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# Innovations for custom solutions

Viewline – the new generation of instrumentation

**VDO**

# Mobility shapes our life – moving ahead is our passion

Our passion for mobility inspires us to reach new goals, achieve greater progress and overcome boundaries. Mobility is freedom – and as one of the world's leading suppliers of automotive technologies it is both our vision and our fascination.

VDO employees are united around the globe by a common enthusiasm for state-of-the-art vehicle technologies and technical advancement.

An imagination for the possibilities is just as important to us as experience and focused research and development. That's why experts from the most diverse fields work together within our company. Our innovative developments continue to serve as proof of the success of this operational model.

VDO products for special vehicles and machinery of all kinds are one example. These system solutions and individual components meet the most demanding requirements, while at the same offering maximum driving and working comfort.



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# The future of analogue instrumentation

Viewline is the new standardized instrument platform for special vehicles and machinery in a range of fields. With modular solutions in three housing variants, we supply more functions, more flexible installation and design options, as well as space-saving combi instruments and multifunction gauges – something unique in this sector.

Furthermore, Viewline offers a great deal of freedom to customize the cockpit and is the natural choice for an attractive price/performance ratio.

## The series to fulfill the toughest requirements

As a leader in technology we are familiar with the complex product requirements that manufacturers of special vehicles for industry and the construction, forestry and agricultural sectors have. Our product range is tailored precisely to these requirements, enabling us to offer reliable, customized solutions. In this respect, maximum precision and the deployment of pioneering technologies are just as important as easy of use and stylish design.

Viewline is the most recent result of our ongoing research and development work – an innovative, comprehensive standard instrumentation platform which will replace previous series. Thanks to various housing sizes, it enables a host of instrumentation variants featuring exceptional flexibility.

## Harmony in function and design

Our plug and play solution design concept means that Viewline instruments for panel and flush mounting offer the highest level of installation flexibility. With or without bezels, the modular concept allows for a high degree of design variation. Uniquely in this sector, all the solutions also feature full backlight technology.

What's more, the Viewline platform now includes a generic gauge which can process and display a variety of sensor sources. Viewline is our forward-looking instrumentation concept which stands for quality, flexibility, customized design and versatility.





### **Benefiting long-term from new technologies**

When developing the Viewline instrumentation, we paid particular attention to the requirements of manufacturers.

Viewline thus represents a platform-wide standard that offers maximum freedom in respect of cockpit design.

### **Simple conversion and easy replacement**

Forward-looking flexibility was a key aspect of our design concept for Viewline, thereby ensuring a high degree of installation freedom.

Trouble-free conversion to Viewline is therefore possible at any time. We provide a convenient solution for series instrumentation. As an experienced and reliable partner for manufacturers of special vehicles and machinery, we assist during the planning stage and ensure seamless integration together with optimum utilization of all the benefits of Viewline.



# Certified quality and innovative technology

With Viewline, we offer a comprehensive modular series of state-of-the-art instruments for engine monitoring. Featuring more functions and greater flexibility with regard to installation and design, Viewline increases the scope for creating the perfect cockpit. High quality and engineering excellence guarantee outstanding reliability and readability.

## Flush and panel installation

All Viewline instruments can be conveniently mounted in the instrument panel.

It is possible to use the modular bezels for installation or to integrate the instruments without bezels (flush installation). This allows maximum flexibility for cockpit customization and numerous design variants.

## Anti-fog and water resistance

Electrical devices need to be particularly well protected for use on special vehicles and machinery under extreme conditions. This is why the fronts of all Viewline instrument housings are hermetically sealed in compliance with IP 67 and fitted with anti-fog double lenses in shock-resistant plastic, while the housing is corrosion-free. Distracting reflections are practically eliminated and the surface is fully waterproof. The domed design also ensures that water flows off quickly even when instruments are mounted horizontally.





### LED illumination and warning lights

Viewline instruments are fitted with highly visible, high intensity LED warning lights. They ensure that critical operating conditions can be quickly and safely detected. In the case of the multifunctional speedometer and tachometer, the Viewline platform concept includes instruments which can be equipped with up to five warning lights.\* The dial, pointer and LCD are also LED illuminated.

\* OEM-specific

### Clip-on bezels

The modular bezel concept offers design flexibility in the layout of instrument panels. Three attractive designs in black, white or chrome perfectly complement the cockpits of special vehicles and instrument panels on machinery. The range also includes flat, round and triangular bezel profiles. All bezels can be combined with all Viewline products.



Section through double lens



Highly visible LED warning lights



Bezels: Colour and design variants





### LC-display

In addition to an analogue pointer (road speed or engine revs), the new Viewline speedometer and tachometer feature a digital display:

- Display size 37 mm x 11 mm
- Quick, easy access to other data
- Optimum reading angle and representation on the display
- Further monitoring functions available on the LC-display
- Individual function selection via external control button



### Full backlight technology

The dials and pointers of all Viewline instruments benefit from full backlight technology:

- Optimum contrast and superb readability of the display
- Attractive display appearance at night thanks to clearly structured dial design



### Combi and multifunction gauges \*

In addition to the tried and tested standard solutions, Viewline now also offers the option of installing multifunction devices:

- 85 mm combi devices, analogue and/or digital presentation of speedometer and tachometer signals
- 110 mm combi devices, analogue and/or digital representation of tachometer and tachometer signals
- Integration of up to five warning lights
- 110 mm multi gauges, such as 4-in-1 und 2-in-1

\* OEM-specific/in preparation







### Generic gauge

By deploying advanced technologies Viewline makes it possible to process and display a variety of sensor sources and characteristics, e.g.:

- Current and resistor inputs
- Frequency inputs
- Voltage inputs

### Signal inputs

Viewline supports the following signal inputs:

- Standard speedometer and tachometer signals
- Second frequency input (optional)
- Standard signals for engine monitoring and onboard power supply
- Signal inputs for special sensors
- Up to five usable switching inputs for control/warning lights (optional)



### Space-saving displays

Viewline 52 mm instruments are ideal when it comes to finding a space-saving solution for a panel or engine compartment.

### Programmable displays

Viewline gives users a choice of different setting and programming options:

- Basic setup via dip switches, external buttons or PC-software
- Setup of various display functions via external button

# Clear design, multiple functions – the new Viewline 110 mm and 85 mm instruments

In addition to the standard platform, our new 85 mm and 110 mm Viewline instruments also offer OEM manufacturers the opportunity to implement solutions based on multifunction and combi devices.



Viewline 110 mm  
combi gauge



Viewline 110 mm 4 in 1  
multi gauge



Viewline 85 mm  
combi gauge

## Combi gauge

With the benefit of a second optional frequency input, the combi device can present speedometer and tacho information in either analogue (pointer) or digital form (display).

## 110 mm multifunction gauge\*

If various different types of information are required in a compact multifunction instrument, manufacturers can choose from our 2-in-1 and 4-in-1 combinations.

\* OEM-specific/in preparation

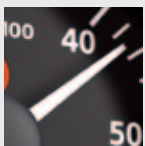
## Combi and multifunction gauges – technical data at a glance

- Operating voltage 8–32 volt
- Indication error < 2.5 % over the entire display range
- Current consumption < 200 mA, with warning light (LED)
- Optional: up to five integrated warning lights (LED), e. g., for left/right indicator or high beam
- Output for acoustic warning
- Reverse polarity protection
- Different sensor inputs
- LC-display size 37 mm x 11 mm
- Optional: two frequency inputs for tachometer/speedometer on combi device
- Display function, e. g., for clock, trip, odometer, etc. via external push button
- Up to four separate analogue indications on one multifunction gauge

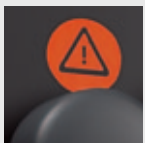


### Viewline benefits at a glance

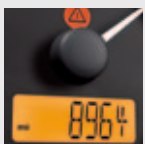
- Anti-fog double lens
- Flush installation on instrument panels
- Front panel complies with IP 67 protection rating
- LED illumination
- Clip-on, modular bezel concept with multiple design variants
- Integration of up to five warning lights on the gauge
- Large LC-display with good readability
- Different sensor inputs
- Full backlight technology
- Combi and multifunction instruments
- Optional: Software programming using PC-software
- Individually programmable displays



Clearly structured dial design with good readability



Up to a maximum of five warning lights possible on each instrument. Standard version with one warning light



37 mm x 11 mm 14 segment LC-display. Display of various functions



Viewline 85 mm tachometer



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