



SLIMTITAN

technical brochure

(rel.1.8)



ITALIAN DESIGN
SOFTWARE CUSTOMIZATION
SAFETY CARE
OPERATOR ORIENTED

General Description

SLIMTITAN are the new line of instrument panels studied for all applications requiring compact size and maximum flexibility, along with high performance and structural strength. Thanks to their minimal design SLIMTITAN fit every dashboard perfectly. Equipped with capacitive touch screen based on an intelligent algorithm, they guarantee very good optical performance, along with the possibility to use the “touch” function even when wearing protection gloves. SLIMTITAN can manage analogic and digital inputs, PWM output, 2 camera input, bluetooth® connection.



Customization



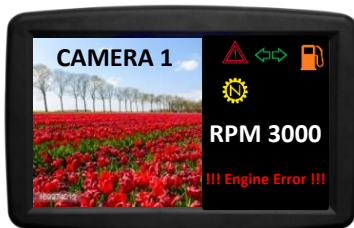
Camera management



The video input can be displayed separately at full or partial screen size



It is possible to add on camera frame icon and fonts (only possible with «C» programming, not possible in EDASH3K)



TECHNICAL FEATURES

Operating voltage: 8 – 32 Vdc, protected against reverse polarity and load-dump

Operating temperature: -20°C +70°C

Material: PC-ABS

Sealing: IP65

CPU:

- CORTEX R4
- ARMv7 and Thumb-2 instruction set compliant
- 2D graphics engine with base level hardware acceleration
- Four display layers of overlay, constant alpha, or alpha from pixel data for blending each layer

Memory:

- FLASH: 2Mb internal flash + 4Mb external SPI FLASH
- VRAM: 1MB embedded SRAM video memory
- EEPROM : 512Kbit

LCD TFT panel:

- Format: WVGA 16:9
- Resolution: 800x480 dots
- Touchscreen: Capacitive touchscreen
- Orientation: Landscape or portrait
- Backlight: LED 450cd/m² (with capacitive touchscreen)
- Contrast ratio: 500

19 Digital INPUT (0 to Vbatt), programmable active low or high via FW

1 Digital INPUT (0 to Vbatt), with internal pre-heating resistor - 150ohm or 75 ohm (HW setting by AMA)

4 Resistive input (with internal 1K pull up resistor)

4 Frequency input (0 - 10Khz) - universal input for NPN, W alternator signal and pickup sensor

2 4-20mA analog INPUT

2 0-10V analog INPUT

4 HSD output 2A (with internal HW safety watchdog controller) (2A is intended as the sum of the 4 OUTPUT)

1 5V 100mA OUTOPUT (for supply external sensor)

2 CANBUS 2.0 part A and B up to 1Mbps (ISO 11898 standard)

2 Video INPUT (PAL/NTSC)

1 RTC internal clock with lithium battery backup

1 Bluetooth internal module (optional) - Fully qualified Bluetooth® version 4.1

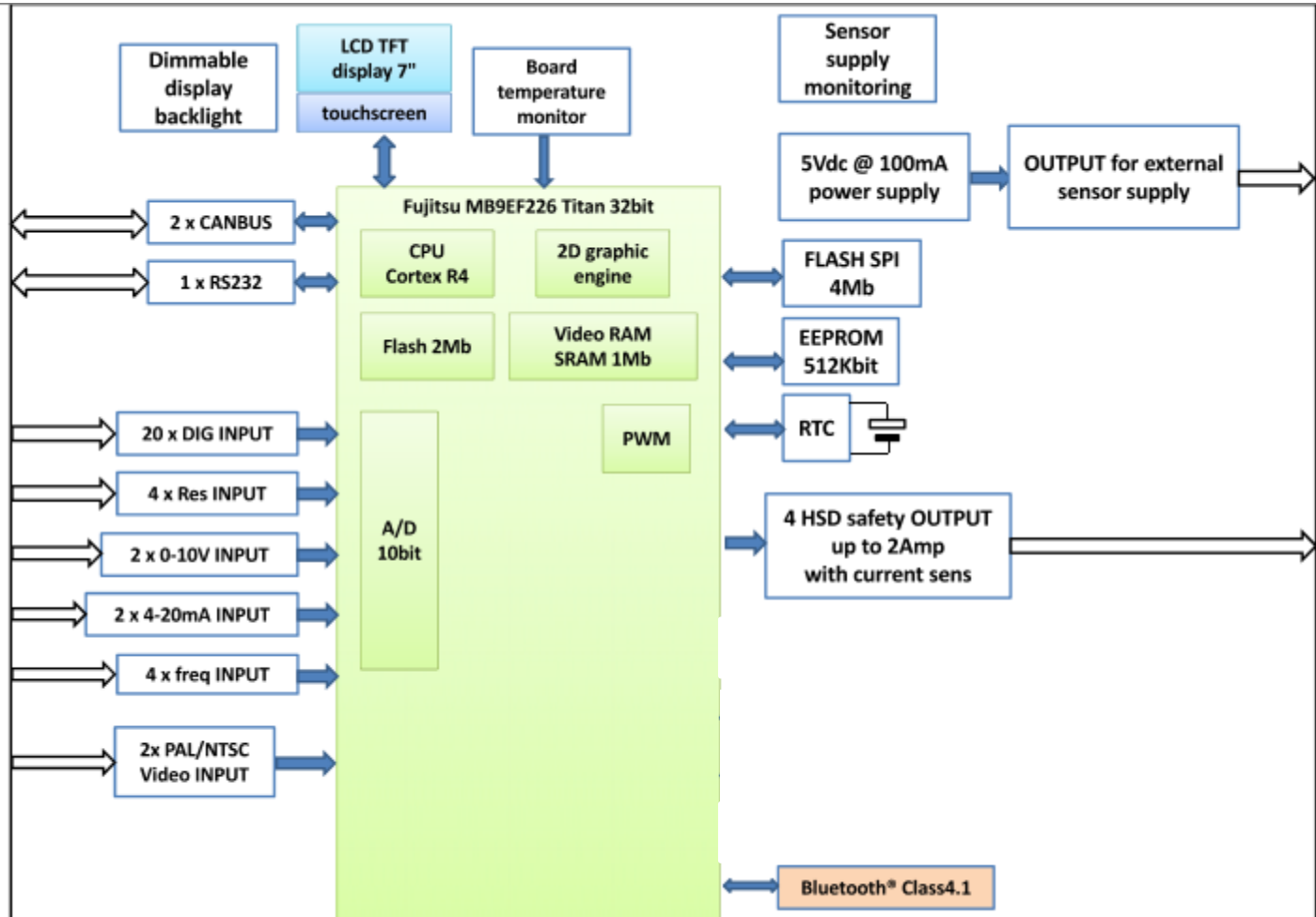
CAN protocol implemented: SAEJ 1939

SLIMTITAN Display can be mounted via RAM-mounts or integrated into a Dash via AMA bracket.

Programmable in C/C++ languages and EDASH3K (with some limitation)

CAN bootloader for FW upgrade

Block diagram



 Optional features

PINOUT connection

PIN	Function
1	+Vbatt
2	+Vkey
3	GND
4	CANH (1)
5	CANL (1)
6	CANH (2) / Resistive INPUT 3 / Frequency IN 3 (*)
7	CANL (2) / Resistive INPUT 4 / Frequency IN 4 (*)
8	DIG INPUT 1 (dedicate for D+ Generator INPUT)
9	DIG INPUT 2
10	DIG INPUT 3
11	DIG INPUT 4
12	DIG INPUT 5

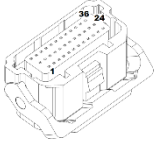
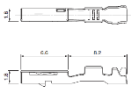
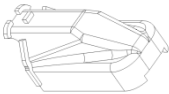
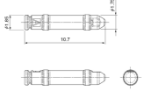
PIN	Function
13	DIG INPUT 6
14	DIG INPUT 7
15	DIG INPUT 8
16	DIG INPUT 9
17	DIG INPUT 10
18	DIG INPUT 11
19	DIG INPUT 12
20	DIG INPUT 17 / 4-20mA INPUT 1 (*)
21	DIG INPUT 18 / 0-10V INPUT 1 (*)
22	DIG INPUT 19 / 4-20mA INPUT 2 (*)
23	DIG INPUT 20 / 0-10V INPUT 2 (*)
24	+ Vsensor OUT(+5V @ 100mA max)

PIN	Function
25	Resistive INPUT 1
26	Resistive INPUT 2
27	Frequency IN 1
28	Frequency IN 2
29	DIG INPUT 13 / OUT HSD1 (**)
30	DIG INPUT 14 / OUT HSD2 (**)
31	DIG INPUT 15 / OUT HSD3 (**)
32	DIG INPUT 16 / OUT HSD4 (**)
33	INPUT VIDEO Signal 0
34	GND VIDEO
35	INPUT VIDEO Signal 1 / 4-20mA INPUT 1 / 0-10V INPUT 1 (*)
36	GND VIDEO / 4-20mA INPUT 2 / 0-10V INPUT 2 (*)

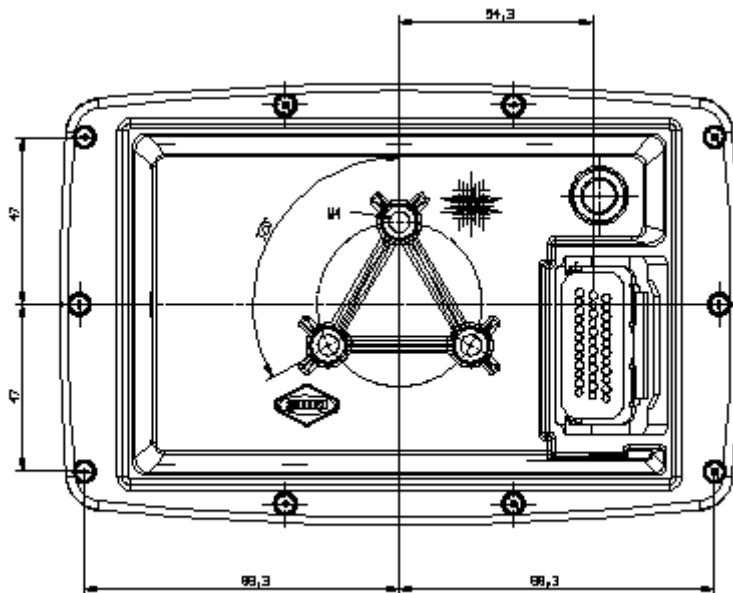
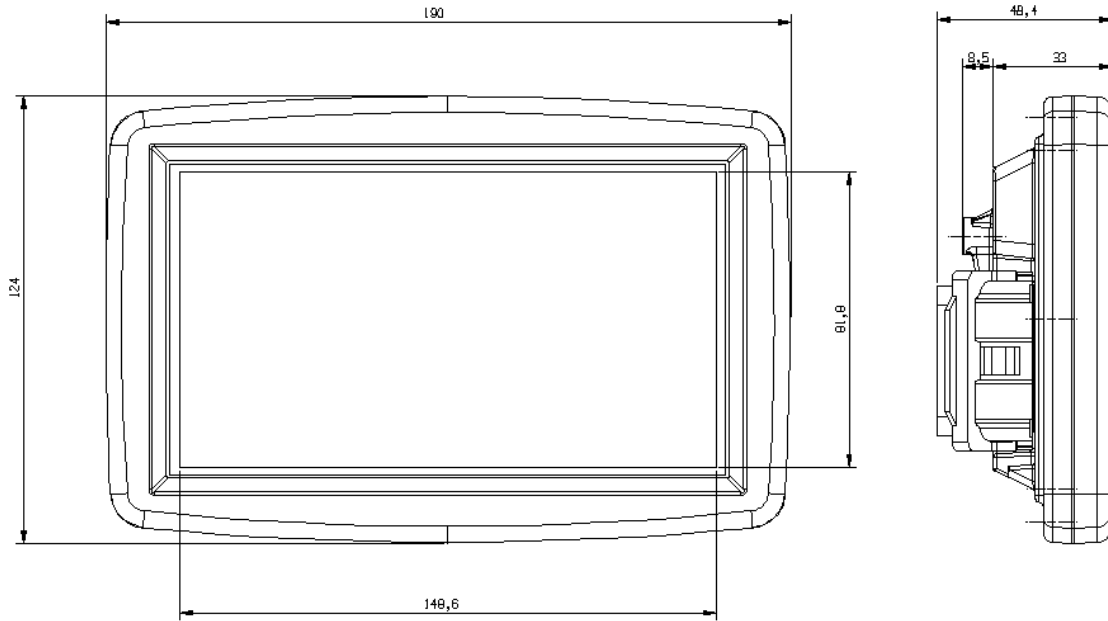
(*) function selectable by manufacture (AMA)

(**) function selectable via FW

Connector for harness cable

	<p>Manufacturer: J.S.T. Model: 36ZRO-B-1A (connector) Key Code: A Color: Black AMA Code: F24971</p>
	<p>Manufacturer: J.S.T. Model: : SZRO-A021T-MO.64 (female terminal) Conductor (mmq): 0.3 to 0.5 Insulation O.D. (mm): 1.6 to 1.7 AMA Code: F24971.F</p>
	<p>Manufacturer: J.S.T. Model: ZROHC-36H-K (cover) Color: Black AMA Code: F24971.C</p>
	<p>Manufacturer: J.S.T. Model: WPHDP-H-1A-H (dummy plug) Color: Gray AMA Code: F24971.T</p>

Overall dimensions
(in mm)





Strumentazione analogica-digitale,
centraline elettroniche e spie

Analog-Digital instruments,
Electronic Control Board & Indicators

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= UNI EN ISO 9001:2008 =