Mobile machine management

IOX018-130 High Current Expansion Module is an element of the flexible, powerful and expandable PLUS+1® family of mobile machine management products. Expansion modules provide cost-effective additional I/O to mobile machine control systems.

Product highlights

The PLUS+1® High Current expansion module employs a 32 bit Cortex-M3 Processor, providing the controller with extremely fast single cycle processing speed. It features high current capabilities for your machine control.

PLUS+1® compliance eliminates need for the system designer to write CAN transmit and receive messages in both the controller and associated expansion modules.

Application development

Users configure expansion modules using PLUS+1® GUIDE. This Microsoft® Windows®-based development environment features a user-friendly, field proven, icon-based graphical programming tool, application downloader, and service/diagnostic tool.

Features

- User-programmable with PLUS+1® GUIDE (Graphical User Integrated Development Environment)
- 18 pins: (2) DEUTSCH connectors (DT and DTP), (2) 6 mm studs
- 12 bit analog-to-digital converter
- ARM 32 bit Cortex-M3 running at 120 MHz

Comprehensive technical literature is online at www.danfoss.com
Data Sheet
IOX018-130 High Current Expansion Module

4 inputs
• (2) Universal (DIN/AIN/FreqIN/Rheo)
  Digital: Pull up (5 VDC), pull down (0 VDC) or pull to center (2.5 VDC)
  Analog: 0 to 0.375 VDC, 0 to 5.25 VDC, or 0 to 36 VDC
  Frequency (timing): 1 Hz to 10 kHz
  Resistance: 0 to 10,000 ohm
• (1) Digital/Analog (DIN/AIN) that is user-defined as either:
  Digital: Pull up (5 VDC), pull down (0 VDC) or pull to center (2.5 VDC)
  Analog: 0 to 5.25 VDC or 0 to 36 VDC
• (1) Digital/Analog/CAN shield (DIN/AIN/CAN shield) that is user-defined as either:
  Digital: Pull up (5 VDC), pull down (0 VDC) or pull to center (2.5 VDC)
  Analog: 0 to 5.25 VDC or 0 to 36 VDC
  CAN shield

8 outputs
• (4) Universal (PWMOUT/DOUT/PVGOUT) that are user-defined as either:
  Digital: 15 A, configurable as source or sink
  PWM: 15 A (33 to 4000 Hz or 20 kHz), configurable as open or closed loop with current control
• (4) Universal (PWMOUT/DOUT/PVGOUT) that are user-defined as either:
  Digital: 25 A, configurable as source or sink
  PWM: 25 A (33 to 4000 Hz or 20 kHz), configurable as open or closed loop with current control

Characteristics

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supply voltage</td>
<td>9 to 36 VDC</td>
</tr>
<tr>
<td>Operating temperature (ambient)</td>
<td>– 40°C to 70°C [– 40°F to 158°F]</td>
</tr>
<tr>
<td>Storage temperature</td>
<td>– 40°C to 85°C [– 40°F to 185°F]</td>
</tr>
<tr>
<td>Programming temperature</td>
<td>– 40°C to 70°C [– 40°F to 158°F]</td>
</tr>
<tr>
<td>IP rating (with mating connector attached)</td>
<td>IP 67</td>
</tr>
<tr>
<td>EMI/RFI rating</td>
<td>100 V/M</td>
</tr>
<tr>
<td>Weight</td>
<td>1.29 kg (2.85 lb)</td>
</tr>
<tr>
<td>Vibration</td>
<td>IEC 60068-2-64</td>
</tr>
<tr>
<td>Shock</td>
<td>IEC 60068-2-27 test Ea</td>
</tr>
<tr>
<td>Maximum current, sourcing</td>
<td>120 A</td>
</tr>
<tr>
<td>Maximum current, sinking</td>
<td>120 A</td>
</tr>
</tbody>
</table>
**Dimensions and pin assignments**

**Dimensions in millimeters**

Device must be mounted on a flat metal surface that is less than 70° C (158°F) for full output capability. If the metal surface is greater than 70° C (158°F), built in thermal protection will limit the maximum output current allowed for all PWM’s.

Use care when wiring mating connector. Pinouts are for device pins.

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**Pin** | **Controller function** | **Pin** | **Controller function**
---|---|---|---
1 | Logic ground | 7 | DIN/AIN/FreqIN/Rheo
2 | Logic power | 8 | DIN/AIN/FreqIN/Rheo
3 | CAN_HI | 9 | 15A PWM
4 | CAN_LO | 10 | 15A PWM
5 | DIN/AIN1/CAN shield | 11 | 15A PWM
6 | DIN/AIN2 | 12 | 15A PWM

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**Pin** | **Controller function**
---|---
1 | 25A PWM
2 | 25A PWM
3 | 25A PWM
4 | 25A PWM

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**Pin** | **Controller function** | **Description**
---|---|---
C3-P1 | Battery power | 120A battery connection (externally fused)
C4-P1 | Battery ground | 120A battery connection
### Ordering Information

**Product part number**

<table>
<thead>
<tr>
<th>Product</th>
<th>Part Number</th>
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</thead>
<tbody>
<tr>
<td>IOX018-130</td>
<td>11227542</td>
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**Related products part numbers**

<table>
<thead>
<tr>
<th>Product</th>
<th>Part Number</th>
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</thead>
<tbody>
<tr>
<td>CG150-2 CAN/USB Gateway</td>
<td>11153051</td>
</tr>
<tr>
<td>PLUS+1® GUIDE Professional</td>
<td>11179523</td>
</tr>
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</table>

**Danfoss mating connectors bag assemblies and fuse part numbers**

<table>
<thead>
<tr>
<th>Product</th>
<th>Part Number</th>
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</thead>
<tbody>
<tr>
<td>4 pin DEUTSCH mating connector bag assembly (10 to 14 AWG)</td>
<td>11188220</td>
</tr>
<tr>
<td>12 pin DEUTSCH mating connector bag assembly (14 to 20 AWG)</td>
<td>11188221</td>
</tr>
<tr>
<td>4 and 12 pin DEUTSCH mating connector bag assembly</td>
<td>11188232</td>
</tr>
<tr>
<td>125 Amp fuse</td>
<td>11188233</td>
</tr>
</tbody>
</table>