

Compact Digital Bipolar Power Supply Series



Easy-Driver

Your **DIGITAL**
POWER ELECTRONICS
Partner.

- The EASY-DRIVER series is a family of current-controlled bipolar power supplies with Ethernet communication
- The digital current control loop makes the connection and configuration of the power supply to any load quick and simple
- Stand-alone unit with local display, extended input range and embedded air-cooling

FEATURES

- 19"-1U stand-alone crate
- Models up to ± 10 A and up to ± 20 V
- Configurable digital control loop
- True Bipolar Zero-crossing operation
- Low noise
- Internal protections and auxiliary readbacks
- External Interlock and Status Signal
- Low Temperature dependence
- Excellent long-term stability
- Extended input range (90-260VAC)
- Local display for monitoring
- 10/100 Mbit Ethernet
- "VISUAL" Free Software available

APPLICATIONS

- Particle Accelerators
- Laboratory Test Equipment
- Current Control
- Magnetic Field Generation

EASY-DRIVER. The EASY-DRIVER series is composed by different digital bipolar power supply models rated at ± 1 A / ± 12 V, ± 2 A / ± 20 V, ± 5 A / ± 20 V and ± 10 A / ± 20 V.

The **10/100 Mbit Ethernet** connection allows controlling the power converter in a very simple and reliable way, especially when used in large installations. (either TCP-IP or UDP can be used).

The **current control loop**, as for most of CAEN ELS power supplies, is completely **digital** in order to obtain the maximum flexibility and easiness of configuration to any connected load.

The EASY-DRIVER models present a great performance-to-price ratio, having excellent characteristics while keeping the price at low values.

Low noise and AC bandwidth are only two of the main features of these power

units, based on a **dual-DSP** (Digital Signal Processing) architecture.





Internal protections - e.g. over-voltage, over-temperature - are implemented as well as an **external interlock** signal is present. A circuit to discharge the energy stored in an inductive load - i.e. crowbar circuit - is also embedded in each unit thus protecting the load and the power unit itself. A **status relay** is also present on the rear side of the unit to signal the output status - e.g. enabled/disabled.

The EASY-DRIVER units also have a **local display** in order to locally monitor the output current and output voltage of the unit. LED indicators summarize the status of the power supply in real-time.

A dedicated software, called "Visual EASY-DRIVER" is freely available in order to control and monitor the connected units.

About Us

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

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EASY-DRIVER Units in a 19" Cabinet

Technical Specifications

EASY-DRIVER

| | 0112 | 0220 | 0520 | 1020 |
|------------------------------------|---|-------|-------|-------|
| Output Current Range | ±1 A | ±2 A | ±5 A | ±10 A |
| Output Voltage Range | ±12 V | ±20 V | ±20 V | ±20 V |
| Rated Output Power | 12 W | 40 W | 100 W | 200 W |
| Output Topology | Bipolar | | | |
| Regulation Type | Constant Current (CC) | | | |
| Output Current Setting Resolution | 16 bit | | | |
| Output Current Readback Resolution | 20 bit | | | |
| Output Voltage Readback Resolution | 20 bit | | | |
| Switching Frequency | 104 kHz | | | |
| CC Closed Loop Bandwidth (-3 dB) | 1 kHz | | | |
| Output Accuracy in CC | < 0.05 % | | | |
| Output Current Ripple | 0.004 %/FS - resistive load | | | |
| Temperature Stability | < 0.004 %/K in CC mode | | | |
| Long-Term Stability (8 h) | < 0.004 %/FS - typical | | | |
| Cooling | Forced air convection | | | |
| Input Ratings | 90 - 260 V _{AC} - 47/63 Hz | | | |
| Communication Interfaces | Ethernet 10/100/1000 Mbit TCP-IP and UDP | | | |
| External Signals | 1 x External Interlock 1 x Status Output | | | |
| Internal Interlocks | DC-Link Undervoltage MOSFET Over-Temperature Shunt Over-Temperature | | | |
| Hardware Protections | Input Fuses Crowbar (Over-Voltage) | | | |
| Auxiliary Readbacks (12-bit) | DC-Link Voltage MOSFET Temperature Shunt Temperature | | | |
| Operating Ambient Temperature | 0 ... 50 °C | | | |
| Mechanical Dimensions | 19" x 1U x 295 mm (including connectors) | | | |
| Weight | 4 kg | | | |

| Ordering Code | Acronym | Description |
|---------------|-----------------------|--|
| EASYDRV0112A | EASY-DRIVER 0112 | Digital Bipolar Current Power Supply (±1 A@±12 V - 12 W) |
| EASYDRV0220A | EASY-DRIVER 0220 | Digital Bipolar Current Power Supply (±2 A@±20 V - 40 W) |
| EASYDRV0520A | EASY-DRIVER 0520 | Digital Bipolar Current Power Supply (±5 A@±20 V - 100 W) |
| EASYDRV1020A | EASY-DRIVER 1020 | Digital Bipolar Current Power Supply (±10 A@±20 V - 200 W) |
| EDRV1020C001 | EASY-DRIVER 1020 C001 | Digital Bipolar Current Power Supply (±10 A@±20 V - 200 W) with 24 VDC Interlock Input |