

EC-MMS-1012-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.

OPERATION

10 inputs and 12 outputs are managed by this small-size unit. PWM current outputs are field-adjustable and their setting is stored in a EEPROM memory. Parameters can be loaded via software from a standard PC connected with a RS232 serial line. It can be used as a stand-alone controller for both meter-in systems (up to 5 functions) and bidirectional proportional systems (up to 4 functions). Additional output for a safety venting valve is available.

FEATURES

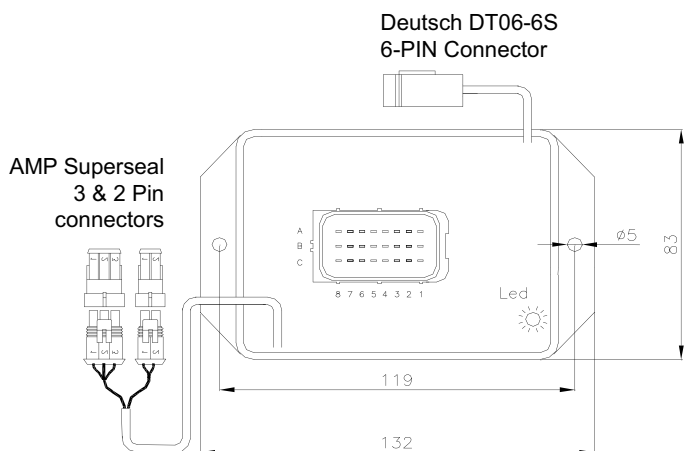
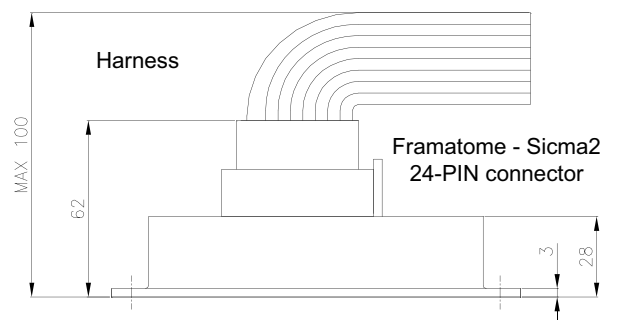
- Supply line is protected against reversed polarity and overvoltage.
- Inputs are protected against short circuits to GND and power supply.
- Outputs are protected against short circuits, reversed polarity, over-current and over-temperature.
- 3-wires RS232 serial interface.
- Auxiliary +5 V supply 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 61000-6-3 (Emissions).

**SPECIFICATIONS**

Operating voltage:	9÷30 VDC
Max current consumption:	100 mA (no load applied)
Operating temperature:	-25°C / +85°C
Degree of protection:	IP 67
Input impedance:	100 kΩ
Analog inputs (10 bits):	8 (0-5 V)
Typical ctrl pot resistance:	1÷10 kΩ
Digital inputs:	2
High side power outputs:	12 (3.5 A max)
Inputs for current feedback:	4
Current output range (PWM):	100÷1500 mA
PWM dither frequency:	60÷200 Hz

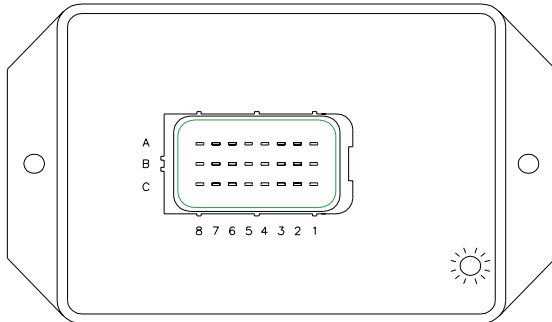
APPLICATIONS

- 12 VDC and 24 VDC systems.
- Remote control of non-feedback proportional and on-off valves.
- Specifically designed for applications requiring accurate adjustments and calibrations.
- Control of up to 4 proportional bidirectional valves plus a venting valve and additional 3 auxiliary outputs.
- Control of up to 5 functions in meter-in configuration (10 on-off valves plus 1 proportional valve and 1 venting valve).

DIMENSIONS

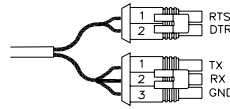
WARNING: the specifications/application data shown in our catalogs and data sheets are intended only as a general guide for the product described (herein). Any specific application should not be undertaken without independent study, evaluation, and testing for suitability.

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

EC-MMS-1012-H MACHINE MANAGEMENT SYSTEM**CIRCUIT BOARD PINOUT - WIRING DIAGRAM** (reference: meter-in layout)**Connector type:** framatome SICMA2

- A**
- 1 EV4A (HIGH SIDE)
 - 2 EV4B (HIGH SIDE)
 - 3 EV3A (HIGH SIDE)
 - 4 EV3B (HIGH SIDE)
 - 5 ANALOG IN 4
 - 6 ANALOG IN 3
 - 7 ANALOG IN 1
 - 8 PROP. CURRENT FEEDBACK

- B**
- 1 +V (POWER SUPPLY)
 - 2 EV9 (VENTING - HIGH SIDE)
 - 3 ANALOG IN - SPARE
 - 4 ANALOG IN 2
 - 5 ANALOG IN 5
 - 6 PROP. CURRENT FEEDBACK - SPARE
 - 7 PROP. CURRENT FEEDBACK - SPARE
 - 8 PROP. CURRENT FEEDBACK - SPARE

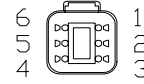
Connector type: AMP-Seal

For software download

- 1 RTS
- 2 DTR

For calibration and adjustments

- 1 TX
- 2 RX
- 3 GND

Connector type: Deutsch DT06-6S

- 1 DIGITAL IN - SPARE
- 2 DIGITAL IN - DEAD MAN
- 3 NOT CONNECTED
- 4 EV1A (HIGH SIDE)
- 5 EV1B (HIGH SIDE)
- 6 EV5B (HIGH SIDE)

- C**
- 1 -V (POWER SUPPLY - GND)
 - 2 5V EXT
 - 3 ANALOG IN - SPARE
 - 4 ANALOG IN - SPARE
 - 5 EVP (HIGH SIDE)
 - 6 EV5A (HIGH SIDE)
 - 7 EV2A (HIGH SIDE)
 - 8 EV2B (HIGH SIDE)

ADJUSTMENTS

Adjustments can be effected via RS232 serial line to modify the following work parameters:

- Imin (minimum output current)
- Imax (maximum output current)
- Ramp-up time
- Ramp-down time
- Dither frequency

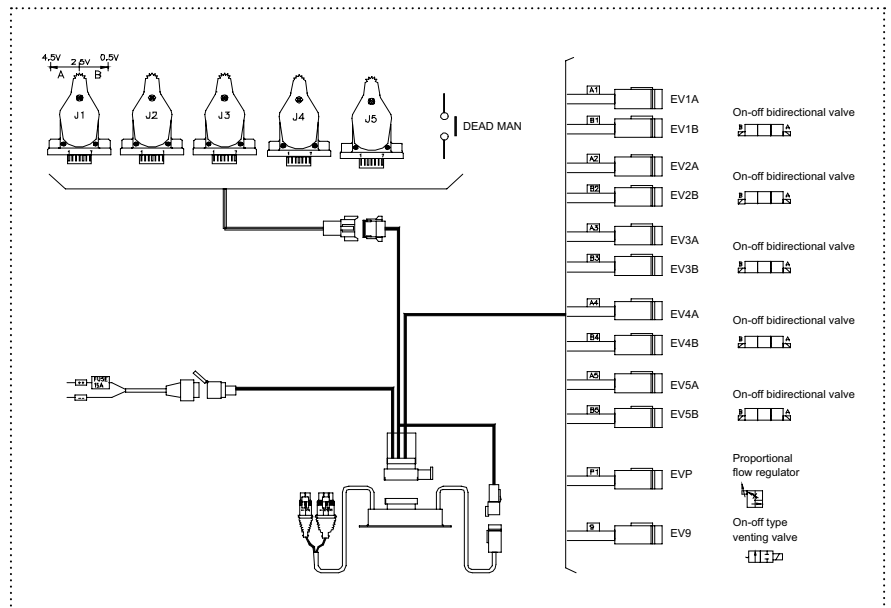


PC configuration tool available



Ampseal-DB9 cable adapter
ordering code: 20.1001.026/A

RS232 - USB converter
ordering code: 21.0801.039

APPLICATION EXAMPLE**ORDERING INFORMATION**

EC-MMS-1012-H

1012 = 10 inputs - 12 outputs

H = potted plastic Housing for panel mounting

Part number (Std Version)
23.0409.177

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.