

Relays for railway applications 12 A



Pantograph
management



Bogie
monitoring



Internal light
management



Mobile device
charging



Plug-in power relays - 12 A, 2 and 4 pole

- Complies with EN 45545-2:2020 (protection against fire of materials), EN 61373 (resistance against random vibrations and shock, Category 1, Class B), EN 50155 (resistance to temperature and humidity, OT4/ST1 class)
- AC coils or DC coils with extended range
- Cadmium Free contacts (standard version)
- Contact material options
- 96 series sockets
- Coil EMC suppression modules
- Accessories (Sockets and Timer modules)

56.32T

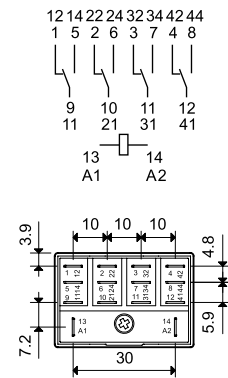
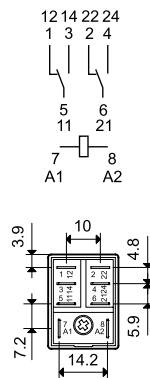


- 2 Pole CO, 12 A
- Plug-in/Faston 187

56.34T



- 4 Pole CO, 12 A
- Plug-in/Faston 187



* Short term (10 min) +85°C

For outline drawing see page 5

Contact specification

Contact configuration		2 CO (DPDT)	4 CO (4PDT)
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	12/0.5/0.25
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)	120 - 230	120 - 230
	V DC	24 - 72 - 110	24 - 72 - 110
Rated power	VA (50 Hz)/W	1.5/1	2/1.3
Operating range	AC	$(0.8 \dots 1.1) U_N$	$(0.8 \dots 1.1) U_N$
	DC	$(0.70 \dots 1.25) U_N$	$(0.70 \dots 1.25) U_N$
Holding voltage	AC/DC	$0.6 U_N$	$0.6 U_N$
Must drop-out voltage	AC/DC	$0.1 U_N$	$0.1 U_N$

Technical data

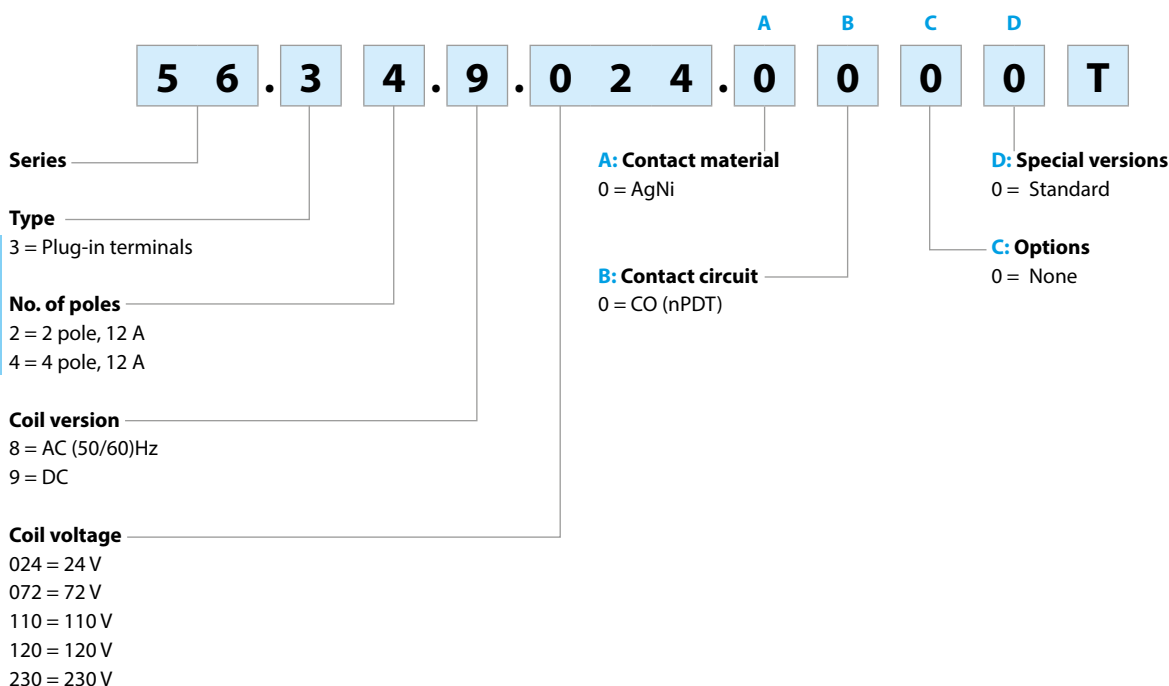
Mechanical life AC/DC	cycles	$10 \cdot 10^6$	$10 \cdot 10^6$
Electrical life at rated load AC1	cycles	$100 \cdot 10^3$	$100 \cdot 10^3$
Operate/release time	ms	8/8	8/8
Insulation between coil and contacts ($1.2/50 \mu s$)	kV	4	4
Dielectric strength between open contacts	V AC	1000	1000
Ambient temperature range	°C	-40...+70*	-40...+70*
Environmental protection		RT I	RT I

Approvals (according to type)



Ordering information

Example: 56 series plug-in relay, 4 poles, 24 V DC coil, AgNi contacts.



Technical data

Insulation according to EN 61810-1

Nominal voltage of supply system	V AC	230/400	
Rated insulation voltage	V AC	250	400
Pollution degree		3	2

Insulation between coil and contact set

Type of Insulation	Basic	
Overvoltage category	III	
Rated impulse voltage	kV (1.2/50 μs)	4
Dielectric strength	V AC	2500

Insulation between adjacent contacts

Type of insulation	Basic	
Overvoltage category	III	
Rated impulse voltage	kV (1.2/50 μs)	4
Dielectric strength	V AC	2500

Insulation between open contacts

Type of disconnection	Micro-disconnection	
Dielectric strength	V AC/kV (1.2/50 μs)	1000/1.5

Insulation between coil terminals

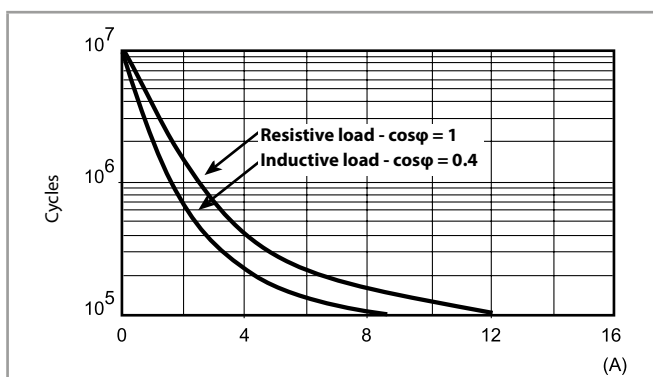
Rated impulse voltage (according to EN 50121)	kV (1.2/50 µs)	2.5 (56.32T)/4 (56.34T)
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Other data

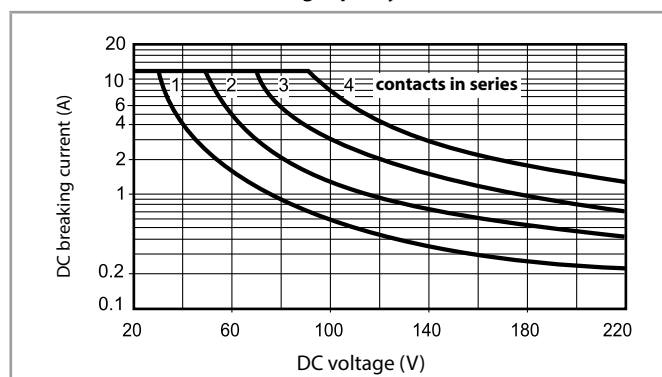
Bounce time: NO/NC		ms	1/3
Vibration resistance: NO/NC			According to EN 61373
Shock resistance			According to EN 61373
Power lost to the environment	without contact current	W	1 (56.32T)/1.3 (56.34T)
	with rated current	W	3.8 (56.32T)/6.9 (56.34T)

Contact specification

F 56 - Electrical life (AC) v contact current



H 56 - Maximum DC1 breaking capacity



- When switching a resistive load (DC1) having voltage and current values under the curve, an electrical life of $\geq 100 \cdot 10^3$ 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 of the load will be increased.

Coil specifications

DC coil data, 2 CO - Type 56.32T

Nominal voltage	Coil code	Operating range		Resistance	Rated coil consumption
U_N		U_{min}	U_{max}	R	I at U_N
V		V	V	Ω	mA
24	9.024	16.8	30	600	40
72	9.072	50.4	90	5100	14
110	9.110	77	137.5	12500	8.8

DC coil data, 4 CO - Type 56.34T

Nominal voltage	Coil code	Operating range		Resistance	Rated coil consumption
U_N		U_{min}	U_{max}	R	I at U_N
V		V	V	Ω	mA
24	9.024	16.8	30	490	49
72	9.072	50.4	90	4000	18
110	9.110	77	137.5	10400	10.5

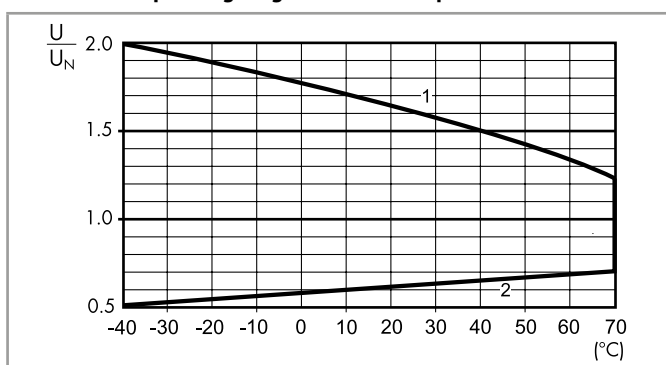
AC coil data, 2 CO - Type 56.32T

Nominal voltage	Coil code	Operating range		Resistance	Rated coil consumption
U_N		U_{min}	U_{max}	R	I at U_N
V		V	V	Ω	mA
120	8.120	96	132	4700	12
230	8.230	184	253	17000	6

AC coil data, 4 CO - Type 56.34T

Nominal voltage	Coil code	Operating range		Resistance	Rated coil consumption
U_N		U_{min}	U_{max}	R	I at U_N
V		V	V	Ω	mA
120	8.120	96	132	2560	13.4
230	8.230	184	253	7700	9

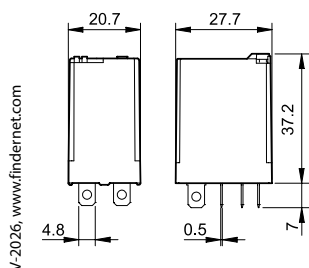
R 56 - DC coil operating range v ambient temperature



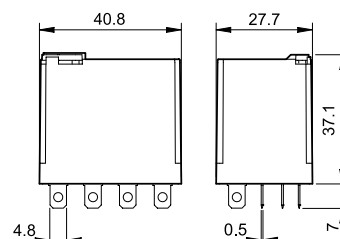
- 1 - Max. permitted coil voltage.
2 - Min. pick-up voltage with coil at ambient temperature.

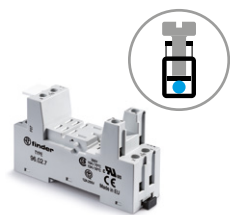
Outline drawings

Type 56.32T

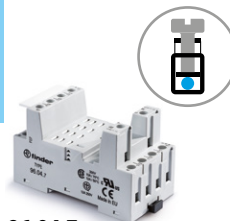


Type 56.34T





96.02.7

Approvals
(according to type):

96.04.7

Approvals
(according to type):**Box clamp socket**
panel or 35 mm rail mount (EN 60715)

For relay type

96.02.7 SMA*

56.32T

96.04.7 SMA*

56.34T

AccessoriesMetal retaining clip
(supplied with socket - packaging code SMA)

094.71

096.71

6-way jumper link

094.06

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Identification tag

095.00.4

090.00.2

Modules (see table below)

99.02

99.02

Timer modules (see table below)

86.30T

86.00T, 86.30T

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 96.02.7 and 96.04.7 socket

solid wire

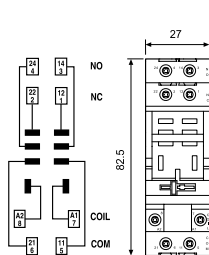
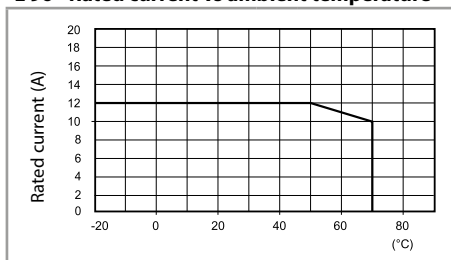
stranded wire

mm² 1 x 6 / 2 x 2.5

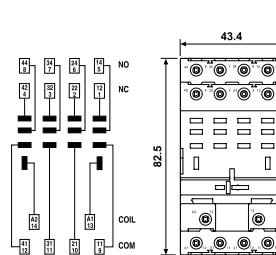
1 x 4 / 2 x 2.5

AWG 1 x 10 / 2 x 14

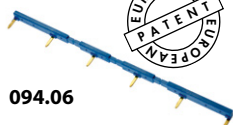
1 x 12 / 2 x 14

* Complies with **EN 45545-2:2020** (protection against fire of materials), **EN 61373** (resistance against random vibrations and shock, Category 1, Class B), **EN 50155** (resistance to temperature and humidity, **OT4/ST1** class)**L 96 - Rated current vs ambient temperature**

96.02.7



96.04.7



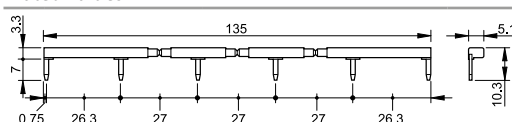
094.06

**6-way jumper link for 96.02.7 socket**

094.06

Rated values

10 A - 250 V



86.00



86.30



99.02

86 series timer modulesMulti-voltage: (12...240)V AC/DC;
Multi-functions: AI, DI, SW, BE, CE, DE, EE, FE; (0.05 s...100 h)
(12...24)V AC/DC; Bi-function: AI, DI; (0.05 s...100 h)

86.00.0.240.0000T

86.30.0.024.0000T

Approvals (according to type):

AI: ON-delay
DI: Interval
SW: Symmetrical flasher (starting pulse on)
BE: Off-delay with control signal
CE: On- and off-delay with control signal
DE: Interval with control signal on
EE: Interval with control signal off
FE: Interval with control signal on and off**99.02 coil indication and EMC suppression modules**

Diode (+A1, standard polarity)

(6...220)V DC

99.02.3.000.00

LED + Diode (+A1, standard polarity)

(6...24)V DC

99.02.9.024.99

LED + Diode (+A1, standard polarity)

(28...72)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...72)V DC/AC

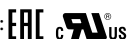
99.02.0.060.98

LED + Varistor

(110...240)V DC/AC

99.02.0.230.98

Approvals (according to type):

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