MKT-View III

The multifunctional mobile visualization unit for CAN-networks

Features

- Sunlight readable 4,3" display with 65356 colours and touch screen

- Function-keys backlighted by RGB-LEDs

- Voice in-/output

- Automatic brightness control of the display

- Wide range power-supply 6 ... 36 V DC and standby mode

- Mini-UPS for the defined saving of data

- Interfaces 2 x CAN / 1 x RS232 / 1 x GPS-receiver module / 1x Ethernet

- Two digital inputs

- Real-time clock

- SD-card slot

- Visualization and logging off CAN-bus-signals / visualization of CAN raw data

- Sending of CANdB data

- Script language

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Data sheet MKT-View III, Product-Nr. 793xx

1. Pin assignment

X1   Lemo/ODU-female connector 14-pin

Pin 1:	CAN1_HIGH	Pin 8:	RS232_TxD
Pin 2:	CAN1_LOW	Pin 9:	RS232_RxD
Pin 3:	CAN2_GND	Pin 10:	DIGITAL_IN1
Pin 4:	CAN2_HIGH	Pin 11:	DIGITAL_IN2
Pin 5:	CAN2_LOW	Pin 12:	ANALOG_IN 1
Pin 6:	U_B	Pin 13:	ANALOG_IN 2
Pin 7:	GND	Pin 14:	ANALOG_GND

X2   Ethernet

X3   GPS-receiver

PIN 1:	not connected
PIN 2:	TxD
PIN 3:	RxD
PIN 4:	U_{ON} (power supply)
PIN 5:	U_{BAT} (continuous supply for standby operation)
PIN 6:	GND

X4   Relais Output

X5   SD-Connector Push-Push

X6   Jack plug 3,5 mm for an external microphone

Input for a mono-microphone with 3,5 mm stereo jack plug.
Automatically switching between external and internal micro.

Figure 1: Connectors
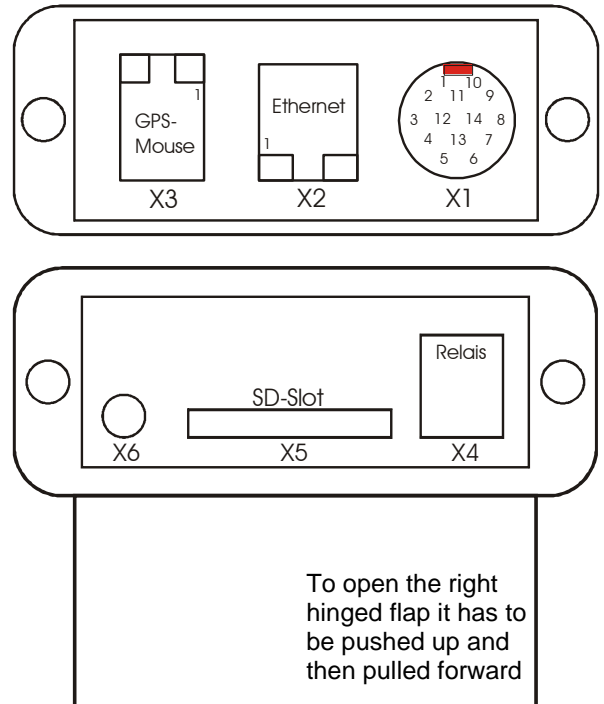
To open the right hinged flap it has to be pushed up and then pulled forward

Wiring recommendations:

To ensure an EMC-compatible operation, shield has to be connected to chassis ground

Serial interface-signals RxD and TxD are described from the MKT-View III

The Enclosure of X1,X2 and X3 is electroconductive with the terminal body.

2. Mechanical data

2.1 Enclosure

2.1.1	Material	Aluminum
2.1.2	Size	(170 x 85 x 35) mm
2.1.3	Weight	350 g
2.1.4	Protection class	IP20
2.1.5	Color	black

3. Display / keyboard

3.1 Display

3.1.1	Resolution	480 x 270 pixel / 4,3"-TFT with 65356 colors
3.1.2	Touch screen	resistive
3.1.3	Contrast	temperature compensated, contrast ratio 400:1 (nom)
3.1.4	Brightness	max. 350 cd/m^2, automatically controlled

3.2 Membrane keys

3.2.1	Keys	3 keys with snap domes, material of front membrane polyester
3.2.2	Backlight	3 x RGB-LEDs; single controlled
3.2.3	Encoder	16 detents per turn, integrated push button
3.2.4	Life time keys /encoder	1.000.000 switching cycles

4. Electronic

4.1 Temperature

4.1.1 Operating	-20 … +60 °C
4.1.2 Storage	-30 … +70 °C

4.2 Power Supply

4.2.1 Input supply U_B:	6 V DC $\leq$ U_B $\leq$ 36 V DC
4.2.2 Current consumption:	200 mA (nom) at U_B = 12V DC
4.2.3 Standby current:	3,0 mA (nom)

4.3 Microcontroller / memory

4.3.1 μP	Cortex-M3 / LPC1788 / 96 MHz
4.3.2 FLASH-EEPROM	4 MByte
4.3.3 SDRAM	32 MByte
4.3.4 EEPROM	32 KByte

4.4 Interfaces

4.4.1 CAN-interface	2x
	High speed CAN transceiver up to 1 Mbit/s
	120 Ω-termination resistor, to be electronically hooked on
	(not possible in standby operation)
	CAN2 interface galvanically isolated
4.4.2 RS232-interface	1x
4.4.3 Ethernet	1x
Connector	RJ45
Transfer rate	100 MBit/s
Connecting Cable	Twisted Pair 2x2 oder 4x2, 100 Ω, CAT5, SF/FTP, SF/UTP or S/FTP
Wire cross section	AWG 26/7 up to AWG 22/1
Cable length	max. 100 m (only with a wire cross section of AWG 22/x)
4.4.4 SD-CARD	1x
	SD-Card FAT16, up to 2 GB
4.4.5 Interface for GPS-module	1x
Connector	RJ12
Current consumption	< 100 mA

Note:
The MKT GPS-Mouse with the order-no. 20380 can be used in combination with the MKT-View III without a need of an additional adapter

4.5 In-/outputs

4.5.1 Digital inputs	2x	
	Input resistance:	> 6 kΩ
	Input voltage range ‚low‘:	0 ... 3 V DC
	Input voltage range ‚high‘:	6,5 ... 36 V DC
4.5.2 Digital outputs	1x relay; potential free contact	
	Contact load /output current:	$\leq$ 1 A
4.5.3 Analog inputs	2x	
	Voltage input:	0 ... 15 V DC
	Input resistance:	>200 kΩ
	Resolution:	10 Bit

Note:
Optionally each voltage input can be assembled to function as a current input 0 … 20 mA

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4.6 Audio

4.6.1	Audio input	Voice recording can be selected via internal or external microphone with adjustable amplifier
4.6.2	Audio output	Integrated speaker for voice output
4.6.3	Buzzer	70 dB (nom) at a distance of 10 cm and a frequency of 3200 Hz

Note:
The external microphone has to be a mono microphone with stereo jack plug.The use of a mono jack plug leads to a failure of the automatic switching function between internal and external microphone.

4.7 Real time clock

4.7.1	Format	Display of time and date; with automatic leap year compensation
4.7.2	Resolution	1 second
4.7.3	Battery	CR 1/3 NSLF 170mAh
4.7.4	Battery life time	> 10 years

4.8 Power on/off characteristics

4.8.1 Power on:

$U_B \geq 6{,}0$ V DC $\rightarrow$ switching on from standby with key F1, digital Input 1 ($U_{DI1} \geq 7{,}0$ V DC) or CAN 1 (according to the configuration in the ‚system menu')

$U_B \geq 6{,}5$ V DC $\rightarrow$ automatic switching on through the power supply

4.8.2 Power off:

$U_B < 4{,}0$ V DC

With completely charged Ultracaps, the color of the power-flag icon down right on the display is ‚green' and a power supply failure up to 1 s will be bypassed by an internal ‚USV'. If U_B then is still below 4,0 V DC the MKT-View III goes into power off.

Note:
For all specified voltages the voltage drop as a result of cable losses is not included. According to the used cable and current consumption (Ultracaps charged or not) this voltage drop typically will be between 0,2 ... 0,6 V DC. Information about the resistance of the used cable can be taken from the appropriated data sheet.

5. Cleaning hints

- The terminal has to be cleaned with normal cleaning supplies such as standard glass cleaner. Do **not use** any abrasive cleaning supplies.

- The touch screen has to be cleaned carefully with a microfiber cloth only.

- Do not use the touch screen with sharp-edged material, otherwise irreparable damages could be the result. The touch screen should be used with the *Touch Stylus* which is also available as an accessory (order number 60208).

- Take Care that no liquid gets into the notch of the speaker and microphone.

Revision	Description	Date	Name
A	Document generated	25.06.13	Lücke
B	Chapter 4.6.3, 4.7.3, 4.7.4	11.09.13	Lücke
C	Chapter 4.8.1	05.01.15	Lücke