



**ELECTRIC DRIVE
ENGINEERING**

OPUS B2 Eco Full

Technical Datasheet

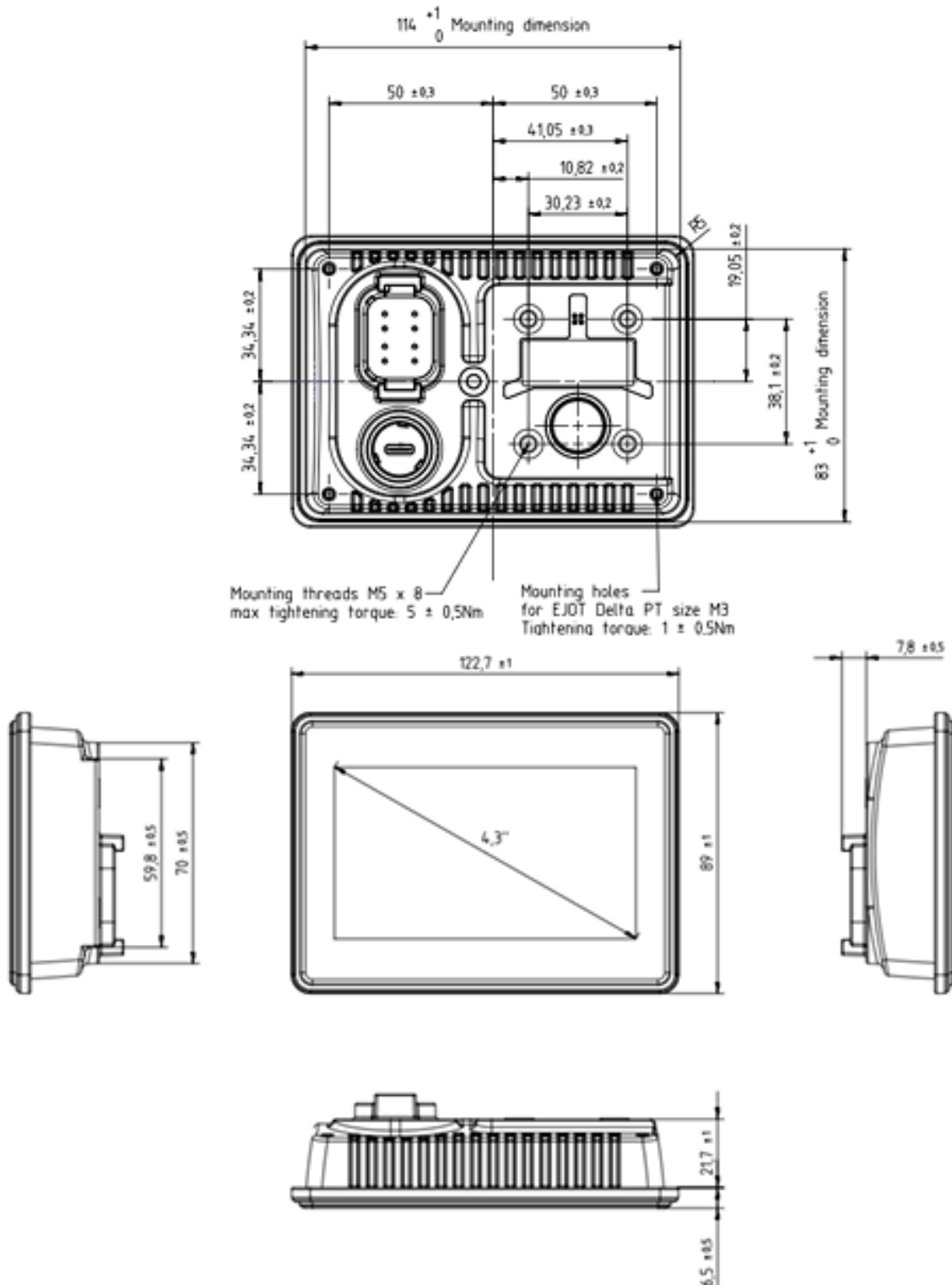


9-36V DC
Gen4 Touchscreen Display
CANOpen Compatible



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DIMENSIONS





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TECHNICAL DATA

Display

Type	TFT Colour Graphic LCD with LED backlight
Size	123x89x35mm
Resolution	480 x 272 px, 15:9
Colours	16.7 Mio.
Brightness	Typ. 800 cd/m ²
Contrast Ratio	Typ. 800:1

Input Devices

Touch	PCT, Multi (5) Gloves support
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Electronics

CPU	Freescale NXP i.MX 6 ULL 32-bit MPU, ARM Cortex-A7 core, 528MHz
Mass Storage	2 GB (4GB eMMC in pSLC-Mode)
RAM	256 MB, DDR3L, 1600Mbps
RTC	Run time counter, without buffer
Buzzer	92 dB(A) 10cm@2700Hz
Power Supply	9-36 V DC
Short Circuit Protection	Yes
Over-voltage Protection	Yes, up to 48V, required to power up the device for max. 5 min.
Inverse polarity protection	Yes, up to -48V DC for max



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TECHNICAL DATA

Interfaces

CAN Bus	2 x ISO 11898, CAN-specification 2.0 B active, up to 1 Mbit/s. All interfaces are CAN-FD tolerant.
USB	Back connector: USB 2.0, Type C, high speed, 1A, short protected against Vbus, thermal protected, ault flag

Connectors

Main	Deutsch DT06-08SA
Back USB	USB-Type C

PINOUT

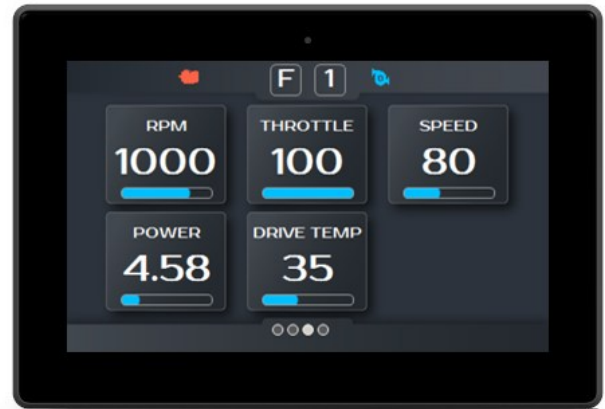
Pin	Assignment	Description
1	SERV_EN	Service Enable
2	KL15	Ignition input; terminal 15
3	KL31	Supply voltage -; terminal 31
4	KL30	Supply voltage +; terminal 30
5	CAN 2 L	CAN 2 low
6	CAN 2 H	CAN 2 high
7	CAN 1 L	CAN 1 low
8	CAN 1 H	CAN 1 high



TECHNICAL DATA

Home Page Overview

The Home Page serves as the primary interface for monitoring of key motor parameters. Designed for clarity and ease of use, this dashboard provides instant feedback on system performance. The Home Page features six configurable parameter slots, with the available options listed below.



Parameters

Motor RPM	Indicates the current motor speed in RPM
Throttle (%)	Displays the active throttle input level
Speed (km/h)	Shows the current speed
Power (kW)	Represent the current power output
Drive Temperature (°C)	Monitors the motor controller temperature
Drive State Indicator	Shows active drive state (FWD, NEU, REV)
Drive Mode Indicator	Shows the current drive mode (1 = Sports, 2 = Economy)
Motor Fault Status	Red status icon to warn the user of a motor fault
Pump Status	Blue pump icon to indicate whether pump function is on
Motor Temperature (°C)	Monitors the motor temperature
Torque (Nm)	Displays the motor torque
Battery Temperature (°C)	Displays the battery temperature
Battery Voltage (V)	Monitors the battery voltage
Battery Current (A)	Shows the motor controller battery current
State of Charge (%)	Displays the battery charge percentage



TECHNICAL DATA

Motor Fault Page Overview

The Motor Fault Page is designed for real-time fault diagnosis, displaying information about system errors to assist in troubleshooting and maintenance.

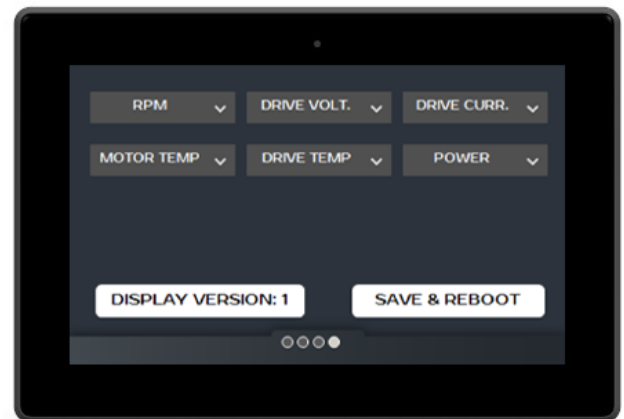


Parameters

Message	Provides a brief fault message indicating the issue
Cause	Identifies the possible reason for the fault
Description	Offers additional details or context for troubleshooting

Settings Page Overview

The Settings Page enables users to customize the Home Page display, selecting which parameters to show and adjusting their presentation. Additionally, it includes an option to save changes and reboot the system for updates.

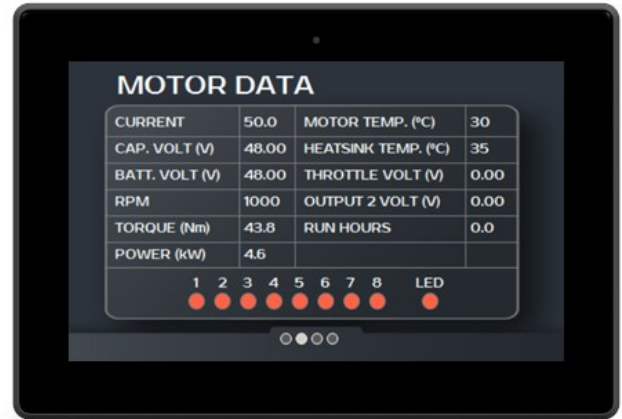




TECHNICAL DATA

Motor Data Page Overview

The Motor Data Page displays all configured parameters for monitoring. It includes eight digital input pins and an LED button linked to the motor controller's LED indicator. The fixed parameters are shown below.



Parameters

Current (A)	The motor controller battery current
Capacitor Voltage (V)	The voltage of the capacitor
Battery Voltage (V)	Displays the battery voltage
RPM	Motor speed in RPM
Torque (Nm)	Motor torque
Power (kW)	Motor power
Motor Temperature (°C)	Motor temperature
Heatsink Temperature (°C)	Temperature of the heatsink
Throttle Voltage (V)	Voltage output of throttle
Output 2 Voltage	Voltage output of second analogue
Run Hours	Hours of motor operating