

IoT endpoint for energy measurement and data delivery via ZigBee



Main Characteristics

- Measure up to 3 phases of AC power, RMS voltage, RMS current, power factor, reactive and active power
- Standard DIN case
- Indoor use
- Able to measure single and three-phase loads
- Real time readings of consumption in kWh per phase, with internal memory for storing the data
- Supports up to 3 CTs optionally supplied by Khomp, in the following ranges:
 - 25 A with 10 mm diameter
 - 40 A with 16 mm diameter
 - 100 A with 16 mm diameter
 - 150 A with 16 mm diameter
 - 250 A with 24 mm diameter
 - 630 A with 36 mm diameter
 - 1500 A with 50.8 mm diameter

Applications

- Indoor power and energy monitoring for:
 - Healthcare
 - Industry
 - Corporate
 - Agribusiness

Overview


The ITE 10ZI Endpoint monitors various aspects at multiple power points. Via the ZigBee (IEEE 802.15.4) network, the endpoint sends the observed data to the ITG 200, and the gateway passes the information to the IoT cloud. With this data, the solution is able to analyze key aspects of the network powered load, as well as visualize in real time if there are any storms in the supply.

Model

Khomp offers the energy measurement endpoint in the following model:

Model	Description
Endpoint ZigBee Energy Meter - ITE 10ZI	Endpoint ZigBee transmitter/ repeater for inductive indoor power measurement using CTs - ITE 10ZI

Accessory (optional)	Description
25A TC PowCT-T10-25-333	25 A TC, 333 mV output, 5 meter cable
40A TC PowCT-T16-40-333	40 A TC, 333 mV output, 2 meter cable
100A TC PowCT-T16-100-333	100 A TC, 333 mV output, 2 meter cable
150A TC PowCT-T16-150-333	150 A TC, 333 mV output, 2 meter cable
250A TC PowCT-T24-250-333	250 A TC, 333 mV output, 2 meter cable
630A TC PowCT-T36-630-333	630 A TC, 333 mV output, 2 meter cable
1500A TC PowCT-T50-1500-333	1500 A TC, 333 mV output, 2 meter cable



Attention

The ITE line can only be used in association with [TCs supplied by Khomp](#). Khomp is not responsible for product problems caused by the use of third-party accessories.

Technical specifications

Power meter

- Active power: 0.1% accuracy
- Reactive power: 0.2% accuracy
- Temperature: ± 1 °C
- Power factor:
 - Accuracy: 0.5%.
 - Accuracy: 0.001
- RMS voltage:
 - Accuracy: 0.5%
 - Accuracy: 0,01 V
- RMS Current:
 - Accuracy: 0.5%
 - Accuracy: 0,001 A
- Frequency:
 - Accuracy: 0.5%
 - Accuracy: 0,01 Hz

Compatible versions

- Gateway Khomp ITG 200 version v2.5.1.0 or higher

Transmission

- Transmission power 20 dBm

Physical/Environmental

- Protective case dimensions standard DIN: 92x77x53 mm
- Weight: 120 g
- Operating temperature: -10 °C to 85 °C
- Operating humidity: 0-100% (non-condensed)
- DIN case (ABS rail included)
- Maximum consumption: 1.4 W
- Supply voltage: 90–277 VAC between terminals VA and N
- Supported voltage between neutral and any of the phases: 90–277 VAC
- Maximum voltage supported between phases: 90–480 VAC

Binary sensor

- Isolated digital input:
 - ON: 5–24 V
 - OFF: 0 V (zero volt)

Warranties and certifications

- Total warranty (legal + Khomp warranty): 1 year
- Anatel certification
- ISO 9001 certified industry

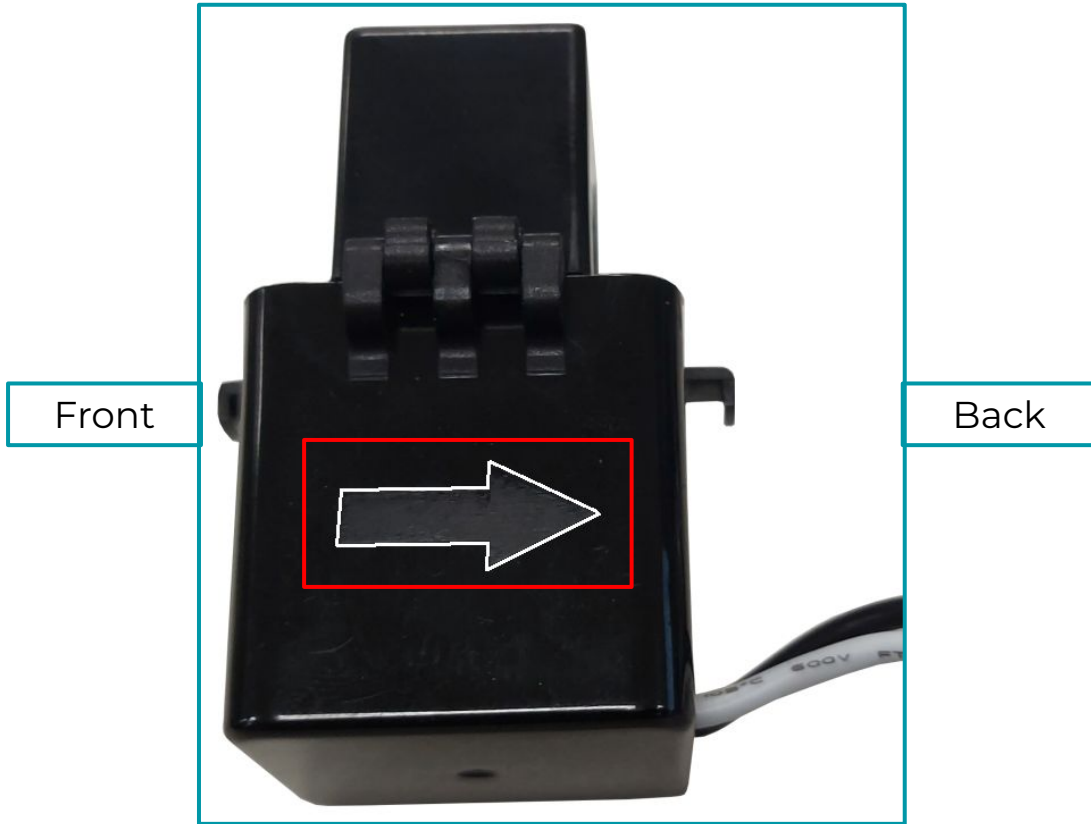
Other product images



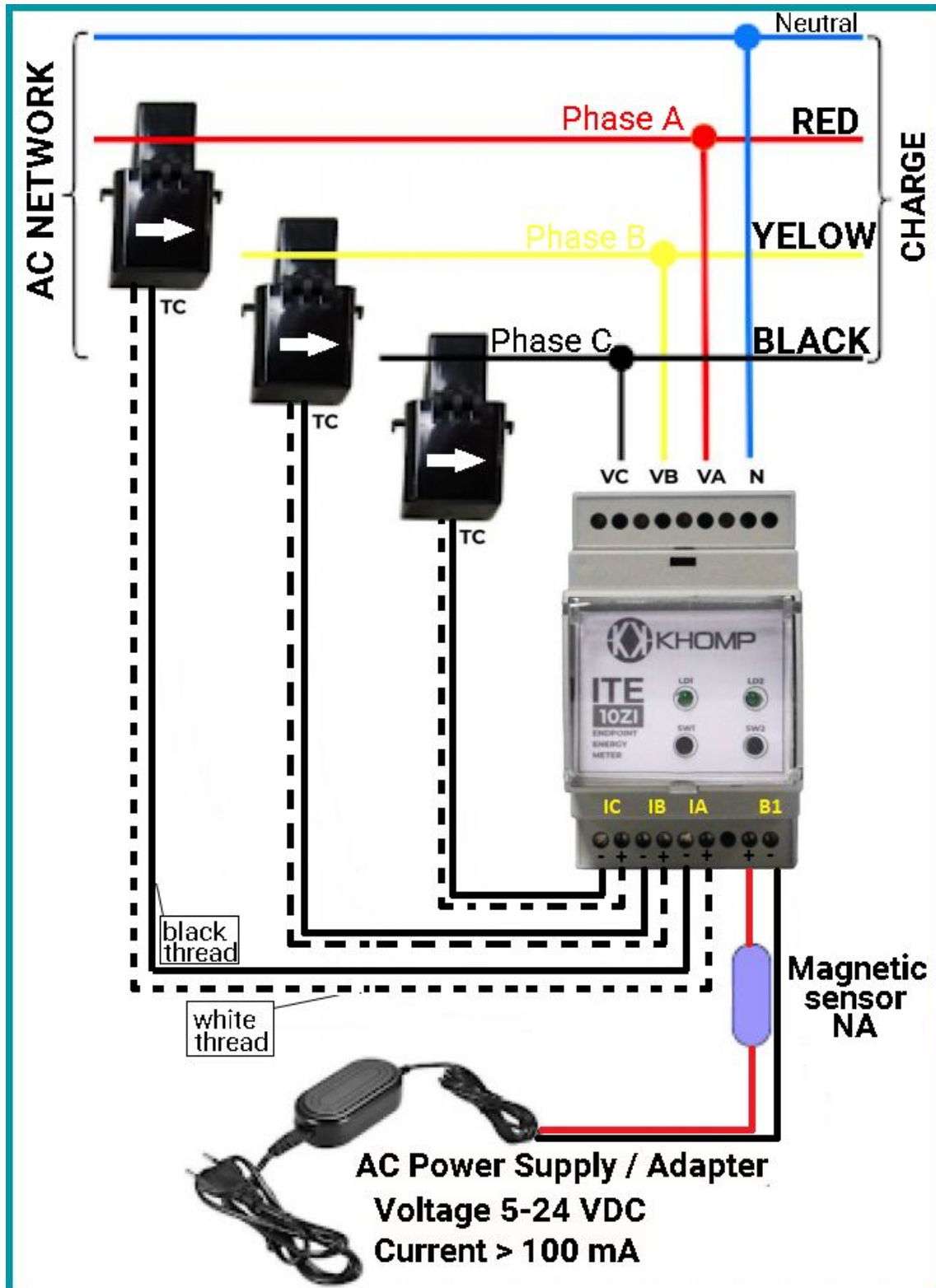
Caption: In the first part of the image, we see the ITE 10ZI in top view, profile view, and bottom view. In the central region of the image, we see the connections from the front (with the CT next to it) and the back of the ITE. In the final stage of the image, the side of the product is seen.

Current direction in CTs

Current Transformers must be properly positioned, taking into account the direction of the arrow displayed on the side of the product casing (as shown in the following images). The arrow always points in the same direction as the load to be measured. The current flows from the front to the back of the transformer (**the back is the side where the wiring exits the transformer**). The images shown below are examples of this indicator on Current Transformers.

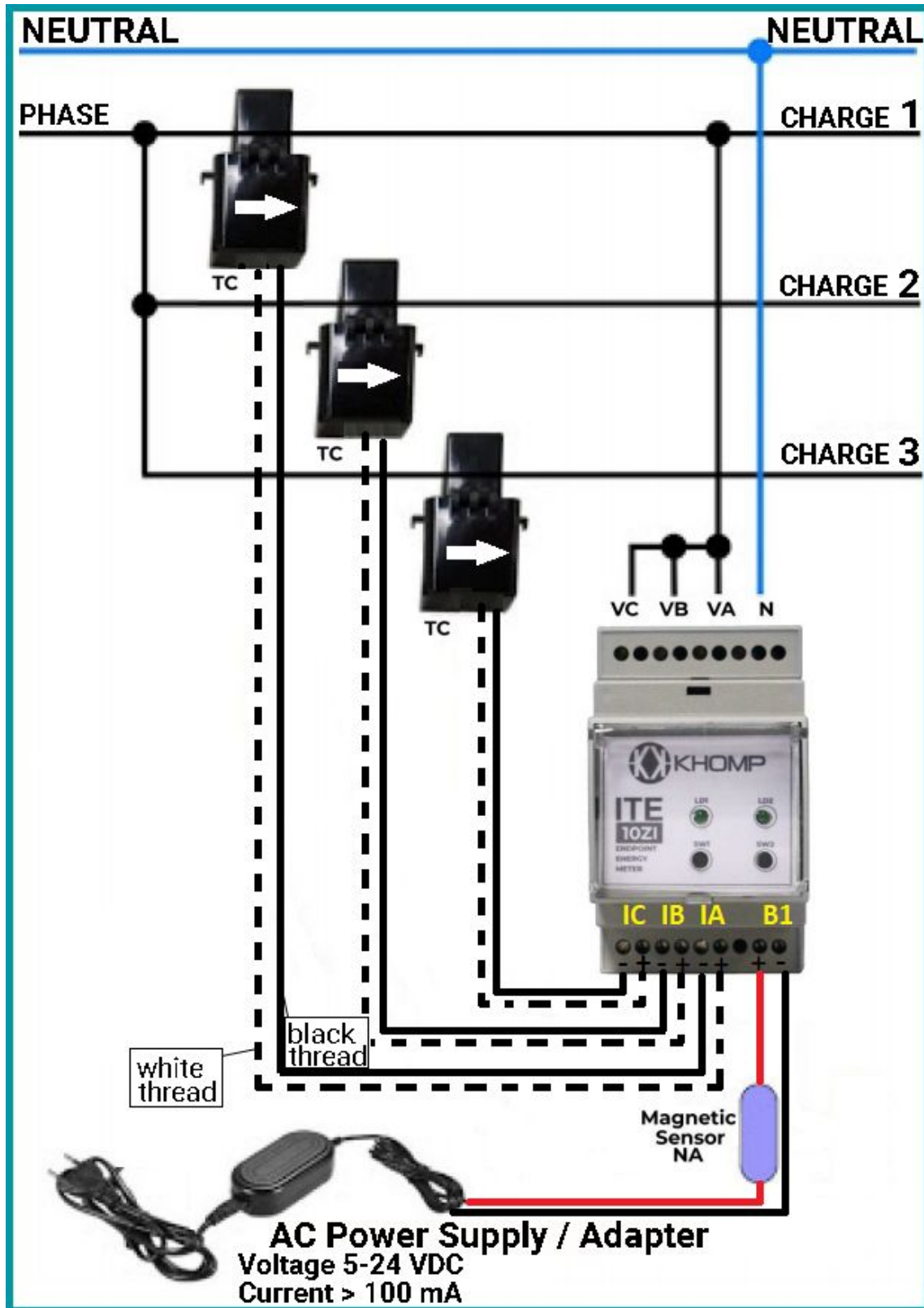


Application 1 model



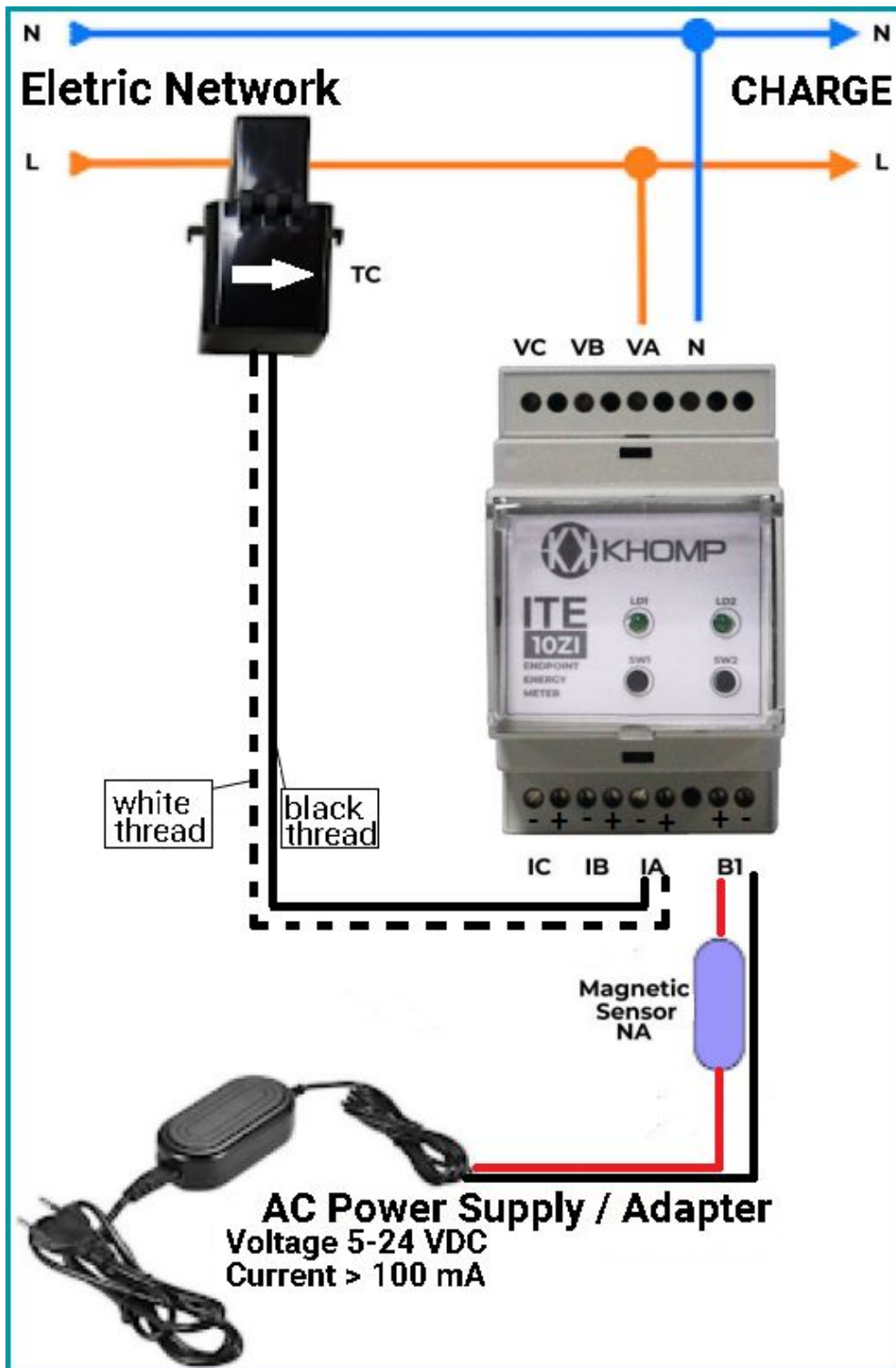
Caption: ITE 10ZI monitoring the three-phase load on the main power board.

Application 2 model



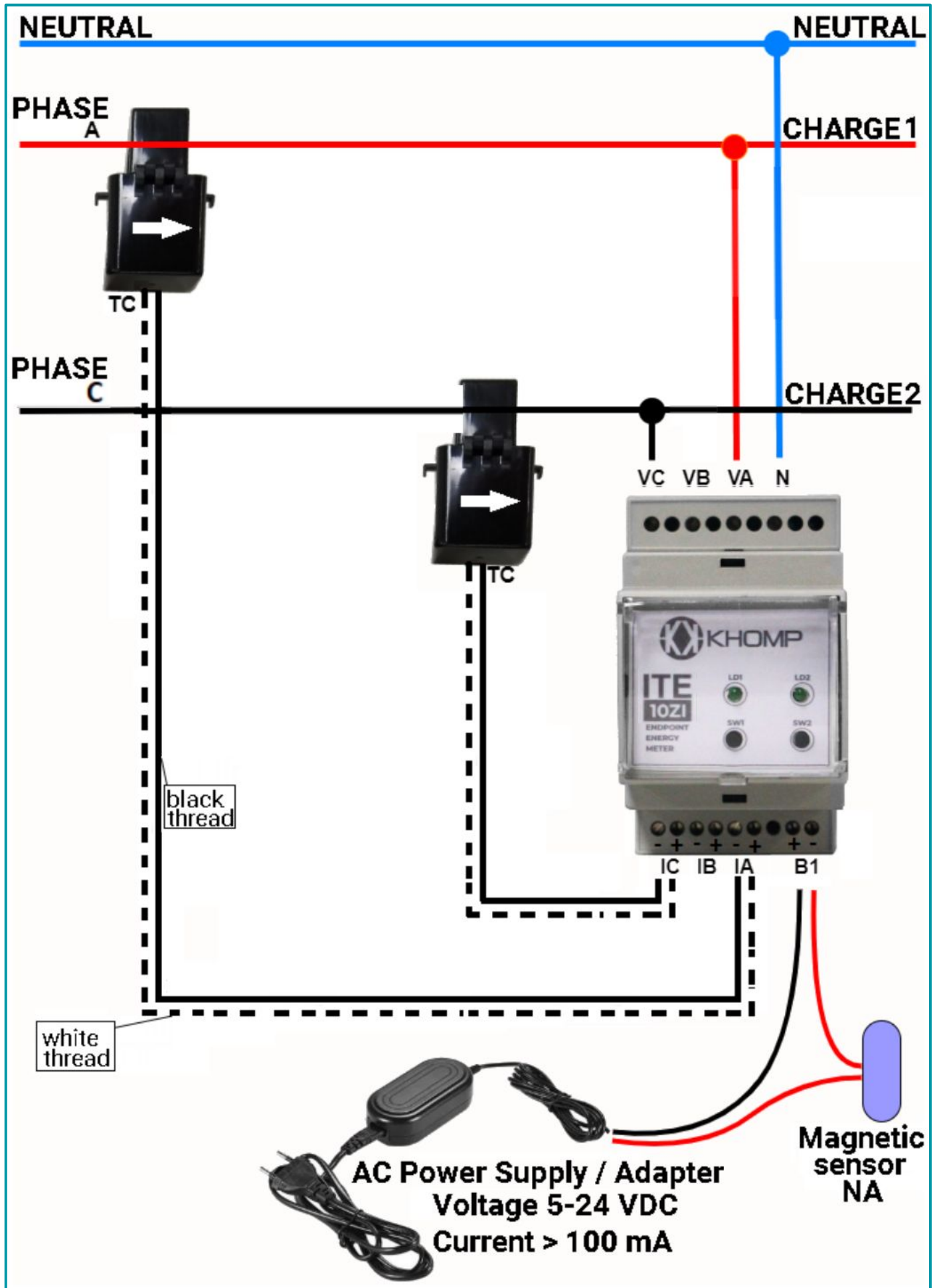
Caption: ITE 10ZI monitoring 3 loads on the same phase.

Application 3 model



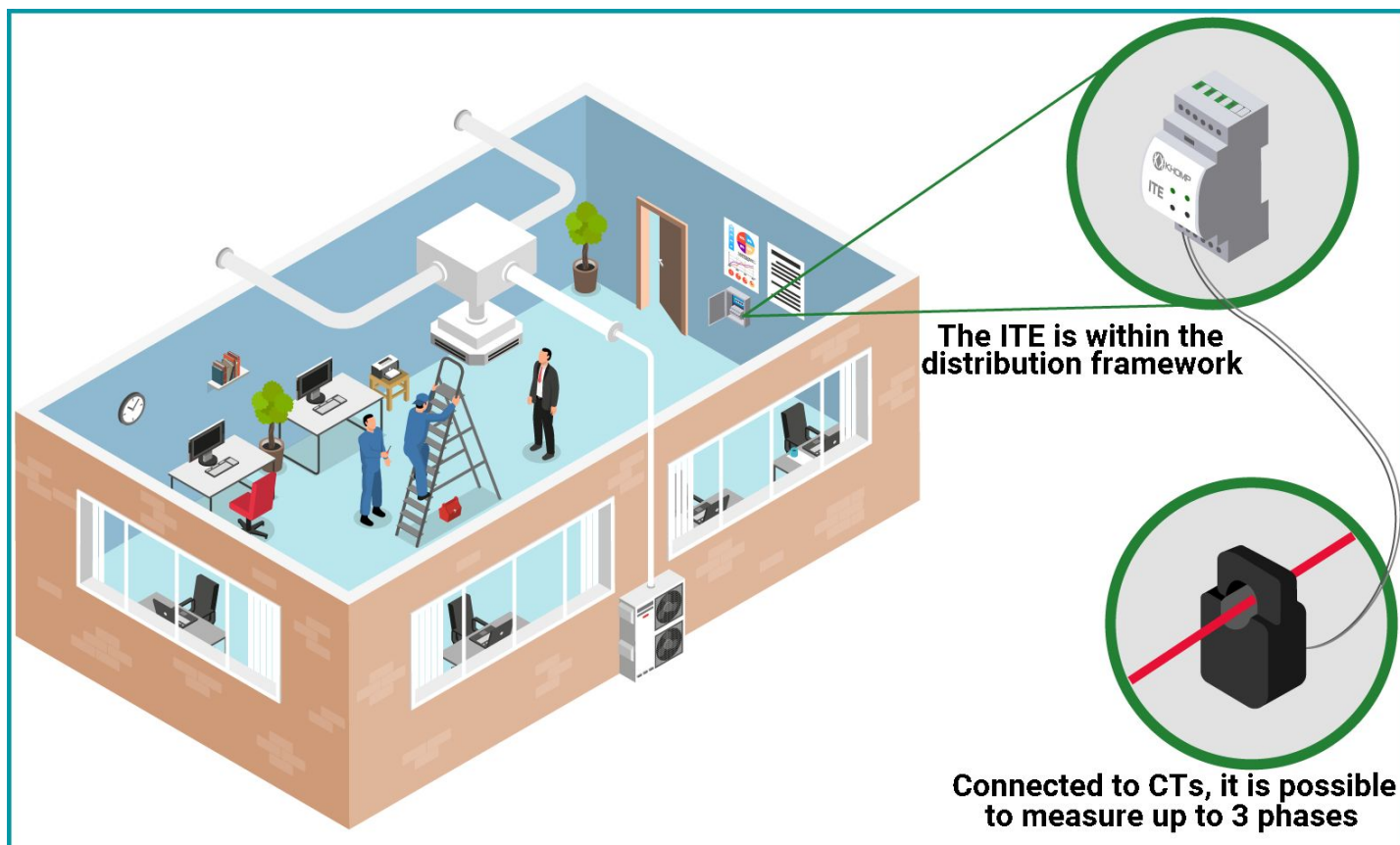
Caption: ITE 10ZI monitoring the single-phase load on the datacenter rack, air conditioner, freezer, or electric motor.

Application 4 model



Caption: ITE 10ZI monitoring a two-phase load.

Application 5 model



Caption: ITE 10ZI monitoring the three-phase load on the office switchboard.

The ITE 10ZI is not capable of integrating with [TagoI0](#).

This equipment is not suitable for use in domestic environments, as it may cause electromagnetic interference, forcing the user to take measures to minimize such interference.

"Incorporates product approved by Anatel with the number 21255-23-03237"

This equipment is not entitled to protection against harmful interference and cannot cause interference in duly authorized systems.

For information on the approved product, visit the website: <https://sistemas.anatel.gov.br/sch>



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