DEVELOPED FOR



KEEPING THE GRID STABLE IN A *RENEWABLE FUTURE*

A QUICK GUIDE ON GENERATION SIGNALLING DEVICE (GSD)

PENTA AUSTRALIA

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For further support or more information, email sales@pentaesp.com.au or call +61 07 3396 2220

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The **Generation Signalling Device (GSD)** enables network-controlled management of solar inverter output during emergency conditions.

Used under the Queensland Emergency Backstop Mechanism, the device receives AFLC signals from the electricity network and activates the required response mode on AS/NZS 4777 compliant inverters via the DRED interface.

The GSD is typically installed on solar systems ≥10 kVA, commercial or multi-inverter sites, and any installation required to comply with Energex / Ergon / Energy Queensland connection rules, allowing operators to reduce or stop generation to maintain grid stability.

KEY ADVANTAGES

Supports grid stability

- Enables rapid control of distributed solar generation during minimum demand or emergency conditions.

AS/NZS 4777 compliant operation

- Interfaces with the inverter DRED port to activate required Demand Response Modes.

AFLC signal compatible

- Uses proven ripple-control technology already deployed across the electricity network.

Generation control levels

- DRM0 — disconnect inverter from grid

Compact, weather-resistant design

- IP-rated enclosure suitable for switchboard or outdoor mounting.

Low power consumption

- Minimal load on supply with reliable continuous operation.

Fail safe timer

- Whenever power to the GSD is lost, the device retains its last switching state and automatically returns to that state once power is restored.



OTHER IMPORTANT INFORMATION

- Installation of a Generation Signalling Device is required for many new or upgraded solar systems in Queensland, typically where total inverter capacity is 10 kVA or greater.
- The device is activated only under direction of the network operator under the instruction of AEMO. It will only be used during rare emergencies or minimum-load conditions.
- When activated, inverter generation may be limited or temporarily stopped to prevent network instability or widespread outages.
- The GSD must be installed in accordance with distributor connection requirements and relevant Australian Standards.
- Exemptions may apply where the site is not serviced by the AFLC network or where generation is battery-only.

The Emergency Backstop Mechanism is a critical safeguard that allows higher levels of renewable energy to be connected while maintaining reliable power supply across the network.

RELATED RESOURCES

Downloadable User Manuals	Energex Emergency Backstop Mechanism	Ergon Emergency Backstop Mechanism

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