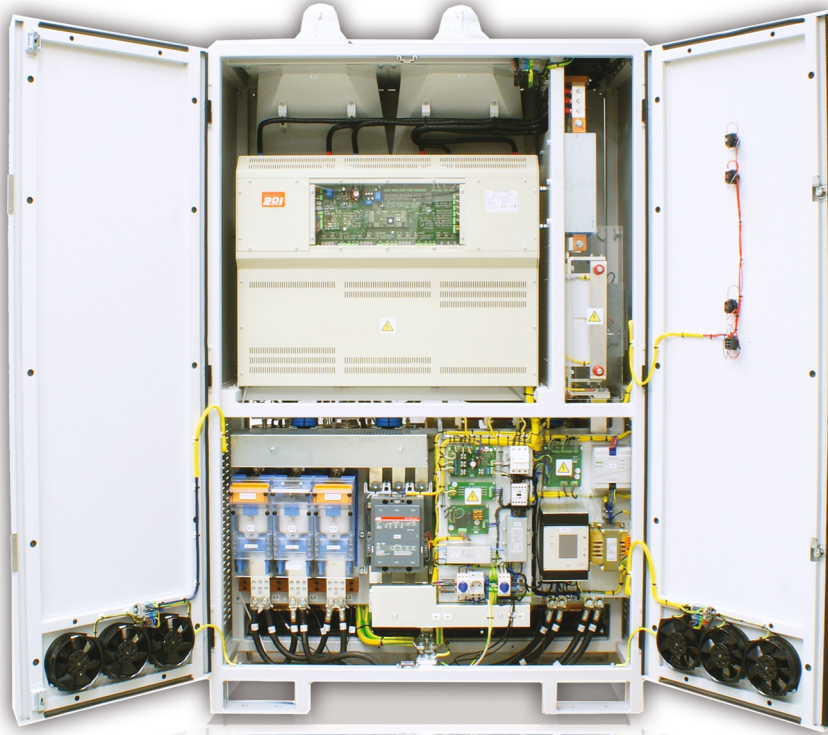


ENERGEN

www.energen.se

Energy Storage Solutions Bi-directional Power Conversion System



2DI-500



2DI-250

Features

- ✓ Allows a range of energy storage devices to be coupled to the grid
- ✓ Dynamic power control (P)
- ✓ Dynamic reactive power control (Q)
- ✓ Current source mode for sub-cycle response to power commands
- ✓ Automatic on-line calculation of real and reactive power references for grid stabilization (voltage and frequency control)
- ✓ High and low voltage ride through
- ✓ Modular inverter blocks for simple long term maintenance

Benefits

- ✓ Power system load leveling (deferred network and generation investment)
- ✓ Grid stabilization (supports regulating grid frequency and voltage)
- ✓ Grid compliance for renewable and generation systems (more efficient use of renewables)
- ✓ Power quality improvement

Options

- ✓ Island mode
- ✓ Enclosure options (indoor cabinet, outdoor enclosure and containerization)
- ✓ Black start capability
- ✓ Autonomous control for applications such as peak-shaving, spinning reserve, renewable energy
- ✓ Integration - remote monitoring
- ✓ Metering / data management packages

Bi-Directional Inverter Specification

Configuration	2DI-250	2DI-500
Power rating	250 kW	500 kW
MVAr System applied	Can be paralleled to obtain higher ratings needed	Can be paralleled to obtain higher ratings needed
DC system		
DC Voltage range	565 V to 740 V	565 V to 740 V
Voltage ripple	IEEE compliant	IEEE compliant
AC grid		
AC grid voltage	3 x 400 V	3 x 400 V
AC tolerance	±10 %	±10 %
Output frequency	50 Hz / 60 Hz	50 Hz / 60 Hz
Harmonic distortion, Current	IEEE compliant	IEEE compliant
Efficiency		
PCS efficiency (including transformer)	94,0 %	94,0 %
Inverter efficiency	>97 %	>97 %
Environmental limits		
Cooling	Forced air	Forced air
Ambient temperature range (nominal)	0 °C to 40 °C	0 °C to 40 °C
Relative humidity	0 to 90 %	0 to 90 %
Maximum altitude	2 000 m	2 000 m
Noise level of inverters	70-80 dBA	75-85 dBA
Housing options – dimensions and weights		
Indoor package – W x D x H	1200 x 800 x 2200 mm	1300 x 600 x 2000 mm
Weight indoor	1450 kg	850 kg
Includes grid-tie transformer in footprint	Yes	No

Certified by TÜV Rheinland for the following standards:

Safety of power converters	IEC 62109-1:2010
Characteristics of the utility interface	IEC 61727:2004
Islanding prevention	IEC 62116:2008
Electromagnetic compatibility (EMC) Immunity Standards	EN 61000-6-2:2005
Electromagnetic compatibility (EMC) Emission Standards	EN 61000-6-4:2007+A1:2011

Energen 2DI inverter efficiency curve

