



Data Sheet

RISH CON SI-101



Measure



Control



Record



Analyze



Optimize

Application

The purpose of the RISH CON SI-101 is to electrically isolate input, output and power supply.

The isolator fulfills all requirements and regulation concerning electromagnetic compatibility EMC and safely acc to IEC 61010 . It was developed and is manufactured and tested in strict accordance with quality assurance standard ISO 9001.

The device has single channels and provides single independent isolating amplifiers in an extremely small space.

Product Features

Electric Isolation

- Electrically isolated analog output prevents interference voltage and current. Solves grounding problem in meshed signal networks.
- High electric isolation between input and output 3.2 kV, and power supply versus all other circuits 5.2 kV.

Function

Simple dc isolator serves to electrically isolate input dc signal in the range 0 – 20 mA or 4-20 mA or 0-10V or 2-10V is then converted to signal 0 – 20 mA or 4-20 mA or 0-10V or 2-10V finds its application for isolate input and output.

Technical Specifications

Measuring inputs

DC current standard ranges

- 1) 0...20mA
- 2) 4...20mA
- 3) 1...5mA

DC voltage standard ranges

- 1) 0...10V
- 2) 2...10V
- 3) 1...5V
- 4) 0...300V

Measuring outputs

DC current standard ranges

- 1) 0...20mA
- 2) 4...20mA

Burden voltage 12V

External Resistance $R_{ext\ max.} [k\ \Omega] = 12V / I_{AN} [mA]$
 I_{AN} = Output circuit full scale value

DC voltage standard ranges

- 1) 0...10V
- 2) 2...10V

Burden $R_{ext\ min.} [k\Omega] = U_{AN} [V] / 5\ mA$
 U_{AN} = Output circuit full scale value

Current limiter at $R_{ext} = 0$ < 30mA for voltage output

Voltage limiter at $R_{ext} = \infty$. < 17V for current output

Residual ripple in Output current < 0.4% p.p.

Response time < 50 ms

Common mode voltage 100V

Pollution degree 2

Power supply

Rated operating voltage 60 ... 230 ... 300 V AC/DC

24...48...60 V AC/DC

Rated operating frequency 45...50 or 60... 400 Hz

Power input $\leq 1.6\ W$ resp. $\leq 3.4\ VA$

Accuracy data (Acc to IEC 60688)

Accuracy class 0.2 %

Reference conditions

Ambient temperature $23^{\circ}C + 2^{\circ}C$

Output burden Current: $0.5 * R_{ext\ max.}$

Nominal value of Aux Voltage: $2 * R_{ext\ min.}$

supply voltage: 230V 50Hz or 60 Hz AC/DC

48V 50Hz or 60 Hz AC/DC

Influence factors

Temperature $\pm 0.15\%$ per $10^{\circ}C$

Burden influence < $\pm 0.1\%$ for current output

< $\pm 0.1\%$ for voltage output

Magnetic field < $\pm 0.2\%$ (400 A/T)

Regulations

Electromagnetic Compatibility Acc. to IEC 61326 - 1
 Protection For Housing : IP40
 Terminals : IP20

Electrical standards Acc. to IEC 61010 -1 /
 EN 61 010 -1

Pollution degree 2

Over voltage category III for power supply.
 II for measuring input and
 measuring output.

Double Insulation

- Power supply versus all other circuit.
- Measuring input versus measuring output

Test Voltage Power supply versus :

- All 5.2 kV, DC 1 min

 Measuring inputs versus :

- Measuring output 3.2 kV, DC 1min

Ambient Temperature

Climatic rating Climate case 3Z acc. to
 VDI /VDE 3540

Nominal Range of use $0^{\circ}C$ to $45^{\circ}C$ (Usage Group II)

Storage temperature $-40^{\circ}C$ to $70^{\circ}C$

Annual mean relative humidity < 75% standard Climatic rating.

Installation Data

Mechanical Housing Lexan 940 (polycarbonate)
 Flammability Class V-0 acc.
 to UL 94 self extinguishing,
 non dripping, free of halogen.

Mounting position Rail mounting / wall mounting

Weight Approx. 0.15kg



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Connection Terminal
Connection Element

Conventional Screw type
terminal with indirect wire
pressure

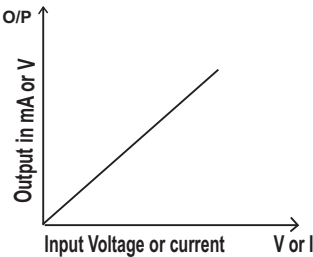
Permissible cross section
of the connection lead

4.0 mm² single wire or 2 x 2.5mm
Fine wire.

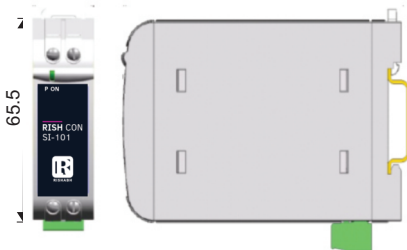
Permissible Vibrations
Shocks

2 G acc. to EN 60 068-2-6
3 x 50 g 2 shocks each in 6
directions
Acc. to EN 60 068-2-27

Output characteristics



Dimensions



Note : All Dimensions are in mm

Electrical connections



Connection	Terminal details	
Measuring input	+	1
	-	2
Measuring output	+	3
	-	4
Auxiliary Supply	~, +	5
	~, -	6



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Ordering Information

Product Code	SI01-	XX	XX	X	00000000
Input Range	0-20mA	32			
	1-5mA	53			
	4-20mA	55			
	0-0.1mA	22			
	0-0.2mA	23			
	0-0.5mA	25			
	0-1mA	26			
	0-2mA	27			
	0-5mA	29			
	0-10mA	30			
	0-40mA*	37			
	0-80mA*	38			
	0-100mA*	35			
	0.2-1mA	52			
	2-10mA	54			
	0-10V	5H			
	2-10V	3C			
	1-5V	3B			
	0-75mV	2H			
	0-60mV	2E			
	0-100mV	2K			
	0-200mV	2M			
	0-500mV*	2Q			
	0-1V	5A			
	0-2V	5B			
	0-5V	5F			
	0-20V	5L			
	0-40V	5X			
	0.2-1V	3A			
	4-20V	3D			
	0-48V	5Y			
	0-60V	5Z			
	0-150V	6A			
	0-300V	6B			
	0-4V	5C			
	0-15V	5G			
	0-50V	5I			
	0-30V*	5K			
	0-24V	5J			
	0-110V	5N			
	0-320V*	6C			
	50mV	2C			

Product Code	SI01-	XX	XX	X	00000000
Input Range	0-75V*	2D			
	0-250V*	2F			
	0-310V*	2G			
	0-200V*	2J			
	0-36V*	2L			
	0-3V	2N			
	0-60mA	2P			
	0-90V*	2S			
	0-120V*	2R			
	0-121V*	2T			
	0-220V*	2U			
	0-70V*	2V			
	0-125V*	2W			
	0-0.4mA	2Y			
	0-800mV*	2Z			
	0-130V*	13			
	0-100V	14			
	0-280V*	15			
	0-50mV	16			
	0-56.25mV*	17			
Output Range	0-20mA		32		
	4-20mA		55		
	0-10V		5H		
	2-10V		3C		
	0-5mA		33		
	0-5V		34		
Power Supply	24-60V AC/DC			F	
	60-300V AC/DC			H	

*Non standard Inputs

Ordering Example –

SI01-5555H0000000 –

Rish CON SI 101, Input : 4-20mA,

Output : 4-20mA,

Aux 60-300 VAC/DC



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