chanhvinh.com

finder®
SWITCH TO THE FUTURE

56
SERIES

Relays for railway applications 12 A



- Pantograph management
- Bogie monitoring
- Internal light management
- Mobile device charging

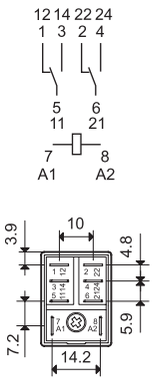
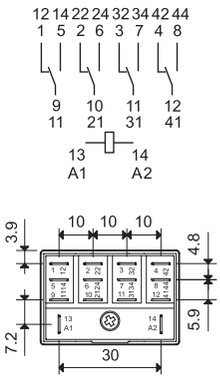
chanhvinh.com

FINDER reserves the right to alter characteristics at any time without notice. FINDER assumes no liability for damage to persons or property, caused as a result of the incorrect use or application of its products.

chanhvinh.com

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

- Complies with EN 45545-2 +A1:2016 (protection against fire of materials), EN 61373 (resistance against random vibrations and shock, Category 1, Class B), EN 50155 (resistance to temperature and humidity, TX 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	56.34T
		
	• 2 Pole CO, 12 A • Plug-in/Faston 187	• 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: 30/110/220 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	$(0.8…1.1)U_N$	$(0.8…1.1)U_N$
	DC	$(0.70…1.25)U_N$	$(0.70…1.25)U_N$
Holding voltage		0.6 U_N	0.6 U_N
Must drop-out voltage		0.1 U_N	0.1 U_N
Technical data			
Mechanical life 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 µs)	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)		CE	

chanhvinh.com

Ordering information

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

						A	B	C	D	
5	6	.	3	4	.	9	.	0 2 4	.	2	0	0	0	T

Series

Type
3 = Plug-in terminals

No. of poles
2 = 2 pole, 12 A
4 = 4 pole, 12 A

Coil version
8 = AC (50/60)Hz
9 = DC

Coil voltage
024 = 24 V
072 = 72 V
110 = 110 V
120 = 120 V
230 = 230 V

A: Contact material
0 = AgNi
2 = AgCdO

B: Contact circuit
0 = CO (nPDT)

C: Options
0 = None

D: Special versions
0 = Standard

C

Technical data

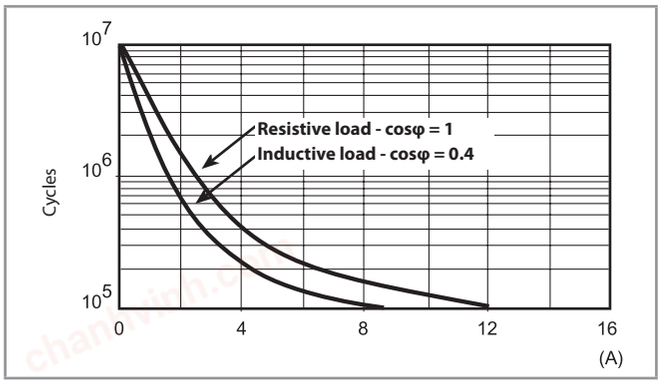
Insulation according to EN 61810-1				
Nominal voltage of supply system		V AC	230/400	
Rated insulation voltage		V AC	250	400
Pollution degree			3	2
Insulation between coil and contact set				
Type of Insulation			Basic	
Overvoltage category			III	
Rated impulse voltage		kV (1.2/50 µs)	4	
Dielectric 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 (surge) differential mode (according to EN 50121)		kV (1.2/50 µs)	4	
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)	

chanhvinh.com

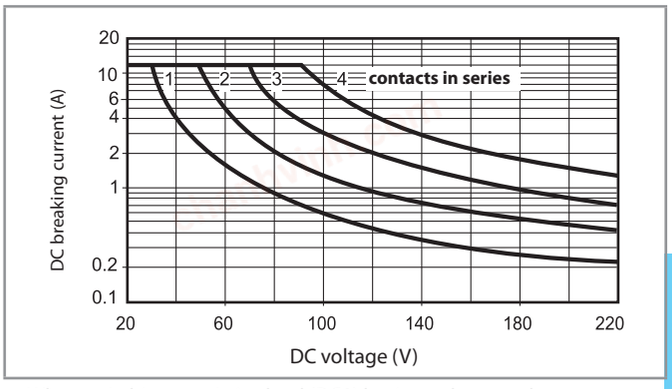
chanhvinh.com

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 ≥ 100 · 10³ 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

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

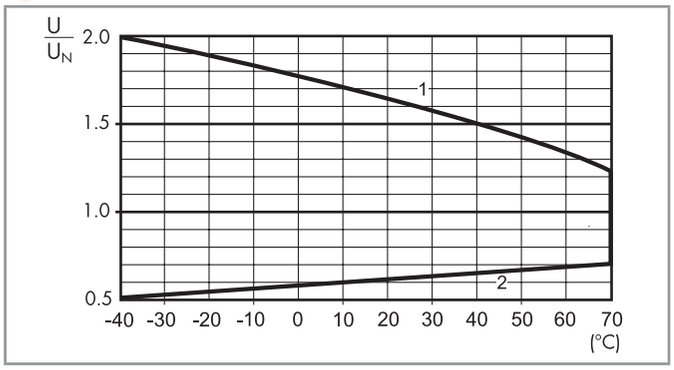
DC coil data, 4 CO - Type 56.34T

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, 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

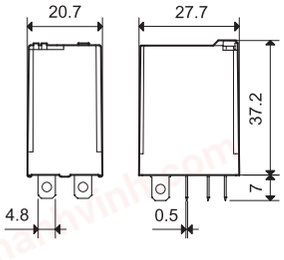
R 56 - DC coil operating range v ambient temperature



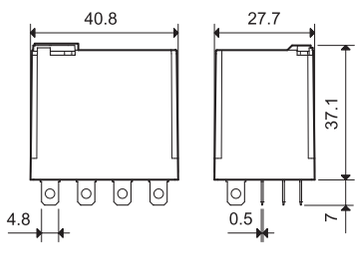
1 - Max. permitted coil voltage.
2 - Min. pick-up voltage with coil at ambient temperature.

Outline drawings

Type 56.32T



Type 56.34T



chanhvinh.com

96 SERIES
Sockets and accessories for 56 series relays



96.02.7

Approvals (according to type):



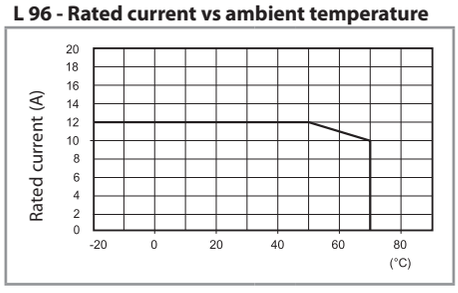
96.04.7

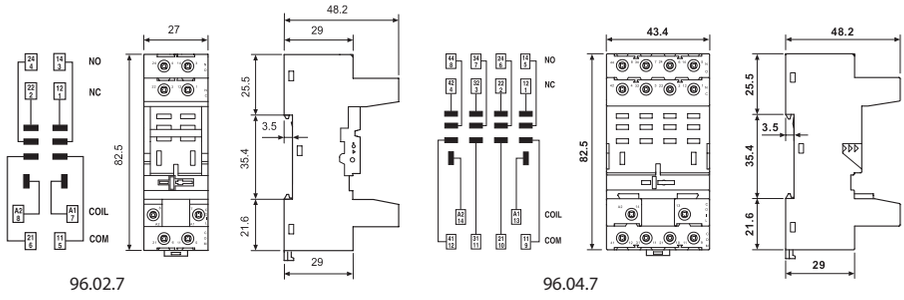
Approvals (according to type):

Screw terminal (Box clamp) socket panel or 35 mm rail mount (EN 60715)		**96.02.7 SMA***	**96.04.7 SMA***
For relay type		56.32T	56.34T
Accessories			
Metal retaining clip (supplied with socket - packaging code SMA)		094.71	096.71
6-way jumper link		094.06	—
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
	mm^2	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 +A1:2016** (protection against fire of materials), **EN 61373** (resistance against randomvibrations and shock, Category 1, Class B), **EN 50155** (resistance to temperature and humidity, TX class)

L 96 - Rated current vs ambient temperature



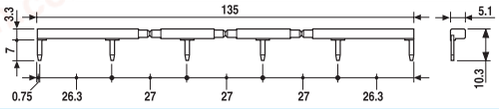


96.02.7 96.04.7



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 modules	
Multi-voltage: (12…240)V AC/DC; Multi-functions: AI, DI, SW, BE, CE, DE, EE, FE; (0.05 s…100 h)	86.00.0.240.0000T
(12…24)V AC/DC; Bi-function: AI, DI; (0.05 s…100 h)	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.

V-2018, www.findernet.com