finder 7S Series Relay Module with Forcibly Guided Contacts Instruction Manual

Contents

finder 7S Series Relay Module with Forcibly Guided Contacts

Specifications:

- **Product Name:** Relay module with forcibly guided contacts 6 A
- **Model Types:**
  - Type 7S.12/32T: 2 pole 6 A (1 NO + 1 NC)
  - Type 7S.14/34T: 4 pole 6 A (2 NO + 2 NC and 3 NO + 1 NC)
  - Type 7S.16/36T: 6 pole 6 A (4 NO + 2 NC)
- **Compliance:** EN 45545-2:2020, EN 61373, EN 50155, EN 61810-3, EN 13849-1
- **Contact Material:** AgNi + Au, AgSnO2
- **Rated Voltage:** 110-125V AC, 230-240V AC, 24V DC, 110V DC
- **Operating Range:** (0.7…1.25)UN

Product Usage Instructions

Contact Specification:
The relay module comes in different configurations with varying contact setups and rated currents. Ensure to select the appropriate type based on your requirements.

Coil Specification:
Check the nominal voltage and power rating of the coil to match the supply voltage. Refer to the technical data for detailed information on the operating range and holding voltage.

Technical Data:
Review the mechanical and electrical life cycles, operate/release time, and dielectric strength between contacts to understand the product's performance capabilities.

Guided Contacts

Relay module with forcibly guided contacts 6 A

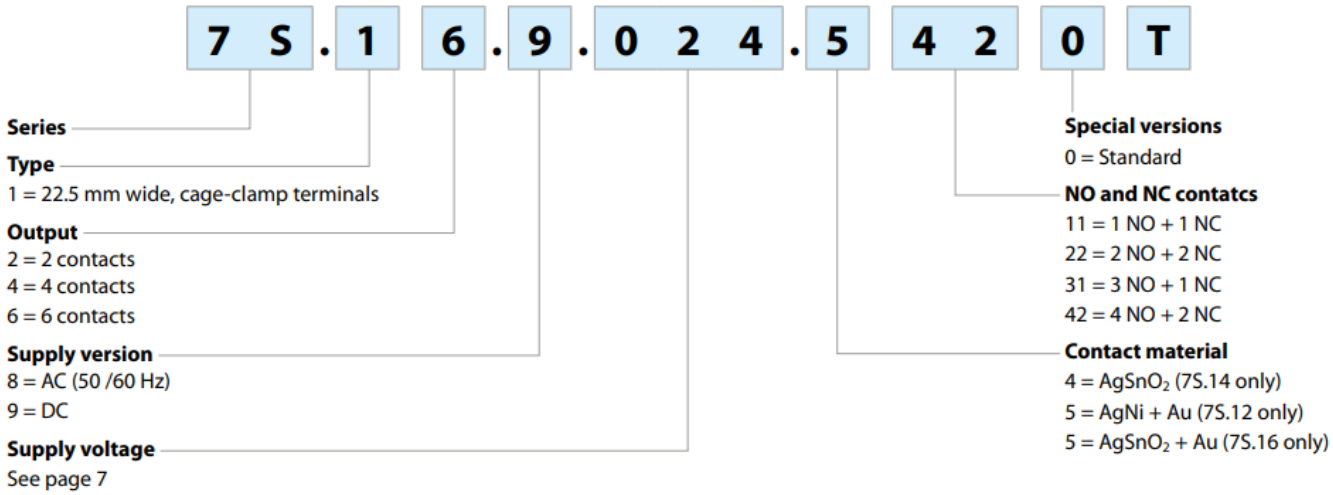
		7S.12/32…5110T	7S.14/34…4220/4310T	7S.16/36…5420T
Relay module with forcibly guided contacts Type 7S.12/32T – 2 pole 6 A (1 NO + 1 NC) **Type 7S.14/34T** – 4 pole 6 A (2 NO + 2 NC and 3 NO + 1 NC) **Type 7S.16/36T** – 6 pole 6 A (4 NO + 2 NC) • For railway application; materials compliant with EN 45545-2:2020 (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) • For safety applications, with class A forcibly guided contact relays EN 61810-3 (ex EN 50205) • For functional reliability in machinery and plant engineering according to EN 13849-1 • DC and AC supply versions • 24 and 110 V DC versions with extended operating range (0.7…1.25)U_N • Coil status visual indication with LED • 35 mm rail (EN 60715) mount 7S.xx Screwless terminal  * Short term (10 min) +85°C For outline drawing se **Contact specification** Contact configuration				
		• 2 pole (1 NO + 1 NC)	• 4 pole (2 NO + 2 NC and 3 NO + 1 NC)	• 6 pole (4 NO + 2 NC)
		1 NO + 1 NC	2 NO + 2 NC, 3 NO + 1 NC	4 NO + 2 NC
Rated current/Max. peak current	A	6/15	6/15	6/15

Rated switching voltage		V AC (50/60 Hz)	250	250	250
Rated load AC1		VA	1500	1500	1500
Rated load AC15 (230 V AC)		VA	700	700	700
Breaking capacity DC1: 24/110/220 V		A	6/0.6/0.2	6/0.9/0.3	6/0.9/0.3
Breaking capacity DC13: 24 V		A	1	3	5
Minimum switching load		mW (V/mA)	60 (5/5)	60 (5/5)	60 (5/5)
Standard contact material			AgNi + Au	AgSnO2	$AgSnO_2$+Au
Coil specification					
Nominal voltage (UN)	V AC (50/60 Hz)		110…125 – 230…240	110…125 – 230…240	110…125 – 230…240
	V DC		24	24 – 110	24 – 110
Rated power		VA (50 Hz)/W	2.3/1	2.3/1	2.3/1
Operating range	AC		(0.85…1.1)UN	(0.85…1.1)U_N	(0.85…1.1)U_N
	DC		—	—	—
DC extended range (24 and 110 V only)			(0.7…1.25)UN	(0.7…1.25)U_N	(0.7…1.25)U_N
Holding voltage		AC/DC	0.45 U_N / 0.45 U_N	0.55 U_N / 0.55 U_N	0.55 U_N / 0.55 U_N
Must drop-out voltage		AC/DC	0.1 U_N / 0.1 U_N	0.1 U_N / 0.1 U_N	0.1 U_N / 0.1 U_N
Technical data					
Mechanical life		cycles	10 · 106	10 · 106	10 · 106
Electrical life at rated load AC1		cycles	100 · 103	100 · 103	100 · 103
Operate/release time		ms	7/11	12/10	12/10

Insulation between coil and contacts (1.2/50 µs) kV		6	6	6
Dielectric strength between open contacts V AC		1500	1500	1500
Ambient temperature	°C	–40…+70*	–40…+70*	–40…+70*
Protection category		IP 20	IP 20	IP 20
Approvals (according to type)				

Ordering information

Example: 7S series Relay module with forcibly guided contacts, 6 contact (4 NO + 2 NC) 6 A, supply voltage 24 V DC.



Technical data

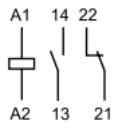
Insulation according to EN 61810-1		
Nominal voltage of supply system	V AC	230/400
Rated insulation voltage	V AC	250
Pollution degree		2
Insulation between coil and contact set		
Type of Insulation		Reinforced
Overvoltage category		III
Rated impulse voltage	kV (1.2/50 µs)	6
Dielectric strength	V AC	4000
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)	1500/2.5

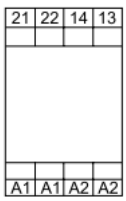
Insulation between coil terminals					
Rated impulse voltage (surge) differential mode (according to EN 50121) kV (1.2/50 µs)			1.5		
Terminals			**solid cable**	**stranded cable**	
Max. wire size		mm2	1 x 1.5	1 x 1.5	
		AWG	1 x 14	1 x 16	
Wire strip length		mm	9		
Other data			**7S.12**	**7S.14**	**7S.16**
Bounce time: NO/NC		ms	2/8	1/20	1/20
Vibration resistance: NO/NC			According to EN 61373		
Shock resistance			According to EN 61373		
Power lost to the environment	without contact current	W	0.8	0.8	0.8
	with rated current	W	1.4	2.3	2.8

Contact specifications

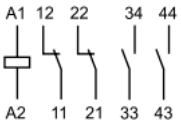
Contact diagrams

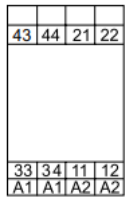
7S.12/32



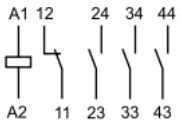


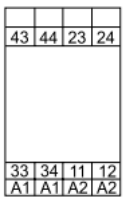
7S.14/34...4220



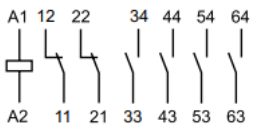


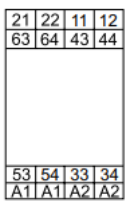
7S.14/34...4310



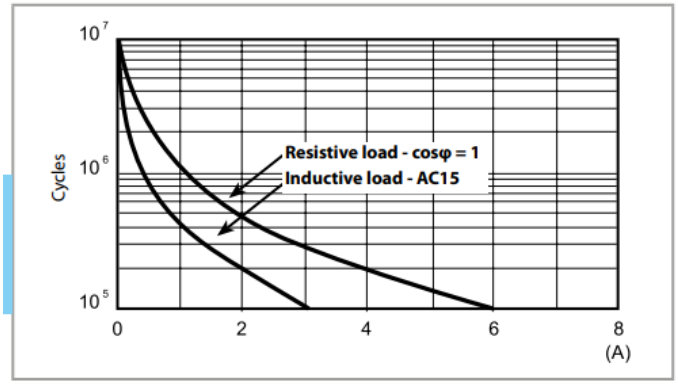


7S.16/36

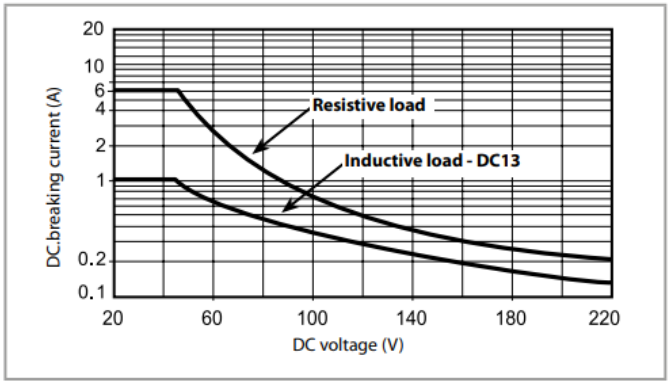




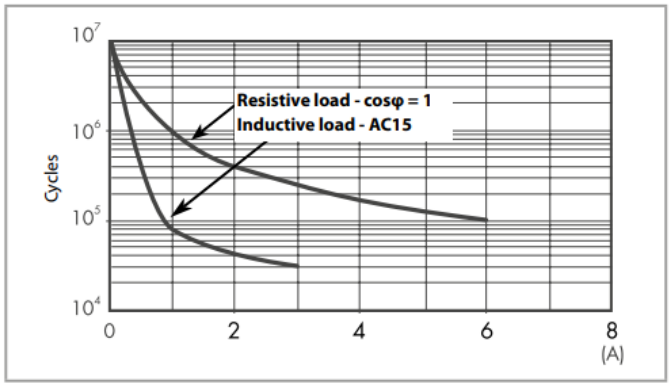
F 7S12 - Electrical life (AC) v contact current - 7S.12



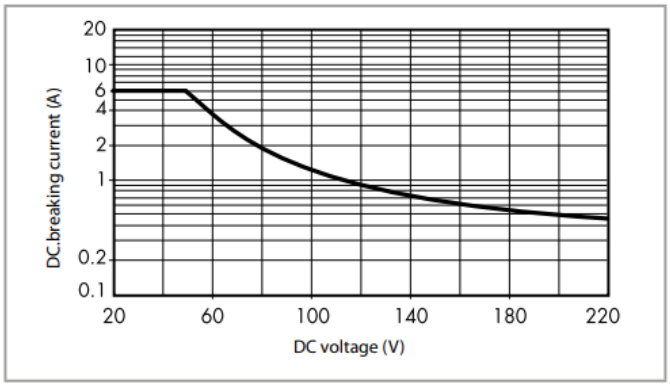
H 7S12* - Maximum DC breaking capacity - 7S.12



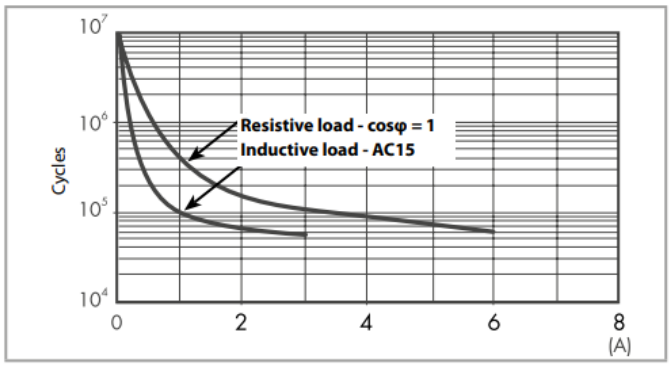
F 7S14 - Electrical life (AC) v contact current - 7S.14/34



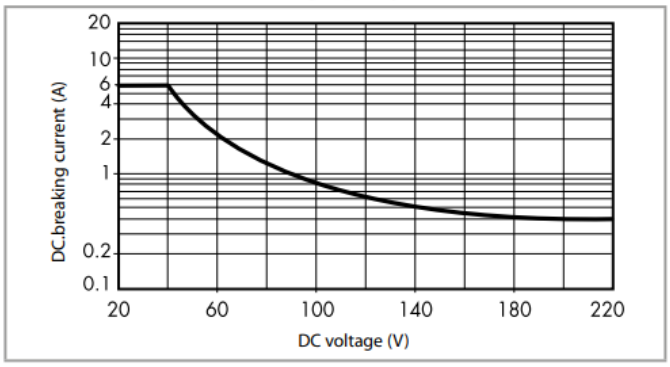
H 7S14* - Maximum DC breaking capacity - 7S.14/34



F 7S16 - Electrical life (AC) v contact current - 7S.16/36



H 7S16* - Maximum DC breaking capacity - 7S.16/36



When switching a load having voltage and current values under the curve, an electrical life of ≥ 100 · 103 can be expected.

Coil specifications

DC coil data – type 7S.12/32

DC coil data - type 7S.12/32

Nominal voltage U_N	Coil code	Operating range U_{min}	Operating range U_{max}	Rated input current at U_N I_N	Rated power at U_N
V		V	V	mA	W
24	**9**.024	16.8	30	38.2	0.9

AC coil data - type 7S.12/32

Nominal voltage U_N	Coil code	Operating range U_{min}	Operating range U_{max}	Rated input current at U_N I_N	Rated power at U_N
V		V	V	mA	VA/W
110…125	**8**.120	93	138	9.8	1.2/1.1
230…240	**8**.230	195	264	11.8	2.8/1.2

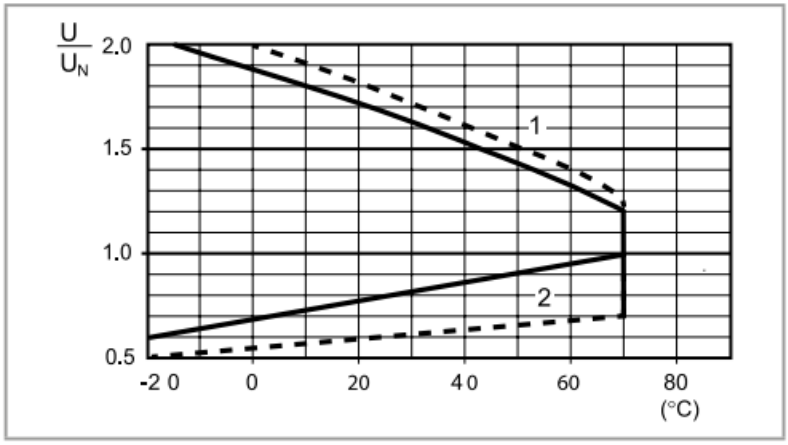
DC coil data - type 7S.14/34 / 7S.16/36

Nominal voltage U_N	Coil code	Operating range U_{min}	Operating range U_{max}	Rated input current at U_N I_N	Rated power at U_N
V		V	V	mA	W
24	**9**.024	16.8	30	42.2	1
110	**9**.110	77	138	11.6	1.4

AC coil data - type 7S.14/34 / 7S.16/36

Nominal voltage U_N	Coil code	Operating range U_{min}	Operating range U_{max}	Rated input current at U_N I_N	Rated power at U_N
V		V	V	mA	VA/W
110…125	**8**.120	93	138	10.2	1.3/1.1
230…240	**8**.230	195	264	11.8	2.9/1.2

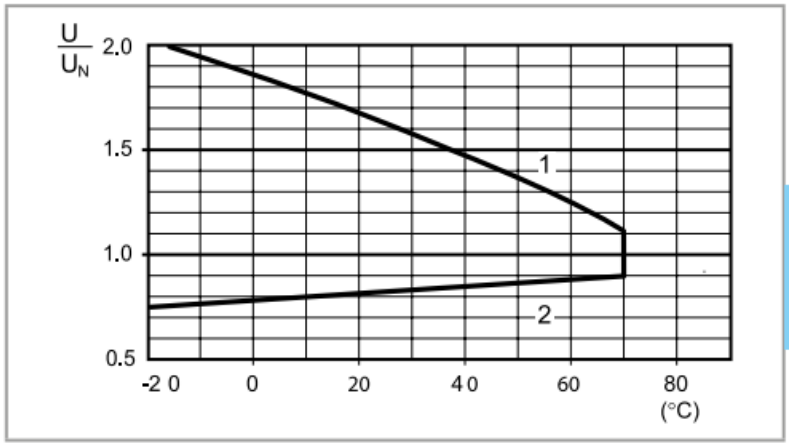
R 7S – DC coil operating range v ambient temperature – 7S.12/32 / 7S.14/34 / 7S.16/36



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

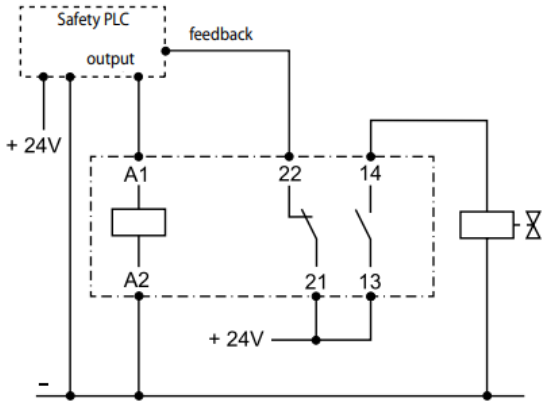
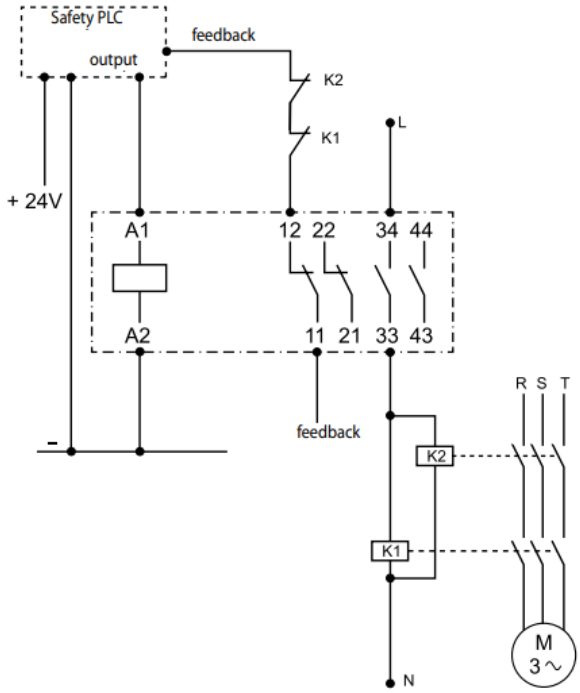
   – – – – – 24 and 110 V DC coils only (extended range)

R 7S – AC coil operating range v ambient temperature – 7S.12/32 / 7S.14/34 / 7S.16/36



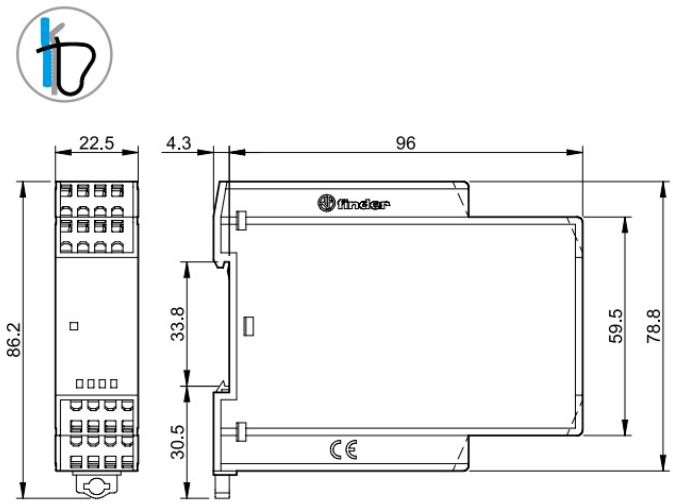
1. Max. permitted coil voltage.
2. Min. pick-up voltage with coil at ambient temperature.

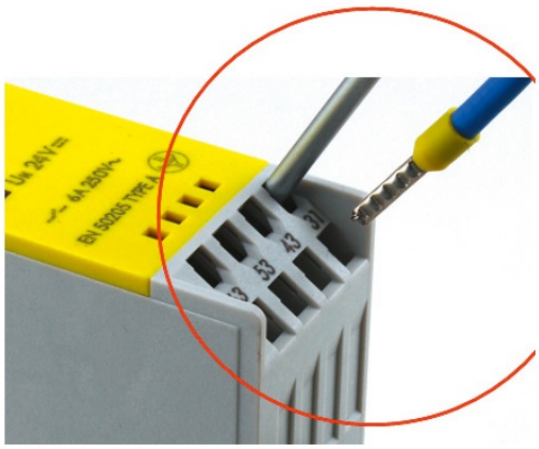
Wiring diagrams

Type 7S.x2	Type 7S.x4...4220
	

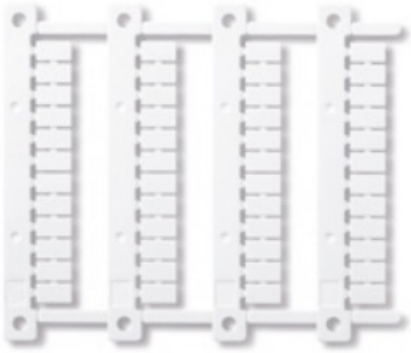
Outline drawings

Type 7S.xx
Screwless terminal





Accessories



060.48

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

VI-2024, www.findernet.com

FAQ

Q: What are the different types of contact configurations available?
A: The relay module is available in 2 pole, 4 pole, and 6 pole configurations with various combinations of Normally Open (NO) and Normally Closed (NC) contacts.

Q: How do I select the appropriate relay module for my application?
A: Consider factors such as the required contact setup, rated current, and operating voltage to choose the right type from the available options.

Q: What standards does the product comply with?
A: The relay module complies with standards including EN 45545-2:2020 for fire protection, EN 61373 for resistance against vibrations and shock, and EN 50155 for temperature and humidity resistance.

Documents / Resources

	finder 7S Series Relay Module with Forcibly Guided Contacts [pdf] Instruction Manual 7S.12-32T, 7S.14-34T, 7S.16-36T, 7S Series Relay Module with Forcibly Guided Contacts, 7S Series, Relay Module with Forcibly Guided Contacts, Module with Forcibly Guided Contacts, Forcibly Guided Contacts, Guided Contacts

References

- User Manual