



AC Voltage Transducers

Models Available

- EVCC** Self Powered Zero Based Output
- EVCP** Auxiliary Powered Live Zero Output
- EVXC** Self Powered Expanded Scale
- EVXP** Auxiliary Powered Expanded Scale
- EVCR** Auxiliary Powered True RMS
- EVXR** Auxiliary Powered True RMS Expanded Scale

Product Features

- Isolated DC mA or DC voltage output
- Accuracy class 0.25
- Adjustable 'span' and 'zero'
- DIN rail mounting enclosure
- 4kV rms 50Hz 1 minute test isolation between input / output / case / auxiliary
- Screw type terminals
- Fingerproof terminal cover included

AC voltage transducers measure AC voltage either directly or through a voltage transformer. The transducer converts the AC voltage signal to either a DC mA or DC voltage output which is directly proportional to the input signal value. The EVCC and EVCP are average sensing rms calibrated while the EVCR is a true rms sensing, rms calibrated transducer typically used for measuring distorted waveforms.

The EVCX, EVXP and EVXR are designed to monitor the deviation of a voltage over a narrow band around the specified nominal voltage. The EVCC and EVCX transducers are self powered whilst all other AC voltage transducers are powered from a large choice of AC or DC auxiliary power options. The 4kV isolated output signals can then be fed to analogue meters, digital meters, PLC's or building management systems.

Specification

Reference Standard:

- IEC 688, BS 6253, VDE/VDI 2191

Accuracy:

- Class 0.25 ($\pm 0.25\%$ f.s. max. error)

Input Voltage, U_n :

- 50V to 550V direct connected (specify)
- or VT operated

Overload:

- 1.2 x U_n continuous
- 1.5 x U_n for 1 second

Working Range:

- 0 - 120% U_n (auxiliary powered)
- 10 - 120% U_n (self powered)

Frequency:

- 50 or 60Hz
- EVCR / EVXR 40 to 500Hz

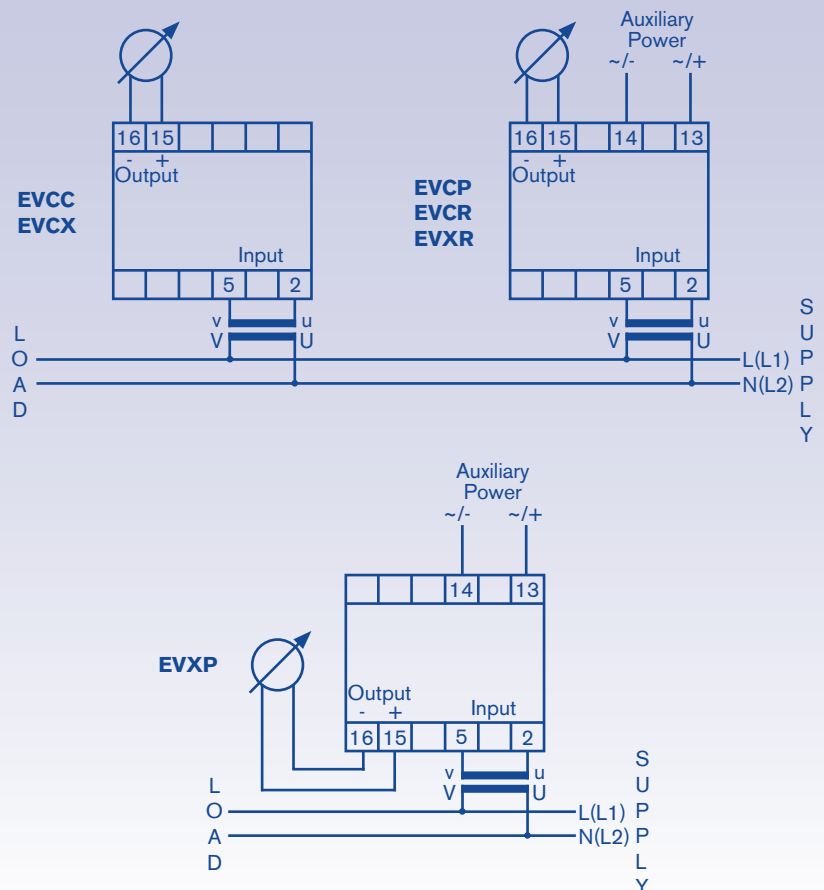
Burden:

- < 0.2VA (auxiliary powered)
- < 3VA (self powered)

Weight:

- EVCC, EVCX 350g
- EVCP, EVCR, EVXP, EVXR 600g

Connections



Measurement and data acquisition solutions

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Ordering information

Model	Code	Description
	EVCC	Self Powered - Zero Based Output
	EVCP	Auxiliary Powered - Live Zero Output
	EVCX	Self Powered - Expanded Scale
	EVXP	Auxiliary Powered - Expanded Scale
	EVCR	Auxiliary Powered - True RMS
	EVXR	Auxiliary Powered - True RMS Expanded Scale

Input Voltage	Code	Description
	P1	110, 115 or 120Vac (specify)
	P2	220, 230 or 240Vac (specify)
	P3	380, 400, 415 or 440Vac (specify)
	PX	50 to 550Vac (specify)

Input Deviation/Range	Code	Description
	-	N/A (EVCC, EVCP and EVCR)
	D15	$\pm 15\%$ (EVCX, EVXP, EVXR)
	D20	$\pm 20\%$ (EVCX, EVXP, EVXR)
	DX	$\pm 10\%$ to $\pm 100\%$ (EVXP, EVXR - specify)

Auxiliary Power	Code	Description
	E0	Self Powered (EVCC and EVCX only)
	E1	110Vac ($\pm 20\%$)
	E2	230Vac ($\pm 20\%$)
	E3	415Vac ($\pm 20\%$)
	E4	63.5Vac ($\pm 20\%$)
	E5	24Vdc ($\pm 20\%$)
	E6	48Vdc ($\pm 20\%$)
	E7	110Vdc ($\pm 20\%$)
	E8	24Vac ($\pm 20\%$)
	E10	220Vdc ($\pm 20\%$)

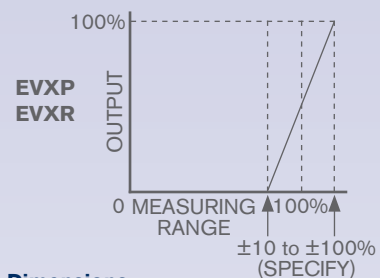
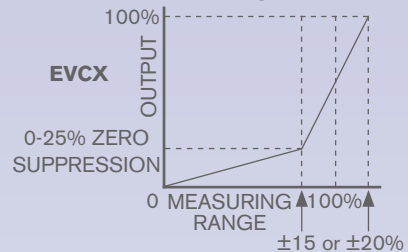
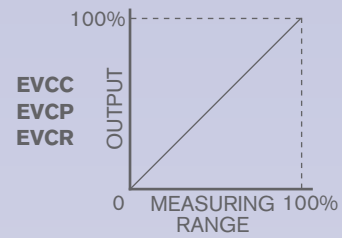
Output	Code	Description
	X1	0-1mA (N/A for EVCX)
	X2.5	0-2.5mA
	X5	0-5mA
	X10	0-10mA
	X20	0-20mA
	XA	4-20mA (N/A for EVCC)
	XV	Voltage (specify up to 15Vdc)

EVCX Zero Suppression	Code	Description
	SZ	Upto 25% (specify)
	S0	True Zero

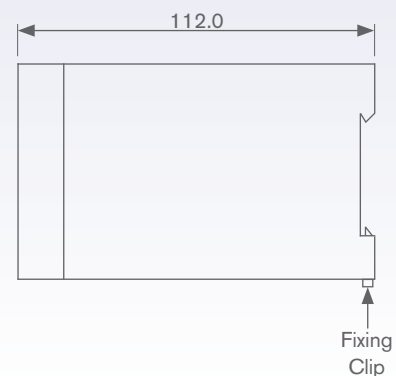
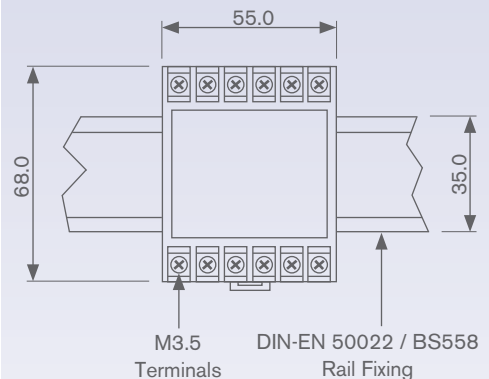
Input Frequency	Code	Description
	F50	50Hz
	F60	60Hz

Example EVXR - P1(110V) - D20 - E1 - XA - F50

Function Graphs



Dimensions



All dimensions in mm

For pricing or any further information, please contact Omni Instruments Ltd.



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General Specification

Output

Response Time:	< 400ms for 0-90% of input value
Warm Up Time:	< 15 minutes
Residual Output Ripple:	< 1% peak full scale
Long Term Drift:	±0.25% per year non-cumulative
Maximum Load:	1mA < 10kohm 2.5mA < 6kohm 5mA < 3kohm 10mA < 1.5kohm 20mA < 750ohm Voltage output >1kohm

Self powered voltage and current transducers have an adjustable span while all other units have an adjustable zero and span accessible from the front panel.

Auxiliary

AC:	110 / 230 / 415V (±20%) (others upon request)
DC:	24 / 48 / 110V (±20%)

Environmental

Operating Temperature:	-20°C to 65°C
Storage Temperature:	-40°C to 75°C
Variation With Temperature:	0.03%/°C (±0.5% maximum)
Relative Humidity:	0 - 95% non-condensing

Burden

Input Circuits:	See individual specifications
Auxiliary Power Supply:	7VA combined Watt/Var transducers (4VA all other transducers)

EMC Compliance

Directive 89/336/EEC:	Electrostatic discharge IEC801.2 (8kV) Electromagnetic fields IEC801.3 level 3 Fast transient bursts IEC801.4 level 4 Surge withstand IEC255-5
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Enclosure

Enclosure:	Grey ABS plastic with finger proof terminal covers
Enclosure Code:	Case IP50, terminals IP10 to IEC529 and BS5490
Test Isolation:	4kV rms 50Hz 1min (to IEC 414) between input / output / case / AC auxiliary (2kV rms 50Hz 1 min for EK energy transducers) 1kVdc / 600Vac between Watt & Var outputs (EPQ units)
Continuous Operation Isolation:	800V rms 50Hz / 1kVdc between input / output / case / AC auxiliary 150Vdc output / DC auxiliary
Mounting:	35mm DIN rail (DIN-EN 50022)
Markings:	CE marked

Options

Non Standard Calibration

All transducers are supplied calibrated to standard input values as detailed in the individual specifications, however non-standard calibration input values can be specified (subject to technical viability).

Wide Output Adjust Switch on Power Transducers

All power transducers are available with a ten position switch accessible from the front panel which provides coarse adjustment of the output signal between 50% and 200% of the nominal.

Calibration Certificate

Calibration certificates traceable to national standards can be supplied on all transducers.

Conformal Coating

A conformal coating can be applied to the transducer circuitry during manufacture for transducers that will be operating in harsh environmental conditions.

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