

Barcode readers with Profibus connectivity not only support the control of rear axle assembly at the Daimler plant in Mettingen, but also ensure absolute process reliability of this operation

Assembly operation relies on error-free barcode reading

Right: Labelled with a barcode, the mix of rear axle variants passes through the automated assembly line at the Daimler plant in Mettingen



Above: A closer view of one of the BCL 34 barcode readers, showing the M12 Profibus connection and useful dovetail fastening arrangement

The rear axles of the Mercedes C-Class, plus those on the car maker's new compact SUV - the GLK - are assembled on a demand-oriented basis at the Daimler plant in Mettingen, North East Germany. This production area relies on reading barcodes for process control within its robotic assembly area, an activity that has achieved absolute process reliability across three production shifts for more than three years now.

Rear axles for the C-Class and GLK models are assembled via a combination of 41 robots and 23 employees in order to handle a wide range of variants. A barcode label affixed to the rear axle carrier is read at each production station by the barcode reader, which detects the product type and enables the necessary work to be performed according to the order data. The barcode label plays a key role in the control of the automated assembly of the rear axles and its reliability is vital to the overall efficiency of the system.

Type BCL 34 barcode scanners from Leuze electronic were installed in 2006. The choice was influenced by a number of factors, including the high reading performance

of these units, their robust design and Profibus connectivity, this last feature enabling easy integration into the control system. The BCL 34's compact metal housing with dovetail grooves also offered optimum mounting flexibility, as did the wide variety of optics offered with this model.

The BCL 34 is believed to be the world's first barcode reader to offer Profibus via an M12 connection. This provides data communication at up to 12Mbit/s, which, coupled with the high reading capacity of the scanner, ensures delay-free data communication with the host control system. In terms of simplicity of integration, these devices are configured just once during project planning using the Profibus DP master software tool.

Up to 120 parameters can be organised in 40 modules, which enables optimum use of memory without exceeding the maximum Profibus data length. Only the modules necessary for the given system specification are included in the project. The DP telegram then automatically transmits these settings to the barcode readers on each system start.

The automotive industry is a challenging sector with which Leuze electronic has enjoyed a long and successful relationship. In this application at Mettingen, Mercedes has assembled an axle every 60 seconds across a three-shift operation, for over three years (exceeding 500,000 axles in total), during which time the BCL 34 barcode readers have worked faultlessly.

“ The barcode label plays a key role in the control of the automated assembly of the rear axles and its reliability is vital to the overall efficiency of the system ”

i More info - Enter 452 at www.dpaonthenet.net/enquiries