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AC Current Transducers

Models Available

ECCC Self Powered Zero Based Output
ECCP Auxiliary Powered Live Zero Output
ECCR Auxiliary Powered True RMS
ECCB Auxiliary Powered Bi-Polar Output

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 current transducers measure AC current either directly or through a current transformer. The transducer converts the AC current signal to either a DC mA or DC voltage output which is directly proportional to the input signal value. The ECCC and ECCP are average sensing rms calibrated while the ECCR is a true rms sensing, rms calibrated transducer typically used for measuring distorted waveforms. The ECCB measures the magnitude and direction of the input current for use when monitoring import/export of branch currents in supply loops.

The ECCC transducers are self powered whilst all other AC current 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.

For converting AC current to a proportional DC mA or DC voltage output

Specification

Reference Standard:
- IEC 688, BS 6253, VDE/VDI 2191

Accuracy:
- Class 0.25 (±0.25% f.s. max. error)

Input Current, *In*:
- 0-0.7A to 0-7.5A direct connected
- 0-1A or 0-5A CT operated

Overload:
- 2 x *In* continuous
- 30 x *In* for 1 second

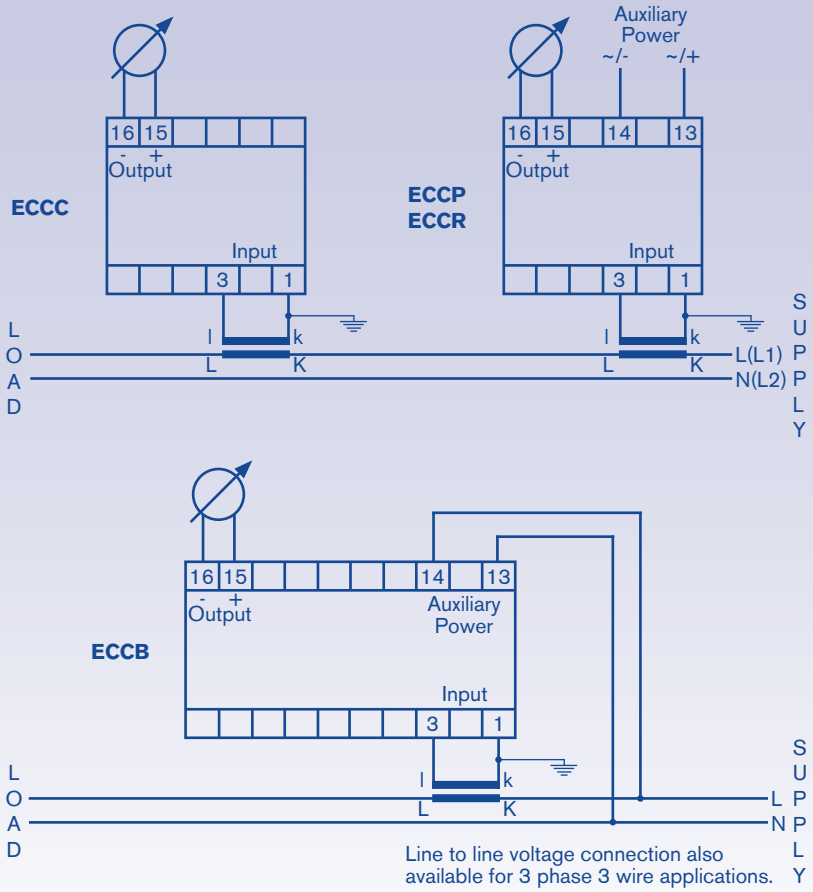
Working Range:
- 0 - 120%*In* (auxiliary powered)
- 10 - 120%*In* (self powered)

Frequency:
- 50 or 60Hz
- ECCR 40 to 500Hz

Burden:
- < 0.3VA (auxiliary powered)
- < 3VA (self powered)

Weight:
- ECCC 350g
- ECCP, ECCR, ECCB 600g

Connections



Line to line voltage connection also available for 3 phase 3 wire applications.

Ordering information

Model	Code	Description
	ECCC	Self Powered - Zero Based Output
	ECCP	Auxiliary Powered - Live Zero Output
	ECCR	Auxiliary Powered - True RMS
	ECCB	Auxiliary Powered - Bi-Polar Output

Input Current	Code	Description
	C1	1 Amp
	C5	5 Amp
	CX	0.7 to 10 Amps (specify)

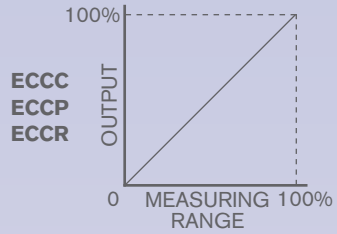
Auxiliary Power	Code	Description
	E0	Self Powered (ECCC only)
	E1	110Vac (±20%)
	E2	230Vac (±20%)
	E3	415Vac (±20%)
	E4	63.5Vac (±20%)
	E5	24Vdc (±20%) (N/A for ECCB)
	E6	48Vdc (±20%) (N/A for ECCB)
	E7	110Vdc (±20%) (N/A for ECCB)
	E8	24Vac (±20%)
	E10	220Vdc (±20%) (N/A for ECCB)

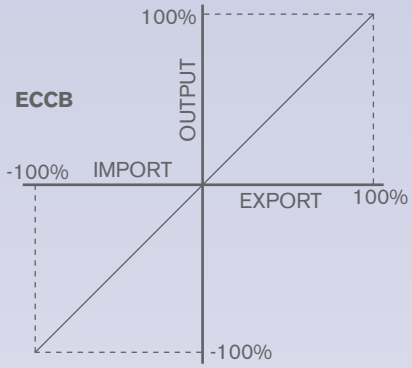
Output	Code	Description	
	X1	0-1mA	±1mA (ECCB)
	X2.5	0-2.5mA	±2.5mA (ECCB)
	X5	0-5mA	±5mA (ECCB)
	X10	0-10mA	±10mA (ECCB)
	X10B	N/A	0-5-10mA (ECCB)
	X20	0-20mA	±20mA (ECCB)
	XA	4-20mA	N/A for ECCC/ECCB
	XV	Voltage (specify up to 15Vdc)	±Voltage (ECCB)

Input Frequency	Code	Description
	F50	50Hz
	F60	60Hz

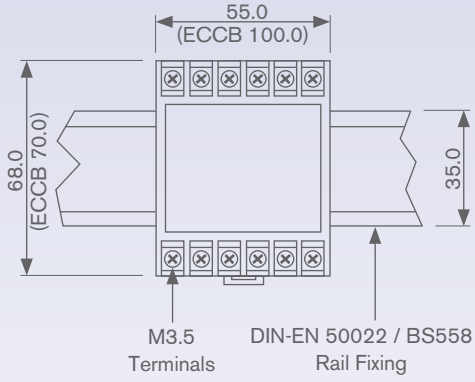
Example **ECCP - C5 - E1 - XA - F50**

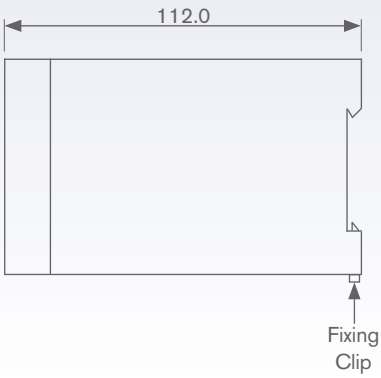
Function Graphs





Dimensions





All dimensions in mm

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

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

Specification subject to change without notice.

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.