MeCAN™ - Mechanical Engine to J1939 CAN Interface

Features

- Integrates mechanical engines and sensors into J1939 instrument systems
- Inputs for speed sensors, resistive senders and fault switches
- Engine hour tracking

MeCAN™ is a compact, encapsulated interface module that translates resistive sender, fault switch and speed signals into SAE J1939 CANbus data. MeCAN allows quick and simple integration of mechanical engines into modern CANbus systems. Applications include the retrofit of older engine fleets with modern digital instruments, controls and telemetry, and the development of standard control panels for mechanical engines.

MeCAN has three sensor inputs and one output. Two inputs are for oil pressure and coolant temperature sensing, either by fault switches or resistive senders. The third input measures engine speed using a magnetic pickup or charge alternator signal. Input signals are translated into SAE J1939 CANbus messages with assigned PGN address, data scaling and transmission rate. The ouput can drive an alarm lamp or buzzer or actuate a shut-down relay if the pressure, temperature or speed inputs deviate outside preset fault limits.

A fourth input is connected to a speed calibration potentiometer during setup mode only. DIP switches allow selection of normal/ setup mode and two speed input ranges. An LED gives indication of operating mode and CANbus activity.

MeCAN is compact and light enough for inclusion in engine wiring harnesses, but can also be surface mounted. The case is fully sealed in epoxy resin for high impact and environmental resistance. Two standard versions allow use with either fault switches or Murphy ES series resistive senders. Custom solutions are also available for non-standard, volume OEM requirements.

Specifications

Power supply
Operating voltage: 7 to 35 VDC
Current consumption: 25mA (typ.)

Inputs
Maximum operating range: –2 to +35 VDC max.
Oil pressure, coolant temperature (model MEC301-1):
for Murphy ES(2)P and ES(2)T series resistive senders
Oil pressure, coolant temperature (model MEC301-2):
for fault switch, closing to negative DC on fault
Speed (magnetic pickup): opto-isolated, 3 – 30 Vrms, adjustable 10 – 180 pulses per rev
Speed calibration: 0 – 5 kOhm potentiometer (setup only)

Outputs (all ratings non-reactive)
Shutdown: negative Low-side or ground switch, 250mA max.
CANbus: SAE J1939 protocol with 120 Ohm terminating resistor

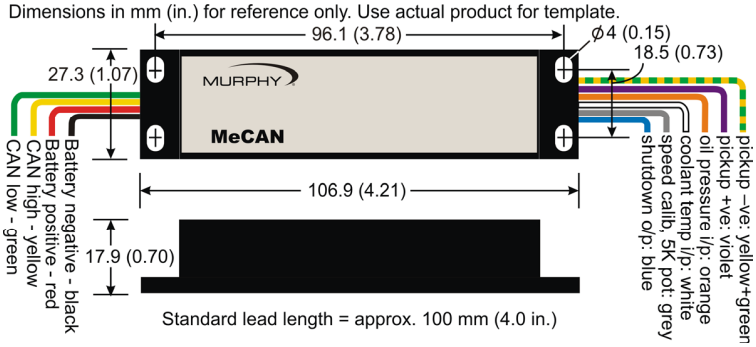
Physical
Case material: high impact ABS, epoxy filled
Dimensions: see diagram
Weight: approx 60 g / 0.13 lb
Operating temperature: -40°C to +85°C (-40°F to +185°F)
Environmental sealing: IP65 case (with DIP switch protective film intact), exposed lead ends
Electromagnetic compatibility: 2004/108/EC
Electrical:
- J1113-11 pulses 1c, 2a, 3a/b and 5a
- EN 61000-4-2 ESD
- EN 61000-4-3 Radiated disturbance
- EN 61000-4-4 Fast transients
- EN 61000-4-5 High energy transients
- EN 61000-4-6 Conducted RF disturbance
- CISPR 16-1-2, 4.3 Conducted emissions
- CISPR 16-2-3 Radiated emissions

Messages Broadcast

PGN	Description
61444	Engine RPM
65263	Oil Pressure
65262	Coolant Temperature
65271	Battery Voltage
65253	Engine Hours

Connection & Dimensions

Dimensions in mm (in.) for reference only. Use actual product for template.



How to Order

Part Number	Description
E2501000	MeCAN, with terminating resistor
E2501200	MeCAN, with terminating resistor; use with pressure & temperature switches (output closes to ground on fault)
E2501300	MeCAN, with terminating resistor; use with Murphy ES(2)P pressure and ES(2)T temperature senders