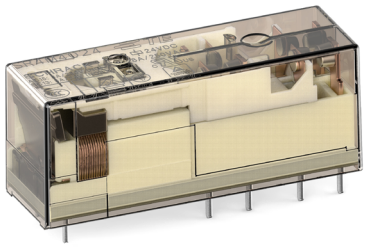
SCHRACK SR4

FORCE GUIDED RELAYS

INTRODUCTION

TE Connectivity (TE)'s SCHRACK SR4 is a compact and space efficient force guided relay for loads up to 8 A. The optimized ratio between 13 mm width and 16.5 mm height helps allow miniaturization for horizontally or vertically installed PCBs and modules. With its force guided contact set, the state of a contact can be monitored with a diagnostic coverage of 99% (IEC 61508-2) which makes the SR4 highly reliable to design safety circuits. The SR4 is produced both in Europe and China to optimally serve local customers.



FEATURES

- 4 pole contact arrangement with either 3 NO (form A) + 1 NC (form B) contact set or 2 NO (form A) + 2 NC (form B) contact set with force guided relays contacts according to IEC 61810-3 (formerly EN50205)
- Compact design and space efficient
- Height of 16.5 mm fits well in 22.5 mm DIN rail housings

APPLICATIONS

- Emergency shut-off
- Press control
- Machine control
- Elevator and escalator control
- Safety relays

APPROVALS

- VDE Cert. No. 40005334
- UL E214025
- TÜV 968/EL 230
- CCC 2020970303000303/2024000303000026

Technical data of approved types on request

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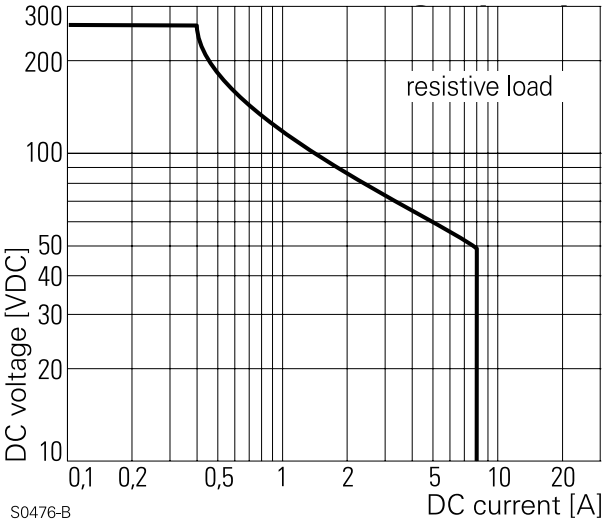
CONTACT DATA

Contact arrangement	3 form A + 1 form B contacts 3 NO + 1 NC 2 form A + 2 form B contacts 2 NO + 2 NC
Rated voltage	250 VAC
Maximum switching voltage	400 VAC
Rated current	8 A
Contact material	$AgSnO_2$
Contact style	single contact, force guided type A according to EN61810-3 (formerly EN50205)
Minimum recommended contact load	5 V/ 10 mA
Initial contact resistance	≤ 100 mΩ at 1 A, 24 VDC ≤ 20 Ω at 10 mA, 5 VDC
Frequency of operation, with/without load	6/150 min^{-1}
Mechanical endurance	$10x10^6$ operations

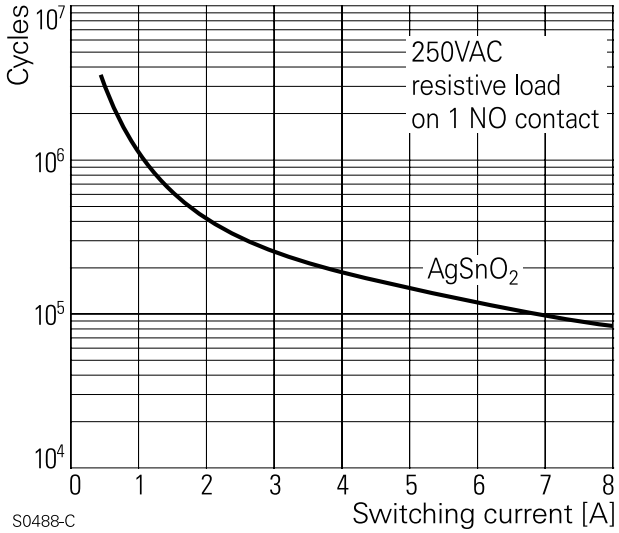
CONTACT RATINGS

Contact	Load	Cycles
IEC 61810-1 (VDE and TÜV approved)		
NO (1 form A)	8A, 250 VAC, cosφ=1, 70 °C	$20x10^3$
NC (1 form B)	5A, 250 VAC, cosφ=1, 70 °C	
UL 61810-1 (UL approved, former UL 508)		
NO/NC (1 form A/ 1 form B)	8 A, 250 VAC, general purpose, 70 °C	6,000
NO (1 form A)	R300, B300	
NC (1 form B)	R300	
IEC 60947-5-1 (VDE and TÜV approved)		
NO/NC (1 form A/ 1 form B)	3 A, 24 VDC, DC13	6,050
NO (1 form A)	3 A, 250 VAC AC-15	

MAX. DC LOAD BREAKING CAPACITY



TYPICAL ELECTRICAL ENDURANCE



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COIL DATA

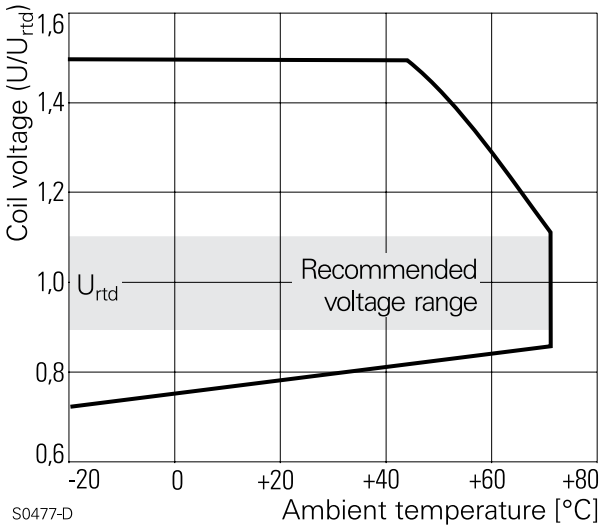
Coil voltage range	5 VDC to 110 VDC

COIL VERSIONS, DC-COIL

Coil code	Rated voltage VDC	Operate voltage VDC	Release voltage VDC	Coil resistance Ω ±10%	Rated coil power mW
005	5	3.8	0.5	31	806
006	6	4.5	0.6	45	800
009	9	6.8	0.9	101	802
012	12	9.0	1.2	180	800
015	15	11.3	1.5	281	801
018	18	13.5	1.8	405	800
021	21	16.0	2.1	551	800
024	24	18.0	2.4	720	800
036	36	27.0	3.6	1620	800
040	40	30.0	4.0	2000	800
048	48	36.0	4.8	2880	800
060	60	45.0	6.0	4500	800
085	85	63.8	8.5	9031	800
110	110	83.0	11.0	15125	800

All figures are given for coil without pre-energization, at ambient temperature +23 °C.

COIL OPERATING RANGE DC



INSULATION DATA

Initial dielectric strength	
between open contacts	1500 Vrms
between contact and coil	4000 Vrms
between adjacent contacts	2500 Vrms
Clearance/creepage	
between open contacts	microdisconnection
between contact and coil	≥ 10/10 mm
between adjacent contacts	≥ 3/3.5 mm
Insulation to EN 62477-1 (former EN 50178), type of insulation	
between contact and coil	reinforced
between adjacent contacts	basic

OTHER DATA

Material compliance	EU RoHS/ELV, China RoHS, REACH, Halogen content refer to the Product Compliance Support Center at **www.te.com/customersupport/rohssupportcenter**
Ambient temperature	-25 °C to +70 °C
Category of environmental protection	
IEC 61810	RTIII [1)]
Weight	16 g
Resistance to soldering heat THT	
IEC 60068-2-20	260 °C/5 s
Packaging/unit	
Czech Republic	tube/10 pcs., box/250 pcs.
China	tube/14 pcs., box/420 pcs.

1) Relay fulfills the standardized IEC 61810 requirements for the category of environmental protection RT III "wash tight". These standardized RT III sealing tests do not include any type of washing process. The customer shall ensure, that their soldering process, cleaning process and potentially used chemicals are not damaging the relay!

For more ratings and information see product specification 2158002

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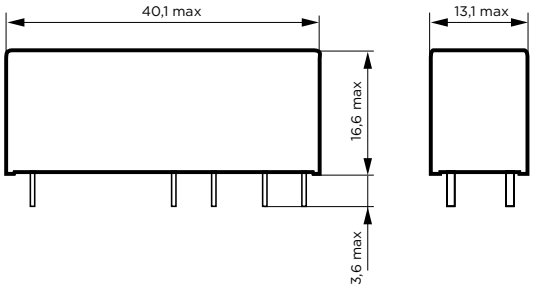
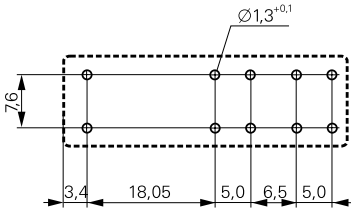
DIMENSIONS (Unit: mm)

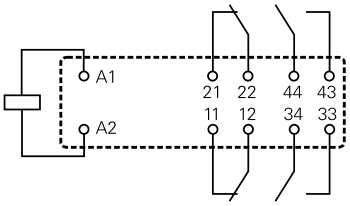


PCB LAYOUT / TERMINAL ASSIGNMENT

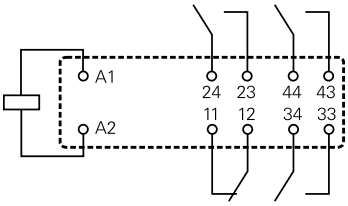
Bottom view on solder pins



2 form A + 2 form B, 2 NO + 2 NC contacts



3 form A + 1 form B, 3 NO + 1 NC contacts



ORDERING INFORMATION

Part Number
SR4 D 4 012

Chassis size

SR4	Relay with force guided contacts SR4

Contact arrangement

D	2 form A + 2 form B contacts (2 NO + 2 NC)
M	3 form A + 1 form B contacts (3 NO + 1 NC)

Coil

Coil code: please refer to coil versions table (e.g. 012=12 VDC)

Contact material

4	$AgSnO_2$

Other types on request.

PRODUCT INFORMATION

Product code	Version	Contact configuration	Contact material	Coil	Part Number	
					For Global markets *)	For AP markets **)
SR4D4005	4 pole relay with force guided contacts	2 form A + 2 form B, 2 NO + 2 NC contacts	$AgSnO_2$	5 VDC	7-1415054-1	-
SR4D4006				6 VDC	8-1415054-1	-
SR4D4009				9 VDC	9-1415054-1	-

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Product code	Version	Contact configuration	Contact material	Coil	Part Number	
					For Global markets *)	For AP market **)
SR4D4012	4 pole relay with force guided contacts	2 form A + 2 form B, 2 NO + 2 NC contacts	$AgSnO_2$	12 VDC	1415055-1	2071571-4
SR4D4018				18 VDC	1-1415055-1	2071571-6
SR4D4021				21 VDC	2-1415055-1	-
SR4D4024				24 VDC	3-1415055-1	2071571-8
SR4D4036				36 VDC	4-1415055-1	-
SR4D4040				40 VDC	5-1415055-1	-
SR4D4048				48 VDC	6-1415055-1	1-2071571-1
SR4D4060				60 VDC	7-1415055-1	-
SR4D4085				85 VDC	8-1415055-1	-
SR4D4110				110 VDC	9-1415055-1	1-2071571-5
SR4M4005	4 pole relay with force guided contacts	3 form A + 1 form B, 3 NO + 1 NC contacts		5 VDC	5-1415053-1	-
SR4M4006				6 VDC	6-1415053-1	-
SR4M4009				9 VDC	7-1415053-1	-
SR4M4012				12 VDC	8-1415053-1	5-2071571-4
SR4M4018				18 VDC	9-1415053-1	5-2071571-6
SR4M4021				21 VDC	1415054-1	-
SR4M4024				24 VDC	4-1415053-1	5-2071571-8
SR4M4036				36 VDC	1-1415054-1	-
SR4M4040				40 VDC	2-1415054-1	-
SR4M4048				48 VDC	3-1415054-1	6-2071571-1
SR4M4060				60 VDC	4-1415054-1	-
SR4M4085				85 VDC	5-1415054-1	-
SR4M4110				110 VDC	6-1415054-1	6-2071571-5

*) Country of origin Czech Republic
**) Country of origin China

This list represents the most common type and does not show all variants covered by this datasheet.

Other types on request

Notes:

1. Datasheets and product specification according to IEC 61810-1 and to be used only together with the 'Definitions' section.
2. Datasheets and product data is subject to the terms of the disclaimer and all chapters of the 'Definitions' section, available at http://relays.te.com/definitions.
3. Datasheets, product data, 'Definitions' section, application notes and all specifications are subject to change.
4. For general information on Force-Guided-Relays and our portfolio, please visit http://www.te.com/fgr.
5. For more detailed product-specific-information (such as B10d values, switching times, etc) please contact our Product Information Center (https://www.te.com/usa-en/customer-support/customer-service.html) and ask for the product-specification.

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