

Data Sheet

PLUS+1[®] Controllers

HMC 211-010 and HMC 211-012



Mobile machine management

Danfoss PLUS+1[®] 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

Both controllers employ a Digital Signal Processor (DSP), providing the controllers with extremely fast single cycle processing speed and 128K internal flash. Both controllers feature an IP 69K front panel with a non-contact, step-less rotary input dial, non-contact pushbutton switch, and dual color LED.



Application development

The HMC 211-012 employs an application key that enables the use of Danfoss developed PLUS+1[®] GUIDE machine control solutions. The same PLUS+1[®] GUIDE HWD file is used with both controllers.

Users develop HMC 211-010 and HMC 211-012 applications with 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)
- 32 bit fixed-point DSP running at 150 MHz
- 12 bit analog-to-digital resolution
- IP 69K housing with the following human machine interfaces:
 - 1 non-contact push button switch (digital input)
 - 1 stepless non-contacting rotary switch (analog input)
 - 1 dual color (yellow/red) LED
- 9 to 36 Vdc supply power
- 1 CAN 2.0B port. The fixed range analog (AIN/ CANShield) pin may be configured as a shield pin
- 5 Vdc power supply for external sensors rated at 70 mA, monitored and regulated internally
- 18-pin DEUTSCH DT16-18S connector
- HMC 211-012 contains application key required to run Danfoss developed machine control application software
- CE compliant

7 inputs

- 2 universal (DIN/AIN/FreqIN) that are user defined as either:
Digital: pull up (5 Vdc), pull down (0 Vdc) or pull to center (2.5 Vdc)
Analog: with user-defined ranges of either: 0 to 5.25 Vdc or 0 to 36 Vdc
Frequency: 1 Hz to 10 KHz
- 4 digital/analog (DIN/AIN) that are user defined as either:
Digital: pull up (5 Vdc), pull down (0 Vdc) or pull to center (2.5 Vdc)
Analog: with user defined ranges of either: 0 to 5.25 Vdc or 0 to 36 Vdc
- 1 fixed range analog (AIN/CAN shield) that is user defined as either a 0 to 5.25 Vdc range analog input or CAN shield pin

6 outputs

- (2) universal (PWMOUT/DOUT/PVGOUT) that are user-defined as either:
Digital: (3 A), configurable as source or sink
PWM: (30 to 4000 Hz), configurable as open or closed loop with current control
Analog voltage: open loop PWM at 4000 Hz
- Any PWMOUT/DOUT/PVGOUT can be used to provide reference power to one PVG valve
- 4 Digital (DOUT) (2A) Configurable as source only

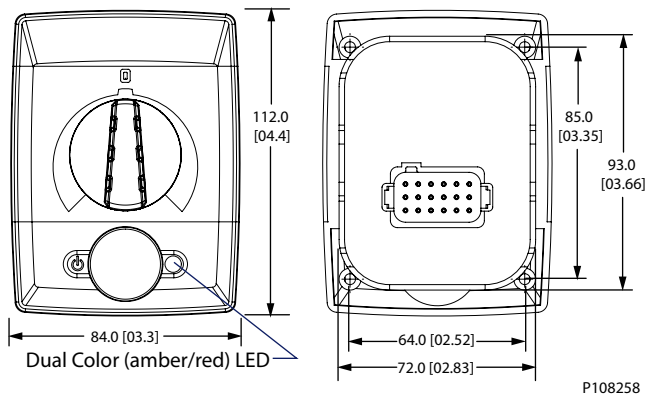
Caution

Warranty will be voided if device is opened. Device is not field serviceable. Do not open the device.

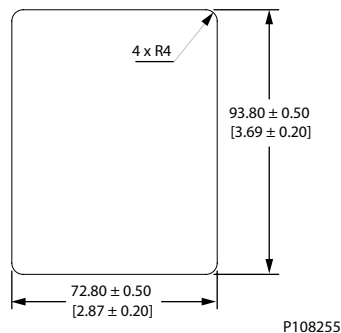
Dimensions and pin assignments

Mounting dimensions and pin assignments

Dimensions in mm [in]

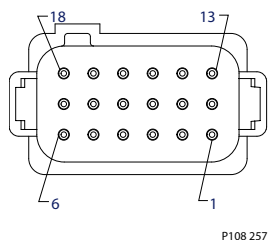


Panel cutout



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

Pin connector



18 pin connector - C1

Pin	Controller function	Pin	Controller function
C1-P1	Power ground -	C1-P10	DIN/AIN
C1-P2	Power supply +	C1-P11	DIN/AIN
C1-P3	CAN +	C1-P12	DIN/AIN
C1-P4	CAN -	C1-P13	PWMOUT/DOUT/ PVGOUT
C1-P5	AIN/CAN shield	C1-P14	PWMOUT/DOUT/ PVGOUT
C1-P6	5 Vdc sensor power +	C1-P15	DOUT
C1-P7	DIN/AIN/FreqIN	C1-P16	DOUT
C1-P8	DIN/AIN/FreqIN	C1-P17	DOUT
C1-P9	DIN/AIN	C1-P18	DOUT

Product parameters

Supply voltage	9 to 36 Vdc
Operating temperature (ambient)	-40°C to 70°C [-40°F to 158°F]
Storage temperature	-40°C to 85°C [-40°F to 185°F]
Programming temperature	0°C to 70°C [32 °F to 158°F]
IP rating (with mating connector attached)	IP 69 (front) IP 67 (rear)
Weight	0.23 kg [0.50 lb]
Maximum current, sourcing	11.5 A
Maximum current, sinking	11.5 A

**Ordering information**

HMC 211-010	11071494
HMC 211-012	11071495

Related products part numbers

CG150-2 CAN/USB Gateway	11153051
PLUS+1[®] GUIDE Professional	11179523

DEUTSCH mating connector bag assembly (16 to 20 AWG)	11012648
Panel mounting kit	11083012