



MVS.B3E

5" DIGITAL TOUCH-SCREEN HMI



- Suitable for landscape/ portrait, standalone or in-dash mounting
- High resolution LCD display with adjustable backlight
- Linux operating system
- Several communication ports for serial line (RS232), CAN networks, ethernet and high-speed USB port
- 2 version available: Basic and Full version

TECHNICAL FEATURES

	BASIC VERSION	FULL VERSION
MASTER CODE	MVS.B3EB50	MVS.B3EF50
POWER SUPPLY	8 ÷ 36 VDC with protections CONSUMPTION ≤775 mA @ 12 VDC	
LED	N.1 LIGHT SENSOR N.1 MULTI-COLOR LED	
CAN BUS	N. 2 PORTS: 2.0 A/B COMPLIANT - (11, 29 BIT) - ISO 11898 UP TO 1MBIT/S (default 250 Kbit/s)	
SERIAL	N. 1 PORT: RS232 (Type: EIA232 (only Rx/D, Tx/D, GND) - Speed: max. 115.200baud	
RTC	Buffered by gold cap for 2 weeks. Deviation max. 1 s/day	
AUXILIARY PORTS	N.1 USB HOST 2.0 Side connector	N.2 USB HOST 2.0 side and back connector N.1 ETHERNET: (10/100 Mbit/s Base T or Automotive Interface)
TOUCH	CAPACITIVE TOUCH	
PUSH BUTTON	SIDE PUSHBUTTON FOR POWER ON/OFF	
DISPLAY	LCD TYPE: TFT Color Graphic LCD with LED backlight RESOLUTION: 800 X 480px (WQVGA), 15:9 SIZE: 5", 108 mm (W) x 64.8 mm (H) LUMINANCE: typ. 800 cd/m ² CONTRAST RATIO: typ. 700:1	
BUZZER	YES – 90dB 10 cm distance	
AUDIO OUTPUT	-	N.1 (L, R, GND) AC97 COMPATIBLE
TEMPERATURE	WORKING: -30°C +75°C STORAGE: -40°C +80°C	
CASE	ALUMINIUM DIE CAST, POWDER COATED FRONT-GLASS	
VIDEO INPUT	-	N.1 CAMERA INPUT



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5" DIGITAL TOUCH-SCREEN HMI

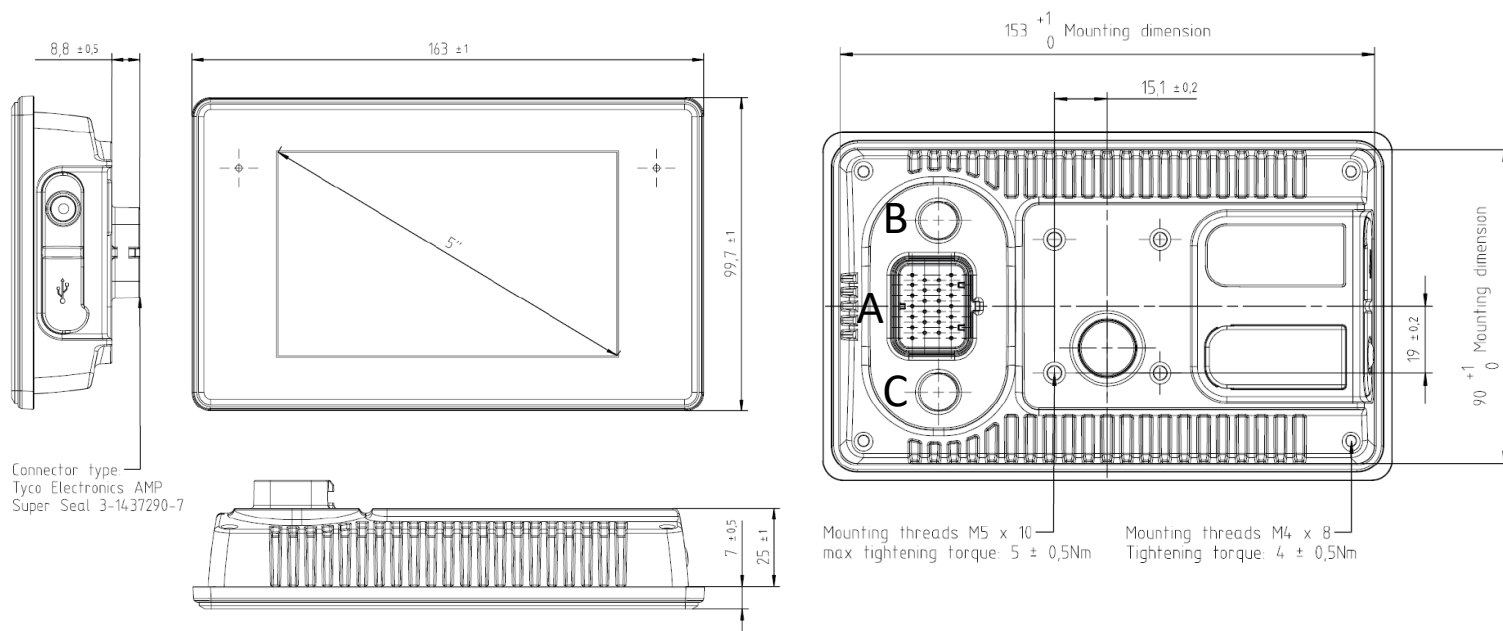
STANDARDS

EU Directive 2014/30/EU (EMC)	EN 13766-1 (part 1); EN ISO 14982; EN 50498; EN 61000-6-2; EN 61000-6-4;
E1 – Type approval	EU Directive ECE R 10.4
IP GRADE	IP 66 according to ISO 20653: Road Vehicles – Degrees of protection (IP-Code) – Protection of electrical equipment against foreign objects, water and access

ELECTRONIC FEATURES

OS	Linux Kernel 5.43.53 or higher
APPLICATION PROGRAMMING	OPUS Projektor // COESYS 3.x // C/C++ // ISO-HORIZON
CPU	Freescale I.MX6®, 800 MHz
MEMORY	Mass storage: BASIC VERSION: 2 GByte (approx. 700 MB for customer use) FULL VERSION: 4 GByte (minus space for OS & application) RAM: 512 MB

SIZE (mm)



CONNECTION

- (A) MAIN: Tyco-AMP 1437288-6
- (B) ETHERNET: M12 CONNECTOR, FEMALE, 4-POLE, D-CODED ACC. TO EN 61076-2-101
- (C) VIDEO INPUT: M12 CONNECTOR, FEMALE, 5-POLE, B-CODED, ACC. TO EN 61076-2-101

- MAIN (A) MATING CONNECTOR Tyco-AMP 3-1437290-7
- MATING CRIMP CONTACT (CUSTOMER): Tyco-AMP 3-1447221-4
- DUMMY PLUG (CUSTOMER): Tyco AMP 4-1437284-3



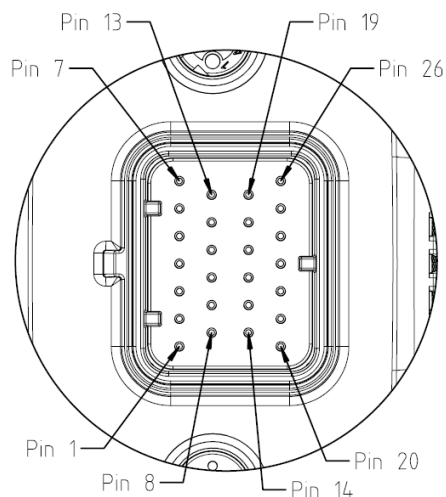


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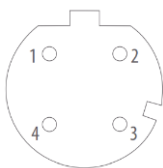
(A) MAIN CONNECTOR PINOUT

PIN	ASSIGNMENT	DESCRIPTION
1	VCC	SUPPLY VOLTAGE + ; TERMINAL 30
2	IGNITION INPUT	IGNITION INPUT; TERMINAL 15
3	GND	SUPPLY VOLTAGE - ; TERMINAL 31
4	WAKE	WAKE INPUT «DOORSWITCH»
5	AUDIO OUT LEFT	Audio line out, MAX POWER ~50mW
6	AUDIO OUT RIGHT	
7	AUDIO OUT GND	Audio line out, GROUND
8	CAN 1 H	CAN 1 HIGH
9	CAN 1 L	CAN 1 LOW
10	CAN 2 H	CAN 2 HIGH
11	CAN 2 L	CAN 2 LOW
16	RS232 RxD	RS232 receive data
17	RS232 TxD	RS232 transmit data
18	RS232 GND	RS232 ground
23	ENA	Service enable



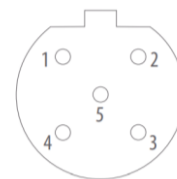
(B) ETHERNET CONNECTOR PINOUT

100Base-Tx		AUTOMOTIVE ETHERNET	
PIN	ASSIGNMENT	PIN	ASSIGNMENT
1	TD+	1	D+
2	RD+	2	-
3	TD-	3	D-
4	RD-	4	-



(C) VIDEO INPUT CONNECTOR PINOUT

PIN	ASSIGNMENT
1	VID SIG +
2	SWITCH
3	POWER 12V
4	POWER GND
5	VID SIG GND



FEATURES

MECHANICAL RESISTANCE TESTS

VIBRATION: NOISE, SINUSOIDAL AND ENDURANCE TEST
MECHANICAL SHOCK / DROP
PACKAGE DROP

CLIMATE TESTS

SALT SPRAY
CHEMICAL RESISTANCE
DAMP HEAT STEADY / CYCLIC
TEMPERATURE CYCLING / SHOCK
UV RESISTANCE

POWER SUPPLY

SHORT CIRCUIT PROTECTION.
OVER-VOLTAGE PROTECTION UP TO 48 V FOR MAX. 5 MIN.
INVERSE POLARITY PROTECTION UP TO -48 V DC FOR MAX. 5 MIN

CAMERA INPUT

VSS INPUT
CAMERA SUPPLY: 12 VDC – MAX CURRENT 300 mA
CAMERA CONTROL OUTPUT (OPEN DRAIN) FOR SPECIAL FUNCTIONALITY (MIRROR, SHUTTER, HEATING ETC.)

USB PORT

USB HOST 2.0
Type A High speed
Guaranteed 900 mA @ 5V

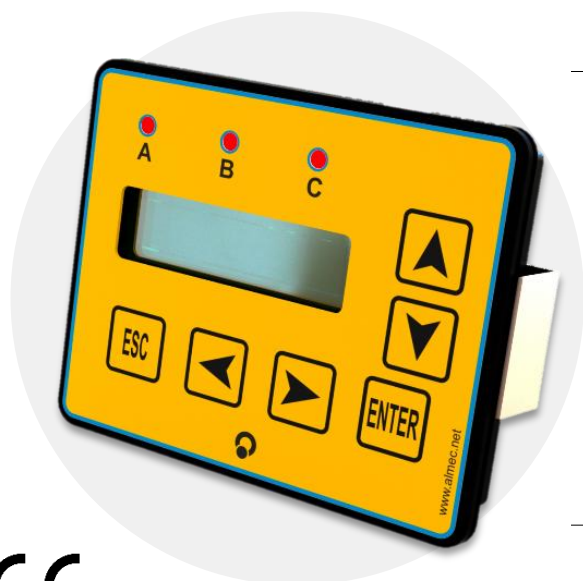


NOTE



ALMPO SMALL

16x2 CHARACTER HMI



the image is for illustrative purposes only

All versions:

- HMI designed for diagnosis, parametrization and control applications
- CAN BUS or SERIAL network
- Up to 6 key keyboards with backlight
- 16x2 characters display
- Customizable graphics label
- Equipped with 8 I/O

TECHNICAL DATA

	BASIC VERSION	FULL VERSION
CODE	ALMPO.B	ALMPO.F
POWER SUPPLY	9 ÷ 36 VDC	
INPUT	NO	N.2 DIGITAL INPUTS HIGH SIDE
OUTPUT	NO	N.2 DIGITAL HIGH SIDE OUTPUT (MAX 1 A MAX)
BUTTON	N. 6 FRONTAL KEYS (WITH BACKLIGHT)	
LED	N. 3 PROGRAMMABLE LEDS	UP TO 6 PROGRAMMABLE SPOTLIGHT LEDS BUTTON'S (ON REQUEST)
CAN BUS	N.1 PORT: 2.0 A/B COMPLIANT - (11, 29 BIT) - ISO 11898 - UP TO 1MBIT/S* PROTOCOL: CAN OPEN (CIA DS401 DEVICE PROFILE FOR GENERIC I/O MODULE, WITH DS306 EDS FILE)	
SERIAL (ON REQUEST)	N.1 SERIAL PORT CONNECTION TTL THE DEVICE CAN ONLY SUPORT CAN PORT OR SERIAL PORT	
DISPLAY	LCD TYPE: MONOCROMATIC FSTN 16 CHARACTERS X 2 LINES VISUAL AREA: 64.6 (W) X 16.0 (H)	
BUZZER	OPTIONAL	YES
CONNECTIONS	N.1 - M12 4 PIN MALE CONNECTOR	N.1 - M12 8 PIN MALE CONNECTOR
WORKING TEMPERATURE	-20°C +70°C	
MATERIAL	ENCLOSURE: ABS UL94 V0	



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16x2 CHARACTER HMI

ELECTRONIC FEATURES

SLAVE USAGE	EDS FILE
PROGRAMMING	FIRMWARE UPLOAD BY CAN BUS WITH ALOADER SOFTWARE TOOL
CPU	FAMILY: ARM CORTEX M4, 32 bit MICROCONTROLLER CORE

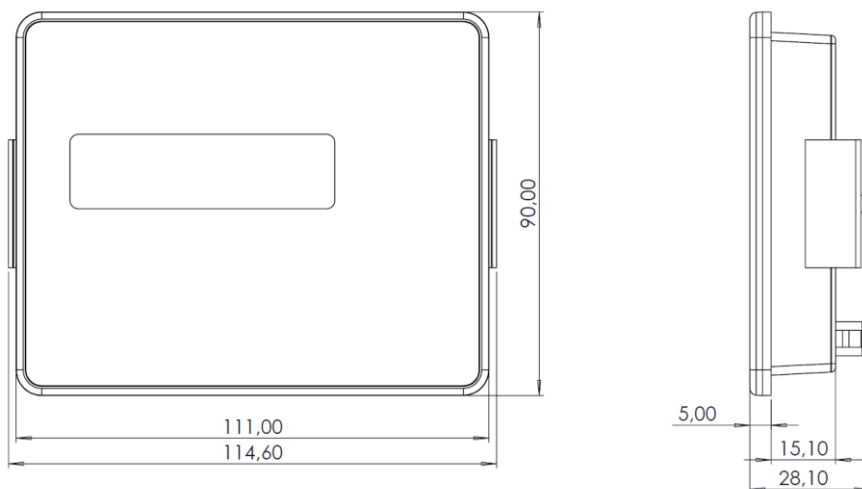
STANDARDS

ELECTROMAGNETIC (EMC)	ACCORDING TO DIRECTIVE 2014/30/EU: EN 61000-6-4 EN 61000-6-2 EN 50498
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PROTECTION	IP 65 ON THE FRONTAL KEYBOARD
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IN ACCORDANCE WITH THE EN50498 THE DEVICE MEETS THE TECHNICAL SPECIFIC REQUIREMENTS OF 2004-104 DIRECTIVE (AUTOMOTIVE). THE DEVICE IS EMC 2004/108 COMPLIANT.

SIZE (mm)



ELECTRICAL CONNECTION

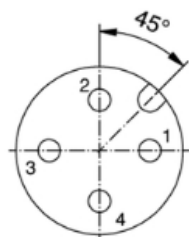
BASIC VERSION

1 POSITIVE POWER SUPPLY

2 CAN L / RS232 TX

3 NEGATIVE POWER SUPPLY

4 CAN H / RS232 RX



FULL VERSION

1 POSITIVE POWER SUPPLY

2 IN 1

3 CAN H / RS232 RX

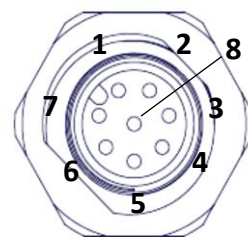
4 IN 2

5 NEGATIVE POWER SUPPLY

6 OUT 1

7 CAN L / RS232 TX

8 OUT 2





ALMPO SMALL

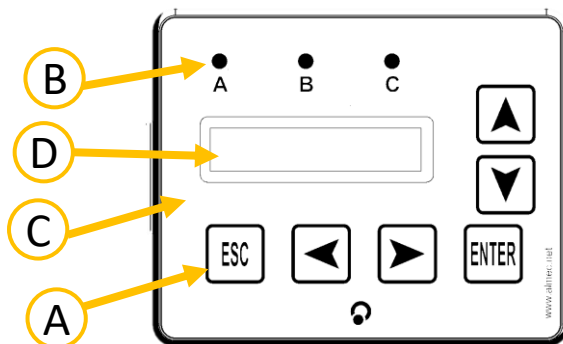
16x2 CHARACTER HMI

FEATURES

BASIC VERSION

DEVICE CONFIGURATION

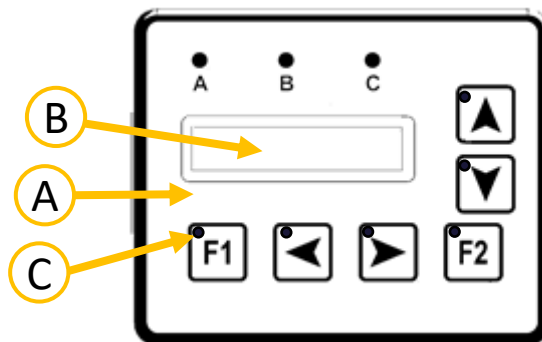
- A. PUSHBUTTON WITH BACKLIGHT (6 TOTAL)
- B. RED MONOCROME LED (6 TOTAL)
- C. CUSTOMIZABLE GRAPHIC LABEL
- D. 16x2 CHARACTER DISPLAY



FULL VERSION

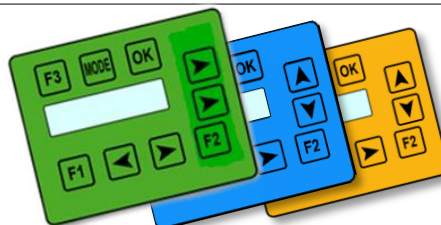
DEVICE CONFIGURATION

- A. CUSTOMIZABLE GRAPHIC LABEL
- B. 16x2 CHARACTER DISPLAY
- C. INTEGRATED RED SPOTLIGHT BUTTON (x TOTAL)



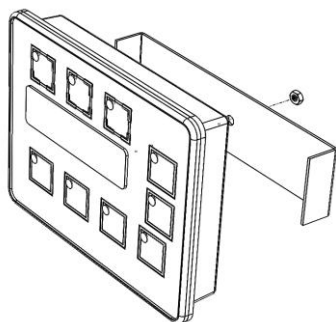
CUSTOMIZABLE KEYBOARD LABEL

pictograms and company logos



INSTALLATION

PANEL MOUNTING, WITH WALL MOUNT BRACKET INCLUDED



PANEL CUTOUT



PANEL THICKNESS: MIN: 0,8mm – MAX: 4 mm

INCLUDED: ADHESIVE RUBBER GASKET FOR WATER TIGHTNESS



NOTE



ALMSNT

5X1 CHARACTER HMI



- HMI designed for diagnosis, parametrization and control applications
- CAN BUS network
- 3 buttons with a backlight
- 5-digit display with customizable graphics
- 6 custom led
- 10 multicolor LED status-bar ideal for displaying load, speed or rpm status
- Suitable for use in harsh work environments

TECHNICAL DATA

MASTER CODE	CRS.311
POWER SUPPLY	9-36 VDC
OUTPUT	optional: N.1 DIGITAL HIGH SIDE OUTPUT (MAX 500 mA)
BUTTONS	N. 3 FRONTAL KEYS (WITH INTEGRATED BACKLIGHT)
LEDS	N. 10 RAMP OF PROGRAMMABLE MULTICOLOR STATUS LEDES N. 6 PROGRAMMABLE LEDES
CAN BUS	1 PORT: 2.0 A/B COMPLIANT - (11, 29 BIT) - ISO 11898 - UP TO 1MBIT/S PROTOCOL: CAN OPEN (CIA DS401 DEVICE PROFILE FOR GENERIC I/O MODULE, WITH DS306 EDS FILE) SAE J1939 (OPTIONAL)
LCD	LCD TYPE: HIGH BRIGHTNESS LED 5 CHARACTER (1 CHARACTER: 7 SEGMENT) VISUAL AREA: 42 (W) X 12.0 (H)
WORKING TEMPERATURE	-40°C +80°C
IP GRADE	CONNECTOR: IP 67 DEVICE: IP69
MATERIAL	ENCLOSURE: SILICONE RUBBER POTTING: PUR RESIN UL94 V0

ELECTRONIC FEATURES

SLAVE USAGE	EDS FILE
PROGRAMMING	FIRMWARE UPLOAD BY CAN BUS WITH ALOADER SOFTWARE TOOL
CYCLE TIME	10 mS





ALMSNT

5X1 CHARACTER HMI

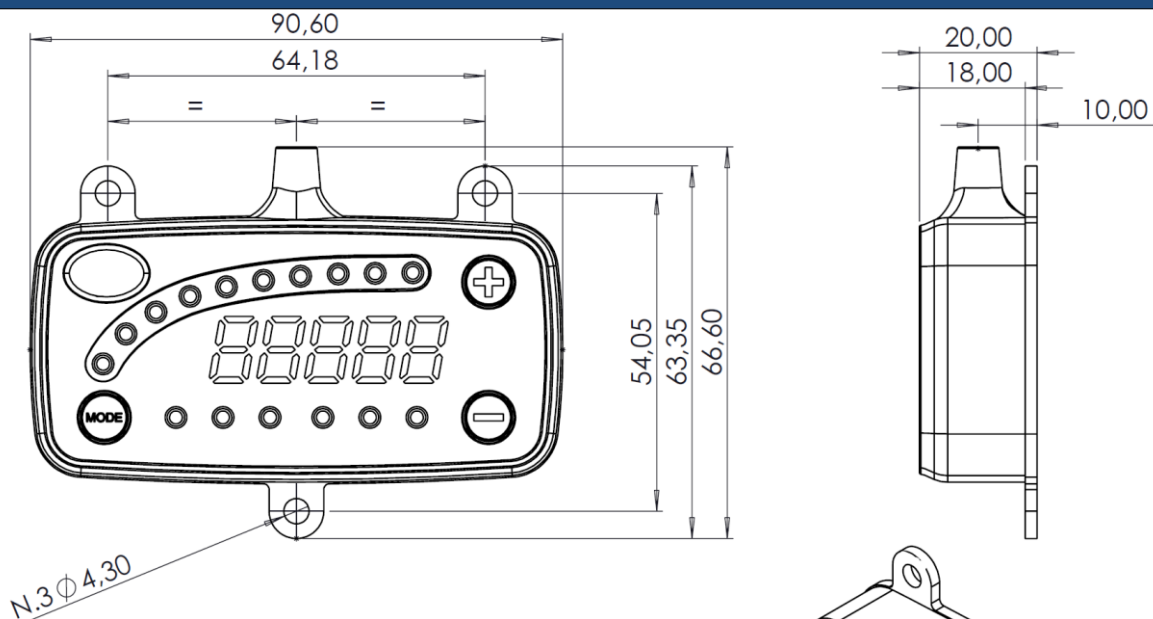
STANDARDS

ELECTROMAGNETIC EMISSIONS EN 61000-6-4
EN 55011 (RF RADIATE)

ELECTROMAGNETIC IMMUNITY EN 61000-6-2
EN 61000-4-2/3/4/6

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SIZE (mm)



ELECTRICAL CONNECTIONS

WIRED

AMP SUPERSEAL 4 PIN FPM

CABLE LENGTH: 100 mm

PINOUT

1	BN	POSITIVE POWER SUPPLY
2	WH	CAN BUS H
3	BU	GND POWER SUPPLY
4	BK	CAN BUS L

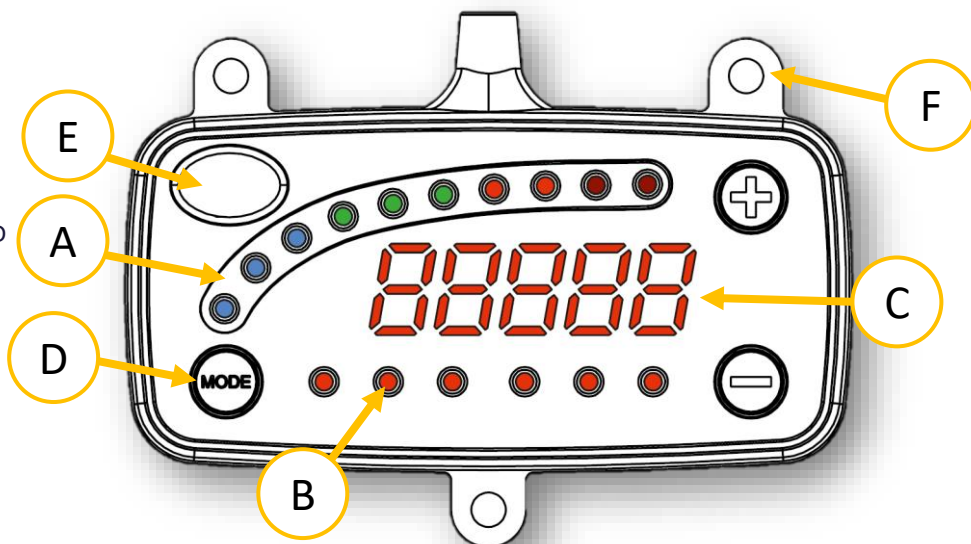




CONNECTIONS

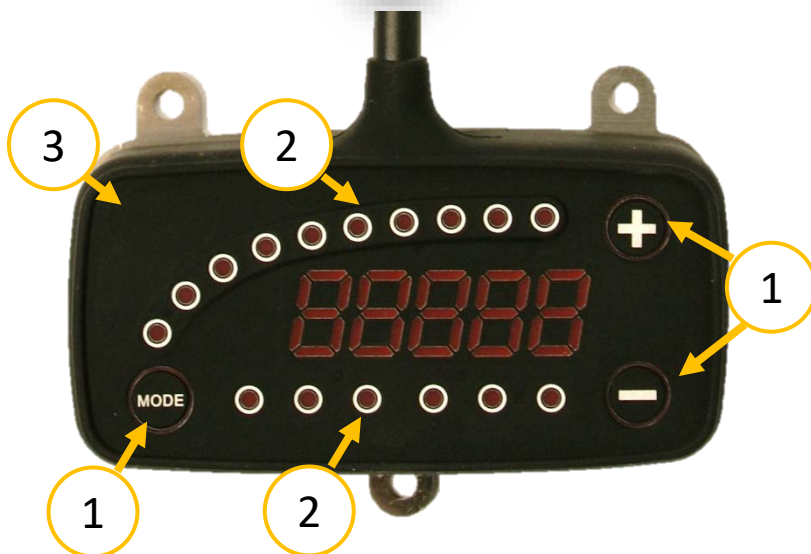
DEVICE CONFIGURATION

- A. PROGRAMMABLE MULTICOLOR STATUS BAR: BLUE-GREEN-RED-DARK RED
- B. STATUS LEDS
- C. 5 DIGITS, 7 SEGMENTS DISPLAY
- D. PUSHBUTTONS WITH BAKCLIGHT
- E. INOX STEEL MOUNTING BRACKET



CUSTOMIZATIONS (MOQ required)

- 1. PUSHBUTTON GRAPHIC PICTOGRAMS
- 2. PICTOGRAMS NEAR THE STATUS LED/BAR LED
- 3. COMPANY LOGO





NOTE