



DISPLAYS: Instrument Combination 80 mm

MOTOMETER

powered by solutions

The instrument combination combines analogous displaying technology with digital displaying technology and is developed for the application in vehicle construction and for stationary engines.

The application of the most modern components allows for very small dimensions with minimum space requirements in both installation depth and installation area (the installation diameter of the instrument is 80 mm). The application of a plug type that is time-tested in automotive engineering allows for an easy, fast and economical installation – without the need of much wiring.

The instrument combination is developed for the voltage range from 8 to 32 volts, which is appropriate for the application in several fields.

It can be used in construction machines, agricultural vehicles, light industrial vehicles, special vehicles, municipal vehicles, stationary engines, stationary and mobile processing machines.

The instrument combination is a unit which is controlled by a microprocessor and which is equipped with an extremely flat step motor, a 7-segment LED and up to 6 warning lights. The application of the most modern components allows for numerous displaying modes in this instrument with its diameter of only 80 mm, which otherwise can only be displayed in units with large areas.

We may offer you customer specific multifunctional displays besides our listed standard products.

Components

Analogue Display

In addition to static information such as tank content, pressure or temperature, also dynamic information such as vehicle speed and engine speed can be displayed analogously. One of the optional version of the electronic system allows for spread scales with customer-specific scale values in combination with the step motor.

The application of a quadruple DIP switch allows for up to 16 different emitter characteristics, which also can be designed according to customer specifications. This makes the device universally applicable, even if different emitters (e.g. tank emitter with different lengths) are to be connected. The reduction of the number of variants in the production process is thus implemented to optimum extent.

LED Display

The 7-segment LED allows for the visualization of a distance counter or an operating hours counter. Optionally, the digital display of additional information such as temperature, pressure or tank content is possible. 6 LED modules are included, whose brightness can be dimmed.

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Warning Lights

Up to 6 warning lights can be integrated in every instrument. This version includes ultra-bright and extremely flat SMD-equipped LEDs, which have a service life of more than 100,000 hours. LEDs thus have a considerable advantage to incandescent lamps. The colours depend on the applied LED. Theoretically, any desired colour is possible.

Standard colours are red, yellow and green. Depending on the customer requirements, one or two LEDs are applied for each warning light. Highlighting of the warning light symbols in black or white on the instrument face is possible. The symbol size is adapted to the warning lights.

Check Control

Upon start-up, the instrument carries out an autocheck. All segments of the 7-segment display are activated, all LEDs of the warning lights are checked, and the buzzer is activated. The duration of the autocheck can be selected optionally, and can be specified according to customer requirements.

Buzzer

- Intensity 85 dB/m intermittent or permanent sound
- Inside mounting on the housing cover
- All input signals for the activation of the buzzer are possible
- Logical linkage and time lags for the activation of the buzzer are programmable

Mechanical System

- Instrument with 80 mm installation diameter and 60 mm installation depth
- Analogue display and digital display
- 6 warning lights
- Plastic housing
- Glass or plastic cover, with dereflection
- Transillumination technology
- Illuminated pointers
- Front ring black, optionally triangular or flat
- Protection type: Front IP67
Rear IP50
- Central plug: TYCO 1-174957-1, 12-pin
- Installation: Front
- Mounting: Bracket: MOTOMETER version

Electrical Specifications

- Supply voltage range (U_b): 8 V to 32 V
- Terminal connection reliability of the voltage supply connections
- Inputs short-circuit resistant against $\pm U_b$ and against other inputs of electrical connections, resistant to excessive voltage
- CE conformity

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Evidence for the Electromagnetic Compatibility according to the following standards

DIN 40839

EN 13309

Evidence for the operating safety according to the following standards

DIN EN-500-1

DIN EN 500-4

DIN EN 60204-1

Environmental Specifications

Temperature range:

- Storage temperature: -40 to +90 °C

- Operating temperature: -25 to +85 °C

Shock resistance: Dropping (in packaging) from a height of 1 m

Vibration resistance: 5 g at 30 Hz to 50 Hz (permanent resistance) in all 3 directions in space

Resistance to climate conditions: DIN 50016

Resistance to tropic conditions: DIN EN 60068-2-30

Resistant to oils, hydraulic oils, grease, fuels, as well as to all standard biological oils and biological fuels.

Permanent resistance to deformation, position effects, and aging against high UV radiation.

All data subject to technical changes.

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