

EC-MMS-5020-H MACHINE MANAGEMENT SYSTEM**DESCRIPTION**

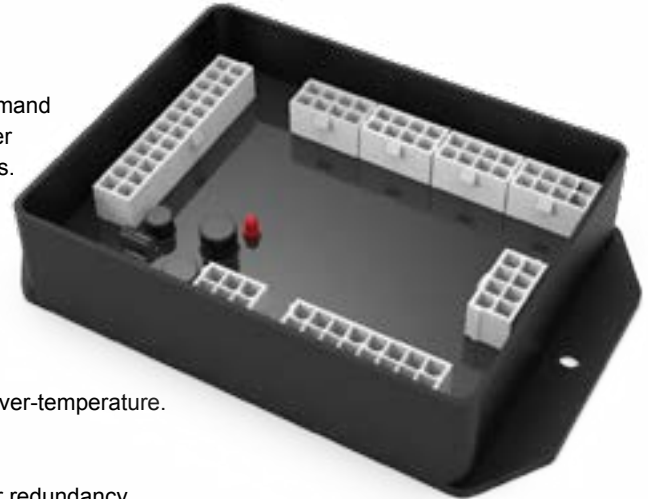
MMS (Machine Management System) coding card with CANbus , built-in advanced safety, redundant load cells management, and fault-detection features for integrated control of mobile equipment functions.

OPERATION

The MMS-5020 can be lodged inside any remote control box or panel to make command signals compatible with CANbus networks. It can be used as a stand-alone controller for Multidrom MLT/FD5 CANbus -configured electro-hydraulic proportional actuators. It can be used as a remote coding card for connection to other MMS electronic units like Tecnord's Mod. MMS-2218.

FEATURES

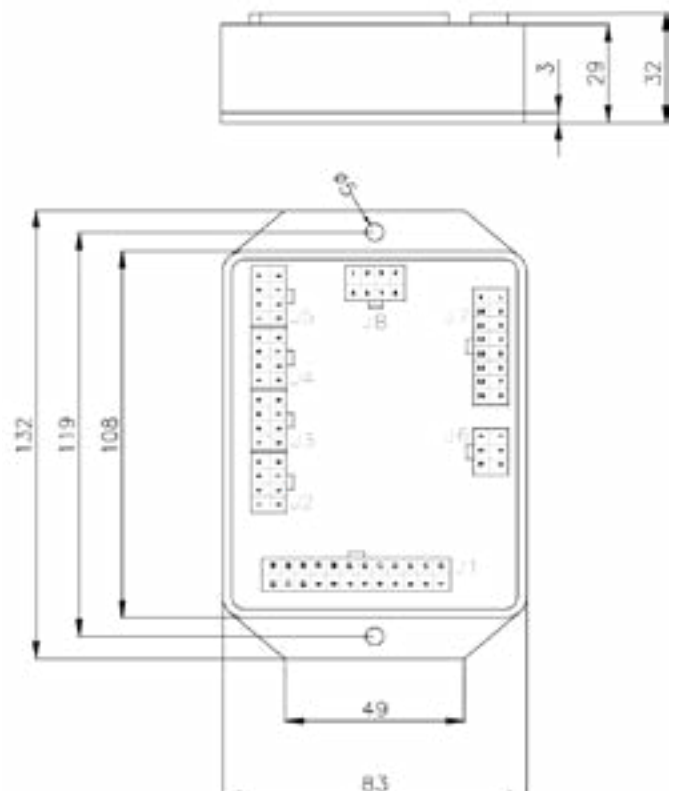
- Power supply line is protected against reversed polarity and overvoltage.
- Inputs are protected against short circuits to GND and supply.
- Outputs are protected against short circuits, reversed polarity, over-current and over-temperature.
- 2-wires CANbus.
- 2 load cells redundant management.
- Performance level d capability according to ISO 13849, thanks to microprocessor redundancy.
- Electro Magnetic Compatibility (EMC): EN 61000-6-2 (Immunity), EN 61000-6-3 (Emissions).
- Auxiliary +5 V supply for control devices (e.g. potentiometers).

**SPECIFICATIONS**

Operating voltage:	8.5÷40 VDC
Max current consumption:	0.5 A (no load applied)
Operating temperature:	-25°C / +85°C
Degree of protection:	IP 54
Input impedance:	100 kΩ
Analog inputs (10 bits):	16 (0-5 V)
Typical ctrl pot resistance:	1÷10 kΩ
Digital inputs:	32
High side power outputs:	4 (3.5 A max)
Max current load on all outputs:	5 A
High side signal outputs:	16 (0.7 A max)
Inputs for current feedback:	1
Load cell inputs	2
Current output range (PWM):	100÷1500 mA
PWM dither frequency:	60÷200 Hz (adjustable)

APPLICATIONS

- 12 /24 VDC systems.
- Control panel management.
- Field-adjustable applications.
- Closed loop systems with electro-hydraulic digital actuators.

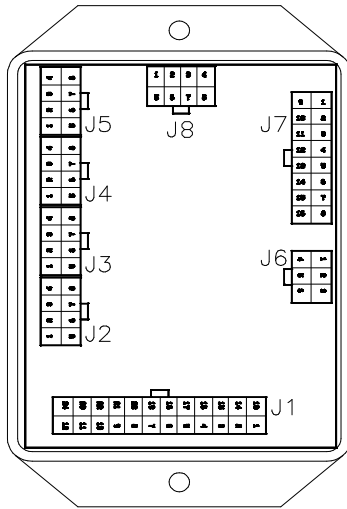
DIMENSIONS

WARNING: the specifications/application data shown in our catalogs and data sheets are intended only as a general guide for the product described (herein). Any specific application should not be undertaken without independent study, evaluation, and testing for suitability.

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EC-MMS-5020-H MACHINE MANAGEMENT SYSTEM**CIRCUIT BOARD PINOUT - WIRING DIAGRAM**

Connector type: Molex MINIfit

**J1**

- 1 +V (POWER SUPPLY)
- 2 5V EXT
- 3 CANH / RS485+
- 4 CANL / RS485-
- 5÷12 ANALOG IN [1÷8]
- 13 -V (POWER SUPPLY - GND)
- 14 PROG1 (#1 MICROCONTROLLER)
- 15 PROG2 (#2 MICROCONTROLLER)
- 16 RESET
- 17÷24 ANALOG IN [9÷16]

J2÷J5

- 1÷8 DIGITAL IN [1÷32]

J6

- 1 POWER OUT 1
- 2 GND
- 3 PWM CURRENT FEEDBACK
- 4 POWER OUT 2
- 5 POWER OUT 3
- 6 POWER OUT 4

J7

- 1÷16 SIGNAL OUT [1÷16]

J8

- 1 POSITIVE POWER SUPPLY LOAD CELL #1
- 2 NEGATIVE POWER SUPPLY LOAD CELL #1
- 3 POSITIVE POWER SUPPLY LOAD CELL #2
- 4 NEGATIVE POWER SUPPLY LOAD CELL #2
- 5 POSITIVE SIGNAL LOAD CELL #1
- 6 NEGATIVE SIGNAL LOAD CELL #1
- 7 POSITIVE SIGNAL LOAD CELL #2
- 8 NEGATIVE SIGNAL LOAD CELL #2

ADJUSTMENTS

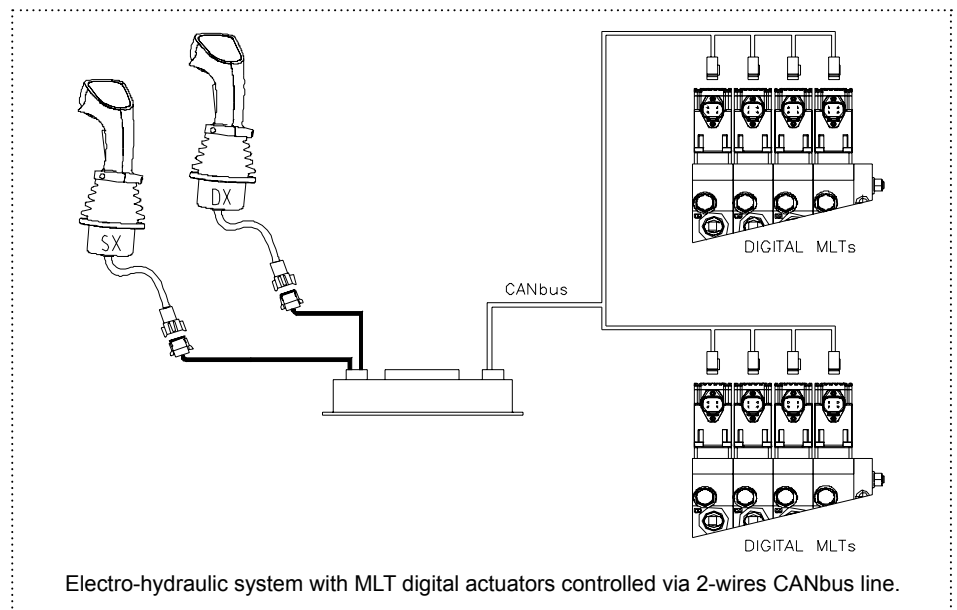
- MMS controllers have a customized firmware to fulfill machine functions.
- A customized calibration tool is available to set main working parameters.



**PC configuration
tool available**



**CANUSB adapter
ordering code: 21.0801.040**

APPLICATION EXAMPLE**ORDERING INFORMATION**

EC-MMS-5020-H

5020 = 50 inputs - 20 outputs
H = potted plastic Housing for panel mounting