

ENSTO

Ensto Phase Balancer

Makes low-voltage
network stronger



Better life.
With electricity.

Ensto Phase Balancer is a cost-effective solution to solve power quality issues in weak low-voltage distribution networks.

ensto.com

Why to choose Ensto Phase Balancer?



Ensto wants to provide the power quality solution which enables DSOs to meet electricity distribution requirements. Ensto Phase Balancer is an alternative solution for solving unwanted situations in the electricity network in a cost-effective way.

Because of increasing penetration of solar power, EV chargers, heat pumps and other asymmetrical loads, power quality issues are rather common in weak low-voltage distribution networks. Another possible issue in weak distribution networks is the insufficient ability to feed high enough fault current.

Above-mentioned issues are typically solved by renewing the lines and transformers. Ensto Phase Balancer is an alternative solution to fix those unwanted issues in a cost-effective way. It also helps network operators to comply with the EN 50160 power quality requirements.

Balanced electricity

Ensto Phase Balancer is designed to mitigate imbalance in 3-phase low-voltage distribution networks where volt-

age variation is most frequent. It helps consumers to get better power quality and reduces the number of complaints and sanctions against electricity distribution companies. Phase Balancer is designed to endure harsh climate conditions and still has long lifetime. It can be relocated and reused according to need when network expansion becomes topical.

Phase Balancer:

- **Improves power quality** – Maximizes the existing low-voltage distribution capacity, reduces voltage unbalance, line losses, flicker, and total harmonic distortion (THD).
- **Reduces energy losses** – Minimizes unbalance-induced neutral current and distribution transformer losses.
- **Improves electrical safety** – Improves short-circuit capacity at the

customer connection point and reduce protection devices' operation time.

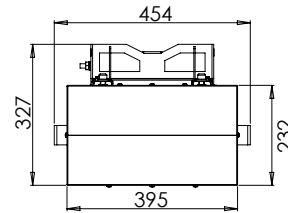
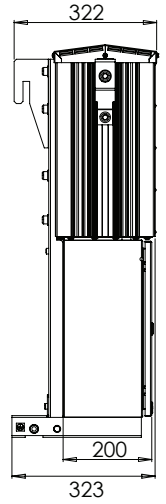
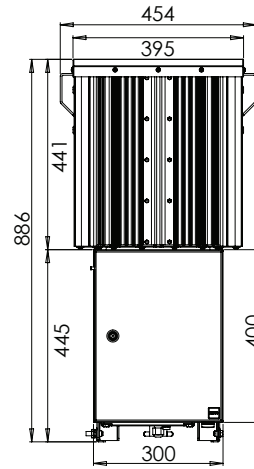
- **Cost-efficient** – Enables minimal investment costs, as there is no need to make immediate and expensive reinforcement to the network.
- **NEW! Communication capability** – Phase Balancer supports Modbus RTU communication protocol over the RS-232 interface port.

Phase Balancer is protected against overloading, and will recover automatically without maintenance actions.

Using Phase Balancer is an easy and cost-efficient way to enjoy safe and balanced electricity without worry about flickering lights or overload network.



NEW!
The Modbus
RTU protocol
communication



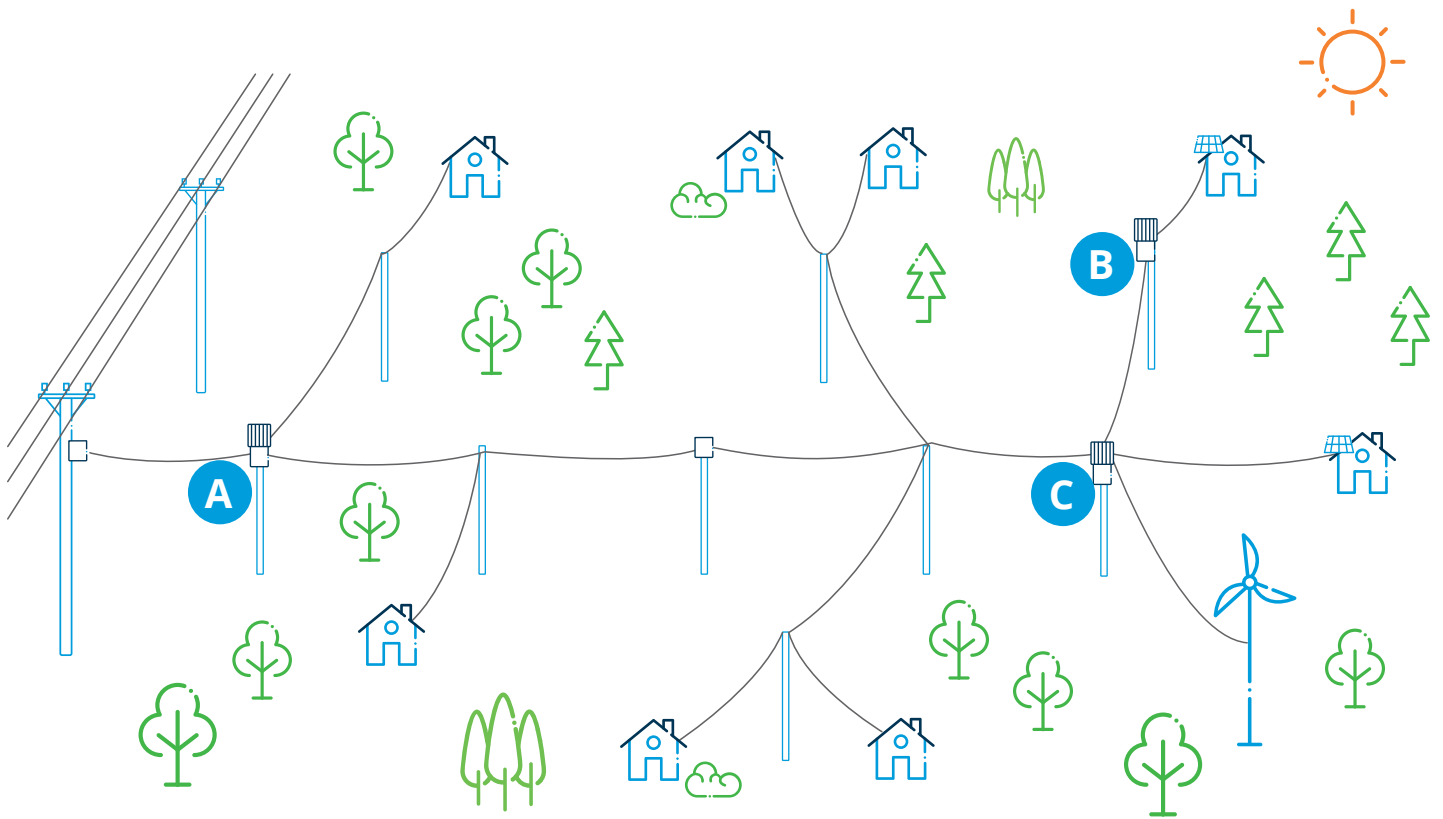
Phase Balancer PB50A-3P-200STD / PB50A-3P-200ADV

Characteristics	
Rated voltage	230/400 VAC +/- 20% Un
Rated frequency	50 Hz
Electrical wiring	3-phase, 4-wire
Earthing system	TN, TT
Rated current	35 A (phase) / 50 A (neutral)
Maximum balancing neutral current (<10 min.)	100 A
Maximum single phase short circuit current (5 s)*	>160 %
Dimensions (H*W*D)	782*430*460 mm
Weight	125 kg (PB50A-3P-200STD) 130 kg (PB50A-3P-200ADV)
Enclosure IP class	IP55
Cable connections	Cu & Al: 16 – 95 mm ²
Main fuses	gG 000 35A 500V
Overload protection	Transformer over temperature
Communication capability (only for PB50A-3P-200ADV)	Modbus RTU
Pole mounting accessories included	

*Depends on the network conditions.



Suggested connection points



A

First branching pole close to distribution transformer. Reduces unbalanced loading of transformer.

B

Last three phase pole at the end of line. Maximizes distribution line capacity.

C

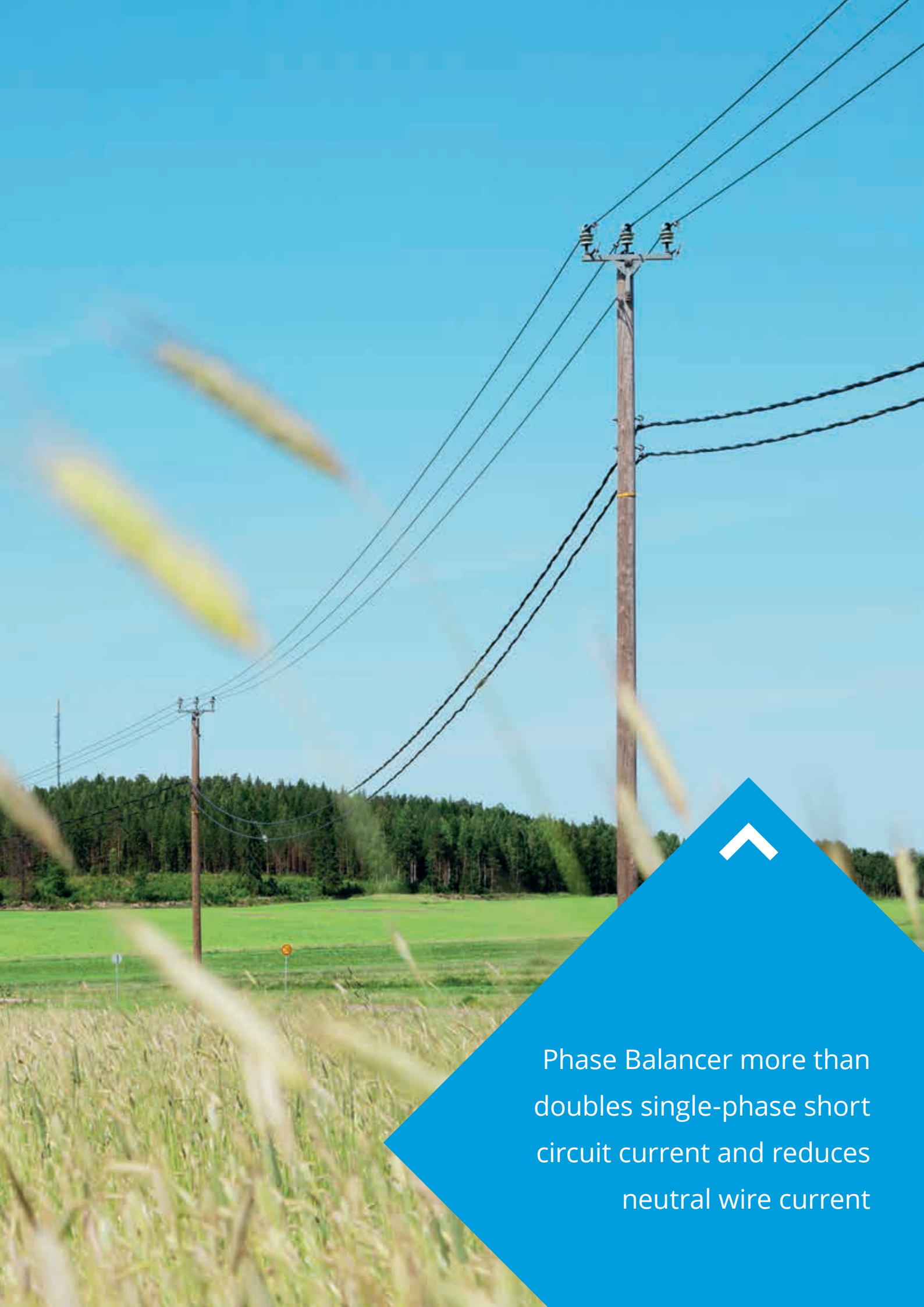
Near unbalanced load / production. Keeps voltages within regulation limits.

A, B, C

Seamless parallel operation. Multiple devices can be installed on same feeder.



Safe and balanced electricity,
flicker-free lighting.



Phase Balancer more than doubles single-phase short circuit current and reduces neutral wire current



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