EC-MMS-2218-H   MACHINE MANAGEMENT SYSTEM

DESCRIPTION

Digital MMS (Machine Management System) with built-in advanced safety and fault detection features for integrated control of Mobile Equipment functions. CANbus capability make it suitable for high-end network systems.

OPERATION

22 inputs and 18 outputs are managed by this small-size unit. Analog outputs are field-adjustable and their setting is stored in an EEPROM memory and can be loaded via software from vehicle's controller through CANbus or from a standard PC connected through an RS232 serial line. It can be used as a stand-alone controller or in conjunction with other MMS electronic units like Tecnord's Mod. MMS-4820.
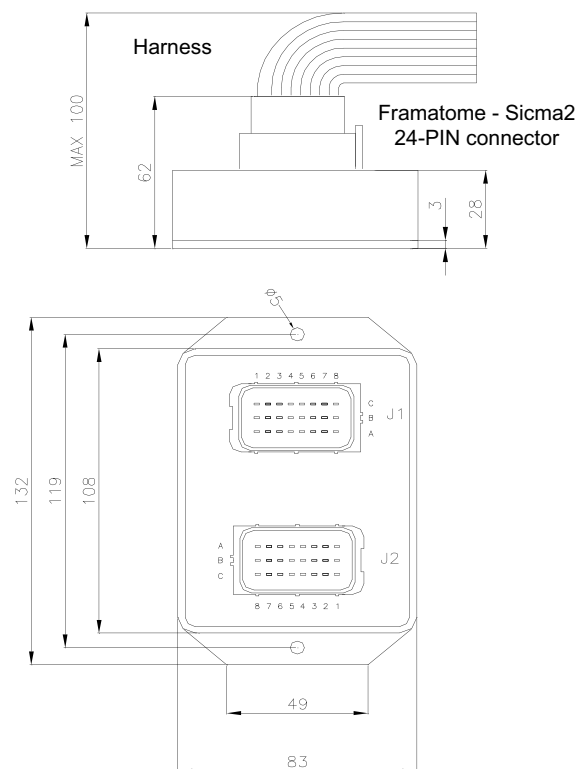
FEATURES

- Power Supply line is protected against reversed polarity and overvoltage.
- Inputs are protected against short circuits to GND and supply.
- High resolution, 16-bits, analog inputs.
- Outputs are protected against short circuits, reversed polarity, over-current and over-temperature.
- CANbus serial interface.
- RS232 serial interface.
- Especially designed to drive up to 6 electro-hydraulic proportional actuators Tecnord type MLT-FD4/5.
- Auxiliary +5 V supply for control devices (e.g. potentiometers).
- Performance Level c capability according to ISO 13849, due to high reliability of components and embedded diagnostics.
- Electro Magnetic Compatibility (EMC): EN 61000-6-2 (Immunity), EN 61000-6-2 (Immunity), EN 61000-6-3 (Emissions).

SPECIFICATIONS

Operating voltage:	8÷32 VDC
Max current consumption:	0.5 A (no load applied)
Operating temperature:	-30 ÷ +85°C
Degree of protection:	IP 67
Analog inputs (10 bits):	8 (0-5 V)
Input impedance:	100 kΩ
Typical ctrl pot resistance:	1÷10 kΩ
Digital inputs:	14
High side power outputs:	12 (3.5 A max)
PWM current feedback:	1
Max current load on all outputs:	10 A
Analog outputs:	6 (0-5 V)

APPLICATIONS

- 12 VDC and 24 VDC systems.
- Closed loop systems with electro-hydraulic proportional actuators.
- General purpose applications requiring field-adjustments.
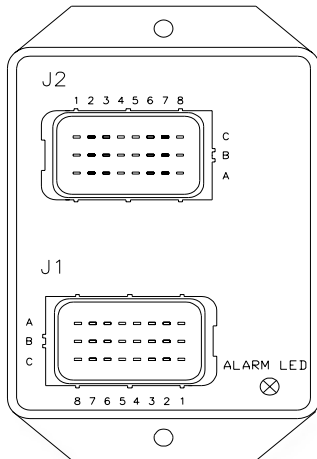- MMS-2218 can be connected to a CANbus network (J1939 or CANopen).

DIMENSIONS

Harness

Framatome - Sicma2 24-PIN connector

Via Malavolti, 36 - 41122 Modena - ITALY - Phone +39 (059) 254895 - Fax +39 (059) 253512 - mail: tecnord@tecnord.com - **www.tecnord.com**

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CIRCUIT BOARD PINOUT - WIRING DIAGRAM

Connector type: framatome SICMA2

J1

A		**B**		**C**	
1	ANALOG IN 2	**1**	ANALOG IN 1	**1**	ANALOG IN 0
2	ANALOG IN 5	**2**	ANALOG IN 4	**2**	ANALOG IN 3
3	DIGITAL IN 0	**3**	ANALOG IN 7	**3**	ANALOG IN 6
4	DIGITAL IN 2	**4**	DIGITAL IN 1	**4**	5V EXT
5	DIGITAL IN 4	**5**	DIGITAL IN 3	**5**	RS232 GND
6	DIGITAL IN 7	**6**	DIGITAL IN 6	**6**	DIGITAL IN 5
7	DIGITAL IN 9	**7**	DIGITAL IN 8	**7**	DIGITAL IN 10
8	RS232 TX	**8**	RS232 RX	**8**	DIGITAL IN 11

J2

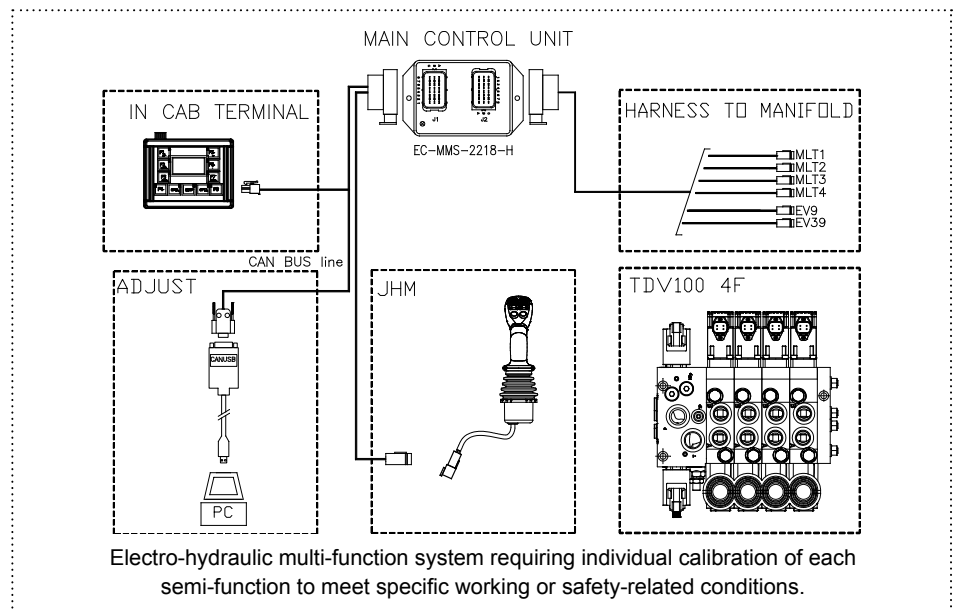| **A**		**B**		**C**	
1	OUT 0 (WITH FEEDBACK)	**1**	OUT 7	**1**	OUT 6
2	OUT 1	**2**	CAN L	**2**	OUT 9
3	OUT 2	**3**	ANALOG OUT 0	**3**	OUT 8
4	OUT 3	**4**	CAN H	**4**	OUT 11
5	OUT 4	**5**	ANALOG OUT 2	**5**	OUT 10
6	OUT 5	**6**	ANALOG OUT 1	**6**	DIGITAL IN 12
7	ANALOG OUT 4	**7**	ANALOG OUT 5	**7**	DIGITAL IN 13
8	-V (POWER SUPPLY - GND)	**8**	+V (POWER SUPPLY)	**8**	ANALOG OUT 3

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

Electro-hydraulic multi-function system requiring individual calibration of each semi-function to meet specific working or safety-related conditions.

ORDERING INFORMATION

EC-MMS-2218-H

2218 = 22 inputs - 18 outputs

H = potted plastic Housing for panel mounting

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