Измерительные преобразователи

ПРИБОРЫ СЕРИИ RISH CON

RISH CON CA/CV

RISH CON M

КИП плюс

Electrical Transducers

RISH *Ducer/CON* Series

Features

- Transducers are the beginning of a measuring Chain. Transducer acquires any electrical or Physical quantity and converts it into a proportional electrical signal. The output signal is either a DC voltage or a DC Current and is load independent through a wide range.

Applications

- Telemetering (e.g. Remote transmission of electrical parameters to regional distribution center)
- PLC, SCADA (Supervisory Control & Data Acquisition)
- Energy Management.
- Process Control where accurate & reliable monitoring of Electrical parameters is desired.
- Input to Recorders / Indicators
- Monitoring of various electrical parameters at generation, transmission & distribution of electrical energy.

Electrical Transducer Selection Chart

Type	Model	Description
Current Transducer	RISH *CON* - I	I/p: 1/5A Programmable. O/p: 0-20mA, 4-20mA, 0-10V Programmable, 60-300V AC/DC Aux Supply
	RISH *CON* - CA	Avg Type, 1 Channel with 0.2 class accuracy, 40-300V AC/DC Universal aux.
		TRMS Type, 1 Channel with 0.2 class accuracy, 40-300V AC/DC Universal aux.
	E15	Average Type with External Auxiliary supply (single output) Acc Class 0.5, 24...60 or 85...230V AC/DC,
Voltage Transducer	RISH *CON* - V	I/p: 57-500V progr., O/p: 0-20mA, 4-20mA, 0-10V Programmable, 60-300V AC/DC Aux. Supply
	RISH *CON* - CV	Avg. Type 1 Channel with 0.2 class accuracy, 40-300V AC/DC Universal aux.
		TRMS Type, 1 Channel with 0.2 class accuracy, 40-300V AC/DC Universal aux.
	E15	Average Type with External Auxiliary supply Acc Class 0.5, 24...60 or 85...230V AC/DC,
Power Transducer	RISH *CON* - P	System, CTR, PTR selection onsite, o/p: 0-20mA, 4-20mA, 0-10V selec., 60-300V AC/DC Aux. Supply
Power Factor Transducer		P.F./ With Display onsite selectable, o/p: 0-20mA, 4-20mA, 0-10V selec., 60-300V AC/DC Aux. Supply
Frequency Transducer	RISH *CON* - Hz	I/p: Frequency range programmable, O/p 0-20mA, 4-20mA, 0-10VDC selec., 60-300V AC/DC Universal Aux.
Programmable Multi-Transducer	M00	Interface: RS232, LON-FTT
	M01	Interface: RS232, RS485
	M20	2 Analog Outputs, Interface: RS232
	M24	2 Analog Outputs & 4 Digital Outputs, Interface: RS232
	M30	3 Analog Outputs, Interface: RS232
	M40	4 Analog Outputs & Interface : RS485, RS232
	M42	4 Analog Outputs & 2 Digital Outputs, Interface: RS232

Process Transducer Selection Chart

Type	Model	Description
Passive DC Signal Isolators	TV808	DC Signal Isolators, Convertor and Amplifier with Single or Two Channel
Programmable DC Signal Isolator	RISH PI 102	1 Input, 2 Output, Accuracy Class 0.2
Compact DC Signal Isolators	RISH *CON*-S1 101	One Channel DC Signal Isolator, Basic Accuracy: Limit error +0.2% Response Time: <50mSec., Aux. Supply ON Indication., 65-300V AC/DC
	RISH *CON*-S1 102	One Channel DC Signal Isolator with 2 outputs, Basic Accuracy: Limit error +0.2% Response Time: <50mSec., Aux. Supply ON Indication., 65-300V AC/DC
Programmable TAP Position Transducer	RISH *CON*- TPT	Basic Accuracy of 0.2, 24-60V AC/DC or 85-230V AC/DC Output signal selection onsite through DIP switches (Flush DIN Rail Mounted)
Temperature Transmitter	PT602	Temperature Transmitter with Single or two channel Transmitter
Universal Transmitter	V 604	DC Voltage, Current, Resistance & Temperature

Electrical Transducers

RISH *CON* Series - Compact Transducers

RISH *CON* CA/CV (TRMS / AVG) CURRENT/VOLTAGE TRANSDUCER

APPLICATION

The transducer RISH CON - CA/CV Converts a sinusoidal or distorted AC Current or AC Voltage into a load independent DC Current or a load independent DC Voltage proportional to the measured value. Output signal generated is proportional to the root mean square value of the input Current or Voltage.

RISH *CON* SI-101/SI-102 DC ISOLATOR

APPLICATION

The purpose of the RISH CON - SI-102 is to electrically isolate input, outputs and power supply. The isolator fulls all requirements and regulation concerning electromagnetic compatibility EMC and safety (IEC61326-1 and IEC 61010-1:2010).

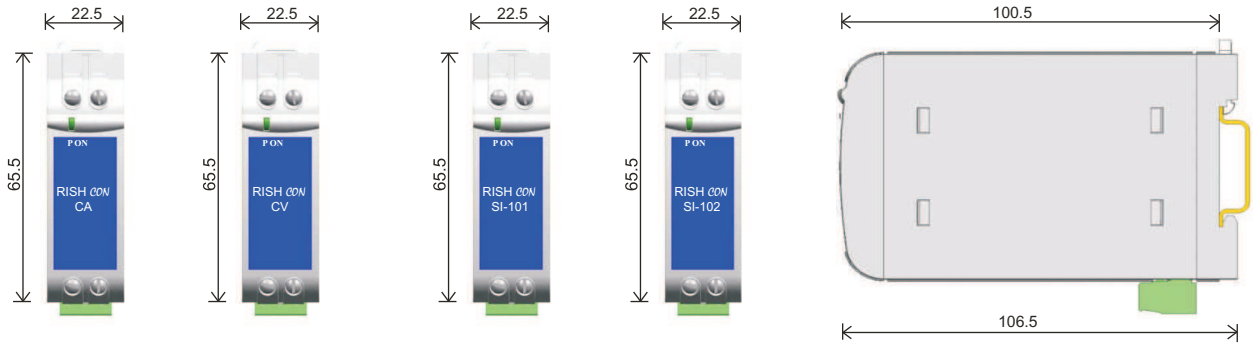
The device has one input and provides two independent outputs in an extremely small space.

Technical Specification

Technical Specification	RISH CON CA / CV
Final Value of Nominal I/P	1A , 5A For RISH CON CA, 63.5 V ≤ Un ≤ 500 V for RISH CON CV
O/P Type	Load Indepdent DC Voltage or DC Current
O/P Range	0-10mA, 0-20mA, 2- 10mA, 4 - 20mA, 0-5V, 0-10 V
Ripple	≤ 1 % P - P
AUX Supply	40 V - 300 V AC/ DC
Response Time	250 ms
Accuracy Class	0.2

Technical Specification	RISH CON SI 101/ SI 102
Measuringl I/P	0-20mA, 4 - 20mA,1- 5mA, 0-10 V, 2-10V, 1-5V
O/P Type	Provides one Output - RISH CON SI 101 Provides two Output - RISH CON SI 102
O/P Range	0-20mA , 4 - 20mA , 0-10 V ,2-10 V.
Ripple	0.5% P - P
AUX Supply	60 V - 300 V AC/ DC or 24 V - 60 V AC / DC
Response Time	50 ms
Accuracy Class	0.2

DIMENSIONS



Tap Position Transducers

Programmable Tap position transducer with dual output & display

APPLICATION

The purpose of the Tap position transducer is to convert tap position of transformers to equivalent analogue output. Outputs can be given as input to either RTU or indicator or recording instrument.

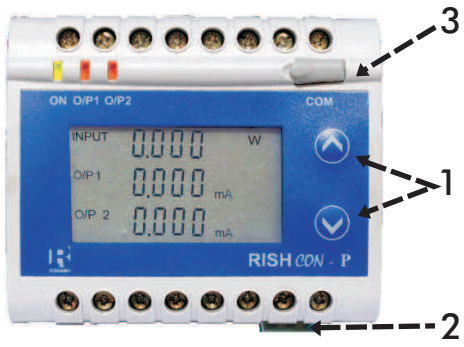
Input variable and measuring range are programmed with the aid of a PC and the configuration software. The device has one input channel and two independent out puts.

Electrical Transducers

RISH *CON* Series Voltage, Current, Frequency, Power Trasnducers

Three Ways of Programming Transducer

1) Programming via Front LCD & two keys
2) Programming via RS485 (Modbus) communication port
3) Programming via Programming port available at the front



Technical Specification	RISH CON P	RISH CON I/V/Hz
Nominal I/P	100 V ≤ U_N ≤ 500V L-L, 1A ≤ I_N5A	1A ≤ $I_{\leq}$ 5A For RISH CON I 57V ≤ U_N≤ 500V L-L for RISH CON V XP Range 45 - 65Hz RISH CON Hz
O/P Quality	Load Independent DC Voltage or DC Current	Load Independent DC Voltage or DC Current
O/P Range	Unipolar 0-20mA/4-20mA OR 0-10 V Bipolar -20mA- 0 - + 20mA or -10V -0- +10V	0-20mA/4-20mA OR 0-10V
Ripple	≤ 1% P-P	≤ 1% P-P
Aux Supply	60 V - 300 V AC/DC or 24 V - 60 V AC/DC	60 V-300 V AC/DC or 24 V- 60 V AC/DC
Response Time	750ms	300ms
Insulation Level for Input Verses all other circuits	3.7 KV	3.7 KV
Accuracy Class	0.2 for Power & 0.5 for Phase Angle and Power Factor	0.2

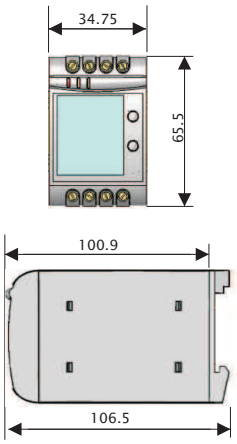
Features

- ♦ True RMS measurement.
- ♦ Accuracy class 0.2
- ♦ Programmable Input / Output
- ♦ Analog Output (Single or Dual): Isolated analog output which can be set onsite to either DC voltage or DC current output
- ♦ Programmable Input / Output: Using front key & display, RS 485 & PR KAB 600
- ♦ Available in Single or Dual output
- ♦ Onsite configurable as Active / Reactive / Apparent Power / Power Factor / Phase Angle Transducer for RISH CON P
- ♦ Wide Auxiliary power supply. Accept any input between 60V-300V AC/DC
- ♦ Accessories: Optional accessories PR KAB 600 available for programming
- ♦ LED Indication: LED indication for power ON and output type
- ♦ Display Module (Optional): 7 segment LCD display with backlit & keypad. For displaying measured parameters & onsite configuration of Input / output
- ♦ RS485 Communication (Optional): RS485 communication is available. For reading measured parameters & onsite configuration of input / output

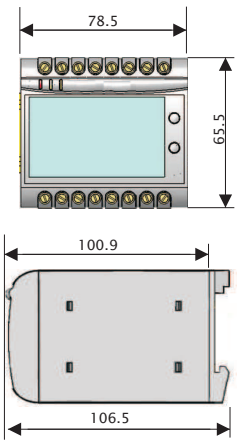
Please refer datasheet for more details.

DIMENSIONS

RISH CON V/I/Hz



RISH CON P



Electrical Transducers

DC Signal Isolators

Introducing Onsite
Programmable Isolator

Rish PI 102

- On-site Programmable inputs & Outputs
- Accuracy Class - 0.2
- Wide Auxiliary Supply

RISH Ducer TV808

Function

Isolating Amplifier **RISH** *Ducer* TV808, finds its application for isolation, amplification and conversion of DC signals.

Features

Electric Isolation between input, output and power supply, prevents falsified measurement due to spurious potentials.
Flexibility provided by more than 250 different input and output combinations selected by simply positioning soldered jumpers, helps in reduced stocking.
Processes unipolar/bipolar and live zero signals
Provision for raising the burden and signal conversion
Green LED signals device in operating condition.
High Electrical Insulation:-
Between input and output - 2.3kV
Between power supply versus all other circuits - 3.7kV.

Input

DC current signals : 0...0.1 to 0...40mA also live zero, bipolar asymmetrical
DC voltage signals : 0...0.06 to 0...1000V also live zero, bipolar asymmetrical

Output

DC Current Ranges : 0..1to 0....20mA resp. live zero
DC voltage Range : 0... 1 to 0... 10V resp. live zero
Power Supply : 24 V . . . 60 V DC/AC and 85 V . . . 230 V DC/AC
Basic Accuracy : <± 0.2

Input & Output available

1 input - 1 output,
1 input - 2 outputs,
2 inputs - 2 outputs

LED Display

Green LED: For indicating device in operating condition

Electrical Transducers

RISH Ducer Temperature Transmitter / Universal Transmitter

RISH Ducer PT602

Function

The temperature transmitter RISHDucer PT602 converts the input variable- a signal from a resistance thermometer PT 100 - to a proportionate temperature linear output signal. Versions are available for two, three or four-wire connection.

Features

- Measuring ranges configurable with DIP switch and potentiometer
- Non-standard user-specific ranges available
- Red LED's indicator: an open or short-circuit
- Electric isolation between input & output 2.3 kV and power supply and all other circuits 3.7 kV - Fulfils EN 61 010
- Universal (DC/AC) power supply

Measuring Input

Resistance Thermometer Pt 100 acc. To DIN IEC 751	Measuring ranges		
	Limits	Min. span	Max. span
For 2-wire connection	-150 to +800 °C	50 °C	700 °C
For 3 or 4-wire connection	-170 to +800 °C		

Measuring ranges: DIP switch and potentiometer setting
Test current: <1mA

Measuring Output

DC current
Ranges : 0 ... 20 or 4 ... 20 mA Switchable by plug in jumper
Burden Voltage : 10V

DC voltage

Ranges : 0... 1 0 V
Load capacity : R_{ext}. min 2 kΩ
Power Supply : 24 V . . . 60 V DC/AC and 85 V . . . 230 V DC/AC
Accuracy : ± 0.5%

Inputs & Outputs available :

1 input - 1 output,
2 inputs - 2 outputs

LED Displays

Green LED : For indicating device in operating condition
Red LED : For indicating operation of open circuit and short circuit

RISH Ducer V604

Function

Programmable universal transmitter RISHDucer V604, converts the input variable- a DC current or voltage, or a signal from a thermocouple, resistance thermometer, remote sensor or potentiometer - to a proportional analog output signals.

Features

- Input variable (Resistance, DC current, DC voltage, Potentiometer) and all measuring ranges programmed using PC
- Output signal range and characteristics(linear/bent/ live zero) are programmed using PC and the type of output signal (current or voltage) on a DIP switch
- Electrical isolation between measured variable, analog output signal and power supply as per EN 6 1010
- Measured variable data available at the programming interface
- Measured variable and signals can be viewed on site using a PC

Measuring Input

	B, E, J, K, L, N, R, S, T, U W5 - W26 Re
	Pt 100, Ni 100, Pt 20/20°C Cu 20 / 25 °C,2,3 or 4wire connection
	0...8Ω to 0....5KΩ
	0...80mA to 0...100 mA
	0...2 mV to 0...40 V

Cold Junction compensation
Internal: Incorporated resistor Ni 100

DC CURRENT

Ranges : 0 ... 20 or 4 ... 20 mA limit ± 22mA
Burden Voltage : +15 V, resp - 12v

DC VOLTAGE

Ranges : 0... 5, 1 ...5, 0...10 or 2... 10V
limit : 12V to + 15V
Load capacity : 20mA
Power Supply : 24 V . . . 60 V DC/AC and 85 V . . . 230 V DC/AC

Inputs & Outputs available : 1 input - 2 outputs
Relay Output : for Open-circuit supervision or for monitoring a limit.

LED Displays

Green LED : For indicating device in operating condition
Red LED : For indicating operation of open-circuit or trip point
Optional : Connector RS 232 Programing Kit with software

Process Transducers

Signal Isolator

Process Transducer			
Particular	Rish CON SI-101	Rish CON SI-102	Rish Ducer TV 808
Basic			
Combination	1 I/P, 1 O/P	1 I/P, 2 O/P	1 I/P, 1 O/P or 1 I/P, 2 O/P or 2 I/P, 2 O/P
Mounting	Din Rail	Din Rail	Din Rail
Accuracy Class	Class - 0.2	Class - 0.2	Class - 0.2
On-site Programmable – Front Key	-	-	-
On-site Programmable – Programming Via Software	-	-	-
LED Indication	✓	✓	✓
Parameters			
DC Voltage	✓	✓	✓
DC Current	✓	✓	✓
Resistance	-	-	-
Temperature	-	-	-
Output Options			
RS 485 (Optional)	-	-	-
Display (Optional)	-	-	-
Dual Output (Optional)	-	-	-
Salient Features			
Configuration of Instruments via Modbus Response Time			
nsa Time	< 50ms	< 50ms	< 50 ms
Technical Data			
Input Voltage	*0...10 / 2...10 / 1...5 / 0...300 V	0...10 / 2...10 / 1...5 V	*0...0.06 / 0.1 / 0.2 / 0.5 / 1 / 2 / 5 / 10 / 20 / 40 / 0.2...1 / 1...5 / 2...10 / 4...20 / + 0.1 / + 0.2 / + 0.5 / + 1 / + 2 / + 5 / + 10 / + 20 V
Input Current	*0...20 / 4...20 / 1...5 mA	0...20 / 4...20 / 1...5 mA	*0.1 / 0.2 / 0.5 / 1 / 2 / 5 / 10 / 20 / 0.2...1 / 1...5 / 2...10 / 4...20 / + 0.1 / + 0.2 / + 0.5 / + 1 / + 2 / + 5 / + 10 / + 20 mA
Input Resistance	NA	NA	NA
Temperature Range	NA	NA	NA
Burden influence	< ± 0.1 %	< ± 0.1 %	< ± 0.1% for current output / < ± 0.2% for voltage output
Auxiliary Supply – Universal	60 – 300 VAC/DC or 24 – 60 VAC/DC	60 – 300 VAC/DC or 20 – 60 VDC and 20 - 40 VAC	85 – 230 VAC/DC or 24 – 60 VAC/DC
VA Burden - Auxiliary Supply	< 3.4 VA / 1.6 W	< 4 VA / 2 W	< 3.4 VA / 1.6 W
Analog Output – DC Current	0...20 / 4...20 mA	0...20 / 4...20 mA	0...20 / 4...20 mA / -20...20mA
Analog Output – DC Voltage	0...10 / 2...10 V	0...10 / 2...10 V	0...10 / 2...10 V / -10...10 V
Output burden – DC Current	0 = R = 12V/ Output End Value	0 = R = 13V/ Output End Value	0 = R = 12V/ Output End Value
Output burden – DC Voltage	Output End Value /(5 mA) = R = 8	Output End Value /(5 mA) = R = 8	Output End Value /(5 mA) = R = 8
Residual Ripple	= 0.4% pk-pk	= 0.4% pk-pk	< 0.5% p.p.
Protection – Housing	IP 40 (according to EN 60 529)	IP 40 (according to EN 60 529)	IP 40 (according to EN 60 529)
Protection – Terminal	IP 20 (according to EN 60 529)	IP 20 (according to EN 60 529)	IP 20 (according to EN 60 529)
High Insulation Level	5.2kV DC, 1min	3kV, 50Hz, 1min	3.7kV, 50Hz, 1min
Operating Temperature	-10 °C... 55 °C	-10 °C... 55 °C	-25 °C... 55 °C

For Non-standard input, please refer to respective datasheet.

Process Transducers

Tap Position Transducer		Temperature Transmitter	Universal Transmitter
			
Rish CON TPT	Rish CON TPT (96 x 96)	Rish Ducer PT 602	Rish Ducer V604
Basic			
1 I/P, 2 O/P	1 I/P, 2 O/P	1 I/P, 1 O/P or 2 I/P, 2 O/P (2/3/4 wire)	1 I/P, 2 O/P (2/3/4 wire)
Din Rail	Panel Mounted	Din Rail	Din Rail
Class - 0.2	Class - 0.2	Class - 0.5	Class - 0.2
-	✓	-	-
✓	✓	-	✓
✓	-	✓	✓
Parameters			
-	-	-	✓
-	-	-	✓
✓	✓	-	✓
-	-	✓	✓
Output Options			
-	By Default	-	-
✓	By Default	-	-
-	-	-	✓
Salient Features			
-	✓	-	-
< 2s	< 4s	< 500 ms	< 1s
Technical Data			
NA	NA	NA	– 300...0...300 mV, – 40...0...40 V
NA	NA	NA	– 50...0...100 / – 12...0... 12 mA
0...3700 Ω or 0...25000 Ω	0...3700 Ω or 0...25000 Ω	NA	0...740 Ω or 0...5000 Ω
NA	NA	- 150 ... 800°C for 2 wire & - 170 ... 800°C for 3/4 wire	As per datasheet
< ± 0.1% for current output / < ± 0.2% for voltage output	< ± 0.1% for current output / < ± 0.1% for voltage output	< ± 0.1% for current output < 0.2% for voltage output	< ± 0.1% for current output < 0.2% for voltage output
85 – 300 VAC/DC or 24 – 60 VAC/DC	60 – 300 VAC/DC	85 – 230 VAC/DC or 24 – 60 VAC/DC	85 – 230 VAC/DC or 24 – 60 VAC/DC
< 4.7 VA / 3 W	< 4.7 VA / 3 W	< 2.3 VA / 1.2 W for 1 I/P, 1O/P < 3.4 VA / 1.8 W for 2 I/P, 2O/P	< 2.7 VA / 1.4 W
0...20 / 4...20 mA	0...20 / 4...20 mA	0...20 / 4...20 mA	0...20 / 4...20 mA
0...10 / 2...10 / 0...5 / 1...5 V	0...10 / 2...10 / 0...5 / 1...5 V	0...10 V	0...10 / 2...10 / 0...5 / 1...5 V
0 = R = 12V/ Output End Value	0 = R = 15V/ Output End Value	0 = R = 10V/ Output End Value	0 = R = 15V/ Output End Value
Output End Value /(20 mA) = R = 8	Output End Value /(2 mA) = R = 8	min 2k W	Output End Value /(20 mA) = R = 8
< 0.5% p.p.	< 0.5% p.p.	< 1.5% p.p.	< 1.5% p.p.
IP 40 (according to EN 60 529)	IP 40 (according to EN 60 529)	IP 40 (according to EN 60 529)	IP 40 (according to EN 60 529)
IP 20 (according to EN 60 529)	IP 20 (according to EN 60 529)	IP 20 (according to EN 60 529)	IP 20 (according to EN 60 529)
3.7kV, 50Hz, 1min	3.7kV, 50Hz, 1min	3.7kV, 50Hz, 1min	3.7kV, 50Hz, 1min
-20 °C... 65 °C	-20 °C... 65 °C	-25 °C... 55 °C	-25 °C... 55 °C