



# DISPLAYS: MOTOCANDIS

## MOTOMETER

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MOTOCANDIS is a display unit that evaluates the digital data of a modern motor management system (or other management systems with a CAN interface) directly. In a further stage of expansion it will be possible to visualise analogue input signals and to make these available to the CAN network as digital values.

The MOTOCANDIS is designed for an operating voltage between 9 and 32 volts and thus offers a wide range of application, from construction equipment or service

vehicles of all types in municipal or agricultural sectors to stationary motors or operating machines.

Up to two video cameras can be directly connected and the images displayed simultaneously or separately with other information on the high resolution colour monitor.

Flexible in installation and individually programmable, MOTOCANDIS offers significantly more options than conventional display systems.

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## Features of MOTOCANDIS

- rugged housing, designed to withstand the special requirements of harsh operating environments (e.g. temperature, moisture, vibrations, EMC influences)
- 2 CAN-inputs, 2 video inputs
- controlled by a microprocessor
- simple and convenient to configure over Windows-compatible PC software
- 6 illuminated, freely configurable keys
- dial to operate the menu and reference value inputs

## The Display

- 6,5" VGA display
- resolution of 640 x 480 pixels for highly detailed images
- low-reflecting glass
- internal graphics processor provides fluent display of analogue instruments (without jerky pointer motion)
- can be configured completely independently
- all existing data can be represented in any conceivable format (from classic round instruments to bar graphs, rows of text, or even control lights)

## CAN-Interfaces

Over the 2 independent CAN-interfaces (2.0B), receiving of data, information, and error messages is possible as well as entering analogue measuring data or parametering data on the CAN bus. Furthermore, data can be conducted from CAN-Bus 1 to CAN-Bus 2.

## Real-time clock

The function of a real-time clock is integrated in the central instrument and buffered against interruptions in the power supply.

## Distance counter

An integrated distance counter records total kilometres as well as daily kilometres, which can be reset over a programmable key. The two CAN inputs serve as the signal source.

## Operating hours counter

In addition to the distance counter, the function of an operating hours counter can also be selected. This counter can be addressed over the CAN inputs.

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## The Software

- WINDOWS-compatible software, easy to configure
- no programming knowledge necessary (user-friendly interface, simple handling via mouse click)
- individual displays possible due to free programmability (classic round display, bar chart, text, digital values, etc.)
- a database with graphical elements makes page set up very easy (integration of specific bitmaps or logos possible)
- camera images can be displayed in full-screen or picture-in-picture format, either on a continuously or event-driven basis

## Mechanical features

- Plastic housing: 203 x 162 x 75 mm
- Installation: Integrated or as add-on
- Central connection: 1 x "Deutsch" DT15-12P

## Electrical specifications

Supply voltage (U<sub>b</sub>): 9 - 32 V

## Protection against polarity reversal of the power supply connections

- Overvoltage: 36 V / 1 h at 40 °C ambient temperature
- Test voltage: 13.6 V / 27.6 V
- Nominal voltage: 12 V / 24 V
- CAN-Interfaces: 2 x CAN 2.0B max. 500 kbit/s short-circuit protected against +U<sub>b</sub> and GND
- ESD resistance CAN: 4 - 8 kV
- Inputs short-circuit protected against ± U<sub>b</sub> and other inputs of electrical connections overvoltage-protected
- CE compliant

## Proof of EMC compliance based on the following standards

DIN 40839  
EN 13309

## Proof of operating safety based on the following standards

DIN EN-500-1  
DIN EN 500-4  
DIN EN 60204-1

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## Environmental specifications

- Operating temperature: -30 °C to +85 °C
- Storage temperature: -40 °C to +90 °C
- Shock resistance: Falling (with packaging) from 1 m height on front of display
- Vibration resistance: 5 g at 30 Hz to 50 Hz (endurance) in all 3 directions in space
- Climatic resistance: DIN 50016
- Tropical resistance: DIN EN 60068-2-30

Resistant to oils, hydraulic fluids, greases, and fuels as well as all currently used bio-oils and bio-fuels.

Lasting form, position and age stability against high UV radiation.

All data subject to technical changes.

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