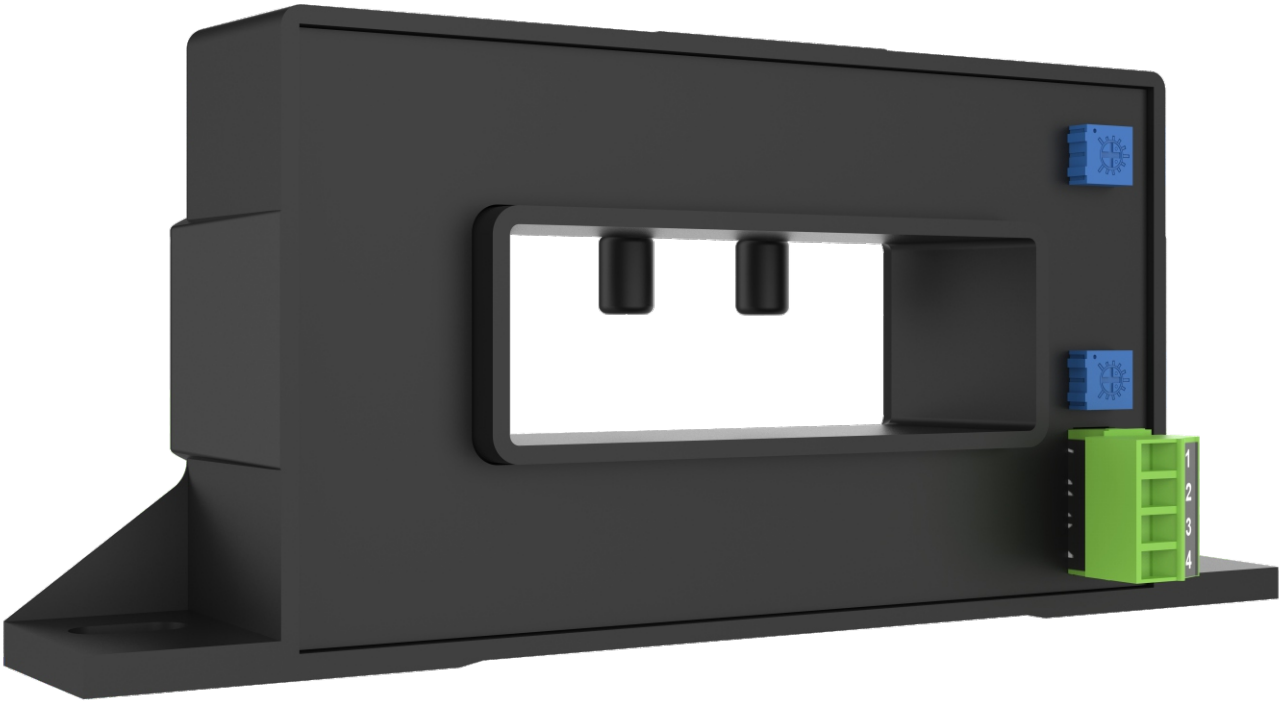
RISHABH

User Manual

RISH CW SERIES

Open Loop Current Transducer



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Operating Instruction

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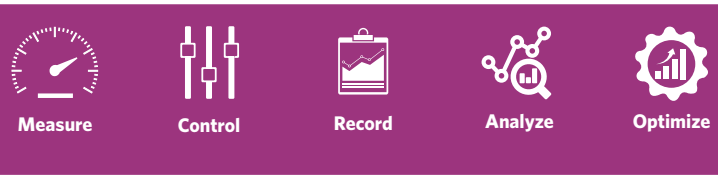


1. Read First and Then

The proper and safe operation of the device assumes that the Operating Instructions are read and the safety warnings given in the various sections Mounting, Electrical Connections, Commissioning are observed.

All operations concerning installation, electrical connections and commissioning must be carried out by qualified, skilled personnel, and national regulations for the prevention of accidents must be observed

2. Brief Description

The transducer converts a sinusoidal AC Current or DC current into a corresponding AC or DC Voltage proportional to the measured value.The transducer output is galvanically isolated from the input signal and auxiliary supply.

3. Product Features

Measuring Input:
AC Current
DC Current
Pulsating DC

Measuring Input Frequency:
DC to 25kHz

Auxiliary Power Supply:
±15V

Analog Output:
±4V

Accuracy:
±1%

Load Resistance (RL):
1 kΩ < RL < 10 kΩ

4. Overview of the Parts

Figure 1 and Figure 1.1 shows those parts of the device that are used for mounting, electrical connections, and other operations described in the Operating instructions Figure 1.2 shows the connection diagram of the connector

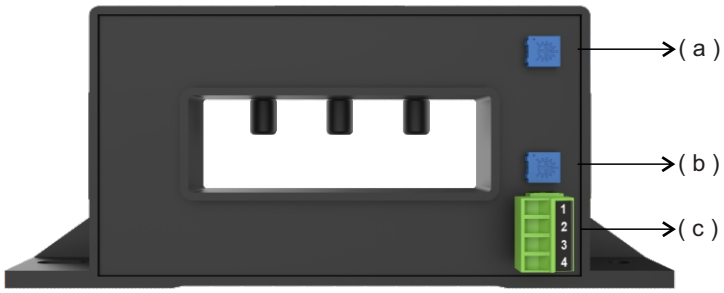


Fig. 1: Front View of Transducer

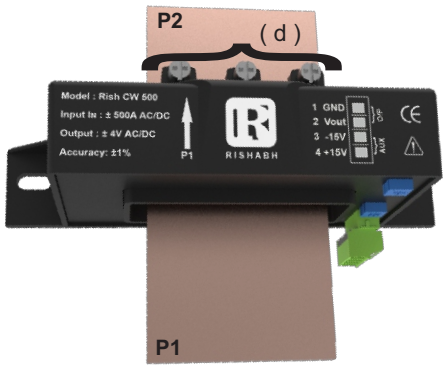


Fig. 1.1: Top View of Transducer

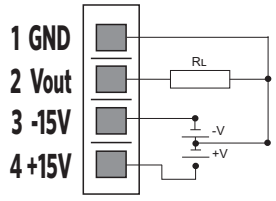
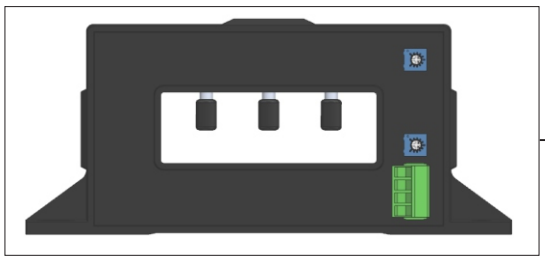


Fig. 1.2: Connection Diagram

(a) Offset Adjustment
(b) Gain Adjustment
(c) Input supply and output port
(d) Screw Placement for panel mounting

5. Scope of Supply



(1)

(2)

(3)

(1) Transducer..... 1 pc

(2) Female Connector..... 1 pc

(3) Bus Bar Mounting Kit.... 1 pc

6. Technical Data

1) Measuring Input

Type	Nominal Measuring RMS Current (I_N)	Measuring RMS Current Range (I_M)
CW 500	±500A	±1500A
CW 600	±600A	±1800A
CW 850	±850A	±2550A
CW 1000	±1000A	±3000A

2) Measuring Output

Output Type: AC/DC Voltage
Output Range: ±4V
Rate of change of output:

For Rish CW 500	8 mV/A
For Rish CW 600	6.7 mV/A
For Rish CW 850	4.7 mV/A
For Rish CW 1000	4 mV/A

Rated Operating Voltage: ±15V
Operating Voltage Range: ±15V to ±20V
Current Consumption: 20mA

Note:
a) The measuring range will be reduced if auxiliary voltage ±12 V < V < ±15 V
b) To use the device at maximum measuring range auxiliary voltage = ±18V

4) Accuracy

Accuracy: 1%

Reference conditions for accuracy:
Ambient Temperature: 25°C
Input Variable: Rated Voltage range

Additional Error:
Temperature Influence: <±1 mV/K

5) Load Resistance R_L

Load Resistance @ Voltage Output: 1 kΩ < R_L < 10 kΩ
For optimum performance: R_L = 10 kΩ

6) Safety

Protection Class	II
Pollution Degree	2

7) Installation Data

Mechanical Housing	Polycarbonate, Flammability Class V-0 acc. to UL 94
Mounting Position	Rail Mounting
Weight	450g approx

8) Connection Terminal

Connection Element	Screw Terminal
No of pins	4

9) Environmental

Normal Range of Use	−20 ... +80 °C
Storage Temperature	−40 ... +85 °C
Ambient Operating Temperature	23 ... 26 °C
Humidity Range	0 to 95% RH (Without Condensation)

10) Ambient Tests

IEC 60068-2-1	Vibration Test
IEC 60068-2-6	Cooling test
IEC 60068-2-14	Temperature Cycle Test
IEC 60068-2-32	Free fall

11) EMI EMC Tests

IEC EMC 61000-4-3	Radiated electromagnetic field immunity test
IEC EMC 61000-4-4	EFT Test
IEC EMC 61000-4-6	Immunity to conducted disturbances induced by radio frequency fields
IEC EMC 61000-4-8	PFMF test

12) Performance Parameters

a) The primary busbar fixed in the center of the aperture is recommended. The position of the busbar has an impact on the accuracy of the transducer
b) For higher currents, the maximum voltage through the bus bar should be between 0 to 5V 50Hz/DC.
c) Maximum Voltage rating of bus bar: 600V AC for Installation Category III.

7. Mounting

The transducer can be mounted on the rail or directly on to a mounting.

Caution:
a) In the interest of safety and functionality, this product must be installed by a qualified engineer, abiding by any local regulations
b) Voltages dangerous to human life are present at some of the terminal connections of the unit. Ensure that all supplies are de-energised before attempting any connection or disconnection.

8. Electrical Connections

Input connections are made directly to screw-type terminals with indirect wire pressure. Choice of cable should meet local regulations

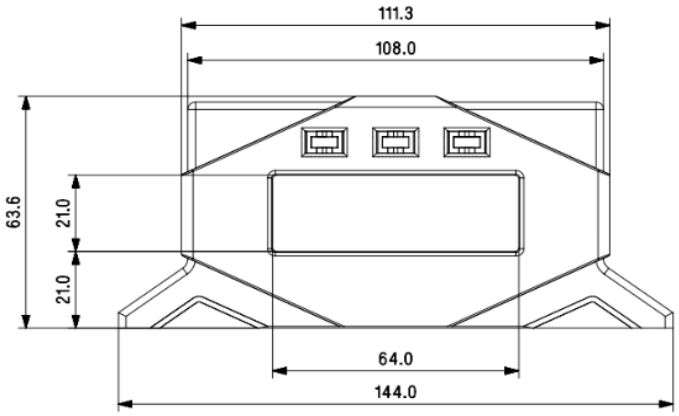
a) Make sure that the cables are not live when making the connections
b) Make sure that the mains supply if for SMPS if off when making the connections
c) The 230V supply is potentially dangerous!

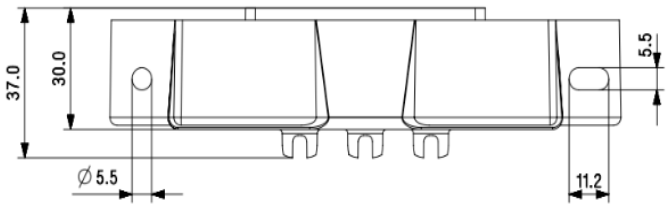
This is a open type PECS does not provide comprehensive mitigation for hazards(pre-circuit). It is intended to be installed inside a supplementary enclosure in restricted access area which provide appropriate protection against access to hazardous live parts

Terminal Details

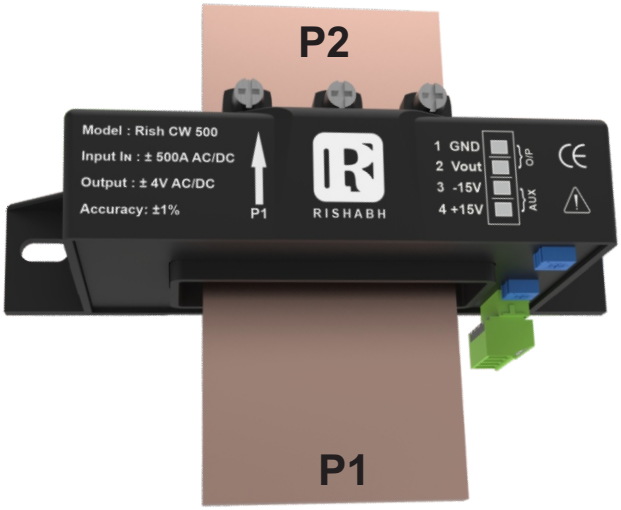
Connection	Terminal
GND	1
Vout	2
-15V	3
+15V	4

9. Dimensional Drawings





10. Busbar Mounting Guidelines



a) It is recommended to fix the primary busbar at the center of the aperture as the accuracy of the transducer is influenced by the position of the busbar.
b) The temperature of the primary conductor must not exceed 100 °C.

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User Manual subject to change without notice.

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