Current Boosting Stage

High-Current Driver Module

EPL-CBS
User Manual · V1.0
02.09.2026



SAFETY WARNINGS

Read this user manual carefully before operating the device. Follow the installation, electrical connection and commissioning sections step by step. Thereafter the owner/user must keep this manual in a known and visible place for the service life of the product.

- ⚠ Use the product indoors only and within the stated environmental conditions.
- ⚠ The operating voltage of the product is stated on its label. Do not supply the product from any source outside this value.
- ⚠ Do not touch the supply terminals of the product with bare hands.
- ⚠ All service and repair work may be carried out only by Energyplus technical service. No other person should intervene in the product.
- ⚠ Ensure that the system is properly earthed so that the product operates correctly.
- ⚠ Store the product in a dry environment; otherwise a fault may occur.

Use of the product contrary to the conditions stated above may cause fire, serious personal injury, or damage to the product or to the structure in which it is installed. Energyplus Teknoloji accepts no liability for such situations caused by the user.

SYMBOLS

SYMBOL DESCRIPTIONS	
!	Used for important points in the following sections.
⚡	Used for warnings relating to voltage.
⎓	Indicates that the supply voltage of the product is DC.
CE	Indicates that the product complies with the relevant EU directives.
♻	The product must not be treated as normal household waste; it must be handed over to a collection point for the recycling of electronic equipment.

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1. DESCRIPTION

This module is a 3-channel independent current boosting and signal isolation (Buffer) board, designed to bridge the gap between sensitive control systems (PLCs, microcontrollers) and high-current industrial loads. Built on the common-collector (Emitter Follower) architecture, it amplifies the current capacity of input signals while maintaining unity voltage gain. With 3 completely isolated channels, it eliminates crosstalk, protects smart sensors from overloading, and reliably drives heavy loads such as motors, relays, or solenoid valves. Its compact design optimizes panel space and significantly reduces assembly costs.

Key Features

- Advanced Protection & Safe Signal Isolation (Buffer)
- Independent Channels with Zero Crosstalk
- High Load-Driving Capacity & Resource Optimization

1.1 Package Contents

- 1x EPL-CBS Current Boosting Stage

* For special orders, package contents may vary depending on the project or customer request.



Figure 1.1 – EPL-CBS general view

2. TECHNICAL SPECIFICATIONS

GENERAL	
Model	EPL-CBS
Product Name	Current Boosting Stage
Country of Origin	Türkiye
Conformity	CE

ELECTRICAL RATINGS	
Supply Voltage	230 VAC - 50/60 Hz
Power Consumption	3.2 VA
Input Voltage Range	0 - 10 V DC
Output Voltage Range	0 - 10 V DC
Max Input Current	20 mA (Per Channel)
Max Output Current	100 mA (Per Channel)

TERMINAL CONNECTIONS	
⏚	Chassis Ground
~ ~	230 VAC Input
0 V	0V DC / GND (Common)
IS_1, IS_2 ,IS_3	Sensor 1 (IN), Sensor 2 (IN), Sensor 3 (IN)
0 V	0V DC / GND (Common)
OS_1, OS_2 ,OS_3	Output 1, Output 2, Output 3

ENVIRONMENTAL CONDITIONS	
Operating Temperature	-10 °C _ +45 °C
Relative Humidity	≤ 90% RH (non-condensing)
Ingress Protection	IP-20

PHYSICAL SPECIFICATIONS	
Dimensions (W x D x H)	42 x 85 x 32mm
Weight	250 g
Mounting Type	Wall Mount

3. PRODUCT COMPONENTS

INDICATORS AND ADJUSTMENT ELEMENTS	
POWER (D1) LED	Lights when the unit is powered. If it is off, check the supply and the fuse.

4. WIRING DIAGRAM

Terminal layout from left to right: **Terminal block arrangement from left to right: Chassis, ~, ~ (230 VAC) - 0V, IS_1, IS_2, IS_3 - 0V, OS_1, OS_2, OS_3**

TERMINAL CONNECTIONS	
~ ~	230 VAC Power Input
⏚	Chassis Ground
0V	Common GND for Input and Output
IS_1, IS_2, IS_3	Sensor's input_signal
OS_1, OS_2, OS_3	100 mA Output_signal

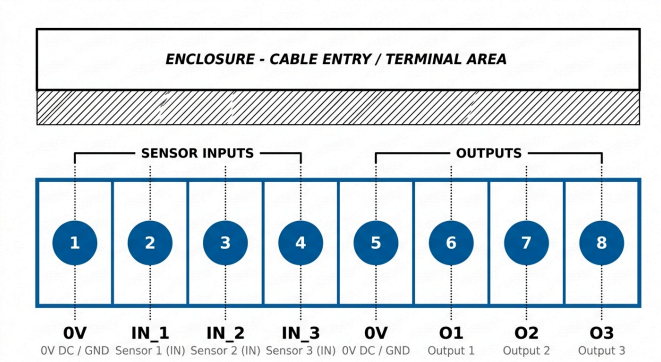


Figure 4.1 – Wiring Diagram

5. INSTALLATION

1. Inspect the heat shrink tubing for cracks, tears, or sharp edges.
2. Verify that output cables are properly secured and free from excessive tension.
3. Mount the product inside the enclosure using plastic clips, double-sided tape, or cable routing trunks.
4. Caution: Do not use metal clamps directly over the shrink tubing to avoid crushing internal components.
5. Ensure the main power supply is completely disconnected before wiring.
6. Connect the lead wires to the designated terminal blocks according to the wiring diagram.
7. Observe correct polarity (0V / Input / Output) for power inputs and signal lines.
8. Inspect terminals for loose wire strands and ensure no exposed conductors contact conductive surfaces.
9. Turn on the power supply and monitor system indicators or voltage outputs for stability.

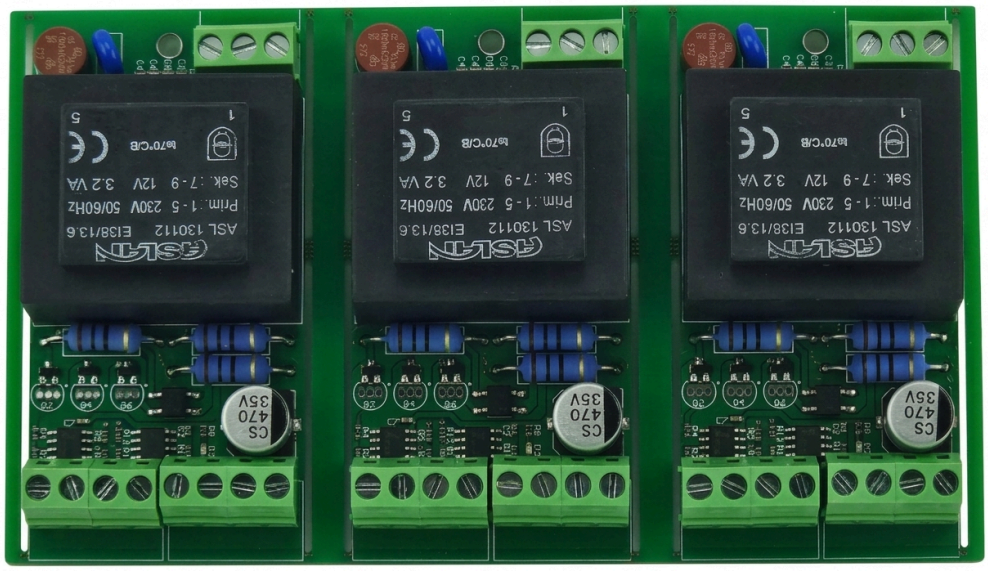


Figure 5.1 – Screw mounting on the wall or on DIN rail control panels



Figure 5.2 – Mount the device inside the control system enclosure.

6. INSTALLATION WARNINGS

⚠ The product must strictly be installed inside a Control Panel / Enclosure rated at least IP54 to IP65 when used in industrial or outdoor environments.

⚠ Do not expose the product to water, condensation, oils, or chemicals. Liquid ingress through the open ends will cause immediate damage to the electronic circuit.

⚠ Ensure adequate spacing around the shrink tubing for proper heat dissipation.

⚠ Avoid mounting the product directly against sharp metallic edges to prevent puncturing the tubing.

7. DIMENSIONS

Dimensions (W x D x H): 42 x 85 x 32mm · Weight: 250 g

Dimensional drawing to be prepared. [DRAWING]

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