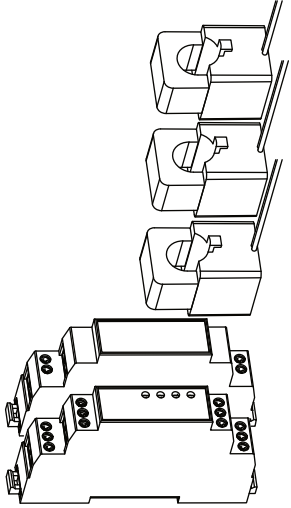




E2 Power Sensor Kit, 3-Phase Energy Metering Installation Manual

V260128



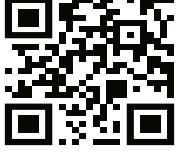
Product description

The E2 Power Sensor Kit enables the E2 Series charging stations to provide a cost effective solution for managing charging within 3 phase solar installations and other load balancing systems.

Refer to the E2 Installer Manual for a standard single phase install

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docs.evnex.io



Kit Contents

1. Evnex Power Sensor module
2. 230V/12V dinrail power supply
3. 2x 100A/50mA current transformers (CT) - the third unit comes with the E2 charger
4. Link kit
5. Installation manual

Please note

- Read all instructions before installing or using this product
- Evnex Ltd. reserves the right to make changes to this document or the products described without notice
- For questions relating to this product, its use or installation, please refer to contact details overleaf



COMMISSIONING - The Evnex Installation app is required to enable the Power Sensor



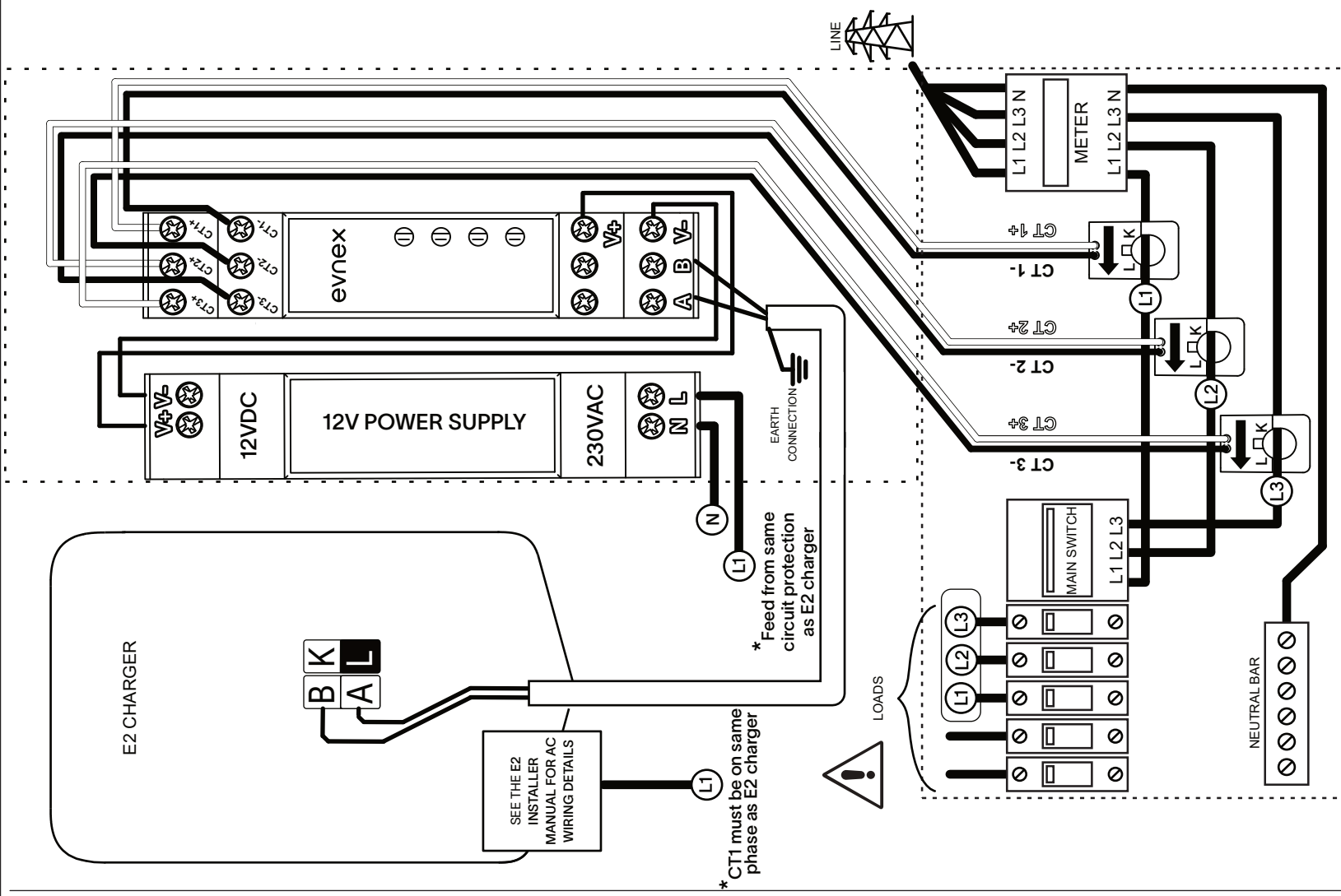
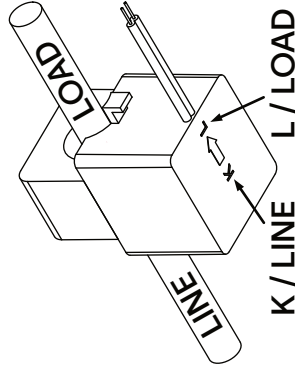
CHECKING WIRING - The status display can not be used as a reference for correct wiring.



CT & Control CABLE REQUIREMENTS

Overall screened, instrumentation cable, minimum 0.5mm² twisted pair, insulation rated at maximum voltage present at charger or switchboard (230/400VAC min) or sleeved appropriately. 100m maximum length

Current transformer orientation



About this document: This document describes the functionality and installation procedures for the E2 Power Sensor Kit.

Scope of this document: This document only refers to the Power Sensor kit, please refer to the correct documentation if this does not apply.

Symbols: You will find the following symbols throughout this document. Please pay attention to the recommendations.



CAUTION – Failure to follow these directions may cause minor injury or damage to equipment



WARNING – Failure to follow these directions may cause serious injury or death

Disclaimer

Evnex Limited shall not be liable in any way for damage or injury that occurs when using the product, and all warranties will be void where:

- The installation instructions have not been followed correctly
- The product has been installed by an unqualified person
- The product has been tampered with or modified
- The product has been used for a purpose other than was designed and intended for

Safety information

General information

- This product should only be installed by those who are appropriately qualified and skilled to do so.
- This product has been designed and tested in accordance with IEC 61326-1, however the installer is responsible for ensuring that all local regulations and standards are complied with.

This product is to be serviced only by Evnex approved technicians using only Evnex supplied parts

- There are no user serviceable parts inside the EX Power Sensor, 12V power supply, or current transformers and no maintenance is required
- Do not attempt to repair or modify the product
- It is the installers responsibility to ensure that all wiring is arranged safely and not subject to stress or damage.
- This product should only be used with Evnex charge stations unless specified by Evnex
- Warning labels must not be removed

Risk of electric shock

- Read all instructions before installing or using this product
- If this product is used in a manner not specified by Evnex, the protection provided by the product may be impaired
- If this product appears to be damaged in any way, it should be replaced. Damage includes any signs of cracking or separation of parts, insecure terminal blocks or discolouring caused by heat damage
- Never insert foreign objects inside main enclosure
- Avoid installing this product in locations that are prone to flooding
- Clipping the current transformers onto phase wires should be done while the mains supply is switched off

Installation



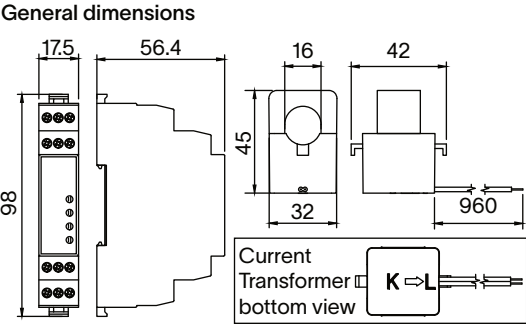
WIRING DIAGRAMS - See wiring diagrams overleaf and follow applicable local legislation



ISOLATION – Always ensure that the main supply is isolated before beginning work in the distribution box or on any high voltage wiring

Installation notes

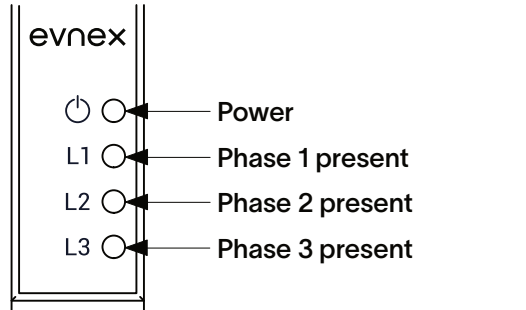
- Installer advised to follow anti-static procedures and to avoid touching exposed EX Power Sensor terminals
- This product must be installed with wiring as per applicable local legislation.
- Product requires an Evnex E2 Series charge station to be installed with wiring as per applicable local legislation.
- Power supply should be fed from same circuit protection as the E2 charger
- CT1 should be on same phase as E2 charger
- Installer to use appropriate installation equipment and protective safety clothing as per local legislation



Mounting notes

- Install product in secure distribution box which limits access to unauthorised people and the general public by way of a lock or tool only access
- Install product in protective distribution box which limits exposure to moisture, dust or impact
- Seal any unused cable gland holes to maintain dust and moisture integrity
- The current transformer signal wires must be routed securely away from all mains circuitry to maintain the reinforced insulation barrier
- Install the EX Power Sensor and 12V power supply within a suitable distribution box using standard 35mm DIN rail.

Status display



evnex

Power

Phase 1 present

Phase 2 present

Phase 3 present



CHECKING WIRING - The status display can not be used as a reference for correct wiring. Illuminated L1,L2 & L3 LEDs only shows that current is being measured on the input.

LED modes / fault conditions

Blue LED	Slow flash (2 per second)	Unit is powered but there is no communication between the EX Power Sensor and Evnex charge station
	On	Communication has been established between the EX Power Sensor and the charger
Green LED: L1,L2 or L3	On	A current transformer has been connected to CT1 (L1),CT2 (L2) or CT3 (L3) on the EX Power Sensor and there is current flow through the phase wire

Technical information

General	
EX Power Sensor	
Nominal supply voltage.....	12VDC
Rated current.....(max 33mA)	IP20
Protection class.....	IP20
Protection against mechanical impact.....	IK06
Relative humidity rating.....	93%
Pollution degree.....	II
Installation.....	Indoor
External design.....	Enclosed assembly
Communication and protocols	
Evnex E2 Series.....Proprietary	
External Input	
Voltage Rating.....	5 to 24V
Current Rating.....	5mA max
I/O Isolation.....	2.5kV
Environment	
Mounting environment.....	Indoor
IP20 Installation altitude.....	≤ 2000m above sea level
Operating temperature range.....	-25C° to 65C°
Power supply (refer to manufacturers specification for full details)	
Nominal supply voltage.....	230VAC
Nominal output voltage.....	12VDC
Rated output current.....	1.25ADC
Dimensions of power sensor and power supply	
Height.....	98mm
Width.....	17.5mm
Depth.....	56.5mm
CT Specification	
Internal Clamp Section.....	16mm
Output Lead Wire.....	24AWG
Wire Length.....	960mm
CT+.....	White
CT-.....	Black
Dimension of CT	
Height.....	45mm
Width.....	32mm
Depth.....	42mm

Regulatory	
The product complies with the following standards:	
• Low Voltage Directive 2014/35/EU -IEC 61010-1 • EMC Directive 2014/30/EU -IEC 61326-1 • RoHS Directive 2011/64/EU -IEC 63000:2016 • WEEE Directive 2012/19/EU -EN 50419:2006	
NZ phone: 0800 395 007 AU phone 1800 959 377 NZ web: www.evnex.com AU web: www.evnex.com.au Email: support@evnex.com	Address: 121 Wrights Road Addington Christchurch 8024 New Zealand