



The MVS.A3S is suitable for panel installation or with RAM® mounting bracket.

The physical manipulators on the front of the panel, the adjustable backlight and the high resolution of the LCD display are designed to maximize the operation of the systems, in any situation.

Using the Linux operating system, the operating logic and the graphics are easily programmable. It can be implemented in a serial line (RS232) or in a CAN network, as MASTER or SLAVE.

There are 2 version available, with different features: MVS.A3SB43 and MVS.A3SF43



## TECHNICAL FEATURES

	BASIC VERSION	FULL VERSION
MASTER CODE	MVS.A3SB43	MVS.A3SF43
POWER SUPPLY	9 ÷ 36 VDC – 55 mA @ 27 VDC IN SLEEP MODE	
LEFT/RIGHT KEYPAD	4 + 4 + 3 KEYS WITH MULTICOLOR BACKLIGHT	
LED	N.1 LIGHT SENSOR N.1 MULTICOLOR LED N.3 STATUS LED	
ENCODER	ELECTROMECHANICAL ENCODER WITH 16 MECHANICAL DETENTS AND PUSH BUTTON FUNCTION.	
DATA	N.2 CAN BUS PORT: 2.0 A/B COMPLIANT - (11, 29 BIT) - ISO 11898 UP TO 1MBIT/S N.1 SERIAL SERIAL: RS232 UP TO 115 Kbps	
RTC	YES	
COMMUNICATIONS	N.1 USB HOST 2.0 - FULL SPEED TYP. 150 mA	N.1 USB HOST 2.0 - FULL SPEED TYP. 150 mA N.1 USB HOST 2.0 – SLOT HIGH SPEED N.1 ETHERNET (10/100 Mbit/s Base T)
CONNECTIONS	MAIN: TYCO-AMP 1437288-6	MAIN: TYCO-AMP 1437288-6 INPUT VIDEO: M12 CONNECTOR, FEMALE, 5-POLE, B-CODED, ACC. TO EN 61076-2-101 ETHERNET: M12 CONNECTOR, FEMALE, 4-POLE, D-CODED ACC. TO EN 61076-2-101
BUZZER	NO	YES – 60dB 30 cm distance
TOUCH-SCREEN	NO	ANALOG RESISTIVE
DISPLAY	LCD TYPE: TFT	
	DOT MATRIX: 480 x 272 px (WQVGA), 15:9	
	VISUAL AREA: 95 mm (W) x 53 mm (H)	
	LUMINANCE: typ. 400 cd/m <sup>2</sup>	
WORKING TEMPERATURE	-30°C +75°C	
CASE	PC/ABS, with rubber frame	





## TECHNICAL FEATURES

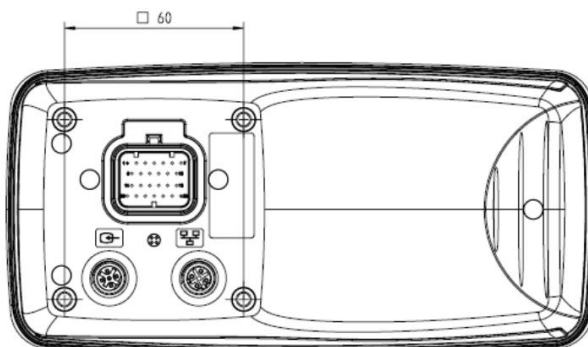
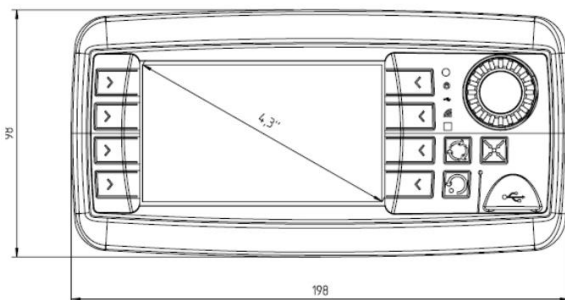
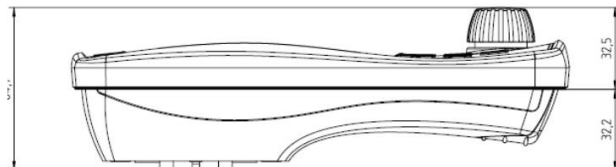
Only for FULL version

<b>OUTPUT</b>	<b>MAX 3</b>	Short circuit protection: Up to 36 V I max 300 mA open drain $R_{DS,on} < 1 \text{ Ohm}$ $R_{DS,off} > 100 \text{ kOhm}$
<b>INPUTS</b>	<b>MAX 4</b>	Input impedance: $> 3k \text{ Ohm}$ Resolution: 10 bit (1028 digits, 1 digit = 11,7 mV) Voltage range: 0 ... 12 V Over-voltage protection & Short circuit protection: Up to 36 V DC Frequency: Max. signal frequency 50 Hz
<b>INPUT VIDEO</b>	<b>1 PORT</b>	1 PORT: $V_{SS}: 1 \text{ V}$ - CAMERA SUPPLY: 12 VDC – MAX CURRENT 500 Ma WITH CAMERA CONTROL OUTPUT FOR SPECIAL FUNCTION

## ELECTRONIC FEATURES

<b>SLAVE USAGE</b>	EDS FILE			
<b>MASTER USAGE</b>	CODESYS-TOOLS (3.X)			
	STANDARD C PROGRAM LANGUAGE			
<b>CPU</b>	Freescale I.MX35®, 532 MHz			
<b>MEMORY</b>	for BASIC version	STORAGE: 512 MByte RAM: 128 Mbyte	for FULL version	STORAGE: 1 GByte RAM: 256 MByte

## SIZE (mm)



## STANDARDS

<b>EU Directive 2014/30/EU (EMC)</b>	EN 12895 // EN13309 // EN ISO 14982	
<b>E1 – Type approval</b>	EU Directive ECE R 10.4	
<b>IP GRADE</b>	IP65 – IP66	
<b>ELECTRICAL</b>	ISO 15003	
<b>MECHANICAL</b>	ISO16750-3	MECHANICAL SHOCK: LEVEL 2
	ISO 15003	RANDOM VIBRATION: LEVEL 2 SINUSOIDAL VIBRATION: LEVEL 2
<b>CLIMATE</b>	ISO 16750-4 // ISO 15003	

## COPULING CONNECTOR

**MATING CONNECTOR (CUSTOMER)**  
Tyco-AMP 3-1437290-7

**MATING CRIMP CONTACT (CUSTOMER)**  
Tyco-AMP 3-1447221-4

**DUMMY PLUG (CUSTOMER)**  
Tyco AMP 4-1437284-3





## MAIN CONNECTOR PINOUT

### BASIC VERSION

PIN	ASSIGNMENT	DESCRIPTION	PIN	ASSIGNMENT	DESCRIPTION
1	VCC	SUPPLY VOLTAGE + ; TERMINAL 30	12	USB_VCC	USB +5V DC SUPPLY
2	IGNITION INPUT	IGNITION INPUT; TERMINAL 15	13	USB_GND	USB SUPPLY GROUND
3	GND	SUPPLY VOLTAGE - ; TERMINAL 31	14	USB_D-	USB DATA LINE -
4	CARGND	CAR GND	15	USB_D+	USB DATA LINE +
8	CAN 1 H	CAN 1 HIGH	16	RS232 RxD	RS232 receive data
9	CAN 1 L	CAN 1 LOW	17	RS232 TxD	RS232 transmit data
10	CAN 2 H	CAN 2 HIGH	18	RS232 GND	RS232 ground
11	CAN 2 L	CAN 2 LOW	23	SERV_EN	Service enable

### FULL VERSION

PIN	ASSIGNMENT	DESCRIPTION	PIN	ASSIGNMENT	DESCRIPTION
1	VCC	SUPPLY VOLTAGE + ; TERMINAL 30	14	USB_D-	USB DATA LINE -
2	IGNITION INPUT	IGNITION INPUT; TERMINAL 15	15	USB_D+	USB DATA LINE +
3	GND	SUPPLY VOLTAGE - ; TERMINAL 31	16	RS232 RxD	RS232 receive data
4	CARGND	CAR GND	17	RS232 TxD	RS232 transmit data
5	--	--	18	RS232 GND	RS232 ground
6	--	--	19	A/DI3	ANALOG/DIGITAL INPUT 3
7	--	--	20	A/DI1	ANALOG/DIGITAL INPUT 1
8	CAN 1 H	CAN 1 HIGH	21	A/DI2	ANALOG/DIGITAL INPUT 2
9	CAN 1 L	CAN 1 LOW	22	A/DI4	ANALOG/DIGITAL INPUT 4
10	CAN 2 H	CAN 2 HIGH	23	SERV_EN	Service enable
11	CAN 2 L	CAN 2 LOW	24	DO3	DIGITAL OUTPUT 3
12	USB_VCC	USB +5V DC SUPPLY	25	DO1	DIGITAL OUTPUT 1
13	USB_GND	USB SUPPLY GROUND	26	DO2	DIGITAL OUTPUT 2

## M12 CONNECTOR PINOUT

PIN	ASSIGNMENT	VIDEO CONNECTOR	PIN	ASSIGNMENT	ETHERNET CONNECTOR
1	VIDSIG+		1	TD+	
2	MIRROR		2	RD+	
3	CAMERA +		3	TD-	
4	CAMERA -		4	RD-	
5	VIDSIG GND				

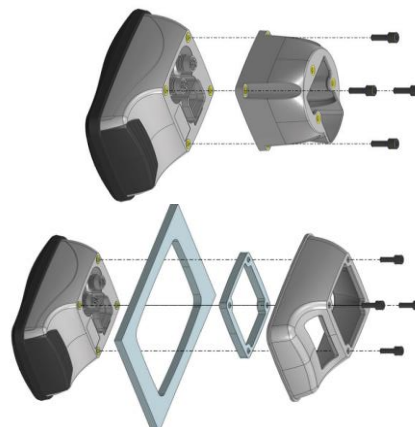
## FEATURES

### STANDALONE MOUNTING ADAPTOR FOR RAM® MOUNTING SYSTEM

Material: PC+ABS  
 Dimensions: 74x84x42 mm (WxHxD)  
 Operating Temperature: -30 ... +75 °C  
 Max mounting torque: 2.5 ± 0.2 Nm

### IN-DASH MOUNTING FRAME

Material: PC+ABS  
 Dimensions: 144x101x35 mm (WxHxD)  
 Operating Temperature: -30 ... +75 °C  
 Max mounting torque: 2.5 ± 0.2 Nm





**ALMEC**  
MECHATRONICS

NOTE