

Overview



Interface converters perform the coupling function for analog signals on both the input side and the output side. They are indispensable when processing analog values with electronic controls. Under harsh industrial conditions in particular, it is often necessary to transmit analog signals over long distances. This means that electrical isolation is essential due to the different supply systems. The resistance of the wiring causes potential differences and losses which must be prevented.

Electromagnetic disturbance and overvoltages can affect the signals on the input side in particular or even destroy the analog modules. All terminals of the 3RS17 interface converters are safe up to a voltage of 30 V DC and protected against switching poles. Short-circuit protection is an especially important function for the outputs.

The devices are EMC-tested according to

- EN 50081 (basic specification for emitted interference),
- EN 61000-6-2 (basic specification for interference immunity).

The analog signals comply with

- IEC 60381-1/2.

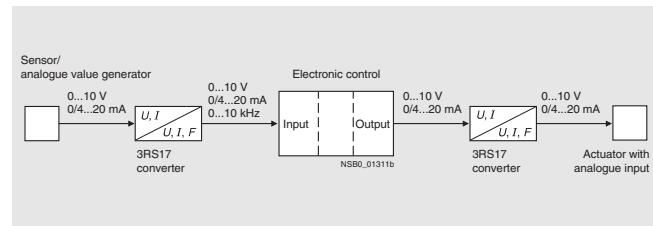
Application

Converters are used in analog signal processing for

- Electrical isolation
- Conversion of normalized and non-normalized signals
- Matching of gain and impedances
- Conversion to a frequency for processing by a digital input
- Overvoltage and EMC protection
- Short-circuit protection of the outputs
- Potential duplication

Application example:

Interface converter in analog signal evaluation



3RS17 25 manual/automatic converter

For special applications in which analog signals have to be simulated, or during plant commissioning when the actual process value is not yet available, the 3RS17 25 devices feature an adjustable potentiometer for entering setpoints manually and a manual/automatic switch.

The adjustable potentiometer for the 3RS17 25 devices is used to simulate analog output signals when the changeover switch is set to "Manual" and the control supply voltage is applied, without the need for an analog input signal; the scale ranges from 0 % ... 100 %.



Example: When it is set for an output of 4 ... 20 mA, the 0 % scale value on the potentiometer represents an output current of 4 mA and the 100 % scale value represents an output current of 20 mA. In the "Auto" switch position, the output signal follows the input signal proportionally regardless of the potentiometer setting.

Interface Converters

3RS17 interface converters

Selection and ordering data


All converters except the passive single interface converters have a yellow LED for indicating "Power on".

Input	Output	Width	Rated control supply voltage U_s	Electrical isolation	DT	Screw terminals	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.	
		mm	V			Order No.	Price per PU			kg	
Single interface converters, active											
0 ... 10 V	0 ... 10 V	6.2	24 AC/DC	2 paths	A	3RS17 00-1AD00	1	1 unit	101	0.053	
	0 ... 20 mA	6.2	24 AC/DC	2 paths	A	3RS17 00-1CD00	1	1 unit	101	0.052	
	4 ... 20 mA	6.2	24 AC/DC	2 paths	A	3RS17 00-1DD00	1	1 unit	101	0.052	
0 ... 20 mA	0 ... 10 V	6.2	24 AC/DC	2 paths	A	3RS17 02-1AD00	1	1 unit	101	0.052	
	0 ... 20 mA	6.2	24 AC/DC	2 paths	A	3RS17 02-1CD00	1	1 unit	101	0.052	
	4 ... 20 mA	6.2	24 AC/DC	2 paths	A	3RS17 02-1DD00	1	1 unit	101	0.052	
4 ... 20 mA	0 ... 10 V	6.2	24 AC/DC	2 paths	A	3RS17 03-1AD00	1	1 unit	101	0.052	
	0 ... 20 mA	6.2	24 AC/DC	2 paths	A	3RS17 03-1CD00	1	1 unit	101	0.052	
	4 ... 20 mA	6.2	24 AC/DC	2 paths	A	3RS17 03-1DD00	1	1 unit	101	0.053	
Switchable multi-range converters, active											
0 ... 10 V, 0 ... 20 mA, 4 ... 20 mA, switchable	0 ... 10 V,	6.2	24 AC/DC	2 paths	A	3RS17 05-1FD00	1	1 unit	101	0.053	
	0 ... 20 mA, 4 ... 20 mA, switchable	17.5	24 ... 240 AC/DC	3 paths	A	3RS17 05-1FW00	1	1 unit	101	0.090	
0 ... 10 V, 0 ... 20 mA, 4 ... 20 mA, switchable	0 ... 50 Hz,	6.2	24 AC/DC	2 paths	A	3RS17 05-1KD00	1	1 unit	101	0.053	
	0 ... 100 Hz, 0 ... 1 kHz, switchable	17.5	24 ... 240 AC/DC	3 paths	A	3RS17 05-1KW00	1	1 unit	101	0.099	
Switchable universal converters, active, with 16 input ranges and 3 output ranges											
 3RS17 06-1FD00	0 ... 60 mV,	17.5	24 AC/DC	2 paths	A	3RS17 06-1FD00	1	1 unit	101	0.082	
	0 ... 100 mV,			3 paths	A	3RS17 06-1FE00	1	1 unit	101	0.082	
	0 ... 300 mV, 4 ... 20 mA, switchable			3 paths	A	3RS17 06-1FW00	1	1 unit	101	0.090	
	0 ... 500 mV, switchable										
	0 ... 1 V,										
	0 ... 2 V,										
	0 ... 5 V,										
	0 ... 10 V,										
	0 ... 20 V,										
	2 ... 10 V, 0 ... 5 mA, 0 ... 10 mA, 0 ... 20 mA, 4 ... 20 mA, +/-5 mA, +/-20 mA, switchable										
Switchable multi-range converters, active, with manual/automatic switch and single potentiometer as manual analog signal transmitter											
0 ... 10 V, 0 ... 20 mA, 4 ... 20 mA, switchable	0 ... 10 V,	17.5	24 AC/DC	2 paths	A	3RS17 25-1FD00	1	1 unit	101	0.085	
	0 ... 20 mA, 4 ... 20 mA, switchable			3 paths	A	3RS17 25-1FW00	1	1 unit	101	0.102	
Single interface converters, passive											
 3RS17 20-1ET00	0/4 ... 20 mA	0/4 ... 20 mA	6.2	1	2 paths	A	3RS17 20-1ET00	1	1 unit	101	0.049
			12.5	1	2 paths	A	3RS17 21-1ET00	1	1 unit	101	0.059
				2	2 paths	A	3RS17 22-1ET00	1	1 unit	101	0.070

* You can order this quantity or a multiple thereof.

3RS17 interface converters

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Input	Output	Width	Rated control supply voltage U_s	Electrical isolation	DT	Spring-loaded terminals	PU (UNIT, SET, M)	PS*	PG	Weight per PU approx.	
						Order No.	Price per PU				
										kg	
Single interface converters, active											
0 ... 10 V	0 ... 10 V	6.2	24 AC/DC	2 paths	A	3RS17 00-2AD00	1	1 unit	101	0.047	
	0 ... 20 mA	6.2	24 AC/DC	2 paths	A	3RS17 00-2CD00	1	1 unit	101	0.047	
	4 ... 20 mA	6.2	24 AC/DC	2 paths	A	3RS17 00-2DD00	1	1 unit	101	0.047	
0 ... 20 mA	0 ... 10 V	6.2	24 AC/DC	2 paths	C	3RS17 02-2AD00	1	1 unit	101	0.047	
	0 ... 20 mA	6.2	24 AC/DC	2 paths	A	3RS17 02-2CD00	1	1 unit	101	0.045	
	4 ... 20 mA	6.2	24 AC/DC	2 paths	A	3RS17 02-2DD00	1	1 unit	101	0.048	
4 ... 20 mA	0 ... 10 V	6.2	24 AC/DC	2 paths	A	3RS17 03-2AD00	1	1 unit	101	0.047	
	0 ... 20 mA	6.2	24 AC/DC	2 paths	C	3RS17 03-2CD00	1	1 unit	101	0.049	
	4 ... 20 mA	6.2	24 AC/DC	2 paths	A	3RS17 03-2DD00	1	1 unit	101	0.047	
Switchable multi-range converters, active											
	0 ... 10 V,	0 ... 10 V,	6.2	24 AC/DC	2 paths	A	3RS17 05-2FD00	1	1 unit	101	0.048
	0 ... 20 mA,	0 ... 20 mA,	17.5	24 ... 240 AC/DC	3 paths	A	3RS17 05-2FW00	1	1 unit	101	0.092
	4 ... 20 mA,	4 ... 20 mA,									
	switchable	switchable									
	0 ... 10 V,	0 ... 50 Hz,	6.2	24 AC/DC	2 paths	C	3RS17 05-2KD00	1	1 unit	101	0.047
	0 ... 20 mA,	0 ... 100 Hz,	17.5	24 ... 240 AC/DC	3 paths	A	3RS17 05-2KW00	1	1 unit	101	0.092
4 ... 20 mA,	0 ... 1 kHz,										
switchable	0 ... 10 kHz,										
	switchable										
Switchable universal converters, active, with 16 input ranges and 3 output ranges											
0 ... 60 mV,	0 ... 10 V,	17.5	24 AC/DC	2 paths	A	3RS17 06-2FD00	1	1 unit	101	0.078	
0 ... 100 mV,	0 ... 20 mA,			3 paths	A	3RS17 06-2FE00	1	1 unit	101	0.077	
0 ... 300 mV,	4 ... 20 mA,										
0 ... 500 mV,	switchable		24 ... 240 AC/DC	3 paths	A	3RS17 06-2FW00	1	1 unit	101	0.094	
0 ... 1 V,											
0 ... 2 V,											
0 ... 5 V,											
0 ... 10 V,											
0 ... 20 V,											
2 ... 10 V,											
0 ... 5 mA,											
0 ... 10 mA,											
0 ... 20 mA,											
4 ... 20 mA,											
+/-5 mA,											
+/-20 mA,											
switchable											
Switchable multi-range converters, active, with manual/automatic switch and single potentiometer as manual analog signal transmitter											
0 ... 10 V,	0 ... 10 V,	17.5	24 AC/DC	2 paths	A	3RS17 25-2FD00	1	1 unit	101	0.078	
0 ... 20 mA,	0 ... 20 mA,		24 ... 240 AC/DC	3 paths	A	3RS17 25-2FW00	1	1 unit	101	0.095	
4 ... 20 mA,	4 ... 20 mA,										
switchable	switchable										
Single interface converters, passive											
0/4 ... 20 mA	0/4 ... 20 mA	6.2	1	2 paths	A	3RS17 20-2ET00	1	1 unit	101	0.044	
		12.5	1	2 paths	A	3RS17 21-2ET00	1	1 unit	101	0.057	
			2	2 paths	A	3RS17 22-2ET00	1	1 unit	101	0.066	

* You can order this quantity or a multiple thereof.