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The FlexCluster Indicating Instrument:
Measures Up to Every Challenge.

VDO



Countless Tasks. One Solution.

The instrument cluster is the most important source of information for the driver. Displaying important information fast and in an easy-to-read format is an essential requirement that also applies to special-purpose vehicles, such as agricultural, construction, or municipal vehicles.

This information can vary hugely depending on the type of application. In other words, customer-specific requirements demand customer-specific solutions. Or an innovative system component that can meet every conceivable requirement equally effectively.

With its host of customizable options, the FlexCluster indicating instrument provides precisely this flexibility. From special municipal vehicles, such as snowplows and waste management trucks,

to agricultural machines, construction vehicles, and even marine applications, the FlexCluster indicating instrument allows a perfectly customized solution, no matter what the demands of the job.

Combining excellent ergonomics with the latest technology, the FlexCluster indicating instrument sets new standards, both in terms of ease of use and value for money.



Maximum Functionality.

In every respect.

Our products always meet the highest standards with regard to quality, durability, and aesthetics, but the FlexCluster indicating instrument offers even more: maximum functionality in every respect.

Maximum flexibility: The tried and tested Gateway feature allows data to be processed from two different CAN busses running different protocols (e. g., SAE J1939 and/or CAN Open). This enables flexibility in use and ensures that all important data and information can be transmitted to other control units. Additional peripheral instruments, from oil pressure through fuel consumption to operating hours, can also be controlled via the FlexCluster. Accordingly, all data required for vehicle operation can be displayed.

Maximum safety: The FlexCluster indicating instrument provides a large number of customizable settings. DTC (Diagnostic Trouble Code) handling in accordance with the SAE J1939 protocol is thus made extremely simple. A back-up system ensures that the integral real-time clock is not affected if there is a loss of power.

Maximum compatibility: Maximum compatibility is guaranteed thanks to a wide array of analog and digital frequency inputs in conjunction with multiple CAN inputs.

Maximum individuality: The layout of the central dot-matrix display is fully customizable and can even be programmed to show personalized icons and corporate logos. All warning lights can be individually customized in terms of shape and color. There is also a range of options for the dials and bezels.

Maximum ergonomics: The best possible ergonomics are guaranteed with this space-saving design. It not only enables optimal readability of the instruments but also helps to increase comfort levels in the driver's cab.

Maximum spontaneity: Thanks to a specialized software, the FlexCluster indicating instrument can be programmed and configured to precisely meet any customer requirement. For added convenience, the self-explanatory software allows customers to implement changes themselves as and when required.

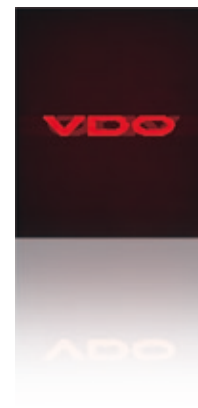
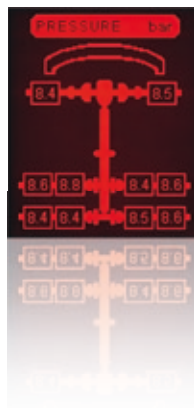
Maximum robustness: The extremely high protection rating (IP 67) of the housing means that the FlexCluster is suitable for continuous use under the most extreme conditions of heat/cold, moisture, vibration, etc.



Built to Meet the Toughest Requirements.

The FlexCluster indicating instrument was specifically developed to withstand the harsh conditions associated with special-purpose vehicles.

With four instrument dials in an ergonomically optimized layout, 26 configurable warning lights, and a large dot-matrix display, the FlexCluster indicating instrument is one of the most advanced system components available to the special vehicle manufacturers today. The extensive customization options allow the system to meet even the toughest requirements, while also providing an optimal combination of individuality and value for money.



FlexCluster Indicating Instrument – Overview.

Specifications:	
Dimensions (mm):	290.6 x 143.5 x 72.5
Nominal voltage:	12 V or 24 V
Supply voltage:	9 V to 16 V or 18 V to 32 V
Operating temperature:	-40°C to + 75°C
Protection degree:	IP 67 front side and rear side
Features:	
Appearance:	Black dial with red pointers, multicolor printing Customization of dial, telltales, screening rings and HMI possible
Illumination:	white backlight and amber colored display illumination, dimming via PVM
Gauges:	4 gauges (2x large, 2x small) e.g. Speedometer, tachometer, fuel level, coolant temperature or air pressure
Display:	Dot matrix LCD, technology: FSTN Resolution: 115 x 145 Active area: 65.23 x 51.73 mm
Telltales:	24 + 2 (placed near small gauges)
Wake-Up:	CAN or term 15
EOL programming:	KWP2000 on CAN
Analog input (resistive/voltage):	6 (2 can be used as voltage input)
Digital input:	24
Frequency input:	4
Current input:	1
Output:	3 x 500 mA Output can be used as frequency or digital output (Low side switch)
External buzzer output:	1
D+ Generator load:	1 (150 Ω pull up @ 24 V or 53 Ω pull up @ 12 V)
Interfaces:	2 x CAN, 1 x LIN 1 x for additional gauge satellites
Connectors:	2 x Tyco Super Seal (35 pin and 23 pin) In-mold with back cover

This solution offers significant design flexibility in order to realize vehicle functionality and end-customer needs, including enhancing or changing features during the vehicle's lifetime. With a special application programming software, we offer our customers a powerful, established tool for simple programming.

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