

SD10 - display

data sheet

Written by	Jan Stransky	Date	13.1.2023	Number of document	
Checked by	---	Page	1	1040136 SD10_datasheet_06.doc	
Approved by	---	Pages	6	Prod.	SD10

Contents

1	Description.....	3
2	Parameters.....	3
3	Schematic diagram.....	4
4	Certification.....	6
5	Ordering information.....	6
6	Release.....	6

Written by	Jan Stransky	Date	13.1.2023	Number of document	
Checked by	---	Page	2	1040136 SD10_datasheet_06.doc	
Approved by	---	Pages	6	Prod.	SD10

1 Description

SD10 is HMI dedicated to showing information to operator in off-road machines. Operator can control the display by capacitive touch panel.

On this hardware must be installed customer software application. Inside is ARM64 CPU running on linux operational system. Linux provide interface to enable application use the all display hardware.

Display can be placed in machines using 12V or 24V. To communicate with machine it use CAN bus.

Operator can store data to USB flash disk or connect mobile phone to fast charge. For wireless data transfer inside is bluetooth dongle to connect Bluetooth4.0 or Bluetooth 5.0.

Customer application can use 2 digital power output switching battery voltage usable i.e. for lamp controlling.

Ethernet interface is suitable for IP cameras. CPU performance is sufficient for video processing.

User can be notified acoustically by internal speaker.

Operator can play any instruction, using stereo audio output. It should be connected into machine audio system consists of amplifier and speakers or into headphones.

2 Parameters

- 4-core CPU ARM A35 1.2GHz with GPU
- 2GB RAM
- 8GB internal eMMC, internal uSD slot for development
- 1x USB B 2.0 high speed, 1500mA max. Charge current
- 1x CAN
- 10.1 inches 1280x800 display
 - 850cd/m2 brightness
 - 1000:1 Contrast ratio
 - optical bonding
 - Viewing angle + 85 / -85°
 - 24b color depth
 - Brightness dimming in 16 steps
- Projected Capacitive Touch Panel
- light sensor
- 2 digital output, max current 2A

Written by	Jan Stransky	Date	13.1.2023	Number of document	
Checked by	---	Page	3	1040136 SD10_datasheet_06.doc	
Approved by	---	Pages	6		

- Ethernet interface
- ignition key input
- supply voltage range 7 to 32V.
- Bluetooth5.0
- Speaker
- Audio output
- Ingress protection IP66, IP67, IP69K
- Ambient temperature range -20°C to 70°C (LCD operational temperature range).
- Vibration resistance – random type, 5 – 2000Hz, 0,02g²/Hz, 3 axes, 3 hours per axis
- Mechanical shock resistance – 25g 6ms pulses, 3 axes, both direction, total 15000 shocks

3 Schematic diagram

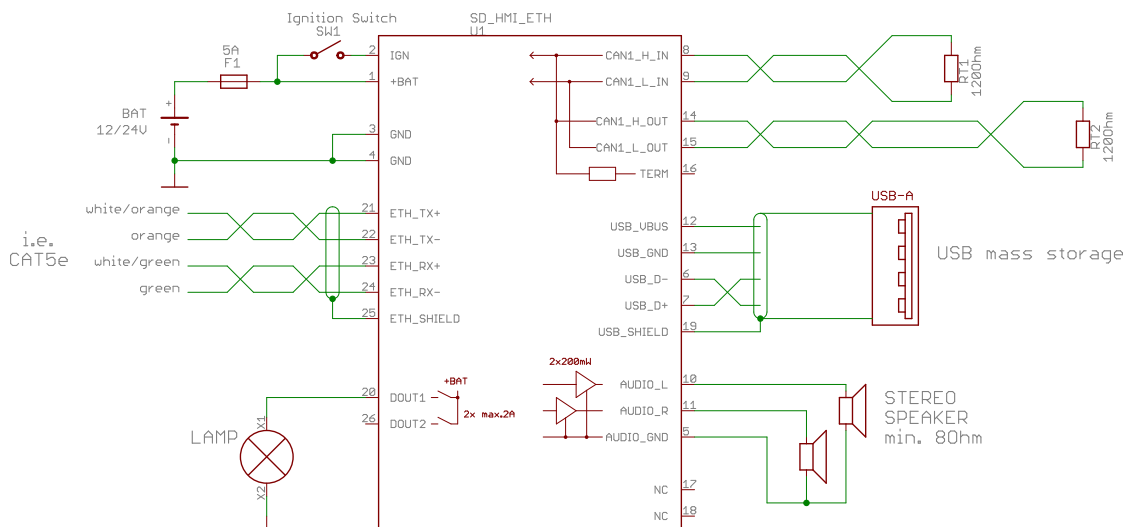


Fig 1: Schematic diagram.

Written by	Jan Stransky	Date	13.1.2023	Number of document	
Checked by	---	Page	4	1040136 SD10_datasheet_06.doc	
Approved by	---	Pages	6		

SUPERSEAL 1.0 connector
 6437288-6 on HMI side
 3-1437290-7 on harness side
 note: use sealing plugs 4-1437284-3
 to keep water and dust proof

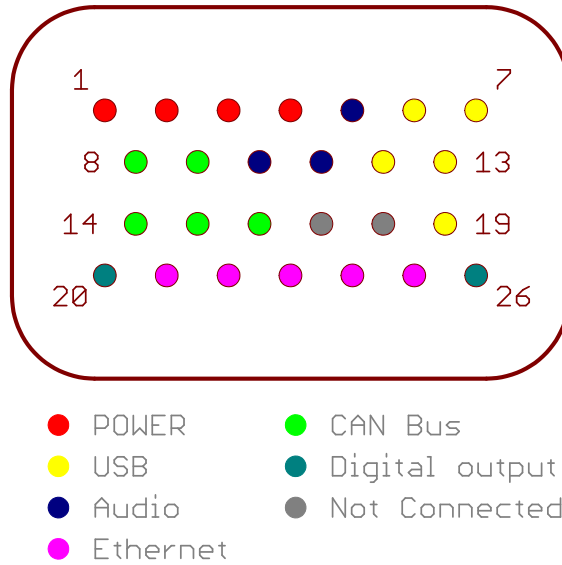


Fig. 2: Superseal connector.

Written by	Jan Stransky	Date	13.1.2023	Number of document	
Checked by	---	Page	5	1040136 SD10_datasheet_06.doc	
Approved by	---	Pages	6		

4 Certification

- 2014/30/EU
- ISO 13766-1:2018 - Earth-moving and building construction machinery — Electromagnetic compatibility (EMC) of machines with internal electrical power supply - part 1: General EMC requirements under typical electromagnetic environmental conditions
- ISO7637-1- Road vehicles — Electrical disturbances from conduction and coupling — Part 1: Definitions and general considerations
- IP66, IP67 - with 1.9mm wires insulation diameter in Superseal connector.
- IP69K - with Gessmann holder covering Superseal connector and air vent against direct water jet streams.
- IEC 60068-2-64 ed.2.0 – vibration test.
- IEC 60068-2-27 ed.4.0 – mechanical shock test.

5 Ordering information

Name: SD10

Ordering number: 1040136

6 Release

10.2.2022 – Initial release

9.3.2022 – remove digital inputs, add ethernet interface

9.6.2022 – IP changed to IP66

7.12.2022 – IP67, IP69K added

13.1.2023 – Vibration and shock resistance added

Written by	Jan Stransky	Date	13.1.2023	Number of document	
Checked by	---	Page	6	1040136 SD10_datasheet_06.doc	
Approved by	---	Pages	6	Prod.	SD10