3RS17 interface converters

Technical specifications

Type 3RS17			24 V AC/DC	24 ... 240 V AC/DC
General data				
Supply voltage operating range	DC AC		0.7 ... 1.25x U_n 0.8 ... 1.2 x U_n	0.7 ... 1.1 x U_n 0.8 ... 1.1 x U_n
Rated power		W	Typically 0.3	Typically 0.75
Electrical isolation of input/output			Active disconnector: 1500 V, 50 Hz, 1 min; Passive disconnector: 500 V, 50 Hz, 1 min	4000 V, 50 Hz, 1 min
Rated insulation voltage U_i Degree of pollution 2 Overvoltage category III according to DIN VDE 0100		V	50	300
Ambient temperature:	During operation During storage	°C °C	-25 ... +60 -40 ... +85	
Conductor cross-sections				
• Screw terminals - Solid - Finely stranded with or without end sleeve - Terminal screw		 mm^2 mm^2 	 1 x (0.25 ... 4) 1 x (0.5 ... 2.5) M3	
• Spring-loaded terminals - Solid or finely stranded - Finely stranded with end sleeve		 mm^2 mm^2	 1 x (0.08 ... 2.5) 1 x (0.25 ... 1.5)	
Degree of protection	Enclosures IEC 529 Terminals IEC 529		IP30 IP20	
Permissible mounting position			Any	
Standard rail mounting EN 60715		mm	35	
Vibration resistance according to IEC 68-2-6		Hz/mm	10-55/0.35	
Shock resistance to IEC 68-2-27		*g*/ms	15/11	
Input				
Impedance	Voltage inputs Current inputs, active	kΩ Ω	330 100	
Input voltage max.	Voltage inputs Current inputs, active	V V	30 AC/DC 30 AC/DC	
Response current	Current inputs, passive	µA	100/250 (6.2 mm width)	
Voltage drop	Current inputs, passive	V	2.7 at 20 mA	
Output				
Internal resistance	Voltage output, 0 ... 10 V	Ω	55	
Output load	Current 0/4 ... 20 mA active, max. Current 0 ... 20 mA passive, max. Frequency, min.	Ω Ω Ω	400 1000 at 20 mA, 400 at 20 mA (6.2 mm width) 2.400	
Output voltage	Frequency	V	20.9	
Output current	Voltage output, 0 ... 10 V, max. Frequency, max.	mA mA	21; note the terminating resistance (> 500 Ω)! 10	
Short-circuit current	Voltage output, 0 ... 10 V Current output, 0 ... 20 mA, passive Frequency	mA mA mA	40 Corresponds to the input current 15	
Protection of the outputs			Short-circuit resistant	
Max. overvoltage at output		V	30	
Accuracy				
Total error at 23 °C	Active disconnector (frequency) Active disconnector (U, I)	% %	0.1 0.1[1)]	
Linearity error	Active disconnector (U, I) Active disconnector (frequency)	% %	0.02 0.02	
Deviation due to ambient temperature	Active disconnector (frequency) Active disconnector (U, I) Passive disconnector		0 ... 50 Hz: 7.5 mHz/K; 0 ... 100 Hz: 15 mHz/K; 0 ... 1 kHz: 0.15 Hz/K; 0 ... 10 kHz: 1.5 Hz/K 0 ... 10 V: 1.5 mV/K; 0/4 ... 20 mA: 3 µA/K Width 6.2 mm: 100 ppm/K of measured value Width 12.5 mm: With load < 600 Ω: < 50 ppm/K of measured value; with load ≥ 600 Ω: < 175 ppm/K of measured value	
Transmission error	Passive disconnector	%	0.1	
Measured value load error		%/Ω	0.06/100	
Limit frequency at 3 dB	Active disconnector (frequency) Active disconnector (U, I) Passive disconnector	Hz Hz Hz	30 30 50	
Rise time (10 to 90 %)	Active disconnector (frequency) Active disconnector (U, I)	 ms	10 + 1 period 10	
Settling time at 1 % accuracy	Active disconnector (frequency) Active disconnector (U, I)	 ms	30 + 1 period 30	
Residual ripple	Active disconnector (U, I) Passive disconnector	mV_{eff} mV_{eff}	< 5 < 8	

The accuracy refers to the upper limit of effective range if not otherwise stated.

[1)] For 3RS17 06: 0.1 % for selected output 4... 20 mA; 0.3 % for selected output 0 ... 20 mA; 0.3 % for selected output 0 ... 10 V and from an input voltage > 50 mV. For an input voltage < 50 mV an offset of max. 20 ms is effective at the output.