ChenYang
Technologies GmbH & Co. KG

3-Phase 4-Wire AC Voltage Sensor CYVS14-xnU0

The **CYVS14-xnU0** AC Voltage Sensor/Transducer works according to electromagnetic induction and is designed for applications to measurement and monitoring of 3-Phase 4-Wire AC voltage. The output signals (DC voltage or current) of this transducer are proportional to the rectified average value of input AC voltages. They are suitable for general applications such as fixed frequency voltage supplies and sinusoid voltages etc.

Specifications

Rated input voltage (Ux)	10V-500V AC
Linear measuring range	0 - 1.2 times of rated input voltage
Overload capacity	2 times of rated input voltage
Frequency of Input voltage	Typ. 50Hz, 60Hz, max. 5kHz
Input resistance	R_i=U_x *x 1kΩ /V*, U_x : input voltage
Output signals DC	0-5V, 0-10V, 0-20mA, 4-20mA DC
Measuring accuracy	0.5%
Load capacity	voltage output: 5mA; current output: 6V
Response time	≤300ms
Thermal drift	voltage output : 250ppm/°C; current output: 350ppm/°C
Power supply	+12VDC, +24VDC
Static current	Voltage output: 8mA; 0-20mA output: 8mA; 4-20mA output: 20mA
Isolation	Isolation between input and output, power supply at the output
Isolation withstanding voltage	2.5 kV DC, 1min
Operating temperature	-10°C ~ +60°C
Storage temperature	-25°C ~ + 70°C
Relative humidity	10% ~ 90%
Protection of Case	IP20
Material of Case	ABS (according to UL94V-0)
Mounting	DIN Rail
Case Style	U0 without aperture
MTBF	50000h
Unit weight	90g

Definition of Part number:

CYVS14	-	x	n	U0	-	0.5	-	m
(1)		(2)	(3)	(4)		(5)		(6)

(1)	(2)	(3)	(4)	(5)	(6)
Series name	Output signal	Power supply	Case style	Accuracy class	Input Voltage range (m)
CYVS14	**x=1:** 0-5VAC **x=3:** 0-5V DC **x=4:** 0-20mA DC **x=5:** 4-20mA DC	n**=2:** +12V DC n**=4:** +24V DC	U0	0.5%	m=10V-500V AC
	x=8: 0-10V DC	n**=4:** +24V DC			

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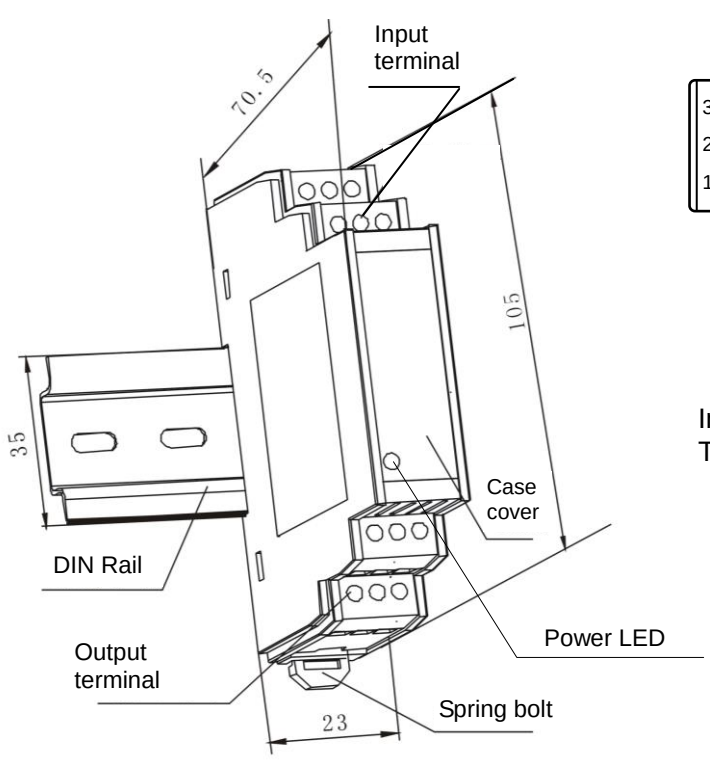
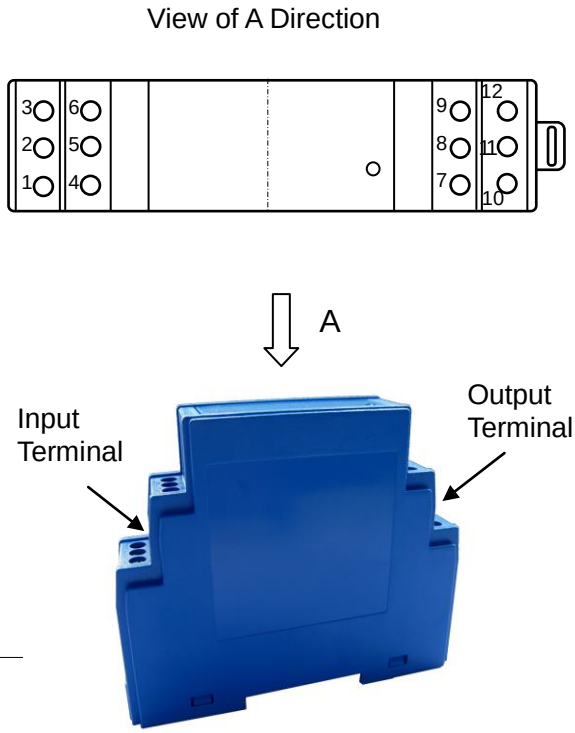
Example 1: CYVS14-32U0-0.5-100V, 3-phase 4 wire AC voltage sensor with
Output signal: 0-5V DC
Power supply: +12V DC
Rated input voltage: 0-100V AC

Example 2: CYVS14-54U0-0.5-380V, 3-phase 4 wire AC voltage sensor with
Output signal: 4-20mA DC
Power supply: +24V DC
Rated input voltage: 0-380V AC

DIMENSIONS (mm)





Dimensions: 105mm x 23mm x 70.5mm

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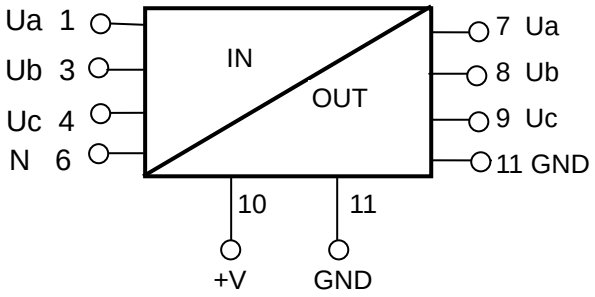
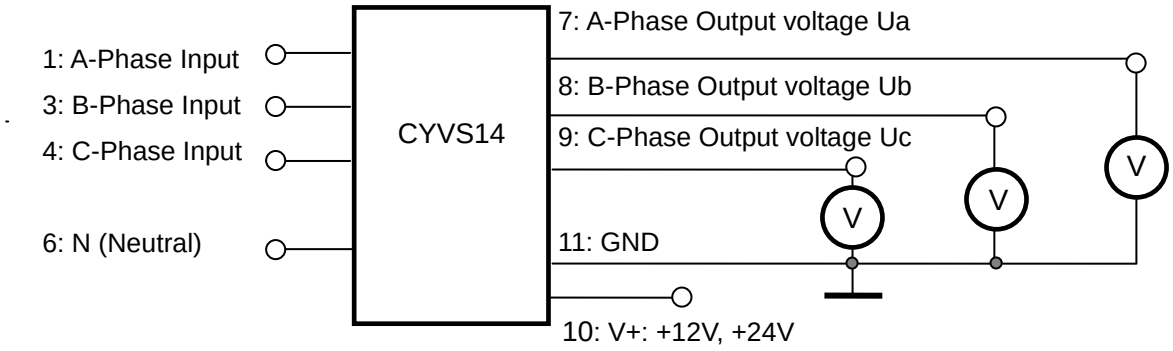
CONNECTIONS

Wiring of Terminals for voltage output:



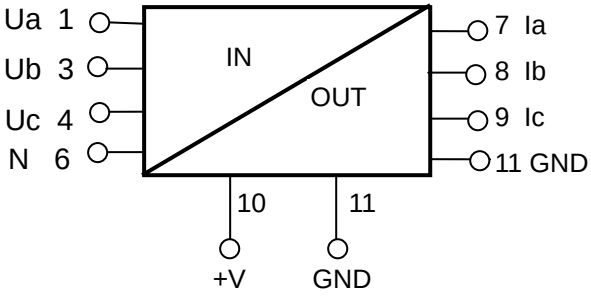
1,3,4: Voltage Inputs Ua, Ub, Uc
6: N: neutral
7,8,9: voltage Outputs Ua, Ub, Uc
10: Power supply
11: GND



Relation between Input and Output:

Sensor CYVS14-32U0-0.5-100V	
Input Voltage (V)	Output voltage (V)
0	0
25	1.25
50	2.5
75	3.75
100	5

Wiring of Terminals for Current Output:



1,3,4: Voltage Inputs Ua, Ub, Uc
6: N: neutral
7,8,9: Current Outputs Ia, Ib, Ic
10: Power supply
11: GND

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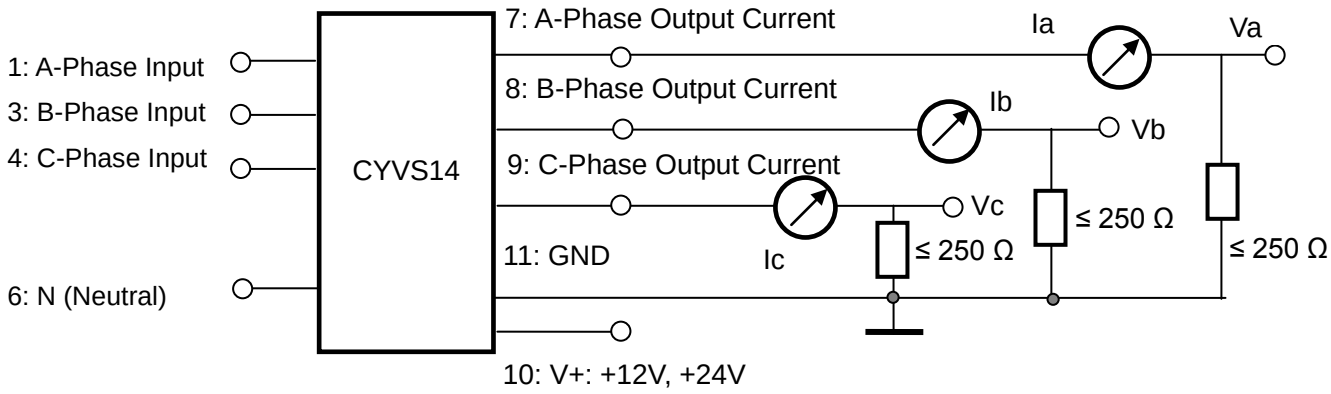

Relation between Input and Output (for R_m=250 Ω):

Sensor CYVS14-54U0-0.5-380V		
Voltage Input (V)	Output current (mA)	Output voltage (V)
0	4	1
95	8	2
190	12	3
285	16	4
380	20	5

Application:

- Harmonic voltages
- Chopped waveform drivers
- Quickly varying voltage supplies
- Phase fired controlled devices

Notice:

1. There is no polarity requirement for the input current connection.
2. The output signal and the power source are common grounded at terminal 11.
3. The output at terminal 7 corresponds to the phase voltage V_A, the output at terminal 8 is phase voltage V_B, and the output at terminal 9 presents phase voltage V_C

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