

CONTROL UNITS FOR ENGINE CONTROL AND PROTECTION TYPE CEP-090I

For engines: •ISUZU

•YANMAR SERIE 3-4 (TNV88BDS A2, TNV76)

INSTRUCTION AND USE MANUAL



It is equipped with display
to show the
INSTRUMENTS:

- hour-meter
- fuel level indicator
- tachometer
- battery voltmeter

To be requested from
the manufacturer

- Automatic supervision of faults with messages on the display
- Texts in 6 languages: Italian, English, French, German, Spanish and Portuguese
- Preheating glow plugs management

PARMA

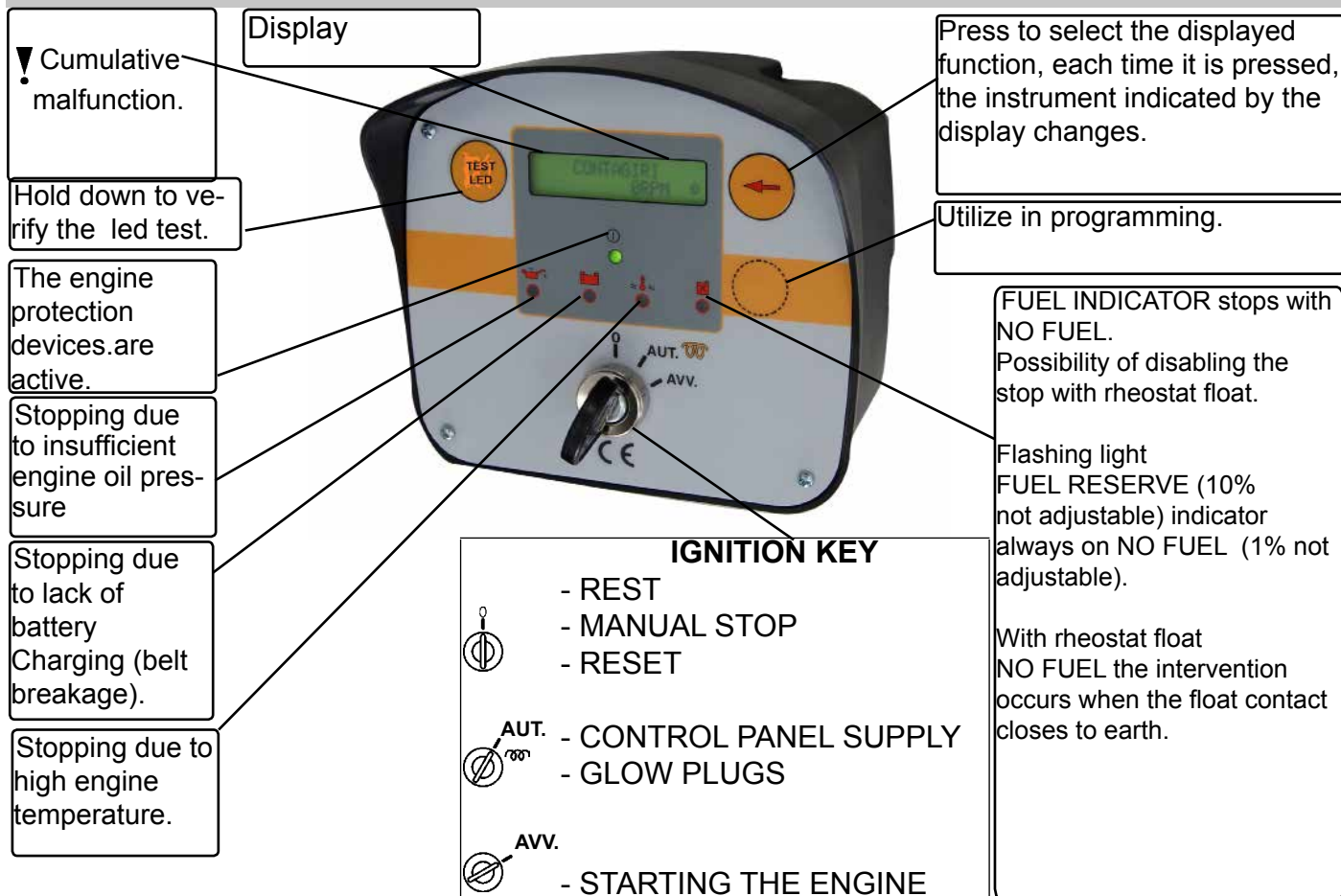


ELCOS®

ITALY

Tel. +39 0521/772021 Fax +39 0521/270218
E-mail: info@elcos.it - [HTTP://www.elcos.it](http://www.elcos.it)

BRIEF INSTRUCTIONS



INSTRUMENTS

- **TACHOMETER** Displays the number of engine revs up to 8500 rpm.
- **TOTAL HOUR-METER** Displays five digits and a maximum reading of 59999 (hours and minutes).
- **FUEL LEVEL GAUGE** Displays the percentage of fuel present in the tank
- **BATTERY VOLTMETER** For voltages ranging between 9 and 38 Volt.

TECHNICAL DATA

	12V	24V
Battery voltage supply	12 Vdc (16 Vdc max)	24Vdc (32 Vdc max)
Circuit loading with key at zero	2,5mA	2 mA
Maximum Consumption	230 mA	180 mA
Tachometer	Max 4000 RPM precision ± 10 RPM	
Instruments precision: battery voltmeter, fuel level	1%	
Max load of the output:		
• stopping restrained (yellow)	3A	
• stopping power (blue)	30A	
• general alarm (red/green)	3A	
• preheating (white / brown)	30A	
• starting (black)	40A	
• Degree of protection:		
• Box front	IP54	
• Rear	IP33	
• Connectore	IP20	
Temperature range	$-20 \div +60^{\circ}\text{C}$	
Weight	950 g	

OPERATION

TWIN FUNCTION INDICATORS OIL AND BATTERY INDICATORS



ON when key is turned to "AUT", OFF when the engine is running with correct oil pressure and battery charging.

ANOMALY INDICATORS

Enabled after the lighting up of the PROTECTIONS ACTIVES ①, visual indicator, they light up when an anomaly is detected.

ENGINE PROTECTIONS

The engine protections are enabled after the lighting up with steady light ①, of the ENGINE PROTECTIONS ACTIVE visual indicator (60 seconds after turning the key to "AUT" or, in any case, 20 seconds after the start impulse).

The protections probe (mounted on the engine) interventions, shown by the relevant visual indicators, stop the engine. They can be divided into two groups:

Immediately for:

- OIL PRESSURE SWITCH
- OVER-HEATING THERMOSTAT

5 second delay for:

- BATTERY CHARGE ALTERNATOR (Broken alternator belt)
- FUEL FLOAT
- NO FUEL, (possibility of disabling the stop)

RESET

Is obtained by turning the start key onto "ZERO".

STOP

The control unit shuts down the engine in two ways:

- turning the start key to zero.
- protection intervention.

The unit adapts to two different stop system:

- by working the electromagnet for 20 seconds which pulls the stop lever.
- by cutting off power to the solenoid valve shutting off the flow of fuel.

EMERGENCY STOP FITTING UPON REQUEST

It can be obtained in all functioning conditions, mounting one or more release-type buttons, is indicated on the display.

The connector for connecting the EMERGENCY STOP changes the type of the control unit.

GLOW PLUGS PREHEATING FACTORY-EXCLUDED

Activated with key in AUT the display shows the phrase GLOW PLUGS PREHEATING.

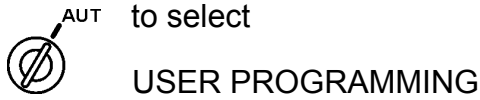
The duration of the preheating action can be set.

Is indicated on the display when the action has ceased START THE ENGINE.

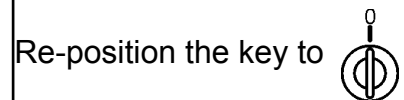
USER PROGRAMMING

ACCESS TO PROGRAMMING MODE.

Turn the key to



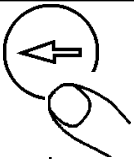
EXIT FROM PROGRAMMING MODE.



PRESS (5")



USER
PROGRAMMING



PRESS TO DISPLAY THE
REQUIRED PROGRAMMING

LANGUAGE
CHOICE

LANGUAGE CHOICE. The language set up in the factory is ITALIAN; the languages that can be selected are: ENGLISH - FRENCH - GERMAN - SPANISH and PORTUGUESE. .

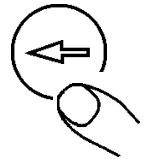
ITALIANO



Press to select language

ENGLISH

Press and wait for
PROGRAMMED
to be written



TACHOMETER
ADJUSTMENT

**Bring the engine to idle at constant known
speed for example via a portable tachometer.**

example

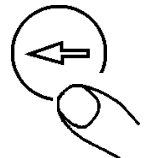
1500 RPM

1500 RPM



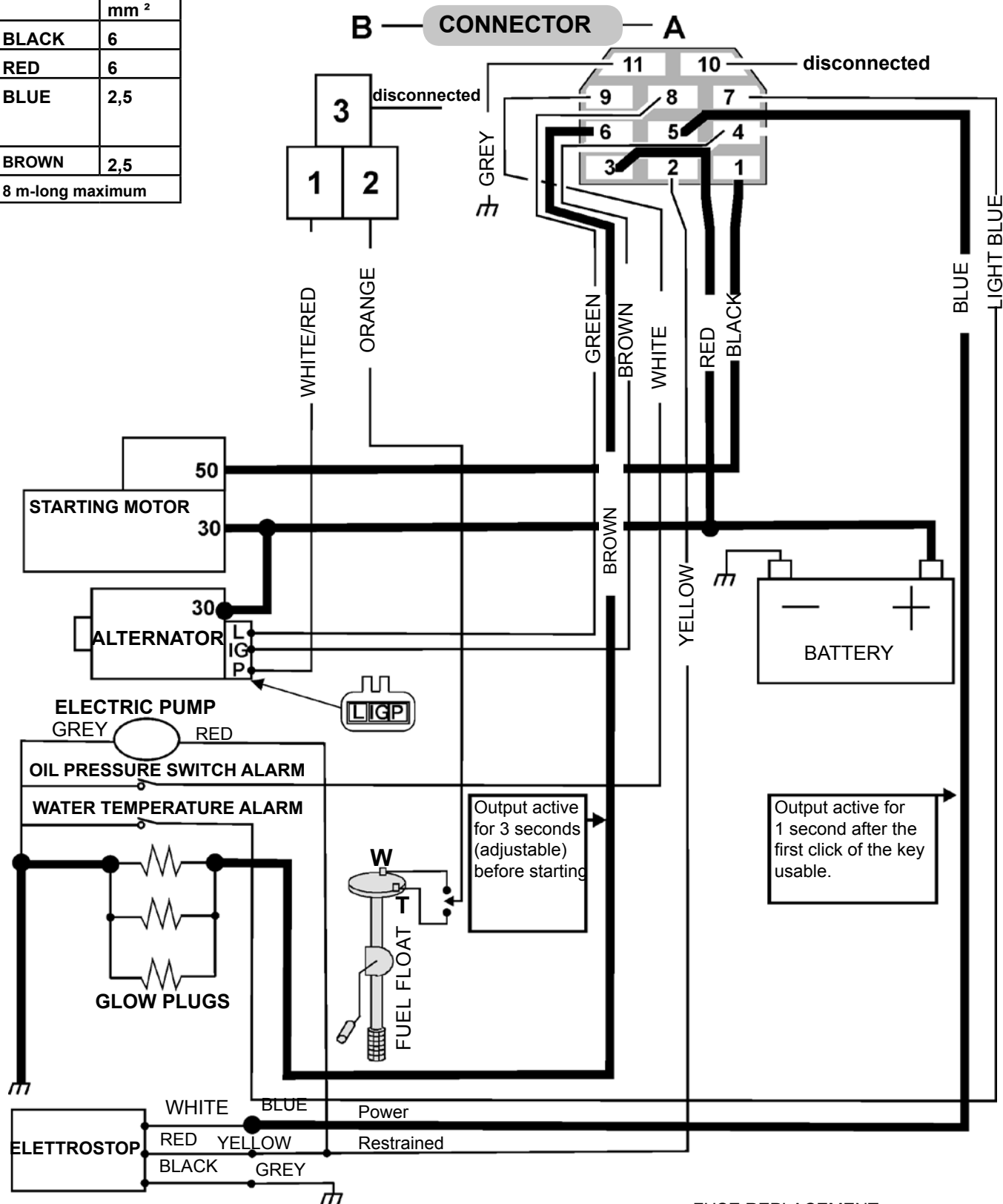
Press until you get the right
indication on the display

Press and
wait for OK
to be written



WIRING DIAGRAM

WIRES	
color	size mm ²
BLACK	6
RED	6
BLUE	2,5
BROWN	2,5
8 m-long maximum	



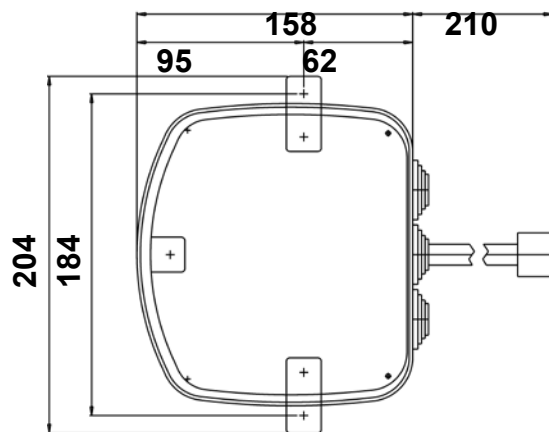
Eliminate the original diagram and make the indicated connections.

FUSE REPLACEMENT
THE FUSES THE DIVERTER ARE INSIDE THE JUNCTION BOX. TO HAVE ACCESS TO THE INSIDE, REMOVE THE SCREWS THAT SECURE THE FRONT AND REPLACE WITH FUSE OF THE SAME VALUE.

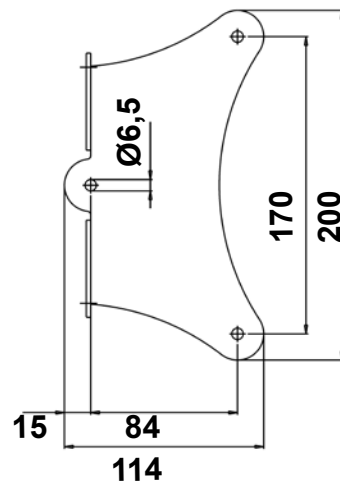
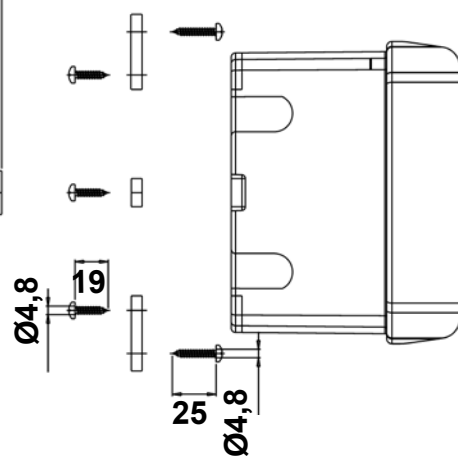
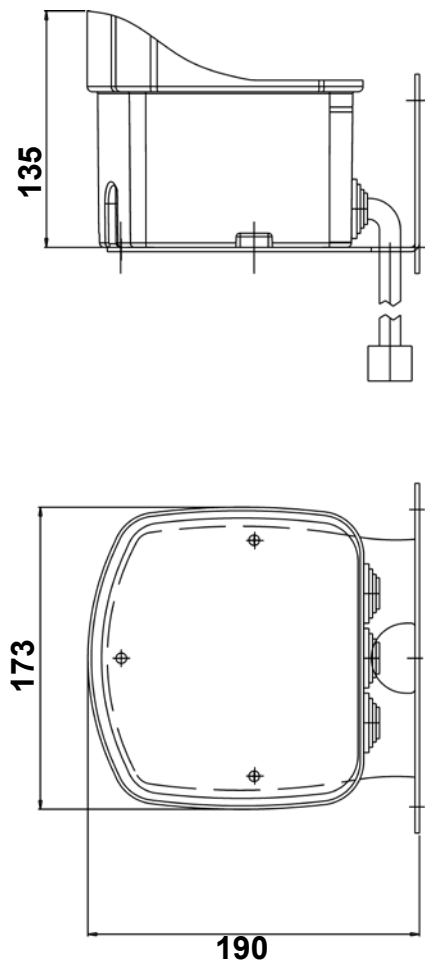
DIMENSIONS

Fixing system

Floor standing



Rods mounting



NOTICES

Only for starting and surveillance of the diesel engine and stops it if there are anomalies in the parts controlled by probes.

It has been designed to be installed also on the machine.



Warning:

adhere closely to the following advice

- Always follow the Wiring Diagram on pages 5 when making connections.
- All technical interventions must be performed with the engine stationary and terminal 50 of the starter motor disconnected.
- Check that the line loading and the consumption of the connected equipment are compatible with the described technical characteristics.
- Install in such a way that there is always adequate heat disposal.
- Always install under other equipment which produces or spreads heat.
- Never disconnect the battery terminals with the engine running.
- Never use a battery charger for the emergency start-up; the control unit could be damaged.
- In order to safeguard people and equipment, before connecting an external battery charger, disconnect the electrical system terminals from the battery poles.

THIS CONTROL UNIT IS NOT SUITABLE FOR OPERATING IN THE FOLLOWING CONDITIONS:

- Where the environmental temperature is outside the limits indicated in the Technical Data.
- Where the air pressure and temperature variations are so rapid as to produce exceptional condensation.
- Where there are high levels of pollution caused by dust, smoke, vapour, salts and corrosive or radioactive particles.
- Where there are high levels of heat from radiation caused by the sun, ovens or the like.
- Where attacks from mould or small animals are possible.
- Where there is the risk of fire or explosions.
- Where the control unit can receive strong vibrations or knocks.

ELECTROMAGNETIC COMPATIBILITY

This control unit functions correctly only if inserted in plants which conform with the CE marking standards; it meets the exemption requirements of the standard EN61326-1 but it cannot be excluded that malfunctions could occur in extreme cases due to particular situations.

The installer has the task of checking that the disturbance levels are within the requirements of the standards.

CONDUCTION AND MAINTENANCE

The following maintenance operations should be performed every week:

- check that the indicators function;
- check the batteries;
- check that the conductors are tight, check the condition of the terminals.

UNLESS WE MAKE A WRITTEN DECLARATION STATING THE CONTRARY, THIS CONTROL UNIT IS NOT SUITABLE FOR USE AS A CRITICAL COMPONENT IN EQUIPMENT OR PLANTS RESPONSIBLE FOR KEEPING PERSONS OR OTHER LIVING BEINGS ALIVE.

YOUR ELECTRICAL TECHNICIAN CAN ASK US ANYTHING ABOUT THIS CONTROL UNIT BY TELEPHONING ONE OF OUR TECHNICIANS

ORDERING DATA

Type CEP-090I	12V	cod.	00210724
"	24V	"	00210730

ACCESSORIES KIT

KIT PMO and rods CEP-090I	cod.	40804361
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ACCESSORIES ON REQUEST

Support for base fitting type CRU-003	code	40493384
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