

# Matrix Modular Inverter Solution



The **Eaton® Matrix™ Modular Inverter Solution** is an integrated inverter power system designed for applications where a very high reliability AC supply is required.

The Matrix modular design ensures maximum flexibility to configure solutions to customers' requirements. Modules include inverters, Static Transfer Switch, controller, interface module and Maintenance Bypass Module. With its versatile "building block" design and n+x redundant configuration, the Matrix ensures reliable telecommunication and industrial AC power.

The Matrix Static Transfer Switch provides automatic and instantaneous load transfer between mains power and inverter power and back again, to ensure uninterrupted AC supply to sensitive electronic equipment.

The Matrix solution uses digital microprocessor control. The monitoring controller gives real-time system status through comprehensive LCD /LED displays, and allows program settings through the display panel.

With the Matrix communication interface module installed, you can control and monitor the system remotely.

## Features

- Ultimate high power density reducing space demand
- Hot-pluggable connection allows module addition or removal without interruption to AC supply
- Versatile modular design allows a variety of configurations for different power needs
- Capacity up to 18kVA when configured without the optional Static Transfer Switch n+x redundancy
- Single phase 120Vac or 230Vac output options
- High efficiency, >89%
- Comprehensive LCD/LED display provides system status, and user-friendly panel eases program settings
- Optional Maintenance Bypass Switch with integrated AC distribution
- Optional USB/RS232/RS485 communication for local and remote management



*Powering Business Worldwide*

# Technical Specifications

## Modules

INV-4810E	1000VA/800W inverter module Input:48Vdc,Output:230VAC,1U*5U
INV-4810	1000VA/800W inverter module Input:48Vdc,Output:120VAC,1U*5U
INV-4815E	1500VA/1200W inverter module Input:48Vdc,Output:230VAC,1U*5U
INV-4815	1500VA/1200W inverter module Input:48Vdc,Output:120VAC,1U*5U
STS-050	12KVA static transfer switch module 50A, 1U*5U
MC-1000	Controller module LCD, 3*LED, 4*function key, 1U*2U
IFC-1000-NS	RS232/USB/RS485 interface module, 1U*3U
INVSS-2EA-1U-19	19" inverter hot-swap chassis, 1U
STSSS-C-1EA-1U-19	19" controller/STS chassis, 1U
MBSDU-50-2U-19	19" Maintenance Bypass, Power Distribution chassis, 2U

## DC Input

Nominal Voltage	48Vdc
Operating Range	40.5Vdc ~ 58Vdc
Surge Protection	Telcordia GR-1089 CORD, ANSI C62.41-IEEE, STD 587-1980
Input Protection	Reverse polarity protection
Psophometric Noise	≤1.0mV ITU-T O.41 (16.66~6000Hz)
Peak to Peak Noise	150mV up to 100MHz

## AC Output

Output Waveform	Pure sine wave
Output power	INV-4810E, INV-4810: 1000VA/800W INV-4815E, INV-4815: 1500VA/1200W
Power factor	0.8
Nominal Output Voltage (Single Phase)	INV-4810, INV-4815: 110/115/120Vac INV-4810E, INV-4815E: 208/220/230/240Vac Max ±2%
Frequency	50/60Hz ±0.5%
Crest factor	3:1
THD, resistive load	<3%, linear load <5%, non-linear load
Efficiency	Min 88% at rated load
Dynamic Response	Max±10%
Overload Protection	1.5*Inom >20s 1.25*Inom temperature controlled
Short Circuit Current	16A for INV4810E 30A for INV4810

## Mechanical

Inverter Module	(DxWxH) 270mm x 215mm x 43.8mm (10.6 in. x 8.5 in. x 1.7 in.), Weight 2.5kg (5.5lb)
STS Module	(DxWxH) 270mm x 215mm x 43.8mm (10.6in x 8.5in x 1.7in.), Weight 2.1kg (4.6lb)
Controller Module	(DxWxH) 277mm x 87.9mm x 43.5mm (10.8 in. x 3.4 in. x 1.7 in.), Weight 0.5kg (1.1lb)
Interface Module	(DxWxH) 79.7mm x 129.5mm x 43.5mm (3.1 in. x 5.1 in. x 1.7 in.), Weight 0.25kg (0.55 lb)
Inverter Chassis	(1U x 19"): (DxWxH) 330mm x 483mm x 43.8mm (13 in. x 19 in. x 1.7 in.), Weight 2.7kg (6 lb)
Controller /Interface/STS Chassis	(1U x 19"): (DxWxH) 330mm x 483mm x 43.8mm (13 in. x 19 in. x 1.7 in.), Weight 2.7kg (6 lb)
MBS / PD Chassis	(DxWxH) 330mm x 483mm x 88mm (13in x 19in x 3.5in), Weight 7.0kg (15.4lb) (2U x 19")

## Certifications

All products comply with international standards including CE and UL.

In the interests of continual product improvement all specifications are subject to change without notice.



Maximum Number of Inverter Modules for Parallel Operation (Max Power)		
Model	With STS-050	Without STS-050
INV-4810	6 (6kVA)	12 (12kVA)
INV-4810E	12 (12kVA)	12 (12kVA)
INV-4815	4 (6kVA)	12 (18kVA)
INV-4815E	8 (12kVA)	12 (18kVA)

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