

**EC-MMS-4820-H MACHINE MANAGEMENT SYSTEM**

**DESCRIPTION**

MMS (Machine Management System) coding card with CANbus and RS485 interface and built-in advanced safety and fault-detection features for integrated control of mobile equipment functions.

**OPERATION**

The MMS-4820 can be lodged inside any remote control box or panel to make command signals compatible with CANbus networks or RS485 serial lines.

It can be used as a stand-alone controller for Tecnord's Multidrom MLT/FD5 CANbus-configured electro-hydraulic proportional actuators. It can be used as a remote coding card for RS485 serial line connection to other MMS electronic units like Tecnord's Mod. MMS-2218.



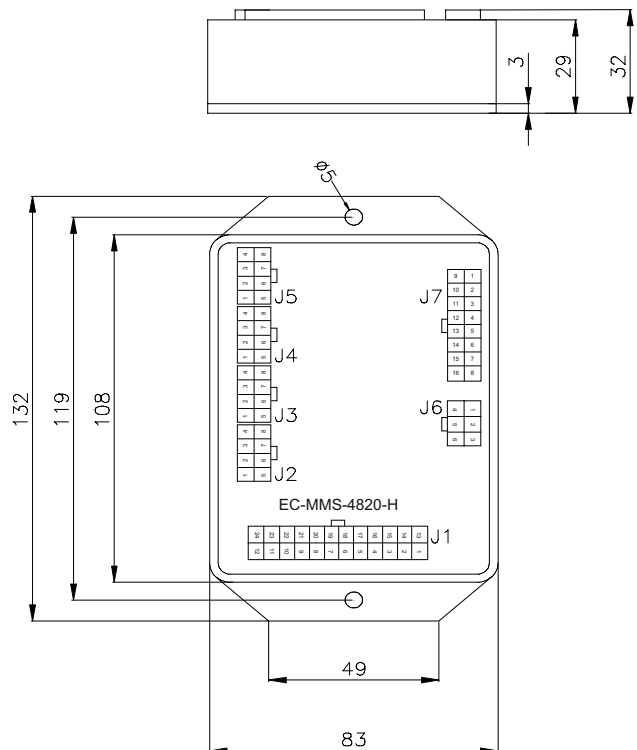
**FEATURES**

- 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 or RS485 serial interface.
- 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
Current output range (PWM):	100÷1500 mA
PWM dither frequency:	60÷200 Hz (adjustable)

**DIMENSIONS**



**APPLICATIONS**

- 12 VDC and 24 VDC systems.
- Control panel management.
- Field-adjustable applications.
- Closed loop systems with electro-hydraulic digital actuators.
- Two or more MMS boards can be interconnected by means of 2-wires RS485 serial lines or CANbus where rotating joints or cable reels are installed.

**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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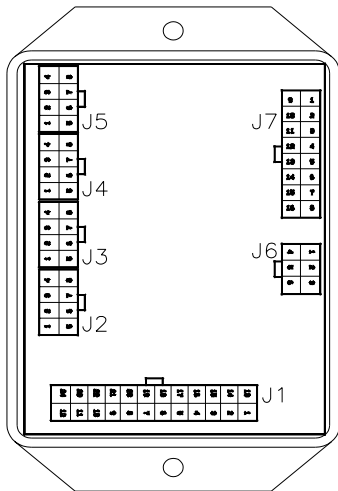


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**CIRCUIT BOARD PINOUT - WIRING DIAGRAM**

Connector type: Molex MINIfit



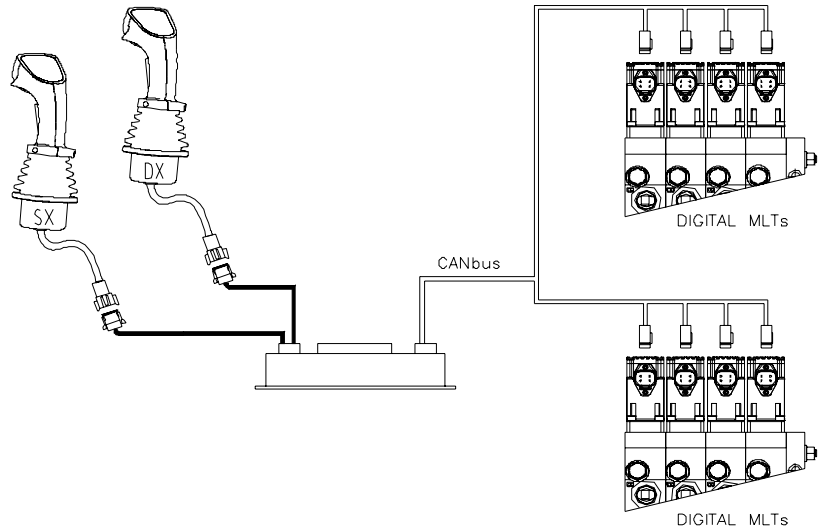
- |                               |                        |
|-------------------------------|------------------------|
| <b>J1</b>                     | <b>J6</b>              |
| 1 +V (POWER SUPPLY)           | 1 POWER OUT 1          |
| 2 5V EXT                      | 2 GND                  |
| 3 CANH / RS485+               | 3 PWM CURRENT FEEDBACK |
| 4 CANL / RS485-               | 4 POWER OUT 2          |
| 5-12 ANALOG IN [1÷8]          | 5 POWER OUT 3          |
| 13 -V (POWER SUPPLY - GND)    | 6 POWER OUT 4          |
| 14 PROG1 (#1 MICROCONTROLLER) |                        |
| 15 PROG2 (#2 MICROCONTROLLER) |                        |
| 16 RESET                      |                        |
| 17-24 ANALOG IN [9÷16]        |                        |
| <b>J2÷J5</b>                  | <b>J7</b>              |
| 1-8 DIGITAL IN [1÷32]         | 1-16 SIGNAL OUT [1÷16] |

**ADJUSTMENTS**

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

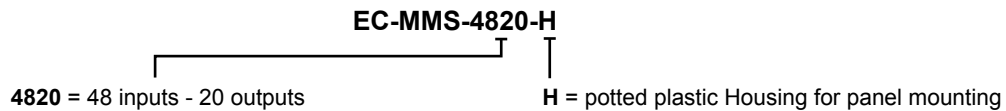


**APPLICATION EXAMPLE**



Electro-hydraulic system with MLT digital actuators controlled via 2-wires CANbus line.

**ORDERING INFORMATION**



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