

Data Sheet

MC024-118 Extended Memory PLUS+1[®] Controller



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.

The MC024-118 Extended Memory Controller is pin compatible with the PLUS+1[®] MC024-110 Controller. It employs a 32 bit Cortex-M3 Processor, providing the controller with extremely fast single cycle processing speed and 1024K internal flash. Extended Memory features include support of unlimited read-write FRAM, 2 MB flash vault memory for application data logging, and an application key that enables the use of Danfoss developed GUIDE machine control solutions.

The MC024-118 employs an application key that enables the use of Danfoss developed PLUS+1[®] GUIDE machine control solutions.

Users develop MC024-118 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)
- 24 pins: 2 individually keyed DEUTSCH DTM 12 pin connectors
- FRAM non-volatile memory
- 2 MB flash vault memory
- CE compliant
- ARM 32 bit Cortex-M3 at 120 MHz
 - 12 bit analog-to-digital converter
 - 16 bit timers/counters
- 9 to 36 V_{DC} power supply, monitored internally
- 2 LEDs under user control
- 3 mounting alternatives
- 1 CAN 2.0 B port, the fixed range analog input can be configured as the shield pin
- Power supply for external sensors rated at 5 V_{DC} to 300 mA regulated internally

Comprehensive technical literature is online at www.danfoss.com

Technical Specifications

Supply voltage	9 to 36 V _{DC}
Operating (ambient) / Programming temperature	-40°C to 70°C [-40°F to 158°F]
Storage temperature	-40°C to 85°C [-40°F to 185°F]
IP rating (with mating connector)	IP 67
EMI/RFI rating	100 V/m
Weight	0.40 kg [0.88 lb]
Vibration/Shock	IEC 60068-2: 64/27 test Ea
Max. current (source/sink)	8 A

14 Inputs

- 5 universal (DIN/AIN/FreqIN) that are user-defined as either
 - Analog: with configurable ranges 0 to 5.25 V_{DC} (with over-range protection) or 0 to 36 V_{DC}
 - Digital: pull up (5 V_{DC}), pull down (0 V_{DC}), or pull to center (2.5 V_{DC})
 - Frequency (timing): 1 Hz to 10 kHz
- 6 digital (DIN) configurable as pull up (5 V_{DC}) or pull down (0 V_{DC})
- 2 analog (AIN/Temp/Rheo) 0 to 5.25 V_{DC} or 0 to 10,000 ohm rheostat
- 1 fixed range analog (AIN/CAN shield) 0 to 5.25 V_{DC} or CAN shield pin

4 Outputs

- 4 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

Ordering Information

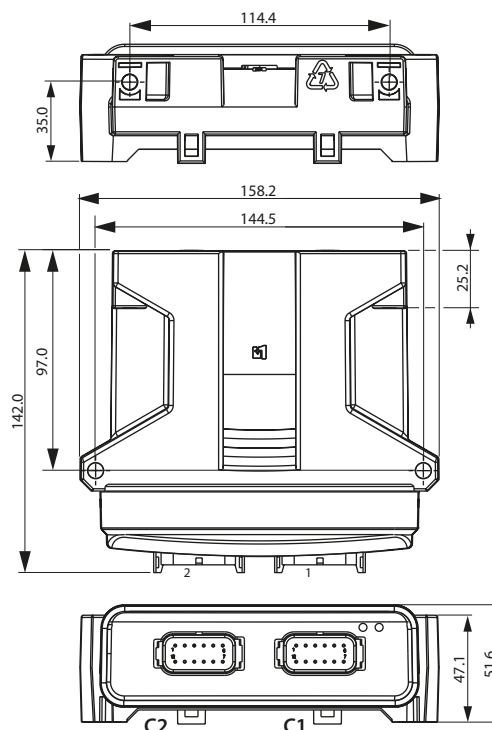
MC024-118	11130921
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Related products part numbers

CG150 CAN/USB Gateway	11153051	
DEUTSCH mating connector bag assembly	10102023 (16 to 20 AWG)	10100945 (20 to 24 AWG)
PLUS+1® GUIDE Professional	11179523	

Dimensions

Mounting dimensions (mm)



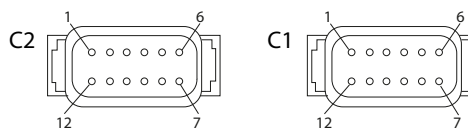
Caution

This device is not field serviceable. Opening the device housing will void the warranty.

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

Pin assignments

12-pin connectors: C2/C1



C2 controller 12-pin functions:	C1 controller 12-pin functions:
1. DIN	1. Power ground –
2. DIN/AIN/FreqIN	2. Power supply +
3. DIN/AIN/FreqIN	3. CAN +
4. DIN/AIN/FreqIN	4. CAN –
5. DIN/AIN/FreqIN	5. AIN/CAN shield
6. DIN/AIN/FreqIN	6. DIN
7. AIN/Temp/Rheo	7. DIN
8. AIN/Temp/Rheo	8. 5 V _{DC} Sensor power +
9. PWMOUT/DOOUT/PVGOUT	9. Sensor power ground –
10. PWMOUT/DOOUT/PVGOUT	10. DIN
11. PWMOUT/DOOUT/PVGOUT	11. DIN
12. PWMOUT/DOOUT/PVGOUT	12. DIN

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