

Small screen stars

ONE OF THE INDUSTRY'S MOST ACCOMMODATING AND VERSATILE INSTRUMENTATION OPTIONS JUST GOT SMALLER – GOOD NEWS FOR THE VIEWER AND DESIGN ENGINEERS ALIKE



enGage VI is suitable for both electric and internal combustion vehicles



Shown in actual size

enGage VI, shown here in actual size, features a 3.5in display. Screens are customised for optimal readability according to the application

- 1: Brilliant full-colour ¼ VGA 3.5in dot-matrix LCD
- 2: Five ruggedised large push-buttons with tactile feedback
- 3: Anti-fog, anti-glare, scratch-resistant, chemically strengthened lens
- 4: IP67 front and rear housing
- 5: Integrated Deutsch connectors
- 6: Dual video camera input
- 7: Snap-fit mounting eliminates hardware
- 8: Customisable screens
- 9: Extensive I/O includes digital, analogue and frequency inputs, and MOSFET outputs

The new full-colour Curtis enGage VI vehicle instrument delivers all the capabilities of its larger sibling, enGage VII, but has been reconfigured in a compact version that is ideal for smaller industrial and off-highway vehicles. Compared with the 5.7in LCD screen of the VII, the enGage VI features a 3.5in display – about the same as that of an iPhone. That's no coincidence: Curtis chose a screen size that would be familiar to many end-users, and right-sized for the smaller dash of mid-range industrial, off-highway and materials handling vehicles, whether electric or IC.

Despite its smaller scale, enGage VI offers the same robust features and versatility of the larger version. OEMs will find their options in design and display are virtually unlimited. These options include a unit that is cased or modular, CAN-only or full I/O, high voltage or low, one camera or two, isolated CANbus or not,

and more. As Mike Miller, global product manager at Curtis, explains, "OEMs have complete flexibility to configure enGage exactly the way they want. They can choose the displays, the colours, design their own screen, and choose their own functionality."

"enGage is a blank slate you can customise in an infinite number of combinations," he adds. "enGage VI delivers all this extensive custom capability and programmability in a smaller size, and at a lower price. It's the first time such a feature-rich, full-colour display is available to this segment of the industrial vehicle marketplace."

A line extension to the series, enGage VI affords the same ease of use as the rest of its family in mounting, connectivity and GUI. It seamlessly integrates with all other Curtis CAN devices, including the advanced Acuity battery-management system. It is also able to

communicate easily with other vehicle CAN devices, giving freedom of choice in component selection.

High readability and creativity

The protective lens is scratch-resistant, UV-protected, anti-fog and anti-glare, assuring visual clarity in any industrial environment, from the darkest indoor freezer unit to direct sunlight in the field. The full colour display advantageously provides an intuitive 'quick read' for operators working in challenging conditions.

enGage is able to integrate comprehensive panel functionality into a single display. As regards what is depicted on the high-resolution LCD, the choices seem endless. With a spectrum of vivid colours, sharp imagery, strong contrast and a wide array of graphics, the screen can be customised to any application requirements and design aesthetics.

The unit also accommodates one or two video inputs in NTSC or PAL format. Other useful options include a message centre, display menu system and password security – to name but a few.

For vehicle manufacturers with limited resources in instrumentation design, Curtis can offer support. The company's own design engineers can assist OEMs in exploring the possibilities and producing customised versions of the unit.

The entire enGage line is fully CANopen- or SAE J1939-compatible and will interact with any CAN node on the OEM's vehicle network. However, there is an integration advantage when using Curtis AC vehicle motor controllers and input devices, as no additional code need be written.

Powerful I/O capability greatly enhances system integration as well as considerably reducing wiring

requirements via CANopen. enGage VI boasts four independent, open-drain MOSFET outputs and a wide range of inputs including:

- Four analogue (voltage or resistive);
- Two frequency inputs;
- Eight switch inputs (active high or low);
- Five push-buttons.

Modular or cased

A modular enGage unit offers the most flexibility in mounting, location, dashboard aesthetics, designing buttons and creating the GUI. Many OEMs choose this option for bulk ordering. They can then design as needed, refining the basic unit to accommodate various projects, and enjoy volume savings.

That said, the cased unit offers some appealing efficiencies. For instance, its minimally intrusive design

is compatible with a broad array of aesthetics, and its hardware-free mounting is literally a 'snap' to install – saving time on the assembly line.

Other enGage features include a real-time clock for data logging and time stamping; a major reduction in the requirement for secondary displays, circuits, systems, installation and support; IP67 rating; a built-in heater option for operation down to -40°C; a wide voltage range; and integral audible alarm output.

The entire enGage family is designed to provide highly accurate battery charge information, especially when coupled with the Curtis Acuity battery monitoring system.

Field proven success

Now in production, the new units are ready to ship. Miller confides that they are already a success in two

applications that demonstrate the range of enGage VI. The first example he cites concerns a US forklift manufacturer using enGage VI for an indoor reach truck application. This OEM uses the modular version, which it configures internally to its own specifications. The look, functionality and software are all developed by this OEM's in-house design team.

The other example is a UK construction equipment OEM using the cased unit with hardcoated lens and ultra-rugged casing. Once the OEM had defined the desired look and functionality, the Curtis engineers then co-ordinated the functions, designed the graphics and programmed enGageVI to specification, delivering custom-configured units ready for assembly.

Each of these usage environments, indoors or out, is rough and demanding in its own way. Each requires a widely different set of customisations in form and function. Yet whether customisation was fulfilled in-

house or delivered, the same core product was able to satisfy a broad spectrum of industrial vehicle needs.

Key marketplace factors

In this competitive field, OEMs have many options. But Curtis Instruments does present some exceptional credentials. The company has decades of experience in industrial vehicle instrument design, and claims the most extensive product line in the market. With a reputation for innovations that work, it has introduced many breakthroughs since its earliest years, when Curtis products were first specified by NASA for the Apollo lunar modules.

Then there is the total system integration advantage. If an OEM opts to use all Curtis components, ease of intra-vehicle communication is pre-built into every device. But even when a variety of component brands is used, it is not a problem. In the examples cited

above, the US OEM used a Curtis motor controller in conjunction with enGage VI. The UK OEM used a competitor's ECU. In both cases, the OEMs achieved the functionality their clients demanded.

Miller estimates that Curtis currently has more than five million gauge instruments installed worldwide. Multiply that by the many other industrial and off-highway vehicle systems components produced by this global leader, and you get a measure of the trust in the marketplace that Curtis has achieved.

With the introduction of the compact and versatile enGageVI, Curtis appears to have once again moved the needle forward in terms of industrial vehicle safety, productivity and ease of use. **ALT**

L S Harris is a New York-based business and technology writer who can be reached at: Ishwrite@optonline.net



enGage is available in cased units or modules



FREE READER ENQUIRY SERVICE

To learn more about this advertiser, visit www.ukipme.com/info/ivt Ref: 505