



**MURPHY**®

by **ENOVATION** CONTROLS

**INTELLIGENT  
XPANSION™**  
IX3212

## POWER DISTRIBUTION MODULE FOR INTEGRATED MACHINE AND EQUIPMENT CONTROL

Direct drive for lighting, motors, wipers and much more.



More Reliable Than Fuse and Relay Technology

12 High Current (15A) Outputs

12 Digital and 8 Analog Inputs

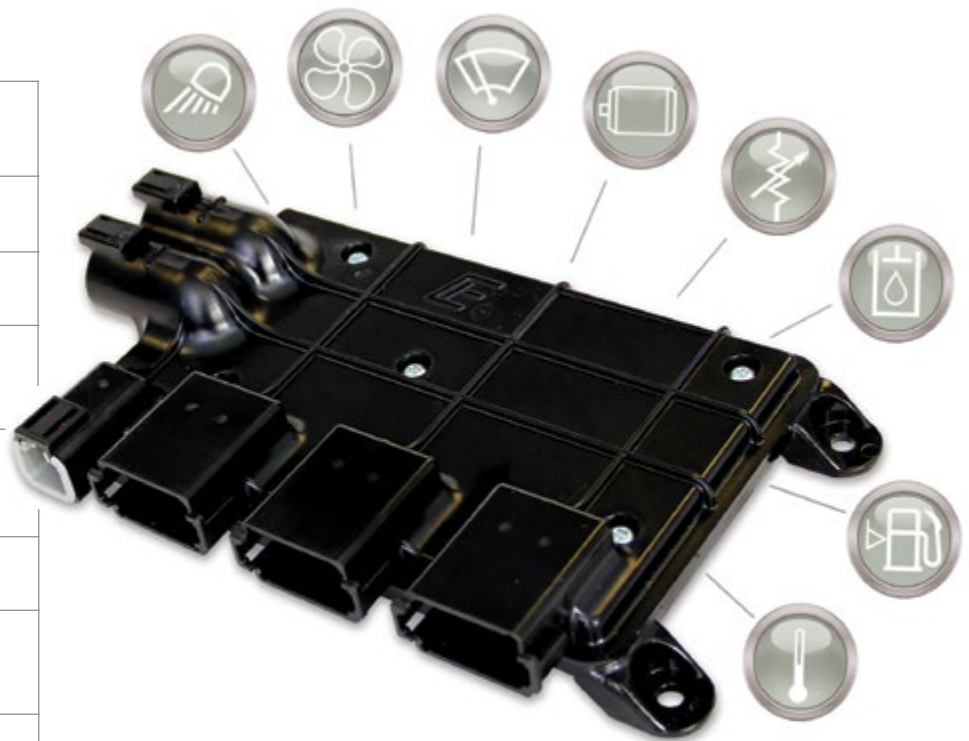
Compact, Sealed, Robust Enclosure

Enhanced Diagnostics and Protection

Cuts Wire Harness Costs

Adjustable Over-Current Set Point

Output Current Feedback



Murphy's PowerCore Intelligent Xpansion module expands CAN bus control networks by replacing existing relay and fuse boxes with more reliable, solid-state switches that can directly drive work lights, wiper motors, cooling fans, directional DC motors and other high-current loads.

Each of the 12 PDM outputs can switch or proportionally control up to 15 A loads in 2.5 A increments and feature over-current detection and shut-down capability. Outputs are paired to run up to six electric motors with H-bridge direction control. Twelve digital inputs monitor switched battery, ground and floating inputs. Additionally, eight 0-5V analog inputs are available with a 5V sensor supply.

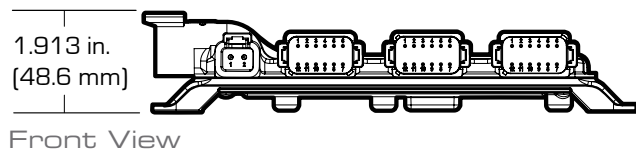
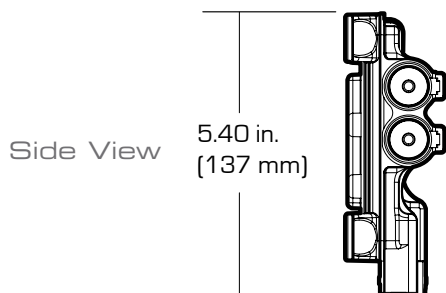
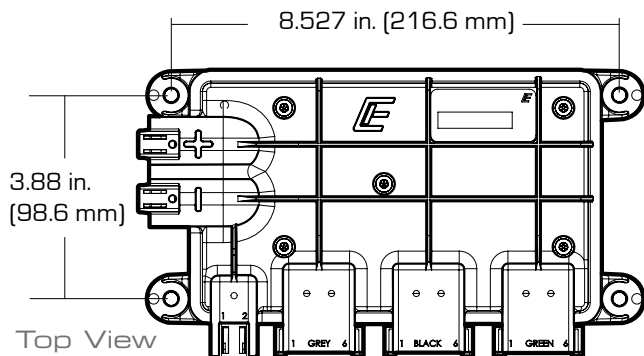
Wiring length is reduced, and harness costs are cut by remotely locating the IX module near loads and signals. Then the I/O is multiplexed using a CAN bus network, which allows engineers to greatly simplify harness design for ease of installation and improved reliability.

For applications not requiring a CAN bus control, the inputs can directly trigger outputs so there is no need for a separate controller.

The enclosure is fully sealed and potted to withstand wash down and protect from dust.

## IX3212

### STANDARD DIMENSIONS



### SPECIFICATIONS

- Operating Voltage:
  - 12V – 24V systems (8-32 V) Reverse Polarity Protection
- Inputs:
  - 12 digital state (high side, low side, open) 6 analog (0 -5 VDC), 2 analog (resistive)
- Outputs:
  - 12 Digital High current (15 A each/70 A total configurable as High-side, PWM or up to 6 H-bridge pairs)
- Supply for sensor excitation (5 VDC @ 70 mA)
- CAN Interface: CAN 2.0B Active, Default protocol SAE J1939, Baud rate 250 Kbit
- Housing:
  - Internally potted, combination PBT and E-coated cast aluminum with integrated mounting feet
- Dimensions:
  - 9.64 in. (245 mm) long; 5.40 in. (137 mm) wide; 1.913 in. (48.6 mm) high
- Weight: 2 lb. (900 gram)
- Connectors:
  - Deutsch (3) DT series, DTP series, and DT HD series
- Operating Temperature:
  - 40° to +185°F (-40° to +85°C)
- Environmental Sealing:
  - SAE J1455 - Section 4.5.3 Water Intrusion, 1500 psig water @ 122°F (50°C) four inches away, for 15 minutes with the harness connected.
- Vibration: 72 Hours/axis (5 – 25 G, 50 – 2000 Hz)
- Radiated Immunity: Tri-plate test 100 V/M 10 KHz – 1 GHz

**ENOVATION CONTROLS CORPORATE HEADQUARTERS**  
5311 S 122ND EAST AVENUE  
TULSA, OK 74146

**ENOVATION CONTROLS LTD. – UNITED KINGDOM**  
CHURCH ROAD LAVERSTOCK  
SALISBURY SP1 1QZ UK

**MURPHY INTERNATIONAL TRADING – CHINA**  
SUITE 1704, ANTAI BUILDING, 107 ZUNYI RD  
SHANGHAI, 2000 S1 CHINA

**ENOVATION CONTROLS INDIA PVT. LTD.**  
301, 3RD FLOOR, KRSNA CHAMBERS 11,  
GALAXY GARDENS, NORTH MAIN ROAD,  
KOREGAON PARK, PUNE - 411001  
MAHARASHTRA, INDIA

#### U.S. SALES & SUPPORT

**MURPHY PRODUCTS**  
PHONE: 918 317 4100  
EMAIL: SALES@ENOVATIONCONTROLS.COM  
WWW.ENOVATIONCONTROLS.COM

**MURPHY INDUSTRIAL PANEL DIVISION**  
PHONE: 918 317 4100  
EMAIL: IPDSALES@ENOVATIONCONTROLS.COM

#### INTERNATIONAL SALES & SUPPORT

**EUROPE, MIDDLE EAST, AFRICA**  
PHONE: +44 1722 410055  
EMAIL: SALES@ENOVATIONCONTROLS.EU

**CHINA**  
PHONE: +86 21 6237 5885  
EMAIL: APSALES@ENOVATIONCONTROLS.COM

**LATIN AMERICA & CARIBBEAN**  
PHONE: +1 918 317 2500  
EMAIL: LASALES@ENOVATIONCONTROLS.COM

**INDIA**  
PHONE: +91 91581 37633  
EMAIL: INDIASALES@ENOVATIONCONTROLS.COM



FM 28221 (Tulsa, OK - USA)  
FM 29422 (UK)