

Display family for mobile machinery

# Display Controller DC5



# LIEBHERR

# Versatile applications



## Display Controller DC5

Based on a high-capacity i.MX6 processor and a Linux/Yocto software environment, our displays provide visual comfort and high processing power for the driver's cabin.

## Our experience – your advantage

The DC5 is already our fifth display controller generation for mobile machinery. Every day, tens of thousands of our displays reliably supply operators with relevant information – worldwide in various industries, such as construction, agriculture or material handling. Benefit from cross-industry know how.

## Wide range of applications

In addition to displaying operational parameters and camera images, the DC5 display controller also qualifies as visibility aid in accordance with DIN EN ISO 16001:2016. Equipped with high processing power, the DC5 can be used as a control computer and as a programmable input device, thanks to its integrated PCAP touchscreen.

## One platform – extensive flexibility



### **Customized for your application**

Using the existing platform design, we are happy to develop an individual display for you, which meets the requirements of your application – and thereby enables you to maximise the benefits of your human-machine interfaces. You can customize various parameters, including:

- Design: configuration of the front frame
- Display: size, quality
- Processing power: processor, memory
- Performance data: temperature range, operating voltage
- Optional interfaces: Bluetooth, CANopen

### **Higher integration required?**

On demand, we integrate additional functionalities into your customized display, such as:

- WLAN
- Mobile communications interfaces: 2G, 3G, 4G
- Positioning: GPS, GLONASS, Galileo, Beidou, SBAS

### **Protecting your investment**

Through proactive obsolescence management, we ensure long-term availability of our displays. That way, we protect your investment.

## Existing portfolio – technical data

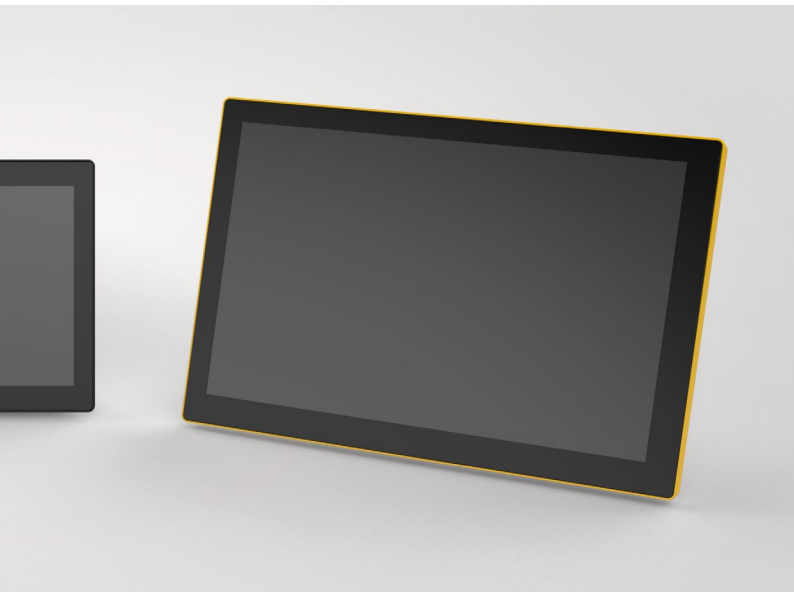


### Adapted for your machine – fast and cost-optimized

Our existing DC5 portfolio provides an ideal basis for your individual display controller. The portfolio comprises 7, 9 and 12-inch DC5 versions. These proven display solutions save time-consuming development and qualification processes. This allows an economic and fast adaption – perfectly optimized for your application.

#### Technical data

|                                  | 7 inch                     | 9 inch                | 12 inch                        |
|----------------------------------|----------------------------|-----------------------|--------------------------------|
| Processor                        | i.MX6 single- or quad-core |                       |                                |
| Clock speed                      | 800 MHz                    |                       |                                |
| RAM (DDR3)                       | 512 MB or 1 GB             |                       |                                |
| Flash                            | 32 MB NOR, 4 GB eMMC       |                       |                                |
| Operating system/<br>programming | Linux/Yocto Pyro 2.3.3     |                       |                                |
| Viewing angle                    | 80° (all directions)       | 80° (all directions)  | h: -80°, +80°<br>v: -60°, +80° |
| Brightness                       | 500 cd/m <sup>2</sup>      | 500 cd/m <sup>2</sup> | 700 cd/m <sup>2</sup>          |
| Contrast                         | 900:1                      | 800:1                 | 700:1                          |
| Resolution                       | 800 x 480 px               | 1.280 x 800 px        | 1.280 x 800 px                 |



## Technical data

|                                       | 7 inch  | 9 inch                | 12 inch                             |
|---------------------------------------|---|-----------------------|-------------------------------------|
| Operating voltage                     | 8 V to 32 V   |                       |                                     |
| Housing                               | Front frame: polyurethane<br>Rear panel: die-cast aluminium |                       |                                     |
| Coating                               | antireflective  |                       |                                     |
| Audio                                 | audio system with integrated speakers                       |                       |                                     |
| Ethernet                              | 1 x 100BASE-TX  | 1 x 100BASE-TX        | 1 x 100BASE-TX<br>1 x 1000BASE-TX   |
| Optional interfaces                   | Bluetooth   | Bluetooth             | 2 x CAN<br>Bluetooth                |
| Dimensions mm<br>(width/height/depth) | 186 x 126 x 54  | 224 x 158 x 54        | 297 x 200 x 58                      |
| Plug                                  | 1 x DT02<br>1 x RJ 45                                       | 1 x DT02<br>1 x RJ 45 | 2 x M12-8A (m, f)<br>1 x M12-8X (f) |
| Mounting                              | VESA 45   | VESA 45               | VESA 45/75                          |
| Temperature range                     | -20 °C to +70 °C  | -30 °C to +70 °C      | -30 °C to +70 °C                    |

# High-quality manufacturing



## **State-of-the-art manufacturing technologies**

Optical Bonding combines display, touch sensor and protective glass to create overall robustness. This high-quality bonding technology ensures that your display raises the challenge of demanding operational conditions. Optical Bonding allows for long-term use of the display with sustained high quality, and provides additional advantages:

- High legibility even in strong sunlight
- No formation of moisture
- No dust
- Increased touch functionality
- High robustness

## **Reliable in demanding situations**

The DC5 family is rated up to IP5K4 in accordance with ISO 20653. In addition, the DC5 ensures correct display even when operated under electromagnetic interference up to 100 V/m.

## Application examples



### **Safety**

Everyday accident risk: blind spots and other factors like narrow cabin walls may limit the view of the driver. The solution: use of a camera-monitor-system, implemented with Liebherr's MDC3 digital camera, for instance. Hard-to-see areas for the driver can then be safely displayed on the DC5, thereby avoiding accidents as well as high costs.

### **Machine monitoring**

In addition to camera images, the DC5 can display a clear overview of important operational data and parameters. Furthermore, its high processing power allows for the implementation of alarm functions, making it possible to recognize and avoid potential damage.

### **Comfort**

Operators often spend many hours a day in the driver's cabin. The dirt-resistant DC5 touchscreen allows for comfortable and intuitive multi-touch operation. That can ease daily operations and improve efficiency.

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