



Graphic engine-data display

Information and diagnostic system for engine
and transmission data via CAN-bus

Experience and know how from one source

We understand how demanding the mobile equipment environment is on electronics. We have been designing control systems for over 15 years specifically suited for these tough mobile applications. Our focus has always been to provide the highest quality, intelligent control solutions to mobile equipment manufacturers worldwide.

All of our control solutions utilize components that are suitable for the mobile outdoor environment and these components will be available in the market for years to come. Our in-house Quality-Management makes sure that every product has passed a rigorous cycle of tests designed to reveal stress & time dependent failures.

This test-cycle (Run-In-Test) is performed under load under varying temperature extremes by a computer that accumulates and archives all data during the testing process.

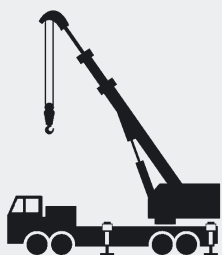
Experienced application engineers stand ready to assist with the development of new customer projects, as well as offering programming assistance from writing code to system commissioning, start-up and tuning. Our systems integration team can dramatically reduce the overall development time of your application.

Well-known mobile machine manufacturers throughout Europe and overseas have placed their trust in INTER CONTROL.

By capitalizing on our innovation and utilizing our state-of-the-art control systems, our customers are able to offer intelligent, economical machines to the world-market.

For the use in mobile machinery

- 2 CAN operating modes: J1939 monitoring mode, terminal mode
- Robust and compact display system
- CAN-interface with J1939 protocol
- Shock and vibration proof
- Outdoor suitable
- Mastersystem for standard gauges
- Terminalmode via CAN-bus
- Standard mounting and housing dimensions
- Direct connection of standard sensors, e.g. fuel level
- Pushbuttons which meet the requirement of the operators (glove suitable)
- Goretex®-Filter



® Goretex is a registered trademark of Gore

The **EngiMeter** is a multifunctional display for all diesel engines and transmissions utilizing the CAN-bus-interface with J1939-protocol. Relevant engine parameters, error messages, warnings, and other important system information are displayed in graphic or alphanumeric form in real-time. Important additional information, e.g. fuel level can be read in via additional analog inputs.

The EngiMeter displays:

- Actual values
- Setpoint values
- Operating hours
- Errors, failures
- Engine diagnostics

The EngiMeter supports these graphic indication types:

- Alphanumeric characters
- Bar graphs (trends)
- Indicators
- Analog gauge graphics
- Custom icons (Bmp)
- Combinations of all types

The EngiMeter is designed for tough applications:

- Construction equipment
- Agricultural equipment
- Rail equipment
- Municipal vehicles
- Stationary engines or generators

The EngiMeter is:

- Easy to read in direct sun light (high resolution white display with automatic contrast control)
- Easy to see at night (back lit display and illuminated function keys)
- Easy to use (simple high tactile function keys change display screens)
- Easy to install (compact modern housing with simple gauge type mounting)
- Environmentally protected (IP67 enclosure with sealed connector of the company Deutsch®)

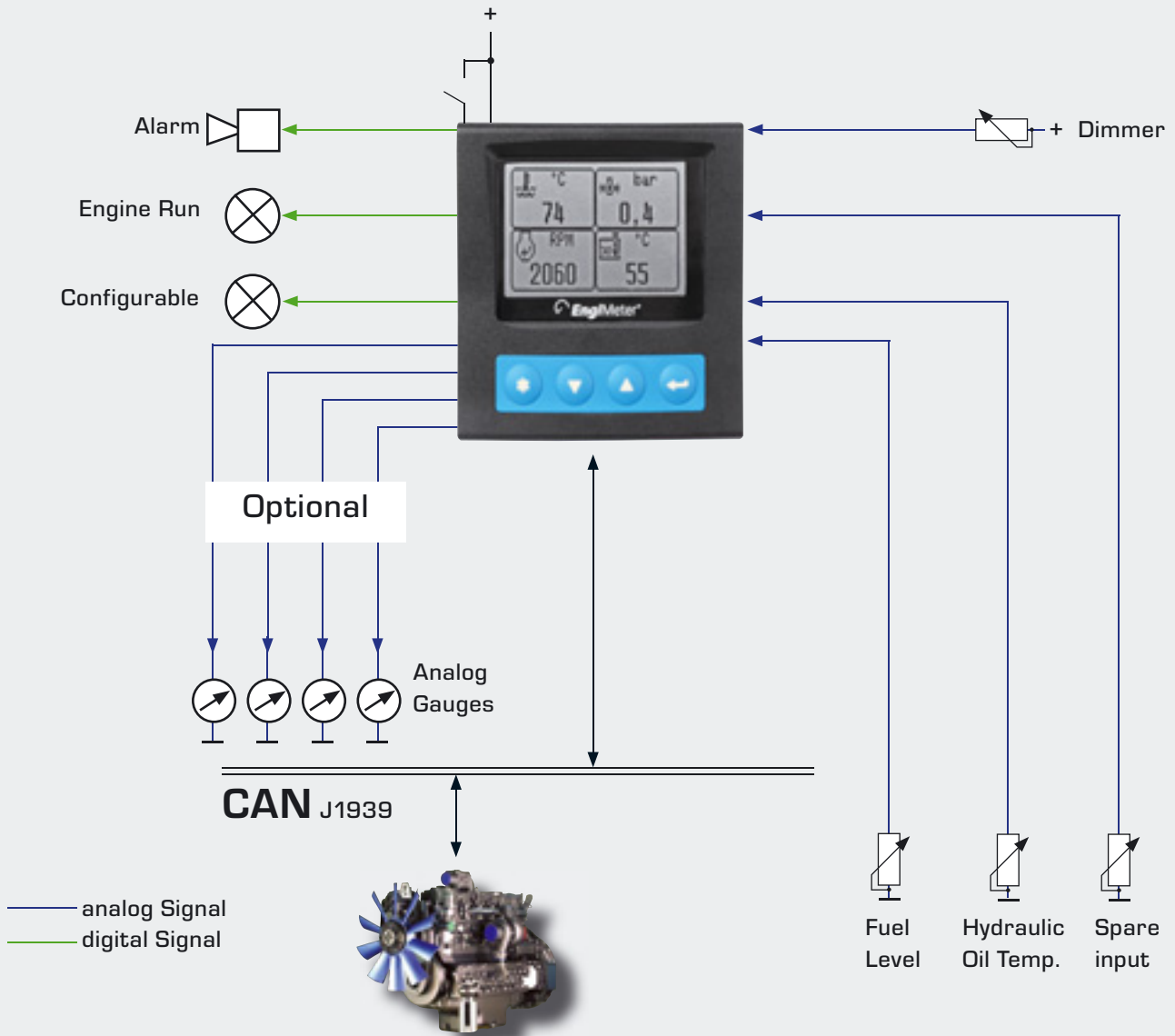
An important advantage is the possibility to connect up to 4 analog gauges directly to the EngiMeter. Any CAN-bus information can be converted by the EngiMeter and provided as standard analog output signal. This will allow the OEM to utilize standard analog gauges without the need for additional analog sensors.

Beside the indication of engine data (J1939 monitoring mode) a terminal mode is available. When switching to this mode you can read back the pushbutton status and display user defined text and graphics by using special CAN- objects.



EngiMeter offers: standard housing dimensions, circular mounting hole, anti-twist construction (drill hole), integrated connector of the company Deutsch®.

EngiMeter® with CAN-Bus according to J1939



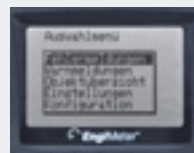
EngiMeter® with versatile display format



Four bar graphs with large digit display



Multiple display with positive/negative icons



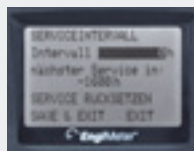
Menu for parameterization



Engine failure diagnostics



Language selection



Diagnostics



Mask fade-in Alarm messages



Value input

Technical

Data

Typ-Nr.: 4489.01.001

Features: basic

- Full graphic display 128x64 pixel
- Viewable area 57x38 mm
- 16 bit Controller
- 128 kB Flash-EEPROM
- 6 kB RAM
- CAN-bus J1939-protocol
- 4 discrete tactile function keys
- Graphics, screens and text are custom programmable *)
- Display very good readable in direct sunlight
- Display with dimmable backlight
- Extended operating temperature range -20°...+70°C
- Environmental protection IP67
- Integrated 18 pin connector of the company Deutsch®
- 3 analog resistor inputs
- 3 digital outputs 24V=, 500 mA
therefrom 1 alarm output (buzzer)
- 2 pins for power supply
- 2 pins for CAN-bus
- Operating voltage: 9 – 32V DC
- Current consumption: 12V: approx. 100 mA
- Current consumption: 24V: approx. 60 mA
- Dimension front plate: 96x96 mm
- Circular mounting hole: 80 mm
- Vibration stability according to automotive standards
- Temperature compensated contrast control
- Goretex®-Filter

Typ-Nr.: 4489.01.002

Features like 4885.01.001, but additionally

- 4 analog outputs for the direct connection of standard analog gauges
- Standard pointer instruments as daughter gauges
- 1 real time clock (on request)

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Benefits of the *Engi*Meter in comparison to conventional products

- Modern housing design
- High resolution white display
very good visible in direct sunlight
- Great cost/performance ratio
- Compact design 96x96 mm footprint
- Simple gauge type drop-in mounting
- Back lit function keys
- CAN-protocol J1939 or CANopen*
- LCD-display, back lighted
- Automatic contrast optimisation
- Icon prompting for ease of use
- Flashing mode for icons
- Icons with reversible contrast
- Pop-up window capable
- Prompting located above function keys

* OEM-version

EngiMeter displays the following engine and transmission information from CAN-bus*

- Engine rpm
- Pedal position
- Torque related to MDmax
- Torque related to MDmax at work point
- Coolant temperature
- Engine oil pressure
- Charge air pressure
- Charge air temperature
- Fuel consumption in
- Fuel consumption in l/km l/h
- Engine operating hours
- Battery voltage
- Vehicle speed

*For complete functions please see the manual

EngiMeter displays the following error message information from CAN-bus*

- Coolant level shut down
- Oil level shut down
- Charge air temperature shut down
- Coolant temperature shut down
- Engine oil pressure shut down
- Fuel temperature sensor defective
- Charge air temperature sensor defective
- Coolant temperature sensor defective
- Engine oil pressure sensor defective
- Charge air pressure sensor defective
- Hand throttle sensor defective
- Manufacturer specific system errors
- Foot throttle sensor defective
- Overspeed
- Speed signal defective
- Speed sensor 1 defective
- Speed sensor 2 defective
- Fuel temperature warning
- Coasting mode warning
- Coolant level warning
- Charge air temperature warning
- Coolant temperature warning
- Engine oil pressure warning

*For complete functions please see the manual

The above information is shown as an example. This information can be modified or supplemented at any time to work with your specific engine or transmission ECU. Please contact our sales department to discuss your specific application.

Application and mounting example



Configuration tool

The **EngiMeter** is delivered ready to work with the engine ECU of the following manufacturers:

- Cummins
- Caterpillar
- Mercedes
- MAN
- VW
- John Deere
- Perkins

For adjusting the **EngiMeter** Inter Control supplies a software which runs under Windows®¹. With the help of this program you can assign the engine data to the screen masks very easily and comfortable.



¹ Registered trademark of Microsoft

Inter Control

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This brochure may also be downloaded (PDF-file) from the internet at the address: www.outdoor-controls.de