



200 A, 420 A, 630 A  
and 1000 A  
Polarity Inverters

Your **DIGITAL**  
**POWER ELECTRONICS**  
Partner.



## Polarity Inverters

- This series is composed by different models capable of inverting continuous currents up to 200 A, 400 A, 600 A or 1000A
- Direct connection to the **NGPS** power supplies for automatic operation (connection cable included)
- 19" - 6U unit with front visual indicators of AC mains presence and output status (direct/reverse)

### FEATURES

- 19" - 6U stand-alone crate
- Models rated at 200 A, 420 A, 630 A and 1000 A
- Motorized switch
- Maximum voltage of 250 V
- Control cable for **NGPS** power converters included
- Visual indications for:
  - MAINS presence
  - DIRECT/INVERSE polarity
- Extended AC input range (100-240 V<sub>AC</sub>) for auxiliary power
- Screw terminal connection (200-A model) or nickel-plated busbars (400-A, 600-A and 1000A models)

### APPLICATIONS

- Polarity reversal of power supplies
- Industrial Automation

**POLARITY INVERTERS.** The polarity inverter series is composed by three different models, differing by their output current capability, rated at 200 A, 420 A, 630 A and 1000 A respectively.

These polarity inverters are able to reverse currents up to 1000 A and so they represent the perfect fit for the CAEN ELS' **NGPS** unipolar power supplies, both in single or paralleled configurations.

Each polarity inverter fits in a single 19" - 6U crate and it can be controlled via dry contacts while providing to the user information about the correct operation of the system and the selected polarity.

Polarity inversion is achieved with a linear motor acting as commutator, this avoiding any possible problem even in case of power shortage (which represents

an issue if inversion is obtained via relay-based commutators).

All these polarity inverters are already supplied with the signal cable that allows connecting them directly to an **NGPS** power supply. An interlock signal and a status signal are available in order to implement the correct logic for the device operation.

The auxiliary AC power input is rated at maximum 350 W and it has an extended range (AC voltage and frequency) that makes it suitable for applications worldwide.





The front panel lamp indicators signal the AC mains presence and the status of the output polarity (direct - reverse).

The 200-A version has screw terminal connectors while the 400-A, 600-A and 1000 A output is inverted using nickel-plated busbars.



### About Us

ELS Instruments (formerly CAEN ELS) is a leading company in the design of power supplies and state-of-the-art complete electronic systems for the Physics research world, having its main focus on dedicated solutions for the particle accelerator community and high-end industrial applications.

-  Power Supply Systems
-  Precision Current Measurements
-  Beamline Electronics Instrumentation
-  FMC and MicroTCA

### ELS Instruments srl

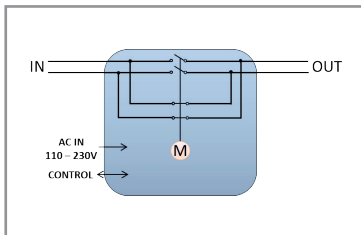
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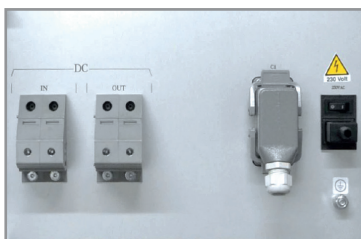
### Technical Specifications

### POLARITY INVERTERS

	200 A	400 A	600 A	1000 A
<b>Rated Current</b>	200 A	420 A	630 A	1000 A
<b>Rated Voltage</b>	250 V			
<b>Auxiliary Input Voltage</b>	100 - 240 VAC @ 50 - 60 Hz			
<b>Auxiliary Input Power</b>	< 350 W			
<b>DC Input/Output Connections</b>	Phoenix Contact HDFKW-95+-F/7		Nickel-plated Bus-Bars	
<b>Interlock Maximum Ratings</b>	240 V - 16 A			
<b>Enable Maximum Ratings</b>	240 V - 10 A			
<b>Total Weight</b>	28 kg	35 kg	35 kg	48 kg
<b>Dimensions (w/out connectors)</b>	19" x 6U x 550 mm		19" x 10U x 573 mm	
<b>Input Mains Fuses 230 V</b>	2 x IW 1421002 [2 A - 500 V] - 38 x 10.3 mm			
<b>Input Mains Fuses 24 V</b>	2 x IW 1421006 [6 A - 500 V] - 38 x 10.3 mm			
<b>Operating Temperature</b>	0 ... 45 °C			



Basic Schematic



Rear Connectors



Installation of the Polarity Inverter with an NCPS unit

Ordering Code	Acronym	Description
WPOLINV200XA	Polarity Inverter 200 A	Polarity Inverter 200 A with Control Cable
WPOLINV400XA	Polarity Inverter 400 A	Polarity Inverter 420 A with Control Cable
WPOLINV2600XA	Polarity Inverter 600 A	Polarity Inverter 630 A with Control Cable
WPOLINV1KAXA	Polarity Inverter 1000 A	Polarity Inverter 1000 A with Control Cable