

PLUS+1™ MC024-021 and MC024-024 Controllers

Mobile Machine Management

MC024-021 and MC024-024 controllers are elements of the flexible, powerful, expandable, and affordable PLUS+1 family of mobile machine management products. These devices are general-purpose controllers that are equally suited for use as members of a distributed machine control system, with intelligence in every node, or as stand-alone controllers.

Product Highlights

The MC024-021 employs a Digital Signal Processor (DSP), providing the controller with extremely fast single cycle processing speed and 256K internal flash. The MC024-024 has an application key that enables the use of Sauer-Danfoss developed GUIDE machine control solutions. The same GUIDE HWD file is used with both controllers.

Application Development

Users develop MC024-021 and MC024-024 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.

Local Address:



PLUS E1™
by SAUER-DANFOSS

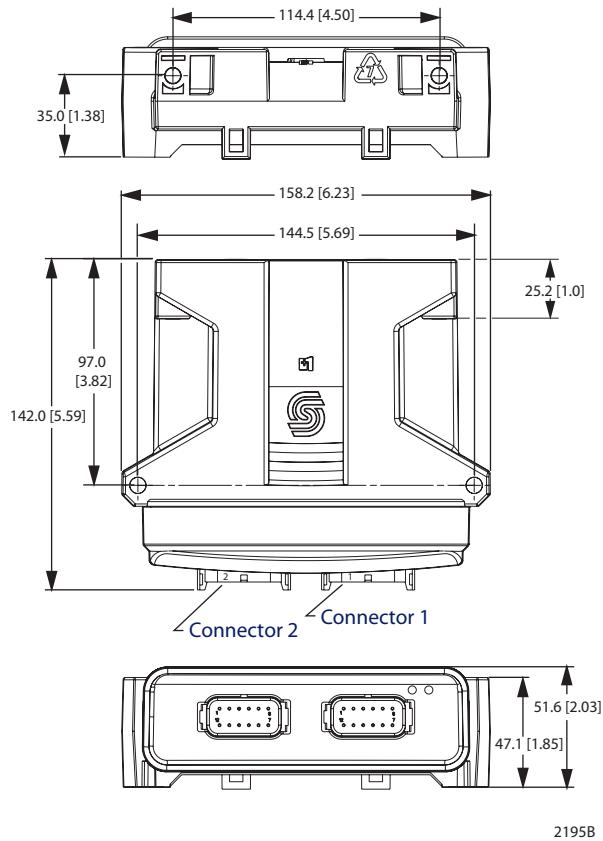
MC024-021 and MC024-024 Controllers

Features

- User-programmable with PLUS+1 GUIDE (Graphical User Integrated Development Environment)
- 24 pins: (2) individually keyed Deutsch® DTM 12 pin connectors
- 32 bit fixed-point DSP running at 150 MHz
 - 12 bit analog-to-digital converter
 - 16 bit timers/counters
- 8 inputs
 - (5) universal (DIN/AIN/FreqIN) that are user-defined as either:
 - Analog*: with configurable ranges 0 to 5.25 Vdc (with over range protection) or 0 to 36 Vdc;
 - Digital*: pull up (5 Vdc), pull down (0 Vdc) or pull to center (2.5 Vdc);
 - Frequency (timing)*: 1 Hz to 10 kHz
 - (2) digital (DIN) configurable as pull up (5 Vdc), pull down (0 Vdc) or pull to center (2.5 Vdc)
 - (1) fixed range analog (AIN/CAN shield) 0 to 5.25 Vdc or CAN shield pin
- 8 outputs
 - (8) 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
- 9 to 36 Vdc power supply, monitored internally
- 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 Vdc to 200 mA and regulated internally
- 2 LEDs under user control
- 3 mounting alternatives: stack, end, or side
- MC024-024 contains application key required to run Sauer-Danfoss developed machine control application software
- CE compliant

Dimensions and Pin Assignments

MC024-021 and MC024-024 Mounting Dimensions
in Millimeters [Inches]



Caution

PCB damage may occur. All device power supply + pins must be connected to battery +.

Caution

This device is not field serviceable. Opening the device housing voids the warranty.

Specifications

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 67
EMI/RFI rating	100 V/m
Weight	0.40 kg [0.88 lb]
Vibration	IEC 60068-2-64
Shock	IEC 60068-2-27 test Ea
Maximum current, sourcing	24 A
Maximum current, sinking	8 A

Comprehensive technical information: **PLUS+1 Controller Family Technical Information, 520L0719; MC024-021 Application Program Interface (API) Document; MC024-024 API Document** / Sauer-Danfoss product literature on line at: www.sauer-danfoss.com