

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).



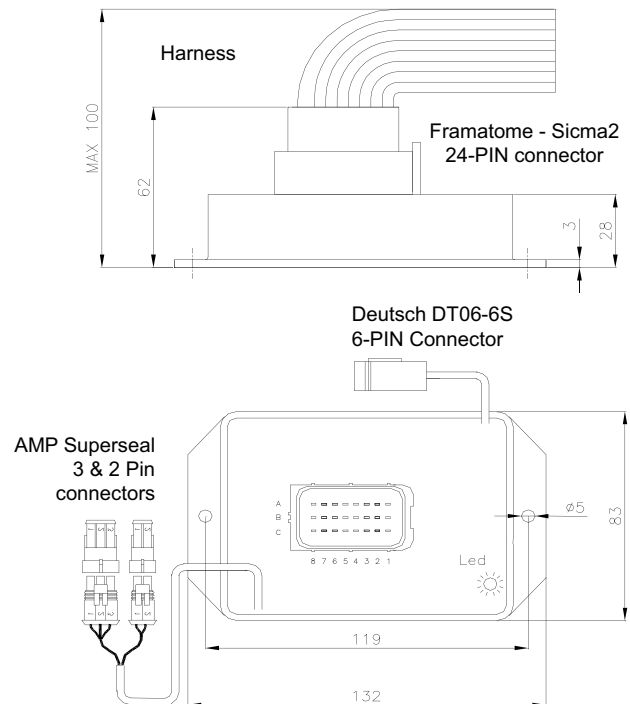
SPECIFICATIONS

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.



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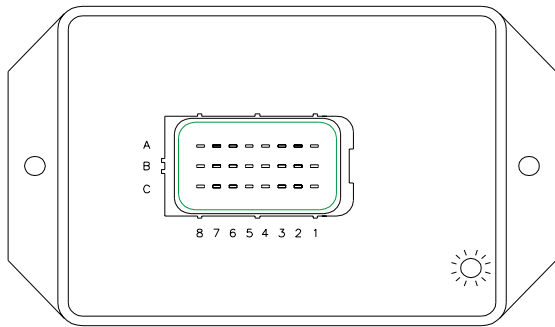


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CIRCUIT BOARD PINOUT - WIRING DIAGRAM (reference: meter-in layout)

Connector type: framatome SICMA2

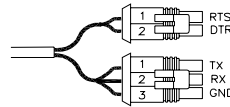


- A**
- 1 EV4A (HIGH SIDE)
 - 2 EV4B (HIGH SIDE)
 - 3 EV3A (HIGH SIDE)
 - 4 EV3B (HIGH SIDE)
 - 5 ANALOG IN 4
 - 6 ANALOG IN 3
 - 7 ANALOG IN 1
 - 8 PROP. CURRENT FEEDBACK

- 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

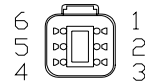
- C**
- 1 -V (POWER SUPPLY - GND)
 - 2 5V EXT
 - 3 ANALOG IN - SPARE
 - 4 ANALOG IN - SPARE
 - 5 EVP (HIGH SIDE)
 - 6 EV5A (HIGH SIDE)
 - 7 EV2A (HIGH SIDE)
 - 8 EV2B (HIGH SIDE)

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



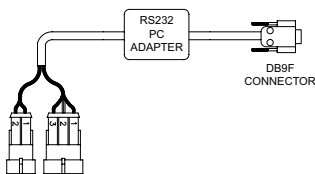
- 1 DIGITAL IN - SPARE
- 2 DIGITAL IN - DEAD MAN
- 3 NOT CONNECTED
- 4 EV1A (HIGH SIDE)
- 5 EV1B (HIGH SIDE)
- 6 EV5B (HIGH SIDE)

ADJUSTMENTS

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

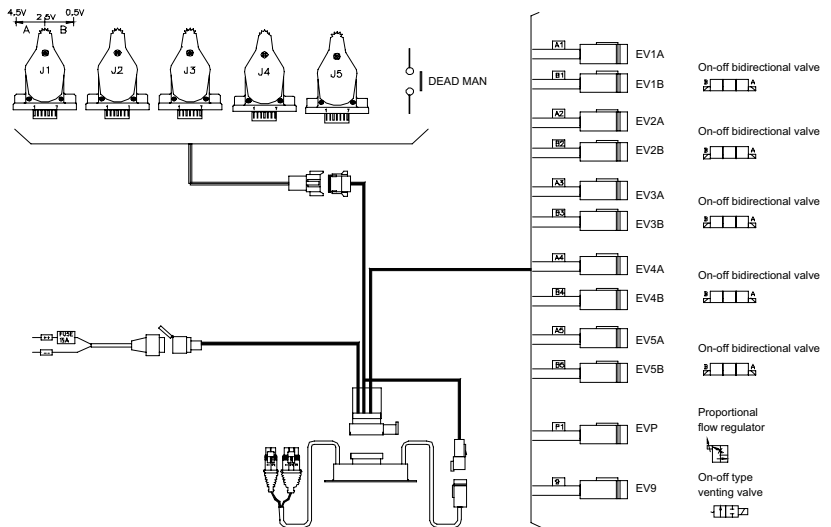
- **I_{min}** (minimum output current)
- **I_{max}** (maximum output current)
- **Ramp-up time**
- **Ramp-down time**
- **Dither frequency**

Calibration tool ordering code: **20.1001.026/A**
RS232 cable adapter for PC connection including calibration software on CD (see page EC44-45).



Note: USB/RS232 interface available on request.

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

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