

# 3TX7, 3RS18 Coupling Relays

## 3RS18 Coupling Relays with Industrial Housing

### Relay couplers

#### Overview

The new 3RS18 coupling relays are couplers in the well-proven standard 22.5 mm timing relay enclosure. The series comprises relays with 1, 2 and 3 changeover contacts with screw and spring-type connections for combined voltages and wide voltage ranges.

#### Application

Typical applications are found wherever electronically optimized contacts are required and equipment with a wide voltage range is implemented.

#### Technical specifications

Type		3RS18 ...-....0	3RS18 ...-....1
<b>General data</b>			
<b>Rated insulation voltage <math>U_i</math></b> , degree of pollution 3	V	500	
<b>Safe isolation</b> according to EN 60947-1, Appendix N between the coil and the contacts and between the individual contacts.	V	300	
<b>Degree of protection according to EN 60529</b>		IP20 IP40	
	- Enclosure - Cover		
<b>Permissible ambient temperature</b>			
	- During operation - During storage	°C °C	-25 ... +60 -40 ... +80
<b>Mounting position (permissible)</b>		Any	
<b>Shock resistance</b> Half-sine according to IEC 60028-2-27	g/ms	15/11	
<b>Vibration resistance</b> according to IEC 60068-2-6	g/ms	10 ... 55/0.35	
<b>Electromagnetic compatibility (EMC)</b> Tests according to basic specification		IEC 61000-6-2/IEC 61000-6-4	
<b>Conductor cross-section</b>			
• Screw terminals			
	- Solid	mm <sup>2</sup>	1 x (0.5 ... 4); 2 x (0.5 ... 2.5)
	- Finely stranded with end sleeve	mm <sup>2</sup>	2 x (0.5 ... 2.5)
	- AWG conductors, solid or stranded	mm <sup>2</sup>	2 x (20 ... 14)
	- Terminal screw		M3.5
	- Tightening torque	Nm	0.8 ... 1.2
	- Corresponding opening tool		Standard screwdriver, size 2 or Pozidriv 2
• Spring-loaded terminals			
	- Solid	mm <sup>2</sup>	2 x (0.25 ... 1.5)
	- Finely stranded with end sleeve	mm <sup>2</sup>	2 x (0.25 ... 1)
	- Finely stranded without end sleeve	mm <sup>2</sup>	2 x (0.25 ... 1.5)
	- AWG conductors, solid or stranded	AWG	2 x (24 ... 16)
	- Corresponding opening tool		Screwdriver with 3 mm blade or 8WA2 807 opening tool
<b>Control side</b>			
<b>Operating range</b>		0.85 ... 1.1 x $U_s$	
<b>Rated power</b>			
	- Max. DC	W	1
	- Max. AC	VA	8
<b>Bridging of supply failures</b>			
	- Depends on version	ms	5 ... 100
<b>Max. permissible cable length</b>			
	- 330 pF/m AC	m	1 CO contact 100
	- Min. cross-section: 0.75 mm <sup>2</sup> DC	m	2000 2/3 CO contacts 200 1500
<b>Permissible residual current</b> of the electronics (for 0 signal)		mA	2
<b>Temporarily flowing capacitor charging currents</b> on energizing supply voltage		mA	450 for $\leq 500 \mu s$ <sup>1)</sup>
<b>Function display</b>			Yellow LED

<sup>1)</sup> Note the short-circuit limitation for control with the semiconductor version!

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Type			3RS18 ..-....0	3RS18 ..-....1
Load side				
Continuous thermal current $I_{th}$		A	6	
Rated operational currents $I_e$				
• AC-15				
	- at 24 V	A	3	
	- at 110 V	A	3	
	- at 230 V	A	3	
	- at 400 V	A	3	
• DC-13				
	- at 24 V	A	1	
	- at 110 V	A	0.2	
	- at 230 V	A	0.1	
Switching current for resistive load				
• AC-12				
	- at 24V	A	5	
	- at 115 V	A	5	
	- at 230V	A	5	
	- at 400 V	A	5	
• DC-12				
	- at 24V	A	5	
	- at 115 V	A	0.2	
	- at 230V	A	0.2	
Switching voltage				
	- max. AC	V	400	
	- max. DC	V	250	
Contact material			AgSnO <sub>2</sub>	AgNi 0.15 hard gold-plated
Min. contact load				
• Standard contact			17 V DC/5 mA at 1 ppm fault	--
• Hard gold-plated contacts			--	5 V DC/1 mA at 1 ppm fault
Endurance				
• Mechanical	Operating cycles		20 x 10 <sup>6</sup>	
• Electrical (at $I_e$ )	Operating cycles		1 x 10 <sup>6</sup>	
Operating times				
• Max. ON-delay at $U_s$	ms		8 (for 3RS18 00-..W0. < 30)	
• Max. OFF-delay at $U_s$	ms		30 (for 3RS18 00-..W0. < 150)	
Switching frequency		Operating cycles 1/h	5000	
Short-circuit protection		A	4	
Weld-free protection with gL/gG operational class at $I_k \geq 1$ kA				