		1 x 12 / 2 x 14	

L 96 - Rated current v ambient temperature

96.02

96.02

96.04 96.04

094.06

6-way jumper link for 96.02 socket	094.06 (blue)	094.06.0 (black)
Rated values	10 A - 250 V	

86.00

86.30

99.02
Approvals
(according to type):

DC Modules with non-standard polarity (+A2) on request.

86 series timer modules		
Multi-voltage: (12…240)V AC/DC; Multi-functions: AI, DI, SW, BE, CE, DE, EE, FE; (0.05 s…100 h)		86.00.0.240.0000
(12…24)V AC/DC; Bi-function: AI, DI; (0.05 s…100 h)		86.30.0.024.0000
(110…125)V AC; Bi-function: AI, DI; (0.05 s…100 h)		86.30.8.120.0000
(230…240)V AC; Bi-function: AI, DI; (0.05 s…100 h)		86.30.8.240.0000
Approvals (according to type):		
99.02 coil indication and EMC suppression modules for 96.02 and 96.04 sockets		
Diode (+A1, standard polarity)	(6…220)V DC	99.02.3.000.00
LED	(6…24)V DC/AC	99.02.0.024.59
LED	(28…60)V DC/AC	99.02.0.060.59
LED	(110…240)V DC/AC	99.02.0.230.59
LED + Diode (+A1, standard polarity)	(6…24)V DC	99.02.9.024.99
LED + Diode (+A1, standard polarity)	(28…60)V DC	99.02.9.060.99
LED + Diode (+A1, standard polarity)	(110…220)V DC	99.02.9.220.99
LED + Varistor	(6…24)V DC/AC	99.02.0.024.98
LED + Varistor	(28…60)V DC/AC	99.02.0.060.98
LED + Varistor	(110…240)V DC/AC	99.02.0.230.98
RC circuit	(6…24)V DC/AC	99.02.0.024.09
RC circuit	(28…60)V DC/AC	99.02.0.060.09
RC circuit	(110…240)V DC/AC	99.02.0.230.09
Residual current by-pass*	(110…240)V AC	99.02.8.230.07

* Additional 0.9 W power dissipation

96.72

Approvals
(according to type):

Screw terminal (Plate clamp) socket panel or 35 mm rail (EN 60715) mount		**96.72** **Blue**	**96.72.0** **Black**	**96.74** **Blue**	**96.74.0** **Black**
For relay type		56.32		56.34	
Accessories					
Metal retaining clip (supplied with socket - packaging code SMA)		094.71		096.71	
Modules (see table below)		99.01			
Technical data					
Rated values		12 A - 250 V			
Dielectric strength		2 kV AC			
Protection category		IP 20			
Ambient temperature	°C	–40…+70			
Screw torque	Nm	0.8			
Wire strip length	mm	10			
Max. wire size for 96.72 and 96.74 sockets		solid wire		stranded wire	
	mm^2	1 x 4 / 2 x 4		1 x 4 / 2 x 2.5	
	AWG	1 x 12 / 2 x 12		1 x 12 / 2 x 14	

96.74

Approvals
(according to type):

96.72 96.74

99.01

Approvals
(according to type):

99.01 coil indication and EMC suppression modules for types 96.72 and 96.74 sockets		
		Blue*
Diode (+A1, standard polarity)	(6…220)V DC	99.01.3.000.00
Diode (+A2, non-standard polarity)	(6…220)V DC	99.01.2.000.00
LED	(6…24)V DC/AC	99.01.0.024.59
LED	(28…60)V DC/AC	99.01.0.060.59
LED	(110…240)V DC/AC	99.01.0.230.59
LED + Diode (+A1, standard polarity)	(6…24)V DC	99.01.9.024.99
LED + Diode (+A1, standard polarity)	(28…60)V DC	99.01.9.060.99
LED + Diode (+A1, standard polarity)	(110…220)V DC	99.01.9.220.99
LED + Diode (+A2, non-standard polarity)	(6…24)V DC	99.01.9.024.79
LED + Diode (+A2, non-standard polarity)	(28…60)V DC	99.01.9.060.79
LED + Diode (+A2, non-standard polarity)	(110…220)V DC	99.01.9.220.79
LED + Varistor	(6…24)V DC/AC	99.01.0.024.98
LED + Varistor	(28…60)V DC/AC	99.01.0.060.98
LED + Varistor	(110…240)V DC/AC	99.01.0.230.98
RC circuit	(6…24)V DC/AC	99.01.0.024.09
RC circuit	(28…60)V DC/AC	99.01.0.060.09
RC circuit	(110…240)V DC/AC	99.01.0.230.09
Residual current by-pass *	(110…240)V AC	99.01.8.230.07

* Modules in Black housing are available on request.
Green LED is standard. Red LED available on request.

* Additional 0.9 W power dissipation

96 SERIES
Sockets and accessories for 56 series relays

96.12

Approvals
(according to type):

PCB socket	96.12 (blue)	96.12.0 (blue)	96.14 (blue)	96.14.0 (blue)
For relay type	56.32		56.34	
Accessories				
	094.51			
Technical data				
Rated values	15 A - 250 V			
Dielectric strength	2 kV AC			
Protection category	IP 20			
Ambient temperature °C	–40…+70			

Copper side view
96.12

Copper side view
96.14

Packaging codes

How to code and identify retaining clip and packaging options for sockets.

Example:

9 6 . 7 4 S M A

A	Standard packaging
SM	Metal retaining clip
SP	Plastic retaining clip

9 6 . 7 4

	Without retaining clip