SIEMENS

Data sheet 3RS7002-1AE00



Separation amplifier 24 V AC/DC, 3-way separation input: 0-20 mA output: 0-10 V screw terminal

product category Signal converter product designation Single-range converters design of the product active product type designation 3RS70	product brand name	SIRIUS
design of the product product type designation 3RS70 General technical data display version LED number of channels 1 consumed active power insulation voltage for overvoltage category III according to IEC 60664 with degree of pollution 3 rated value surge voltage resistance acted value 2 500 V shock resistance according to IEC 60068-2-27 sinusoidal half-wave 15g / 11 ms vibration resistance according to IEC 60068-2-6 6 150 Hz: 2 g reference code according to IEC 60068-2-6 7 substance Prohibitance (Date) 03/25/2015 Weight 0.049 kg Supply voltage supply voltage supply voltage supply voltage at AC • at 50 Hz rated value 2 4 V supply voltage at DC rated value 2 4 V supply voltage at DC rated value 2 4 V supply voltage frequency rated value 60 50 Hz operating range factor supply voltage rated value • at AC at 50 Hz • at AC at 50 Hz • at AC at 50 Hz • at AC at 60 Hz • at AC	product category	Signal converter
Description		Single-range converters
Description	design of the product	active
display version LED		3RS70
number of channels	General technical data	
Consumed active power 0.29 W	display version LED	Yes
Insulation voltage for overvoltage category III according to IEC 60664 with degree of pollution 3 rated value 2 500 V	number of channels	1
Section	consumed active power	0.29 W
shock resistance according to IEC 60068-2-27 sinusoidal half-wave 15g / 11 ms vibration resistance according to IEC 60068-2-6 6 150 Hz; 2 g reference code according to IEC 81346-2 T Substance Prohibitance (Date) 03/25/2015 Weight 0.049 kg Supply voltage Supply voltage supply voltage at AC 4 to Hz rated value 24 V e at 50 Hz rated value 24 V supply voltage frequency rated value 60 50 Hz operating range factor supply voltage rated value 60 50 Hz e at AC at 50 Hz 0.8 1.1 e at DC 0.8 1.1 e at DC 0.8 1.1 Precision 0.1 % relative metering precision 0.1 % relative Inearity deviation 0.05 % temperature drift per °C 0.015 %/°C voltage ripple maximum 20 mV limit frequency 30 Hz settling time for 1 % deviation 17 ms rise time 6 ms Main circuit 40 c/DC Inputs/ Outputs Inputs/ Outputs <		50 V
vibration resistance according to IEC 60068-2-6 6 150 Hz: 2 g reference code according to IEC 81346-2 T Substance Prohibitance (Date) 03/25/2015 Weight 0.049 kg Supply voltage Supply voltage at AC • at 50 Hz rated value 24 V • at 60 Hz rated value 24 V supply voltage at DC rated value 60 50 Hz operating range factor supply voltage rated value 60 50 Hz operating range factor supply voltage rated value 0.8 1.1 • at AC at 50 Hz 0.8 1.1 • at DC 0.8 1.1 Precision 0.1 % relative metering precision 0.1 % relative linearity deviation 0.05 % temperature drift per °C 0.015 %/°C voltage ripple maximum 20 mV limit frequency 30 Hz settling time for 1 % deviation 17 ms rise time 6 ms Main circuit type of voltage AC/DC Inputs/ Outputs input voltage maximum 30 V	surge voltage resistance rated value	2 500 V
reference code according to IEC 81346-2 T Substance Prohibitance (Date) 03/25/2015 Weight 0.049 kg Supply voltage supply voltage at AC	shock resistance according to IEC 60068-2-27	sinusoidal half-wave 15g / 11 ms
Substance Prohibitance (Date) Weight 0.049 kg Supply voltage supply voltage at AC • at 50 Hz rated value • at 60 Hz rated value 24 V supply voltage at DC rated value • at AC at 50 Hz • at AC at 50 Hz • at AC at 50 Hz • at AC at 60 Hz • at DC Precision relative metering precision relative linearity deviation temperature drift per °C voltage ripple maximum 20 mV limit frequency settling time for 1 % deviation rise time Main circuit type of voltage maximum 30 V	vibration resistance according to IEC 60068-2-6	6 150 Hz: 2 g
Weight	reference code according to IEC 81346-2	T
Supply voltage at AC • at 50 Hz rated value • at 60 Hz rated value 24 V supply voltage at DC rated value 24 V supply voltage frequency rated value 60 50 Hz operating range factor supply voltage rated value • at AC at 50 Hz • at AC at 60 Hz • at DC Precision relative metering precision relative linearity deviation temperature drift per °C voltage ripple maximum 20 mV limit frequency settling time for 1 % deviation rise time Main circuit type of voltage Main circuits input voltage maximum 30 V	Substance Prohibitance (Date)	03/25/2015
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■ at 50 Hz rated value ■ at 60 Hz rated value 24 V supply voltage at DC rated value 24 V supply voltage frequency rated value 60 50 Hz operating range factor supply voltage rated value ● at AC at 50 Hz ● at AC at 60 Hz ● at DC 0.8 1.1 ● at DC 0.8 1.1 Precision relative metering precision relative linearity deviation 10.05 % temperature drift per °C voltage ripple maximum 20 mV limit frequency 30 Hz settling time for 1 % deviation 17 ms rise time 6 ms Main circuit type of voltage Inputs/ Outputs input voltage maximum 30 V	Supply voltage	
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supply voltage at DC rated value supply voltage frequency rated value operating range factor supply voltage rated value • at AC at 50 Hz • at AC at 60 Hz • at DC os 1.1 • at DC Precision relative metering precision relative linearity deviation temperature drift per °C voltage ripple maximum limit frequency settling time for 1 % deviation rise time 6 ms Main circuit type of voltage Inputs/ Outputs input voltage maximum 24 V 60 50 Hz 60 50 Hz 0.8 1.1 0.9 1.1 0.9	at 50 Hz rated value	24 V
supply voltage frequency rated value operating range factor supply voltage rated value o at AC at 50 Hz ot AC at 60 Hz ot AC at 60 Hz ot AC at 50 Hz ot AC at 50 Hz ot AC at 60 Hz ot AC at 50 Hz ot AC at 60 Hz ot AC at 50 Hz ot AC at 60 Hz ot AC at 50 Hz ot AC at 60 Hz ot AC at 50 Hz ot AC at 60 Hz ot AC at 50 Hz ot AC at 50 Hz ot AC at 60 Hz ot AC at 50 Hz ot AC at 60 Hz ot AC at 50 Hz ot AC at 60 Hz ot AC at 50 Hz ot AC at 60 Hz ot AC at 60 Hz ot AC at 60 Hz ot AC AC at 60 Hz ot AC	at 60 Hz rated value	24 V
operating range factor supply voltage rated value • at AC at 50 Hz • at AC at 60 Hz • at DC 0.8 1.1 • at DC Precision relative metering precision relative linearity deviation temperature drift per °C voltage ripple maximum 20 mV limit frequency settling time for 1 % deviation 17 ms rise time 6 ms Main circuit type of voltage Inputs/ Outputs input voltage maximum 30 V	supply voltage at DC rated value	24 V
• at AC at 50 Hz • at AC at 60 Hz • at DC 7 relative metering precision relative linearity deviation temperature drift per °C voltage ripple maximum 10 mV 1imit frequency settling time for 1 % deviation rise time Main circuit type of voltage Inputs/ Outputs input voltage maximum 30 V	supply voltage frequency rated value	60 50 Hz
■ at AC at 60 Hz ■ at DC □ 0.8 1.1 Precision relative metering precision □ 0.1 % relative linearity deviation □ 0.05 % temperature drift per °C □ 0.015 %/°C voltage ripple maximum □ 20 mV limit frequency □ 30 Hz settling time for 1 % deviation □ 17 ms rise time □ 6 ms Main circuit type of voltage □ AC/DC Inputs/ Outputs □ input voltage maximum □ 30 V	operating range factor supply voltage rated value	
● at DC Precision relative metering precision relative linearity deviation temperature drift per °C voltage ripple maximum limit frequency settling time for 1 % deviation rise time Main circuit type of voltage Inputs/ Outputs input voltage maximum 30 V	• at AC at 50 Hz	0.8 1.1
relative metering precision relative linearity deviation temperature drift per °C 0.015 %/°C voltage ripple maximum 20 mV limit frequency settling time for 1 % deviation 17 ms rise time 6 ms Main circuit type of voltage AC/DC Inputs/ Outputs input voltage maximum 30 V	• at AC at 60 Hz	0.8 1.1
relative metering precision relative linearity deviation temperature drift per °C voltage ripple maximum 20 mV limit frequency settling time for 1 % deviation rise time 6 ms Main circuit type of voltage input voltage maximum 30 V	• at DC	0.8 1.1
relative linearity deviation temperature drift per °C voltage ripple maximum 20 mV limit frequency settling time for 1 % deviation rise time 6 ms Main circuit type of voltage AC/DC Inputs/ Outputs input voltage maximum 30 V	Precision	
temperature drift per °C voltage ripple maximum 20 mV limit frequency 30 Hz settling time for 1 % deviation rise time 6 ms Main circuit type of voltage AC/DC Inputs/ Outputs input voltage maximum 30 V	relative metering precision	0.1 %
voltage ripple maximum limit frequency settling time for 1 % deviation rise time 6 ms Main circuit type of voltage Inputs/ Outputs input voltage maximum 20 mV 17 ms 6 ms AC/DC	relative linearity deviation	0.05 %
limit frequency 30 Hz settling time for 1 % deviation 17 ms rise time 6 ms Main circuit type of voltage AC/DC Inputs/ Outputs input voltage maximum 30 V	temperature drift per °C	0.015 %/°C
settling time for 1 % deviation rise time 6 ms Main circuit type of voltage AC/DC Inputs/ Outputs input voltage maximum 30 V	voltage ripple maximum	20 mV
rise time 6 ms Main circuit type of voltage AC/DC Inputs/ Outputs input voltage maximum 30 V	limit frequency	30 Hz
Main circuit type of voltage AC/DC Inputs/ Outputs input voltage maximum 30 V	settling time for 1 % deviation	17 ms
type of voltage AC/DC Inputs/ Outputs input voltage maximum 30 V	rise time	6 ms
Inputs/ Outputs input voltage maximum 30 V	Main circuit	
input voltage maximum 30 V	type of voltage	AC/DC
· · ·	Inputs/ Outputs	
property of the output short-circuit proof Yes	input voltage maximum	30 V
	property of the output short-circuit proof	Yes

	0. 00 4
type of signal at input	0 20 mA
type of signal at output	0 10 V
input impedance of current input maximum	100 Ω
output load	
at voltage output minimum	2 kΩ
Electromagnetic compatibility	
EMC emitted interference according to IEC 60947-1	Environment B
EMC immunity according to IEC 60947-1	corresponds to degree of severity 3
conducted interference	
 due to burst according to IEC 61000-4-4 	1 kV 5/50 ns
 due to conductor-conductor surge according to IEC 61000-4-5 	1 kV
field-based interference according to IEC 61000-4-3	10 V/m
electrostatic discharge according to IEC 61000-4-2	6 kV contact discharge / 8 kV air discharge
Galvanic isolation	
design of the electrical isolation	3 paths
galvanic isolation	
between input and output	Yes
between the outputs	No
between the inputs	No
between the voltage supply and other circuits	Yes
Connections/ Terminals	
type of electrical connection	screw terminal
type of electrical conflection	S. S. F. Commun.
solid	1x (0.25 2.5 mm²)
finely stranded with core end processing	1x (0.25 2.5 mm²)
• for AWG cables solid	1 x (20 14)
connectable conductor cross-section	0.05 0.52
• solid	0.25 2.5 mm ²
finely stranded with core end processing AWG number as coded connectable conductor cross section	0.25 1.5 mm ²
3ECHUII	
• solid	20 14
• solid	20 14 0.5 0.6 N·m
solid tightening torque with screw-type terminals	
solid tightening torque with screw-type terminals Installation/ mounting/ dimensions	0.5 0.6 N·m
solid tightening torque with screw-type terminals Installation/ mounting/ dimensions mounting position	0.5 0.6 N·m any
solid tightening torque with screw-type terminals Installation/ mounting/ dimensions mounting position fastening method	0.5 0.6 N·m any snap-on mounting
solid tightening torque with screw-type terminals Installation/ mounting/ dimensions mounting position fastening method height	0.5 0.6 N·m any snap-on mounting 93 mm
solid tightening torque with screw-type terminals Installation/ mounting/ dimensions mounting position fastening method height width	0.5 0.6 N·m any snap-on mounting 93 mm 6.2 mm
solid tightening torque with screw-type terminals Installation/ mounting/ dimensions mounting position fastening method height width depth	0.5 0.6 N·m any snap-on mounting 93 mm
solid tightening torque with screw-type terminals Installation/ mounting/ dimensions mounting position fastening method height width depth required spacing	0.5 0.6 N·m any snap-on mounting 93 mm 6.2 mm
solid tightening torque with screw-type terminals Installation/ mounting/ dimensions mounting position fastening method height width depth required spacing with side-by-side mounting	any snap-on mounting 93 mm 6.2 mm 72.5 mm
solid tightening torque with screw-type terminals Installation/ mounting/ dimensions mounting position fastening method height width depth required spacing with side-by-side mounting — forwards	any snap-on mounting 93 mm 6.2 mm 72.5 mm
solid tightening torque with screw-type terminals Installation/ mounting/ dimensions mounting position fastening method height width depth required spacing with side-by-side mounting — forwards — backwards	any snap-on mounting 93 mm 6.2 mm 72.5 mm
solid tightening torque with screw-type terminals Installation/ mounting/ dimensions mounting position fastening method height width depth required spacing with side-by-side mounting — forwards — backwards — upwards	any snap-on mounting 93 mm 6.2 mm 72.5 mm
solid tightening torque with screw-type terminals Installation/ mounting/ dimensions mounting position fastening method height width depth required spacing with side-by-side mounting — forwards — backwards — upwards — downwards	0.5 0.6 N·m any snap-on mounting 93 mm 6.2 mm 72.5 mm 0 mm 0 mm 0 mm 0 mm
solid tightening torque with screw-type terminals Installation/ mounting/ dimensions mounting position fastening method height width depth required spacing with side-by-side mounting — forwards — backwards — upwards — downwards — at the side	any snap-on mounting 93 mm 6.2 mm 72.5 mm
solid tightening torque with screw-type terminals Installation/ mounting/ dimensions mounting position fastening method height width depth required spacing with side-by-side mounting — forwards — backwards — upwards — downwards — at the side for grounded parts	0.5 0.6 N·m any snap-on mounting 93 mm 6.2 mm 72.5 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm
solid tightening torque with screw-type terminals Installation/ mounting/ dimensions mounting position fastening method height width depth required spacing with side-by-side mounting — forwards — backwards — upwards — downwards — at the side for grounded parts — forwards	0.5 0.6 N·m any snap-on mounting 93 mm 6.2 mm 72.5 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm
solid tightening torque with screw-type terminals Installation/ mounting/ dimensions mounting position fastening method height width depth required spacing with side-by-side mounting — forwards — backwards — upwards — downwards — at the side for grounded parts — forwards — forwards — backwards — at the side for grounded parts — forwards — backwards — backwards	0.5 0.6 N·m any snap-on mounting 93 mm 6.2 mm 72.5 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm
solid tightening torque with screw-type terminals Installation/ mounting/ dimensions mounting position fastening method height width depth required spacing with side-by-side mounting — forwards — backwards — upwards — downwards — at the side for grounded parts — forwards — backwards — upwards — at the side for grounded parts — forwards — backwards — upwards	0.5 0.6 N·m any snap-on mounting 93 mm 6.2 mm 72.5 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm
solid tightening torque with screw-type terminals Installation/ mounting/ dimensions mounting position fastening method height width depth required spacing with side-by-side mounting — forwards — backwards — upwards — downwards — at the side for grounded parts — forwards — forwards — backwards — at the side for grounded parts — forwards — backwards — backwards	0.5 0.6 N·m any snap-on mounting 93 mm 6.2 mm 72.5 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm
solid tightening torque with screw-type terminals Installation/ mounting/ dimensions mounting position fastening method height width depth required spacing with side-by-side mounting — forwards — backwards — upwards — downwards — at the side for grounded parts — forwards — backwards — upwards — at the side of or grounded parts — forwards — backwards — upwards — at the side — downwards — at the side — downwards	0.5 0.6 N·m any snap-on mounting 93 mm 6.2 mm 72.5 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm
solid tightening torque with screw-type terminals Installation/ mounting/ dimensions mounting position fastening method height width depth required spacing with side-by-side mounting — forwards — backwards — upwards — downwards — at the side for grounded parts — forwards — backwards — upwards — at the side for grounded parts — backwards — upwards — backwards — upwards — at the side	0.5 0.6 N·m any snap-on mounting 93 mm 6.2 mm 72.5 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm
solid tightening torque with screw-type terminals Installation/ mounting/ dimensions mounting position fastening method height width depth required spacing with side-by-side mounting — forwards — backwards — upwards — downwards — at the side for grounded parts — forwards — backwards — upwards — at the side of or grounded parts — forwards — backwards — upwards — at the side — downwards — at the side — downwards	0.5 0.6 N·m any snap-on mounting 93 mm 6.2 mm 72.5 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm
solid tightening torque with screw-type terminals Installation/ mounting/ dimensions mounting position fastening method height width depth required spacing with side-by-side mounting — forwards — backwards — upwards — downwards — at the side for grounded parts — forwards — backwards — upwards — at the side ofor grounded parts — forwards — backwards — upwards — at the side — downwards — at the side — downwards — at the side — downwards — for live parts	any snap-on mounting 93 mm 6.2 mm 72.5 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm
solid tightening torque with screw-type terminals Installation/ mounting/ dimensions mounting position fastening method height width depth required spacing with side-by-side mounting — forwards — backwards — upwards — downwards — at the side for grounded parts — forwards — backwards — upwards — at the side ofor grounded parts — forwards — at the side obackwards — upwards — at the side odownwards ofor live parts ofor live parts oforwards oforwards ofor live parts oforwards	any snap-on mounting 93 mm 6.2 mm 72.5 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm
solid tightening torque with screw-type terminals Installation/ mounting/ dimensions mounting position fastening method height width depth required spacing with side-by-side mounting — forwards — backwards — upwards — downwards — at the side for grounded parts — forwards — backwards — upwards — at the side o for grounded parts — forwards — backwards — upwards — at the side — downwards — at the side — downwards — at the side — downwards o for live parts — forwards — backwards o for live parts — forwards — backwards — backwards o backwards o for live parts — forwards o backwards o backwards	any snap-on mounting 93 mm 6.2 mm 72.5 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm
● solid tightening torque with screw-type terminals Installation/ mounting/ dimensions mounting position fastening method height width depth required spacing ● with side-by-side mounting — forwards — backwards — upwards — downwards — at the side ● for grounded parts — forwards — backwards — upwards — at the side • for grounded parts — forwards — backwards — upwards — at the side — downwards — at the side — downwards • for live parts — forwards — backwards — backwards — upwards • for live parts — forwards — backwards — backwards — backwards — upwards	any snap-on mounting 93 mm 6.2 mm 72.5 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm
● solid tightening torque with screw-type terminals Installation/ mounting/ dimensions mounting position fastening method height width depth required spacing ● with side-by-side mounting — forwards — backwards — upwards — downwards — at the side ● for grounded parts — forwards — backwards — upwards — at the side ● for grounded parts — forwards — backwards — upwards — at the side — downwards — at the side — downwards • for live parts — forwards — backwards — upwards — backwards — upwards — downwards • for live parts — forwards — backwards — backwards — backwards — upwards — downwards	0.5 0.6 N·m any snap-on mounting 93 mm 6.2 mm 72.5 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm
● solid tightening torque with screw-type terminals Installation/ mounting/ dimensions mounting position fastening method height width depth required spacing ● with side-by-side mounting — forwards — backwards — upwards — downwards — at the side ● for grounded parts — forwards — backwards — upwards — at the side ● for grounded parts — forwards — backwards — upwards — at the side — downwards — at the side — downwards • for live parts — forwards — backwards — upwards — backwards — upwards — downwards — backwards — upwards — backwards — upwards — downwards — at the side — downwards — at the side	0.5 0.6 N·m any snap-on mounting 93 mm 6.2 mm 72.5 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm 0 mm

ambient temperature

- during operation
- during storage
- during transport

relative humidity during operation

-25 ... +60 °C

-40 ... +80 °C

-40 ... +80 °C 10 ... 95 %

Approvals Certificates

General Product Approval

EMV











<u>KC</u>

Test Certificates

Maritime application

other

Environment

Type Test Certificates/Test Report



Confirmation

Environmental Confirmations

Further information

Information on the packaging

https://support.industry.siemens.com/cs/ww/en/view/109813875

Information- and Downloadcenter (Catalogs, Brochures,...)

https://www.siemens.com/ic10

Industry Mall (Online ordering system)

https://mall.industry.siemens.com/mall/en/en/Catalog/product?mlfb=3RS7002-1AE00

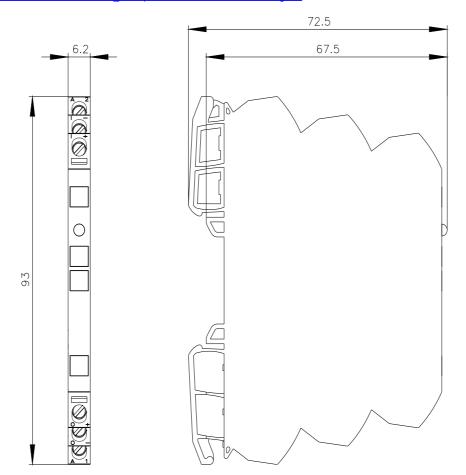
Cax online generator

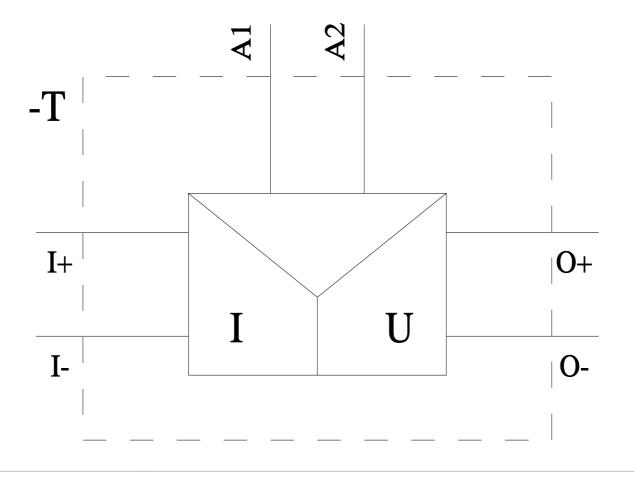
 $\underline{\text{http://support.automation.siemens.com/WW/CAXorder/default.aspx?lang=en\&mlfb=3RS7002-1AE00}$

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https://support.industry.siemens.com/cs/ww/en/ps/3RS7002-1AE00

Image database (product images, 2D dimension drawings, 3D models, device circuit diagrams, EPLAN macros, ...) http://www.automation.siemens.com/bilddb/cax_de.aspx?mlfb=3RS7002-1AE00&lang=en





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