DISPLAYS: Revolution counters and Speedometers

MOTOMETER powered by solutions

Revolution counters

MOTOMETER revolution counters are equipped with a moving coil measuring unit that shows the exact engine speed. The use of revolution counters is either universal or is limited to Diesel engines and spark ignition engines. The input signals come from inductive sensors or Hall sensors, the generator, terminal W or the ignition coil terminal 1. The revolution counters all have a metal housing in order to provide the best possible protection and stability and thereby guarantee a long service life.

The instruments are illuminated by a flood light type. In the case of the standard types, the dial is black with white numbers, a red pointer and a black triangular front ring.

Operation is possible with 10.5 to 30 Volt on-board systems.

The revolution counters are available both unearthed, as well as with different labelling of the dial (e.g. other symbol imprints, measuring ranges or colours) or a chrome front ring.

Measuring range	Ø mm	Voltage	Use	Connecting	Adjustable range Cylinder/ number of strokes	Part No.
0-2500 rpm	80	12 + 24 V	universal	Terminal W Alternator Inductive sensor Hall sensor	100-10000 Hz	646 081 1018
0-3000 rpm	52	12 + 24 V	Diesel engine	Terminal W Alternator	370-1900 Hz	646 009 2010
0-3000 rpm	60	12 + 24 V	Diesel engine	Terminal W Alternator	370-1900 Hz	646 060 2001
0-3000 rpm	80	12 + 24 V	universal	Terminal W Alternator Inductive sensor Hall sensor	100-10000 Hz	646 081 1017
0-3000 rpm	80		universal	Alternator-sensor	Transmission 1:2	646 006 1005

IVEKA Automotive Technologies Schauz GmbH
Talweg 8 | 75417 Mühlacker-Lomersheim/Germany
Phone +49 7041 9695-0 | **Fax** +49 7041 9695-55 | **E-Mail** info@iveka.de
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Measuring range	Ø mm	Voltage	Use	Connecting	Adjustable range Cylinder/ number of strokes		Part No.
0-4000 rpm	52	12 + 24 V	Diesel engine	Terminal W Alternator	370-1900 Hz		646 009 2011
0-4000 rpm	80	12 + 24 V	Diesel engine	Terminal W Alternator	370-1900 Hz		646 012 1001
0-4000 rpm	80	12 + 24 V	Diesel engine	Terminal W Alternator	370-1900 Hz	unearthed	646 012 1011
0-4000 rpm	80	12 + 24 V	universal	Terminal W Alternator Inductive sensor Hall sensor	100-10000 Hz		646 081 1016
0-6000 rpm	52	12 + 24 V	Diesel engine	Terminal W Alternator	600-3000 Hz		646 009 2004
0-7000 rpm	52	12 V	Spark-ignition engine	Terminal 1 Ignition coil	4-cyl./4-stroke		646 009 1103

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Electronic tachometer with integrated hourmeter

The electronic tachometer with integrated hour meter from MOTOMETER is the result of customer requests for a rugged, universal and at the same time flexible indicating instrument for the exact measurement of engine speed. It is designed to be used in construction machines, agricultural vehicles, light industrial vehicles, special vehicles, municipal vehicles and stationary engines.

The use of the most modern components allows for very small dimensions resulting in the minimum amount of space with the maximum amount of information.

The indicating instrument is developed for a voltage range from 8 to 32 Volts.

The electronic tachometer is a microprocessor controlled unit which is equipped with an extremely flat stepper motor, a 6-digit 7-segment LED and up to 4 warning lights. A 12-pin plug, commonly used in the automotive industry, makes the installation simple, fast and economical.

Analogue Display

The stepper motor combined with the electronics allows for the analogue display to be scaled to customer's specific requirements.

The scale of the backlight dial can be varied between 180° to 220°. The use of an anti-reflex glass lens allows for excellent visibility in any position.

The instrument is easily calibrated through a simple software programme, allowing for pulses up to 10 kHz and input signal strengths from 0.2 V up to supply voltage (Ub).

LED Display

The large (8 mm high) 7-segment LED display may be used as a six figure and one decimal hour meter, or alternatively could display other information such as temperature, pressure or fuel level.

Warning Lights

Up to 4 LED warning lights of various colours can be integrated into the multi-functional display (only at a scale of 180° for the pointer display).

The standard instrument is equipped with ultra-bright and extremely flat LEDs which have a life time of more than 100,000 hours.

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Check Control

Upon start-up, the instrument makes an auto-check for all functions of the display: all segments of the 7-segment display are activated, all LEDs of the warning lights are checked, and the buzzer is activated.
The time of the auto-check function can be individually set.

Buzzer (optional)

On customers request an 85 dB/m internal buzzer, with permanent and/or intermittent sound, can be included.
The buzzer is located inside of the plastic housing and fixed on the printed circuit board (PCB).

Mechanical Data:

- Instrument of 80 mm installation diameter and 60 mm installation depth
- Analogue display and digital display
- 2 to 4 warning lights
- Plastic housing
- Glass lens, coated for antireflection
- Backlight technology
- LED-illuminated
- Protection type: Front IP67
  Rear IP50
- Central plug: TYCO 1-174957-1
- Buzzer: > 85 dB/m
- Installation: Front

Electrical Specifications:

- Supply voltage range (Ub): 8 V to 32 V
- Protection against confusing the poles on power supply
- Inputs: short-circuit resistant against ± Ub
- Resistant to excessive voltage against inputs of electrical connections
- CE mark on the device
- DIN 40839: EMC in road vehicles
- EN 13309: EMC of construction machines with internal electric circuit

Environmental Specifications

Temperature range:
- Storage temperature: -40 °C to +90 °C
- Operating temperature: -25 °C to +85 °C

Shock resistance: Dropping 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: EN 60068-2-30 (humid heat)

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

All data subject to technical changes.

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Tachometers

MOTOMETER tachometers have a precise measuring unit that accurately shows the speed. The speed signals can come from Hall sensors or inductive sensors or from other pulse generators.
The tachometers all have a metal housing in order to provide the best possible protection and stability and thereby guarantee a long service life.

The instruments are illuminated by a flood light type. In the case of the standard types, the dial is black with white numbers, a red pointer and a black front ring.

Operation is possible with 10.5 to 30 Volt on-board systems.

The tachometers are also available with different labelling of the dial (e.g. other symbol imprints, measuring ranges or colours) or a chrome front ring.
Mileage counters can be integrated into tachometers of 100 mm and 140 mm diameter..

Measuring range	ø mm	Voltage	Dial	Pointer	Front ring	Number of travel pulses Imp/km Connecting	Part No.
120 km/h	140	24 V	black	red	black	2664-24384 adjustable via coding switch	647 140 7002

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Electronic speedometer with integrated odometer

The electronic speedometer with integrated odometer from MOTOMETER is the result of customer requests for a rugged, universal and at the same time flexible indicating instrument for the exact measurement of road speed. It is designed to be used in construction machines, agricultural vehicles, light industrial vehicles, special vehicles, municipal vehicles and stationary engines. The use of the most modern components allows for very small dimensions resulting in the minimum amount of space with the maximum amount of information. The indicating instrument is developed for a voltage range from 8 to 32 Volts.

The electronic speedometer is a microprocessor controlled unit which is equipped with an extremely flat stepper motor, a 6-digit 7-segment LED and up to 4 warning lights. A 12-pin plug, commonly used in the automotive industry,makes the installation simple, fast and economical.

Analogue Display

The stepper motor combined with the electronics allows for the analogue display to be scaled to customer's specific requirements.

The scale of the backlight dial can be varied between 180° to 220°. The use of an anti-reflex glass lens allows for excellent visibility in any position.

The instrument is easily calibrated through a simple software programme, allowing for pulses up to 10 kHz and input signal strengths from 0.2 V up to supply voltage (Ub).

LED Display

The large (8 mm high) 7-segment LED display may be used as a six figure and one decimal odometer, or alternatively could display other information such as temperature, pressure or fuel level.

Warning Lights

Up to 4 LED warning lights of various colours can be integrated into the multi-functional-display (only at a scale of 180° for the pointer display). The standard instrument is equipped with ultra-bright and extremely flat LEDs which have a life time of more than 100,000 hours.

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Buzzer (optional)

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