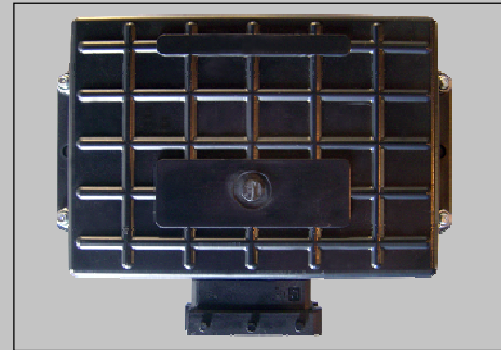


## MIDAC256 : MASTER CAN BUS MODULE WITH INPUTS AND OUTPUTS

MASTER CAN BUS module with ON/OFF and analog inputs, ON/OFF and PWM outputs. This compact unit has 14 configurable pins and wide memory size suitable for CAN BUS network management and Black Box Automotive e connector and IP40 housing.



### TECHNICAL DATA

#### **CONTROL SYSTEM:**

- Freescale microcontroller, 16bit, 25 MHz clock
- Flash memory 256 KB
- RAM memory 12 KB
- EEPROM memory 4 KB for parameters storage
- Additional Flash memory 256KB for data logging and Black Box
- Real time clock with 240 bytes RAM and rechargeable backup battery

#### **CONNECTIVITY:**

- 2 CAN-BUS, CAN 2.0B (11 or 29 bit), ISO 11898-2 compliant, speed up to 1 Mbit/s CAN-OPEN compatible.
- 1 optional RS232 (baud rate up to 57.6 Kbaud)

#### **ELECTRICAL CHARACTERISTICS:**

- Power supply: 9 ÷ 30 Vdc (operates on vehicle power supply directly)
- Separated power supply for outputs and logic
- Current requirements for logic: max 200 mA
- Maximum current for the outputs: 10A (external fuse required)
- Internal watchdog safety relay used to cut-off the power to the outputs in case of hardware or software failure.
- Relay status is available as output on connector.

#### **CERTIFICATIONS:**

The MIDAC unit (all models) is conformed to the following directives and standards required by 89/336 CE:

#### 1) EMC generic standards for emission, light industrial environment:

- Reference standard: EN 61000-6-4
- Base Standard: EN 55011 (Radiated RF emission)

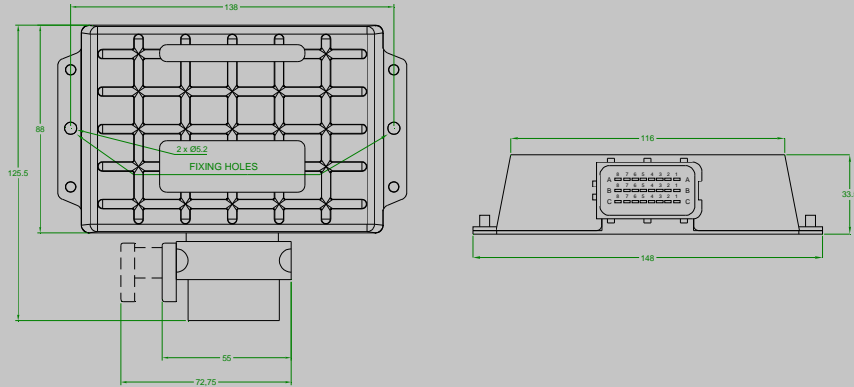
#### 2) Electromagnetic immunity, heavy industrial environment:

- Reference standard: EN 61000-6-2
- Base Standard: EN 61000-4-3 (Radiated RF immunity)
- EN 61000-4-4 (Fast transient "Burst")
- EN 61000-4-6 (Conducted RF immunity)

### MECHANICAL CHARACTERISTICS AND RATINGS

- Operating Temperature Range: from -25°C to +70°C (from -13°F to +158°F)
- Storage Temperature Range: from -35°C to +85°C (from -31°F to +185°F)
- Housing: stainless steel with plastic cover
- Dimensions: Width 150 mm - Depth 107 mm - Height 35 mm
- Connector: FCI 24 way connector (cod.:HCCPHE24BKA90F)
- Pin maximum current: 10A @ 23°C (73,4°F)
- Protection: IP40

### MECHANICAL DIMENSIONS:



### MIDAC-S1 - I/O CONFIGURATION (Input and Output):

- 4 Input/Output software configurable as:
  - On/Off Input (High-side)
  - Analog Input range 0 ÷ +30 V, 10-bit resolution
  - On/Off Output (High-side, current 2A, short circuit current 8A)
  - PWM Output (High-side, current 2A, short circuit current 8A)
- 2 Input software configurable as:
  - On/Off Input (High-side)
  - Analog Input range 0 ÷ +5.5 V, 10-bit resolution
  - Analog Input range 0 ÷ +30 V, 10-bit resolution
  - Analog Input range 0 ÷ 20 mA, 10-bit resolution
- 2 Input software configurable as:
  - On/Off Input (High or Low side)
  - Analog Input range 0 ÷ +5.5 V, 10-bit resolution
  - Analog Input range 0 ÷ +30 V, 10-bit resolution
  - Analog Input range 0 ÷ 20 mA, 10-bit resolution
  - Analog Input range 0 ÷ +5.5 V, with current 10mA current source, 10-bit resolution
- 4 Input/Output software configurable as:
  - On/Off Input (High or Low side)
  - On/Off Output (High-side, current 2A, short circuit current 8A)
- 1 Input software configurable as:
  - On/Off Input (High or Low side)
  - RPM Input range 1Hz – 10 kHz (High or Low side)
- 1 RS232 (baud rate up to 57.6 Kbaud)

### MIDAC-SPR1 - I/O CONFIGURATION (Input and Output with current feedback):

- 4 Input/Output software configurable as:
  - On/Off Input (High-side)
  - On/Off Output (High-side, current 2A, short circuit current 8A)
  - PWM Output (High-side, current 2A, short circuit current 8A)
  - PWM Output current feedback (High-side, current 2A, short circuit current 8A)
- 4 Input software configurable as:
  - On/Off Input (High or Low side)
  - Analog Input range 0 ÷ +5.5 V, 10-bit resolution
  - Analog Input range 0 ÷ +30 V, 10-bit resolution
  - Analog Input range 0 ÷ 20 mA, 10-bit resolution
  - Analog Input range 0 ÷ +5.5 V and 10 mA current source, 10-bit resolution
- 4 Input/Output software configurable as:
  - On/Off Input (High or Low side)
  - On/Off Output (High-side, current 2A, short circuit current 8A)
- 1 Input software configurable as:
  - On/Off Input (High or Low side)
  - RPM Input range 1Hz ÷ 10 kHz (High or Low side)
- 1 RS232 (baud rate up to 57.6 Kbaud)

### MIDAC-L1 - I/O CONFIGURATION (Input and Output with current feedback):

- 4 Input/Output software configurable as:
  - On/Off Input (High-side)
  - Analog Input range 0 ÷ +30 V, 10-bit resolution
- 4 Input software configurable as:
  - On/Off Input (High or Low side)
  - Analog Input range 0 ÷ +5.5 V, 10-bit resolution
  - Analog Input range 0 ÷ +30 V, 10-bit resolution
  - Analog Input range 0 ÷ 20 mA, 10-bit resolution
  - Analog Input range 0 ÷ +5.5 V and 10 mA current source, 10-bit resolution
- 4 Input/Output software configurable as:
  - On/Off Input (High or Low side)
  - On/Off Output (High-side, current 2A, short circuit current 8A)
- 1 Input software configurable as:
  - On/Off Input (High or Low side)
  - RPM Input range 1Hz ÷ 10 kHz (High or Low side)
- 1 RS232 (baud rate up to 57.6 Kbaud)