



Data Sheet

RISH CON SI-102

DC Signal Isolator (Dual Output)



Measure



Control



Record



Analyze



Optimize

Application

The purpose of the RISH CON SI-102 is to electrically isolate input, output and power supply. The isolator fulfills all requirements and regulation concerning electromagnetic compatibility EMC and safety (IEC61326-1 and IEC 61010-1:2010). The device has one input and provides two independent outputs in an extremely small space.

Function

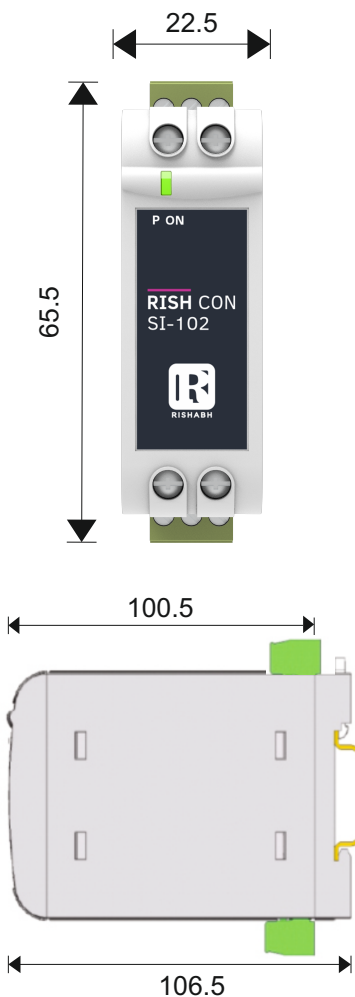
Simple dc isolator serves to electrically isolate input dc signal in the range 0 – 20 mA or 4-20 mA or 0-10V or 2-10V is then converted to signal 0 – 20 mA or 4-20 mA or 0-10V or 2-10V.

Product Features

Electric Isolation

- Two electrically isolated analog outputs prevent interference voltage and current. Solves grounding problem in meshed signal networks.
- Processes live zero signals, provision for signal conversion. Green LED signals indicates device in operating condition.
- Electrical insulation between power supply versus all other circuits -3.0 kV, and between input and outputs -2.3 kV.

Dimensions Details



Note : All Dimensions are in mm

Technical Specifications

Measuring inputs

DC current standard ranges
 1) 0...20mA
 2) 4...20mA
 3) 1...5mA

Input resistance $\leq 15.5\Omega$
 DC voltage standard ranges
 1) 0...10V
 2) 2...10V
 3) 1...5V
 Input resistance $\geq 100\text{ k}\Omega$

Measuring output1 and output 2:

DC current standard ranges
 1) 0...20mA 2) 4...20mA
 Burden voltage $< 13V$
 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 $R_{ext\ min.} [k\Omega] = U_{AN} [V] / 5\text{ mA}$
 U_{AN} = Output circuit full scale value

$< 42mA$ for voltage output
 $< 20V$ for current output
 Residual ripple in Output $< 0.4\%$ p.p.
 Response time $< 50\text{ ms}$
 Common mode voltage 100V
 Pollution degree 2

Power supply

Rated operating voltage 60 ... 230... 300 V DC/AC OR 20 ...30... 40V AC / 20 ...30... 60V DC
 Rated operating frequency 40 ... 50-60 ... 400 Hz
 Power input $< 2W$ resp $< 4\text{ VA}$

Accuracy data (Acc to IEC 60688)

Basic Accuracy Limit error $< \pm 0.2\%$ including linearity and reproducibility errors.



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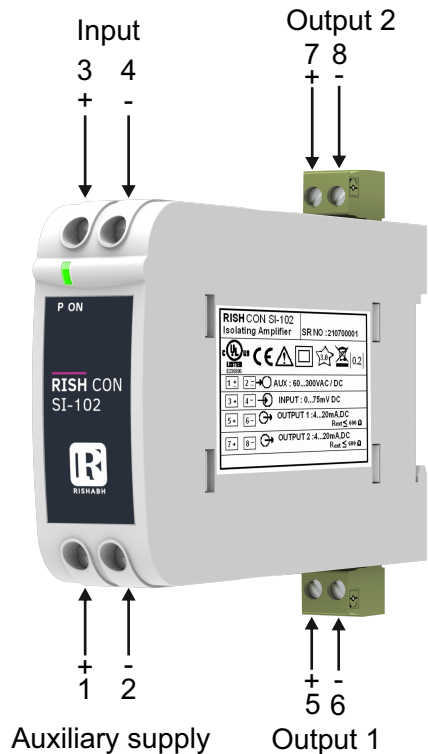


Analyze



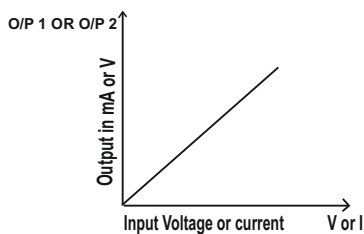
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Electrical Connections:



| Connection | Terminal details | |
|--------------------|------------------|---|
| Measuring input | + | 3 |
| | - | 4 |
| Measuring output 1 | + | 5 |
| | - | 6 |
| Measuring output 2 | + | 7 |
| | - | 8 |
| Auxiliary Supply | ~, + | 1 |
| | ~, - | 2 |

Output characteristics



Technical Specifications:

Reference conditions

| | |
|-------------------------------------|--|
| Ambient temperature | 23°C ± 2°C |
| Output burden | Current: 0.5 * Rext max. Voltage: 2 * Rext min. |
| Nominal value of Aux Supply voltage | 230V 50Hz or 60 Hz AC/DC, 30V 50Hz or 60 Hz AC/DC |

Influence factors

| | |
|------------------|--|
| Temperature | ± 0.01% per °C |
| Burden influence | < ± 0.1 % for current output < ± 0.1 % for voltage output |
| Switch-on drift | < ± 0.2% |
| Longtime drift | < ± 0.3% / 12 months |
| Magnetic field | < ± 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 61010-1 |
| Pollution degree | 2 |
| Over voltage category | III for power supply II for measuring input and measuring output |
| Test Voltage | • Power supply versus: All 3 kV, 50 Hz 1 min • Measuring inputs versus: Measuring outputs 2.3kV, 50 Hz 1min • O/P1 to O/P 2 : 500 V, 50 Hz, 1 min |

Environmental condition

| | |
|-------------------------------|---------------------------------------|
| Climatic rating | Climate class 3 acc. to VDI /VDE 3540 |
| Nominal Range of use | 0 °C to 45 °C (Usage Group II) |
| Operating Temperature | -10 °C to 55 °C |
| Storage temperature | -40 °C to 70 °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. 0.2kg |

Connection Terminal

| | |
|--|--|
| Connection Element | Conventional Screw type terminal with indirect wire pressure |
| Permissible cross section of the connection lead | 4.0mm ² single wire or 2 x 2.5mm ² Fine wire |
| Permissible Vibrations Shocks | 2g acc. to EN 60068-2-6 3 x 50 g 2 shocks each in 6 directions Acc. to EN 60068-2-27 |



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Ordering Information

| | | | | | | |
|----------------------|--|----|----|----|---|--------|
| Ordering Information | SI02- | XX | XX | XX | X | 000000 |
| Product Type | RISH CON SI-102 : DC Signal Isolator-Dual Output | | | | | |
| Input Current range | 1-5mA | 53 | | | | |
| | 0-10mA | 6J | | | | |
| | 0-20mA | 32 | | | | |
| | 4-20mA | 55 | | | | |
| Input Voltage range | 0-50mV | 6P | | | | |
| | 0-60mV | 3F | | | | |
| | 0-75mV | 3D | | | | |
| | 0-100mV | 3H | | | | |
| | 0-150mV | 6N | | | | |
| | 0-350mV | 6B | | | | |
| | 0-1V | 5A | | | | |
| | 0-2.4V | 6I | | | | |
| | 0-3V | 5M | | | | |
| | 0-5V | 3E | | | | |
| | 1-5V | 3B | | | | |
| | 0-10V | 5H | | | | |
| | 2-10V | 3C | | | | |
| | 0-15V* | 5J | | | | |
| | 0-20V | 5U | | | | |
| | 0-24V | 6E | | | | |
| | 0-25V | 5D | | | | |
| | 0-30V* | 5R | | | | |
| | 0-36V | 5B | | | | |
| | 0-40V | 5E | | | | |
| | 0-48V | 6C | | | | |
| | 0-50V | 5P | | | | |
| | 0-60V | 6G | | | | |
| | 0-75V | 5L | | | | |
| | 0-90V | 6D | | | | |
| | 0-100V* | 5N | | | | |
| | 0-110V | 6A | | | | |
| | 0-120V | 6F | | | | |
| | 0-121V | 6M | | | | |
| | 0-125V* | 5K | | | | |
| | 0-150V | 5T | | | | |
| | 0-160V | 6Q | | | | |
| | 0-175V* | 5W | | | | |
| | 0-180V | 6K | | | | |
| | 0-200V | 5C | | | | |
| | 0-220V* | 5V | | | | |
| | 0-250V* | 5I | | | | |
| | 0-300V | 5S | | | | |
| | 0-310V* | 5Q | | | | |
| | 0-350V | 5G | | | | |
| | 0-400V | 5F | | | | |
| | 0-450V | 6O | | | | |
| | 0-500V | 6L | | | | |
| Output Range-1 | 0-20mA | | 32 | | | |
| | 4-20mA | | 35 | | | |
| | 0-10V | | 5H | | | |
| | 2-10V | | 3C | | | |
| Output Range-2 | 0-20mA | | | 32 | | |
| | 4-20mA | | | 35 | | |
| | 0-10V | | | 5H | | |
| | 2-10V | | | 3C | | |
| Auxiliary Supply | 24-60V AC/DC | | | | F | |
| | 40-300V AC/DC | | | | H | |

* Non standard input/output range

For Non standard Current input: 0-100mA & Voltage input:0-500V range is possible.

Ordering Code Example : SI02-5H5H5HH000000

Rish CON SI102 (DC Signal Isolator-Dual Output)- Input 0-10V DC, Output-1 0-10V,Output-2 0-10V, Aux 40-300V AC/DC



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Specifications may change without prior notice



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