## ENGINE PROTECTION DEVICE TYPE DIP-804/00



#### THE ENGINE IS STOPPED (VIA ELECTROMAGNET OR SOLENOID) IN CASES OF ANOMALY FOR:

- INEFFICIENT BATTERY CHARGE ALTERNATOR (BELT BREAKAGE)
- LOW OIL PRESSURE
- OVERHEATING
- FUEL RESERVE (without stopping engine)

OIL AND BATTERY INDICATORS INTEGRATED INTO THE DEVICE



## **ENGINE PROTECTION DEVICE TYPE DIP-804/00**

This surveys the fonctioning of the diesel engine and stops it if there are anomalies in the parts controlled by probes.

It has been designed to be installed in cavities in dashboards, electric panels, etc.

### NOTICES

## Warning: adhere closely to the following advice

- Always install under other equipment which produces or spreads heat.
- Always follow the circuit diagram when making connections.
- Check that the line loading and the consumption of the connected equipment are compatible with the enclosed technical characteristics.
- All technical interventions must be performed with the engine stationary and terminal 50 of the starter motor disconnected.
- Never use a battery charger for the emergency start-up, this could damage the equipment.
- To protect the safety of persons and the equipment, before connecting an external battery charger, disconnect the electrical plant terminals from the battery poles.
- NOTE: THE HOLE IN THE CASING USED TO INSTALL THE EQUIPMENT, COULD INFLUENCE THE LEVEL OF PROTECTION OF BOTH. STEPS MUST BE TAKEN TO MAINTAIN THE ORIGINAL LEVEL OF PROTECTION.

THIS DEVICE IS NOT SUITABLE FOR OPERATING IN THE FOLLOWING CONDITIONS:

- Where the environmental temperature is outside the limits indicated in the enclosed technical sheet.
- Where there are high levels or heat from radiation caused by the sun, ovens or the like.
- Where there is the risk of fire or explosions.
- Where the device can receive strong vibrations or knocks.

#### ELECTROMAGNETIC COMPATIBILITY

This device functions correctly only if inserted in plants which conform with the CE marking standards; it meets the exemption requirements of the standard EN50082-2 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.

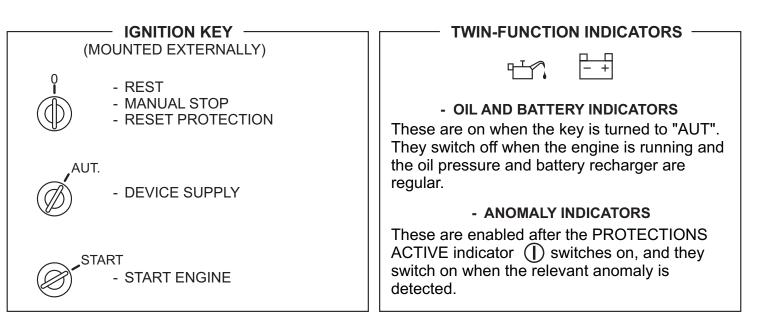
#### CONDUCTION AND MAINTENANCE

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 PANEL IS NOT SUITABLE FOR USE AS A CRITICAL IN EQUIPMENT OR PLANTS RESPONSIBLE FOR KEEPING PERSONS OR OTHER LIVING BEINGS ALIVE

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



	- ENGINE PR	OTECTIONS ————	
on (20 seconds after turning the ke impulse).	d when the ENG ey to "AUT" or, ir probes (mounte	GINE PROTECTIONS ACTIVE ① inc any case 20 seconds after the end of ed on the engine), shown by the relevan	
Immediately for:		After a 3 second delay for:	
- OIL PRESSURE SWITCH		- BATTERY CHARGE ALTERNATOR (ALTERNATOR BELT BREAKAGE)	- +
- OVERHEATING THERMOSTAT	ŀ		
		2M	
	(FUEL RESE	RVE)	
Enabled when the ignition key is to	urned to "AUT",	without stopping the engine.	
	STOP	PPING	
	0101		

This is obtained in three ways:

- By turning the ignition key to zero

- Because of protections intervention

The protection device uses two different types of stoppage:

- activating the ELECTROMAGNET which pulled the STOP lever for 20 seconds
- disconnecting the supply to the SOLENOID which closes the gasoline passage.

#### MAIN ALARM

This can be obtained by mounting a visual and/or acoustic indicator externally connected to the relevant output.

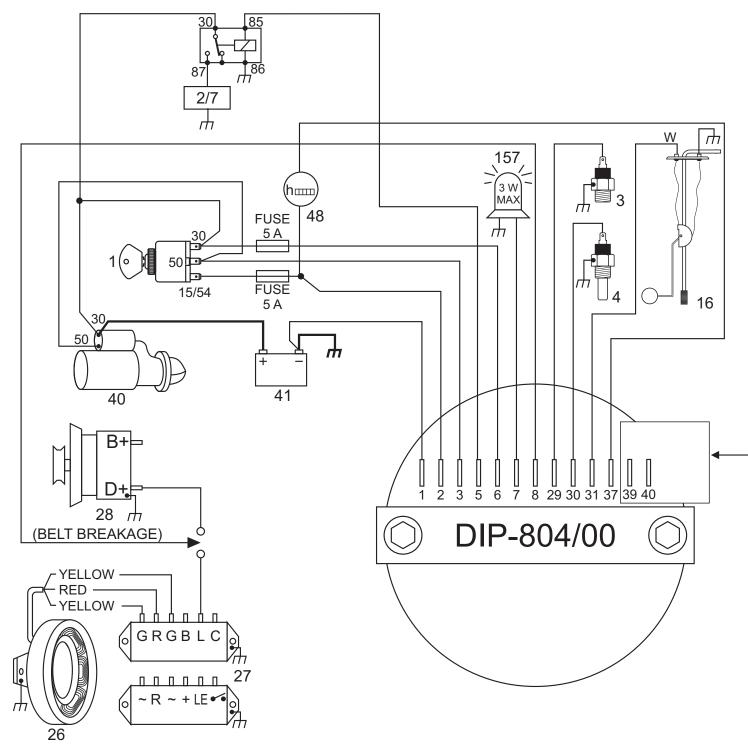
This is continuously activated if the protections or fuel reserve alarm intervene.

RESET: This is obtained by turning the ignition key to zero.



WARNING DO NOT CONNECT THE CHARGE CONTROL BULB INTO THE PLANT SEE "TWIN FUNCTION INDICATIONS" ON PAGE 3





STOP SYSTEMS SET UP	DRIVE EXCITATION	
The system is arranged to command the stopping with SOLENOID.		SOLENOID for closing diesel
For ELECTROMAGNET stopping, connect terminals 39 and 40.	STOP EXCITATION	
39 40		ELECTROMAGNET for pulling STOP lever

ACCESSO	ORIES
ON REQUEST	MOUNTED ON THE ENGINE
<ol> <li>IGNITION KEY</li> <li>DRIVE-EXCITED MAGNET OR SOLENOID</li> <li>OIL PRESSURE SWITCH</li> <li>THERMOSTAT</li> <li>FUEL FLOAT</li> <li>HOUR COUNTER</li> <li>INDICATOR (GENERAL ALARM)</li> </ol>	<ul> <li>(26) PERMANENT MAGNET CHARGE ALTERNATOR REGULATOR</li> <li>(27) ALTERNATOR REGULATOR</li> <li>(28) PRE-EXCITATION CHARGE ALTERNATOR</li> <li>(40) STARTER MOTOR</li> <li>(41) BATTERY</li> </ul>

#### **DEVICE TEST**

(SIMULATION)

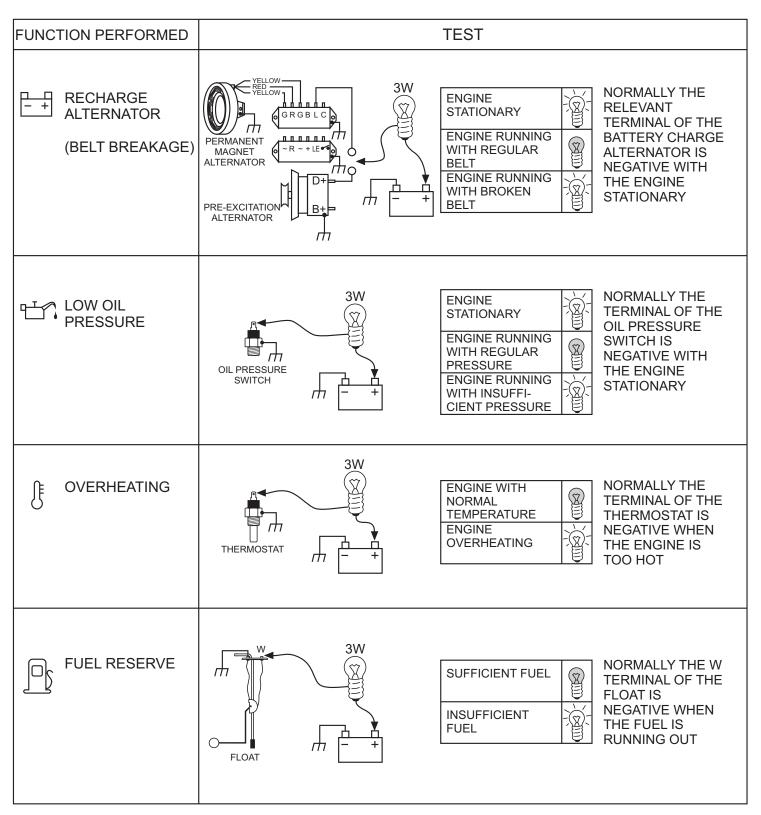
FUNCTION PERFORMED	INTERVENTION SIMULATION (WITH INDICATOR ON () PROTECTIONS ARE ACTIVE)	FUNCTIONS INTERVENTION (STOP, GENERAL ALARM AND VISUAL INDICATOR ON)
RECHARGE ALTERNATOR (BELT BREAKAGE)	DISCONNECT THE WIRE FROM TERMINAL [8] OF THE DEVICE AND CONNECT TERMINAL [8] TO EARTH	AFTER 3 SECONDS
	DISCONNECT THE WIRE FROM THE OIL PRESSURE SWITCH TERMINAL AND CONNECT IT TO EARTH	IMMEDIATELY
	DISCONNECT THE WIRE FROM THE THERMOSTAT AND CONNECT IT TO EARTH	IMMEDIATELY
	DISCONNECT THE WIRE FROM THE W TERMINAL OF THE FLOAT AND CONNECT IT TO EARTH	AFTER 3 SECONDS THE RELEVANT INDICATOR WILL LIGHT UP WITHOUT STOPPING THE ENGINE

#### <u>NOTE</u>

WHEN THE SIMULATION HAS BEEN COMPLETED ENSURE THAT ALL OF THE CONNECTIONS ARE RETURNED TO THEIR ORIGINAL POSITIONS

### **ENGINE PROBES TEST**

(WITH PROBES DISCONNECTED)



#### **NOTE:** WHEN THE TEST HAS BEEN COMPLETED RECONNECT THE PROBES

#### **TROUBLE SHOOTING**

TYPE OF PROBLEM	PROBABLE CAUSES	REMEDIAL INTERVENTIONS
THE STARTER MOTOR FUNCTIONS BUT THE ENGINE DOES NOT START	- Lack of fuel - Fuel supply circuit defect - Low temperature	<ul> <li>Fill the tank</li> <li>Check that the stop system (solenoid or electromagnet) functions Consult the engine instruction manual</li> <li>Check that the preheating functions</li> </ul>
ENGINE STOPS FOR ANOMALY	<ul> <li>The belt breakage indicator lights up after the PROTECTIONS ACTIVE indicator lights up</li> <li>The low oil pressure indicator lights up after the PROTECTIONS ACTIVE indicator lights up</li> <li>The overheating indicator lights up</li> </ul>	<ul> <li>Check the condition of the alternator belt</li> <li>Check the engine oil level</li> <li>Check the engine cooling system</li> </ul>
ENGINE DOES NOT STOP UNDER ANY CONDITIONS	<ul> <li>Stop system (electromagnet or solenoid) does not function</li> <li>Defective engine probes</li> <li>Defective device</li> </ul>	<ul> <li>Check the correct mechanical or electrical functioning of the stop system. If the problem persists, check the stop servo-relay.</li> <li>Test the probes (see ENGINE PROBES TEST on page 3) and if necessary replace them.</li> <li>Check that during the stop phase there is voltage on terminal (5) (see STOP on page 3), simulate the function (see DEVICE TEST on page 5 and if necessary replace the device (*)</li> </ul>

#### **TROUBLE SHOOTING**

TYPE OF PROBLEM	PROBABLE CAUSE	ES	REMEDIAL INTERVENTIONS
ENGINE STOPS FOR ANOMALLY THOUGH ALL APPEARS TO BE REGULAR	- The belt breakage indicator lights up after the PROTECTIONS ACTIVE () indicator lights up	- +	- Check the function of the charge alternator
	- The low oil pressure indicator lights up after the PROTECTIONS ACTIVE () indicator lights up	ЧŤ.	- Test and, if necessary, replace the oil pressure switch
	- The overheating indicator lights up - Defective device	ſ	<ul> <li>Test and, if necessary, replace the thermostat</li> <li>Simulate the functioning of the device (see DEVICE TEST on page 5) and if necessary replace it (*)</li> </ul>

#### Turn the key to zero to reset the functioning

#### **DEVICE REPLACEMENT** [\*]

Before replacing the device, we suggest that you telephone one of our technicians for advice. When your technician-electrician phones he must have the scheme on page 5 available together with the following information: - Type of equipment installed

- Problem encountered
- Condition of the indicators on the dashboard when the problem occurred
- Any remedial interventions performed

#### ACCESSORIES AVAILABLE ON REQUEST

SEE PAGE 5

ACCESSORIES	DATA FOR ORDERING
MOBILE SOCKETS	ENGINE PROTECTION DEVICE
type PMO-134/00 code 40804234	type <b>DIP-804/00 12 V</b> code <b>00030201</b>
	type <b>DIP-804/00 24 V</b> code <b>00030202</b>

- BATTERY SUPPLY 12 VDC (MAX 16 VDC) VOLTAGE or 24 VDC (MAX 32 VDC)
Ø 86       - CIRCUIT LOADING WITH KEY TURNED TO ZERO       8 mA         • MAXIMUM LOAD ON OUTPUT [5]       3 A         • MAXIMUM LOAD ON OUTPUT [7]       3 W         (GENERAL ALARM)       - TEMPERATURE RANGE       -10 ÷ +60 °C         • TERMINAL BOARD       FASTON 6.35 × 0.8         • DEGREE OF PROTECTION: FOR THE ELECTRONICS       IP 65         FOR THE TERMINAL BOARD       IP 00         • WEIGHT       450 g

# Remarks