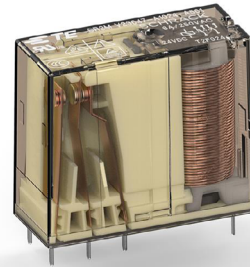


# SCHRACK FORCE GUIDED RELAY SR2M

## FORCE GUIDED RELAYS

### INTRODUCTION

TE Connectivity (TE)'s Schrack Force Guided Relay SR2M is a high-performance 2-pole relay designed for safety-critical applications. It features force guided contacts, reinforced insulation, and a dielectric strength of 4000Vrms between contact and coil. With a wide coil voltage range from 5 to 110VDC and a rated current of 6A, it is suitable for demanding industrial environments. The SR2M relay ensures reliable and compliant operation.



### FEATURES

- 2 pole relay with force guided contacts according to EN61810-3 (formerly EN50205)
- Reinforced insulation between poles
- Version P1 for use in sockets

### APPLICATIONS

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

### APPROVALS

- VDE Cert. No. 116064
- UL E214025
- TÜV 968/EZ 111
- CCC 2024010303672550



Technical data of approved types on request

## FORCE GUIDED RELAY SR2M

### Force Guided Relays

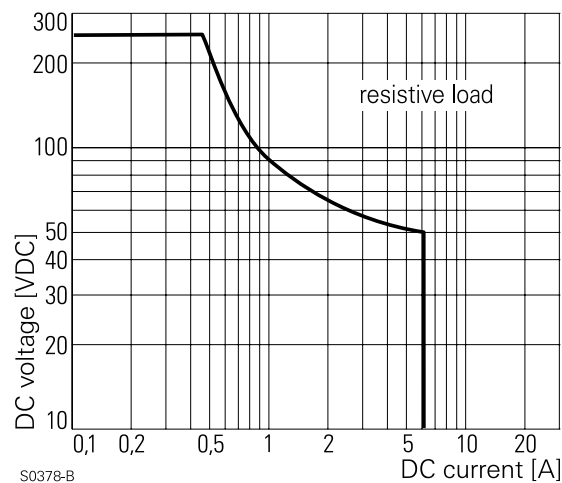
#### CONTACT DATA

|                                                                                                                 |                                                                              |
|-----------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------|
| Contact arrangement                                                                                             | 1 form A + 1 form B contacts<br>(1 NO + 1 NC) or<br>2 form C contacts (2 CO) |
| According EN61810-3 only 1NO / 1NC (11-14 and 22-21 or 12-11 and 21-24) shall be used as force guided contacts. |                                                                              |
| Rated voltage                                                                                                   | 250VAC                                                                       |
| Max. switching voltage                                                                                          | 400VAC                                                                       |
| Rated current                                                                                                   | 6 A                                                                          |
| Contact material                                                                                                | AgNi                                                                         |
| Contact style                                                                                                   | single contact, force guided                                                 |
| 1 form A + B, 1 NO + 1NC                                                                                        | type A according to EN61810-3                                                |
| 2 form C, 2CO                                                                                                   | type B according to EN61810-3                                                |
| Min. recommended contact load                                                                                   | 5V/10mA                                                                      |
| Initial contact resistance                                                                                      | $\leq 100\text{m}\Omega$ at 1A, 24 VDC<br>$\leq 20\Omega$ at 10mA, 5 VDC     |
| Frequency of operation, with/without load                                                                       | 6/300min <sup>-1</sup>                                                       |
| Mechanical endurance                                                                                            | 10x10 <sup>6</sup> operations                                                |

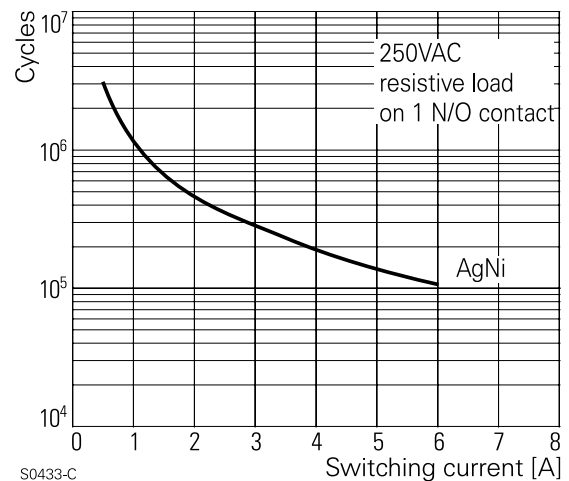
#### CONTACT RATINGS

| Contact                                        | Load                          | Cycles              |
|------------------------------------------------|-------------------------------|---------------------|
| <b>IEC 61810-1 (VDE and TÜV approved)</b>      |                               |                     |
| NO (1 form A)                                  | 6A, 250VAC, cosphi=1, 70°C    | 100x10 <sup>3</sup> |
| <b>IEC 60947-5-1 (VDE and TÜV approved)</b>    |                               |                     |
| NO (1 form A)                                  | AC15 - 250V/3A                | 6050                |
| NO (1 form A)                                  | DC13 - 24V/3A                 | 6050                |
| <b>UL 61810-1 (UL approved, former UL 508)</b> |                               |                     |
| NO (1 form A)                                  | 6A, 250VAC, cosphi=1, 70°C    | 100x10 <sup>3</sup> |
| NO (1 form A)                                  | R300 and B300, 40°C           | 6000                |
| NO (1 form A) + NC (1 form B)                  | 1A, 24VDC, gen. purpose, 70°C | 100x10 <sup>3</sup> |

#### MAX. DC LOAD BREAKING CAPACITY



#### ELECTRICAL ENDURANCE



# FORCE GUIDED RELAY SR2M

## Force Guided Relays

### COIL DATA

|                    |             |
|--------------------|-------------|
| Coil voltage range | 5 to 110VDC |
|--------------------|-------------|

### COIL VERSIONS, DC COIL

| Coil code | Rated voltage VDC | Operate voltage VDC | Release voltage VDC | Coil resistance $\Omega \pm 10\%$ | Rated coil power mW |
|-----------|-------------------|---------------------|---------------------|-----------------------------------|---------------------|
| 005       | 5                 | 3.8                 | 0.5                 | 35.7                              | 700                 |
| 006       | 6                 | 4.5                 | 0.6                 | 51                                | 706                 |
| 009       | 9                 | 6.8                 | 0.9                 | 116                               | 698                 |
| 012       | 12                | 9                   | 1.2                 | 206                               | 699                 |
| 015       | 15                | 11.3                | 1.5                 | 321                               | 701                 |
| 018       | 18                | 13.5                | 1.8                 | 483                               | 671                 |
| 021       | 21                | 16                  | 2.1                 | 630                               | 700                 |
| 024       | 24                | 18                  | 2.4                 | 823                               | 700                 |
| 036       | 36                | 27                  | 3.6                 | 1851                              | 700                 |
| 040       | 40                | 30                  | 4.0                 | 2286                              | 700                 |
| 048       | 48                | 36                  | 4.8                 | 3291 <sup>1)</sup>                | 700                 |
| 060       | 60                | 45                  | 6                   | 5142 <sup>1)</sup>                | 700                 |
| 080       | 80                | 60                  | 8                   | 9143 <sup>1)</sup>                | 700                 |
| 110       | 110               | 83                  | 11                  | 17285 <sup>1)</sup>               | 700                 |

<sup>1)</sup> Coil resistance  $\pm 12\%$ .

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

### INSULATION DATA

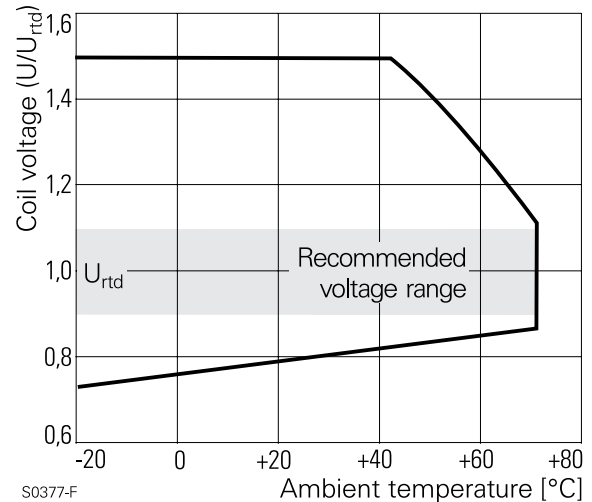
|                                                                |                         |
|----------------------------------------------------------------|-------------------------|
| Initial dielectric strength                                    |                         |
| between open contacts                                          | 1500Vrms                |
| between contact and coil                                       | 4000Vrms                |
| between adjacent contacts                                      | 3000Vrms                |
| Clearance/creepage                                             |                         |
| between open contacts                                          | microdisconnection      |
| between contact and coil                                       | $\geq 8/8\text{mm}$     |
| between adjacent contacts                                      | $\geq 5.5/5.5\text{mm}$ |
| Insulation to EN 62477-1 (former EN 50178), type of insulation |                         |
| between contact and coil                                       | reinforced              |
| between adjacent contacts                                      | reinforced              |

### ACCESSORIES

|                                          |                                                            |
|------------------------------------------|------------------------------------------------------------|
| Datasheet of compatible DIN-rail sockets | <a href="#">Accessories Force Guided Relay SR2M plugin</a> |
| Datasheet of compatible PCB sockets      | <a href="#">PCB Accessories Industrial Power Relays</a>    |

NOTE: indicated contact ratings and electrical endurance data for direct wiring of relays (according IEC 61810-1 (VDE and TÜV approved)); for relays mounted on sockets deratings may apply.

### COIL OPERATING RANGE DC



### OTHER DATA

|                                      | SR2M                                                                                                                                                                                                               | SR2M Plug-in |
|--------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|
| Material compliance                  | EU RoHS/ELV, China RoHS, REACH, Halogen content refer to the Product Compliance Support Center at <a href="http://www.te.com/customer-support/rohssupportcenter">www.te.com/customer-support/rohssupportcenter</a> |              |
| Ambient temperature                  | -40°C to 70°C                                                                                                                                                                                                      |              |
| Category of environmental protection |                                                                                                                                                                                                                    |              |
| IEC 61 810                           | RTIII <sup>1)</sup>                                                                                                                                                                                                | RTII         |
| Weight                               | 20g                                                                                                                                                                                                                |              |
| Resistance to soldering heat THT     |                                                                                                                                                                                                                    |              |
| IEC 60068-2-20                       | 260°C/5s                                                                                                                                                                                                           |              |
| Packaging unit                       | tube/20 pcs.                                                                                                                                                                                                       |              |

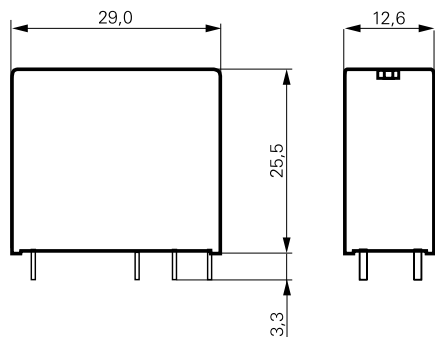
1) Relay fulfills the standardized IEC 61810 requirements for the category of environmental protection RT III "wash tight". These standardized RT III sealing tests do not include any type of washing process. The customer shall ensure, that their soldering process, cleaning process and potentially used chemicals are not damaging the relay! For more detailed information see product specification 2158001

# FORCE GUIDED RELAY SR2M

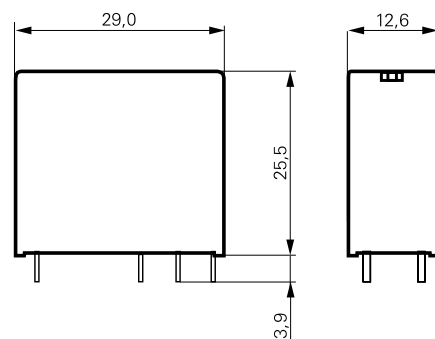
Force Guided Relays

## DIMENSIONS (Unit:mm)

SR2M



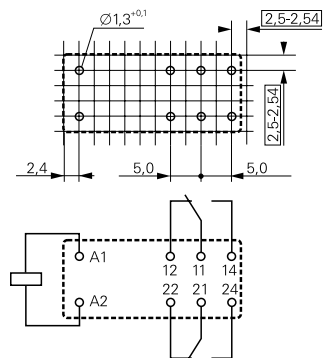
SR2M Plug-In



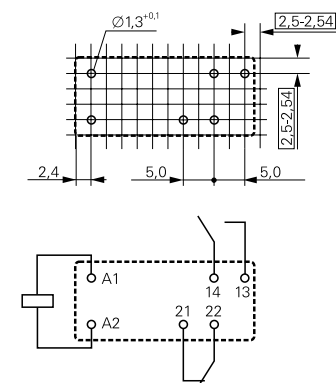
## PCB LAYOUT / TERMINAL ASSIGNMENT

Bottom view on solder pins

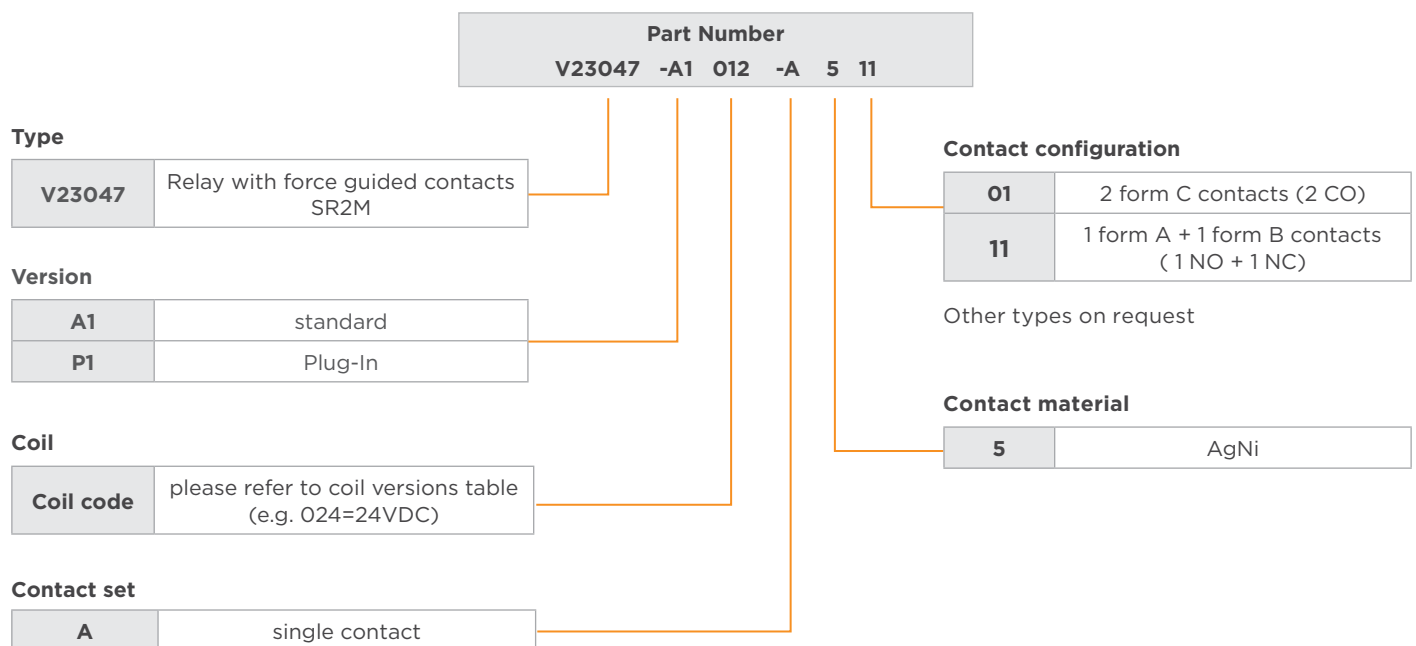
2 form C, 2 CO contacts



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



## PRODUCT CODE STRUCTURE



# FORCE GUIDED RELAY SR2M

Force Guided Relays

## PRODUCT INFORMATION

| Product code      | Version                   | Contact arrangement      | Cont. material | Coil                        | Part number                 |                             |
|-------------------|---------------------------|--------------------------|----------------|-----------------------------|-----------------------------|-----------------------------|
| V23047-A1005-A501 | Standard<br>wash tight    | 2 form C (CO)            | AgNi           | 5VDC                        | <a href="#">1393258-2</a>   |                             |
| V23047-A1005-A511 |                           | 1 A + 1 B, (1 NO + 1 NC) |                |                             | <a href="#">7-1415006-1</a> |                             |
| V23047-A1006-A501 |                           | 2 form C (CO)            |                | 6VDC                        | <a href="#">3-1415011-1</a> |                             |
| V23047-A1006-A511 |                           | 1 A + 1 B, (1 NO + 1 NC) |                |                             | <a href="#">6-1415011-1</a> |                             |
| V23047-A1009-A501 |                           | 2 form C (CO)            |                | 9VDC                        | <a href="#">1393258-3</a>   |                             |
| V23047-A1009-A511 |                           | 1 A + 1 B, (1 NO + 1 NC) |                |                             | <a href="#">7-1415011-1</a> |                             |
| V23047-A1012-A501 |                           | 2 form C (CO)            |                | 12VDC                       | <a href="#">1393258-4</a>   |                             |
| V23047-A1012-A511 |                           | 1 A + 1 B, (1 NO + 1 NC) |                |                             | <a href="#">1393258-5</a>   |                             |
| V23047-A1018-A501 |                           | 2 form C (CO)            |                | 18VDC                       | <a href="#">1393258-8</a>   |                             |
| V23047-A1018-A511 |                           | 1 A + 1 B, (1 NO + 1 NC) |                |                             | <a href="#">1393258-9</a>   |                             |
| V23047-A1021-A501 |                           | 2 form C (CO)            |                | 21VDC                       | <a href="#">1-1393258-1</a> |                             |
| V23047-A1021-A511 |                           | 1 A + 1 B, (1 NO + 1 NC) |                |                             | <a href="#">1-1393258-2</a> |                             |
| V23047-A1024-A501 |                           | 2 form C (CO)            |                | 24VDC                       | <a href="#">1-1393258-5</a> |                             |
| V23047-A1024-A511 |                           | 1 A + 1 B, (1 NO + 1 NC) |                |                             | <a href="#">1-1393258-7</a> |                             |
| V23047-A1036-A501 |                           | 2 form C (CO)            |                | 36VDC                       | <a href="#">2-1393258-0</a> |                             |
| V23047-A1036-A511 |                           | 1 A + 1 B, (1 NO + 1 NC) |                |                             | <a href="#">8-1415011-1</a> |                             |
| V23047A1040-A501  |                           | 2 form C (CO)            |                | 40VDC                       | <a href="#">2-1393258-1</a> |                             |
| V23047-A1040-A511 |                           | 1 A + 1 B, (1 NO + 1 NC) |                |                             | <a href="#">2-1393258-2</a> |                             |
| V23047A1048-A501  |                           | 2 form C (CO)            |                | 48VDC                       | <a href="#">3-1415006-1</a> |                             |
| V23047-A1048-A511 |                           | 1 A + 1 B, (1 NO + 1 NC) |                |                             | <a href="#">9-1415011-1</a> |                             |
| V23047-A1060-A511 |                           |                          |                | 60VDC                       | <a href="#">2-1393258-3</a> |                             |
| V23047-A1110-A501 |                           |                          |                | 2 form C (CO)               | 110VDC                      | <a href="#">1-1415012-1</a> |
| V23047-A1110-A511 |                           |                          |                | 1 A + 1 B, (1 NO + 1 NC)    |                             | <a href="#">2-1415012-1</a> |
| V23047-P1005-A501 | Plug-in<br>for socket use | 2 form C (CO)            | 5VDC           | <a href="#">7-1415543-4</a> |                             |                             |
| V23047-P1009-A501 |                           |                          | 9VDC           | <a href="#">7-1415543-5</a> |                             |                             |
| V23047-P1012-A501 |                           |                          | 12VDC          | <a href="#">7-1415543-6</a> |                             |                             |
| V23047-P1021-A501 |                           |                          | 21VDC          | <a href="#">7-1415543-7</a> |                             |                             |
| V23047-P1024-A501 |                           |                          | 24VDC          | <a href="#">7-1415543-8</a> |                             |                             |
| V23047-P1036-A501 |                           |                          | 36VDC          | <a href="#">7-1415543-9</a> |                             |                             |
| V23047-P1110-A501 |                           |                          | 110VDC         | <a href="#">8-1415543-0</a> |                             |                             |

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

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#### 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.

**te.com**

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