

Data Sheet

# MC018-130 High Current PLUS+1<sup>®</sup> Controllers



## Mobile machine management

Danfoss PLUS+1<sup>®</sup> controllers are elements of the flexible, powerful, expandable, and affordable family of mobile machine management products. These devices are general-purpose controllers that are equally suited for use as a member of a distributed machine control system, with intelligence in every node, or as a stand-alone controller.

## Product highlights

The PLUS+1<sup>®</sup> High Current controller employs a 32 bit Cortex-M3 Processor, providing the controller with extremely fast single cycle processing speed and 512K internal flash. It features high current capabilities for your machine control.

## Application development

Users develop MC018-130 applications with PLUS+1<sup>®</sup> 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<sup>®</sup> 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 [powersolutions.danfoss.com](http://powersolutions.danfoss.com)

---

**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**

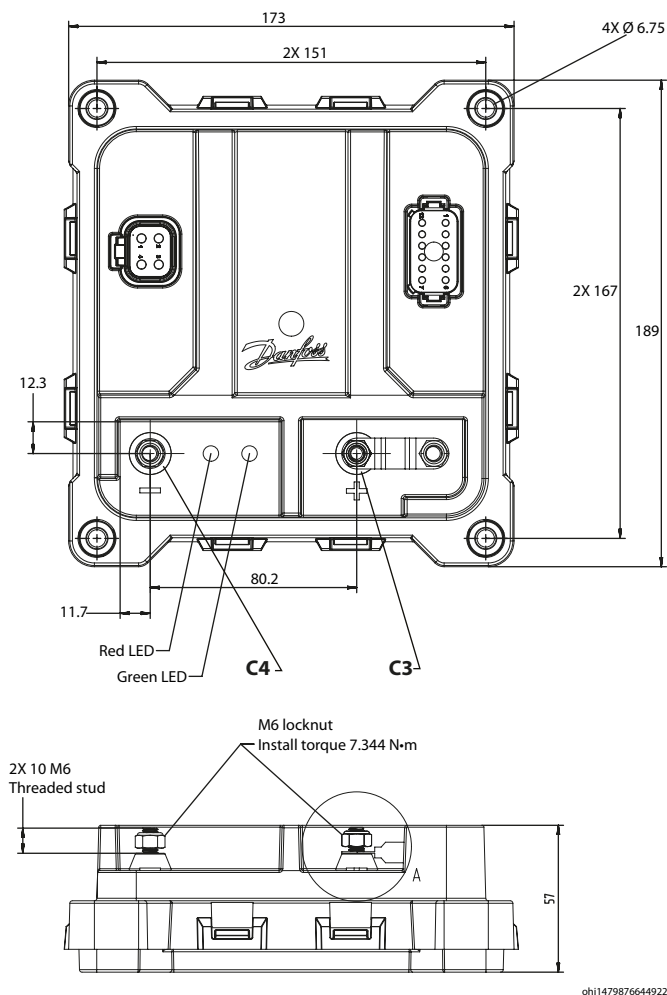
- (4) Universal (PWMOUT/DOUT/PVGOUT) that are user-defined as either:  
Digital: 15 A, configurable as source or sink  
PWM: 15 A (33 to 4000 Hz or 20 kHz), configurable as open or closed loop with current control
- (4) Universal (PWMOUT/DOUT/PVGOUT) that are user-defined as either:  
Digital: 25 A,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

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

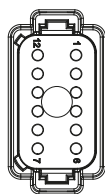
### Dimensions and pin assignments

Dimensions in millimeters



### C1

DEUTSCH DT Series 12 pin

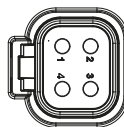


nmp1479876497075

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

### C2

DEUTSCH DTP Series 4 pin



cv11479876589499

Pin	Controller function
1	25A PWM
2	25A PWM
3	25A PWM
4	25A PWM

### C3, C4

Pin	Controller function	Description
C3-P1	Battery power	120A battery connection (externally fused)
C4-P1	Battery ground	120A battery connection

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.



## Ordering information

### Product part number

<b>MC018-130</b>	11187841
------------------	----------

### Related products part numbers

<b>CG150-2 CAN/USB Gateway</b>	11153051
<b>PLUS+1<sup>®</sup> GUIDE Professional</b>	11179523

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

<b>4 pin DEUTSCH mating connector bag assembly (10 to 14 AWG)</b>	11188220
<b>12 pin DEUTSCH mating connector bag assembly (14 to 20 AWG)</b>	11188221
<b>4 and 12 pin DEUTSCH mating connector bag assembly</b>	11188232
<b>125 Amp fuse</b>	11188233