

## Miniature Power PCB Relay MSR

- 1 pole 8 / 10 A, 1CO or 1NO contact
- High inrush currents with AgSnO contacts (TV4 = 65 A)
- 4 kV/8 mm coil-contact
- Reinforced insulation (protection class II)
- Ambient temperature up to 85°C at 8 A
- Plastic materials according to IEC60335-1 (domestic appliances)
- RoHS compliant (Directive 2002 / 95 / EC) as per product date code 0404

### Applications

HVAC, interface technology, power supplies, TV-/Monitor control, computer-/communication technology, domestic appliances, Hi-Fi products, timers



F0143-C

### Approvals

VDE REG.-Nr. 3919, **CE** us E214024  
Technical data of approved types on request

### Contact data

Contact configuration	1CO or 1NO	
Contact set	single contact	
Type of interruption	micro disconnection	
Rated current	versions A,B:	8 A
	versions C,D:	10 A
Rated voltage / max.switching voltage AC	240/400 VAC	
Maximum breaking capacity AC	2000 VA	
Limiting making capacity, max 20 ms	A302: 65 A	
max 4 s, duty factor 10%	15 A	15 A
Contact material	AgSnO <sub>2</sub> , AgCdO	AgNiO, 15*
Mechanical endurance	10x10 <sup>6</sup> cycles	
Rated frequency of operation with / without load	6 / 1200 min <sup>-1</sup>	

\*not recommended for AC loads with arcing (CC2 according EN61810-2)

### Contact ratings

Type	Load	Cycles
V23061-A1***-A302	8 A, 250 VAC, resistive load, 85°C, 1 mm mounting distance, 6 cycles min <sup>-1</sup> , 50% duty factor, EN61810-1	100x10 <sup>3</sup>
V23061-C2***-A302	10 A, 250 VAC, resistive load, 85°C, 0 mm mounting distance, 6 cycles min <sup>-1</sup> , 50% duty factor, EN61810-1	10x10 <sup>3</sup>
V23061-C2***-A302	5 A, 250 VAC, resistive load, 105°C, 0 mm mounting distance, 6 cycles min <sup>-1</sup> , 50% duty factor, EN61810-1	100x10 <sup>3</sup>
V23061-A1***-A302	TV-4 Tungsten, 120 VAC, UL508	25x10 <sup>3</sup>
V23061-*****-A30*	240 VAC, A300, Pilot duty, UL508	6x10 <sup>3</sup>

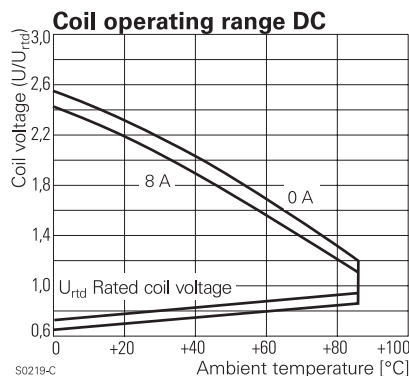
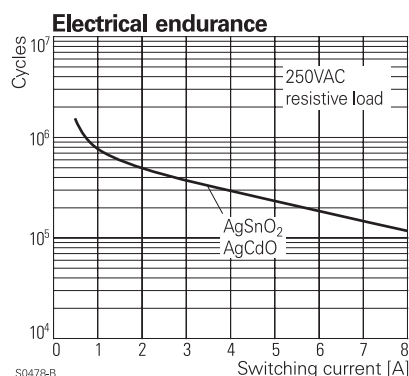
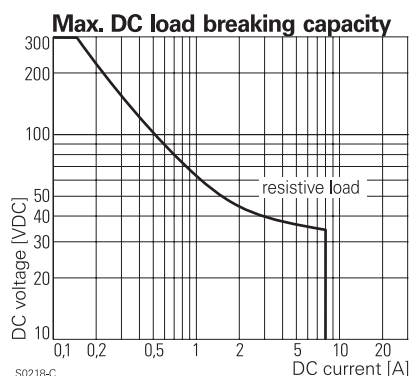
### Coil data

Rated voltage range DC coil	3...60 VDC
Coil power DC coil	typ. 220 mW
Operative range	2
Coil insulation system according UL1446	Class A, Class F

### Coil versions, DC-coil

Coil code	Rated voltage VDC	Operate voltage VDC	Release voltage VDC	Coil resistance Ohm	Rated coil power mW
001	3	2.1	0.3	40±10%	225
002	5	3.4	0.5	118±10%	212
003	6	4.1	0.6	165±10%	218
004	9	6.1	0.9	364±10%	223
005	12	8.2	1.2	652±10%	221
007	24	16.3	2.4	2270±10%	254
009	48	32.6	4.8	8790±10%	262
010	60	40.8	6.0	15265±15%	236

All figures are given for coil without preenergization, at ambient temperature +23°C  
Other coil voltages on request



## Miniature Power PCB Relay MSR (Continued)

Insulation	CO contact	NO contact
Dielectric strength coil-contact circuit		4000 V <sub>rms</sub>
open contact circuit		1000 V <sub>rms</sub>
Clearance / creepage coil-contact circuit	≥ 8 / 8 mm	≥ 8 / 8 mm
Material group of insulation parts	IIIb	IIIb
Insulation to IEC 60664-1		
Type of insulation coil-contact circuit	reinforced	reinforced
open contact circuit	functional	functional
Rated insulation voltage	250 V	250 V
Pollution degree	3	2
Rated voltage system	230 V	400 V
Overvoltage category	III	III

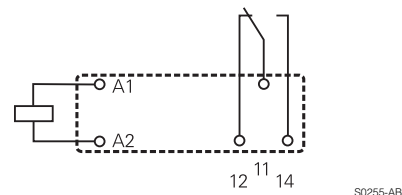
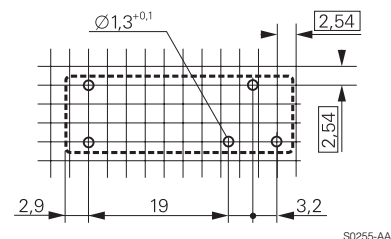
### Other data

RoHS - Directive 2002/95/EC	compliant as per product date code 0404	
Flammability class according to UL94	V-0	
For WG version: GWFI to IEC 60335-1	> 850 °C	
GWIT to IEC 60335-1	> 775 °C	
Ambient temperature range	-40...+85°C	
Operate- / release time	6 / 2,5 ms	
Bounce time NO / NC contact	0,5 / 4 ms	
Vibration resistance (function) NO / NC contact	10 / 4 g	
Shock resistance (function) NO / NC contact	20 / 5 g	
Shock resistance (destruction)	100 g	
Category of protection	RTII-flux proof; RTIII- wash tight	
Mounting	pcb	
Mounting position	any	
Minimum mounting distance	0 mm	
Resistance to soldering heat flux-proof version	270°C / 10 s	
wash-tight version	260°C / 5s	
Relay weight	11 g	
Packaging unit	20 / 1000 pcs	

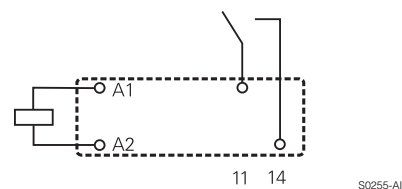
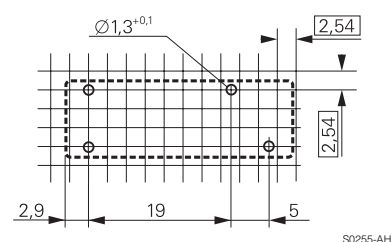
### PCB layout / terminal assignment

Bottom view on solder pins

1 CO contact, 3,2 mm

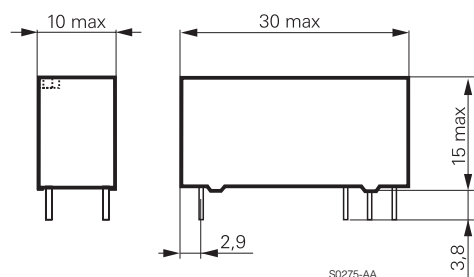


1 NO contact, 5 mm

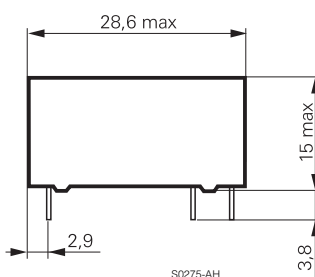


### Dimensions

1 CO contact, 3,2 mm



1 NO contact, 5 mm





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## 8-1393222-9 Product Details



**8-1393222-9**  
(V23061B1004A601)  
TE Part Number: 8-1393222-9

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### Industrial Relays (General Purpose)



[Converted to EU RoHS but not ELV Compliant \(Statement of Compliance\)](#)

#### Product Highlights:

- MSR Series
- Contact Arrangement = 1 Form C, SPDT, 1 C/O
- Contact Current Rating = 8 Amps.
- Monostable Coil Magnetic System
- Without Coil Suppression Diode

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### Documentation & Additional Information

#### Product Drawings:

- None Available

#### Catalog Pages/Data Sheets:

- [Miniature Power PCB Relay MSR](#) (PDF, English)

#### Product Specifications:

- None Available

#### Application Specifications:

- None Available

#### Instruction Sheets:

- None Available

#### CAD Files:

- None Available

#### Additional Information:

- [Product Line Information](#)

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### Product Features (Please use the Product Drawing for all design activity)

#### Product Type Features:

- [Termination Type](#) = Through Hole

#### Electrical Characteristics:

- [Contact Current Rating \(Amps.\)](#) = 8
- [Coil Resistance \( \$\Omega\$ \)](#) = 364
- [Coil Power, Nominal \(mW\)](#) = 220
- [Actuating System](#) = DC
- [Coil Power, Nominal \(W\)](#) = 0.22
- [Input Voltage \(VDC\)](#) = 9
- Dielectric Strength - Coil Contacts (V rms) = 4000
- Coil Rating = Sensitive

#### Body Related Features:

- [Series](#) = MSR
- Polarized = No
- Enclosure Color = White

#### Housing Related Features:

- Version = Pinning 3.2mm, Version for IEC 60335-1 (domestic appliances)
- Pick-Up (V) = 6.3
- Drop-Out (V) = 0.9

#### Configuration Related Features:

- [Contact Arrangement](#) = 1 Form C, SPDT, 1 C/O
- [Coil Magnetic System](#) = Monostable
- [Coil Suppression Diode](#) = Without
- [Coil Selection Criteria](#) = Nominal Voltage
- Coil Latching = Without
- [LED Indicator](#) = Without
- Number of Coils = 1

#### Industry Standards:

- [RoHS/ELV Compliance](#) = RoHS/Not ELV Compliant
- [Lead Free Solder Processes](#) = Wave solder capable to 240°C,

<p><b>Contact Related Features:</b></p> <ul style="list-style-type: none"><li>● <a href="#">Mounting Options</a> = PC Board, Socket</li><li>● <a href="#">Enclosure</a> = Immersion Cleanable</li><li>● FCC Part 68 Isolation = No</li><li>● Relay Type = PCB</li><li>● <a href="#">Contact Material</a> = Silver Cadmium Oxide, Gold Plated</li><li>● Contact Finish = Gold Plate</li><li>● Approx. Dimensions (L x W x H) (mm [in]) = 30.00 x 10.00 x 15.00 [1.182 x .394 x .591]</li><li>● Contact Type = Single</li><li>● Pin Configuration = Industry Standard 3.2mm</li><li>● Wiring Diagram = 1 Form C</li><li>● Approved Standards = VDE Component Mark, UL Recognized for Canada and US</li><li>● Number of Poles = 1</li></ul>	<p>Wave solder capable to 260°C</p> <ul style="list-style-type: none"><li>● RoHS/ELV Compliance History = Converted to comply with RoHS not ELV directives</li><li>● Coil Insulation Classification = UL Class A</li></ul> <p><b>Packaging Related Features:</b></p> <ul style="list-style-type: none"><li>● Packaging Method = Plastic Bar</li></ul> <p><b>Other:</b></p> <ul style="list-style-type: none"><li>● Electrical Spacing = 8.0mm Clearance 8.0mm Creepage</li><li>● Brand = Schrack</li></ul>
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## 1-1393223-2 Product Details



**1-1393223-2**  
(V23061B1006A401)  
TE Part Number: 1-1393223-2

[Active](#)[Add to Part List](#)

### Industrial Relays (General Purpose)



[Converted to EU RoHS but not ELV Compliant \(Statement of Compliance\)](#)

#### Product Highlights:

- MSR Series
- Contact Arrangement = 1 Form C, SPDT, 1 C/O
- Contact Current Rating = 8 Amps.
- Monostable Coil Magnetic System
- Without Coil Suppression Diode

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- None Available

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- None Available

#### CAD Files:

- None Available

#### Additional Information:

- [Product Line Information](#)

#### Related Products:

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### Product Features (Please use the Product Drawing for all design activity)

#### Product Type Features:

- [Termination Type](#) = Through Hole

#### Electrical Characteristics:

- [Contact Current Rating \(Amps.\)](#) = 8
- [Coil Resistance \( \$\Omega\$ \)](#) = 1455
- [Coil Power, Nominal \(mW\)](#) = 223
- [Actuating System](#) = DC
- [Coil Power, Nominal \(W\)](#) = 0.223
- [Input Voltage \(VDC\)](#) = 18
- Dielectric Strength - Coil Contacts (V rms) = 4000
- Coil Rating = Sensitive

#### Body Related Features:

- [Series](#) = MSR
- Polarized = No
- Enclosure Color = White

#### Housing Related Features:

- Version = Pinning 3.2mm, Version for IEC 60335-1 (domestic appliances)
- Pick-Up (V) = 12.2
- Drop-Out (V) = 1.8

#### Configuration Related Features:

- [Contact Arrangement](#) = 1 Form C, SPDT, 1 C/O
- [Coil Magnetic System](#) = Monostable
- [Coil Suppression Diode](#) = Without
- [Coil Selection Criteria](#) = Nominal Voltage
- Coil Latching = Without
- [LED Indicator](#) = Without
- Number of Coils = 1

#### Industry Standards:

- [RoHS/ELV Compliance](#) = RoHS/Not ELV Compliant
- [Lead Free Solder Processes](#) = Wave solder capable to 240°C,

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