

Model:
DOBERMANN EVO LS-AS-HS

Date
08/2018

SENSORS

Code: 93151121



Pressure sensor 15 bar:

If the supply pressure of the line drops below 15 bar, it will switch on the red warning light on the dashboard.

In this case, the clutch is automatically disconnected to prevent the disc from slipping.

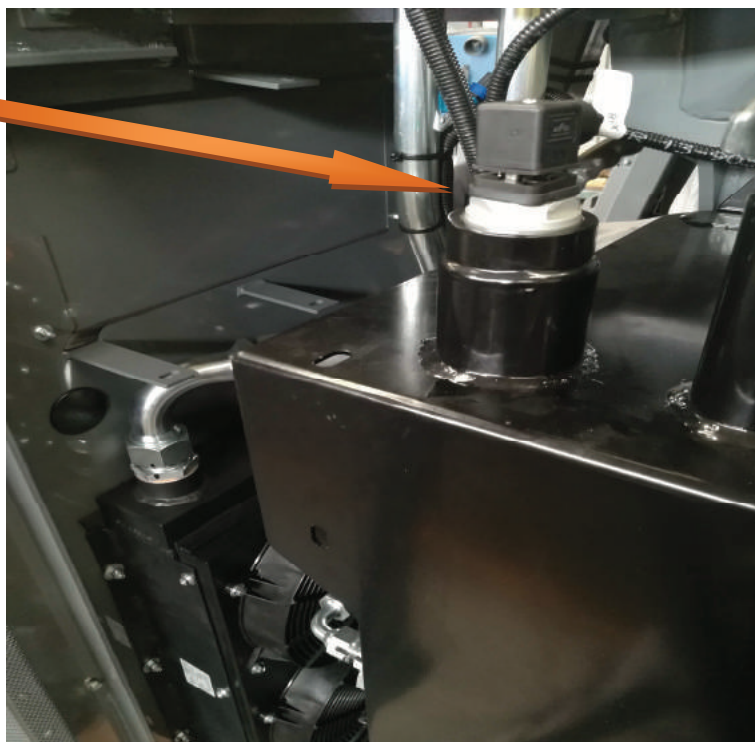


Code: 99400743



Hydraulic oil level sensor:

If the hydraulic oil level is too low, it will turn on the warning light on the dashboard.



Code: 93151120



Vacuum sensor -0.3 bar:

If the hydraulic oil filter is clogged, the warning light on the dashboard will turn on. Even with cold oil, this can flash for a few seconds.



Code: 99400590



Vacuum sensor -0.5 bar:

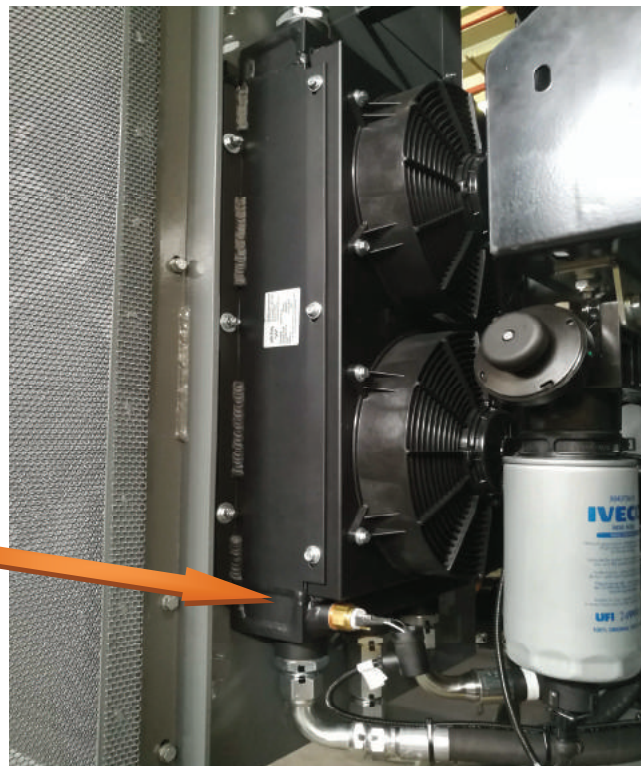
If the hydraulic oil temperature is too low, the dashboard warning light will turn on and the hand throttle function will be blocked and the engine will run at 1100/1150 rpm.



Code: 95000079

Hydraulic oil temperature sensor:

Controls the activation of the electric fans of the oil cooler when the oil reaches the temperature of 60 °C; switches it off again when the temperature reaches 50 °C.

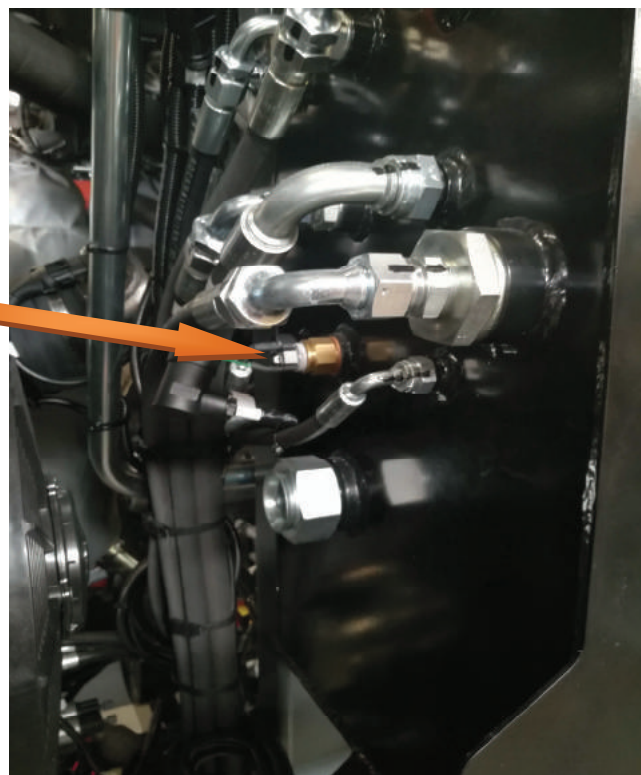


Code: 95000089



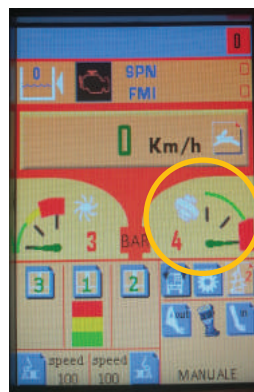
Hydraulic oil temperature sensor:

When the oil temperature reaches 90 °C, the warning light on the dashboard turns on. When the temperature drops back to 80 °C, the warning light turns off.



DOBERMANN EVO LS-AS

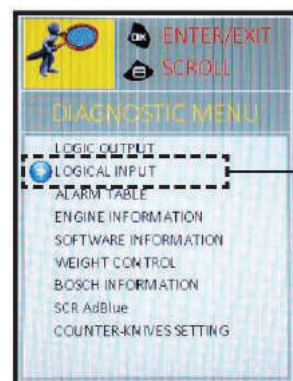
BRAKE PUMP CODE 99055088



Code: 99401413



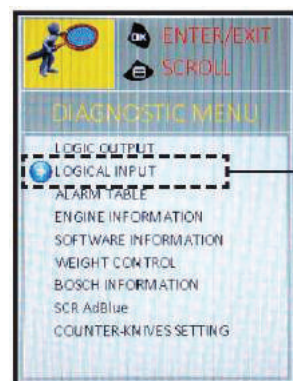
This pressure sensor is used to measure the brake pump circuit pressure. The pressure is indicated on the display by the yellow circled display. If the indicator is in the red area of the display, the red warning light and warning tone will turn on.



INPUT	
MC2M	
INPUT NAME	READ
OVERBOOST CLUTCH SWITCH	TRUE
STEERING POTI B SIGNAL SECTION	5
STEERING POTI A SIGNAL SECTION	5
UNLOADING BELT CENTRED	FALSE
OVERBOOST	FALSE
PARKING BRAKE PRES. SWITCH	TRUE
OVERBOOST CUTTER SWITCH	FALSE
BRAKE POTI SIGNAL	2.1
NC	FALSE
NC	FALSE
THROTTLE POTI SIGNAL	430
NC	FALSE

Code: 99401596

The angle sensor on the brake pedal measures the position of the pedal. The value in volts is displayed on the diagnostics page of the MC2M - **LOGICAL INPUT**. **BRAKE POTI SIGNAL**



INPUT	
ALGA	
INPUT NAME	READ
HIGH HYDR. OIL TEMP	FALSE
HYDR. OIL FILTER BLOCKED	FALSE
AIR FILTER BLOCKED	FALSE
LOW HYDR. OIL TEMP	FALSE
AUX HYDR. FILTER OIL BLOCKED	FALSE
LOW HYDR. OIL LEVEL	FALSE
STOP LIGHT SIGNAL	FALSE
HYD.OIL FAN TEMP. SWITCH	FALSE
NC	FALSE
NC	FALSE
NC	FALSE
NC	FALSE
NC	FALSE

Code: 93151125

This **4bar** pressure sensor, located on the other side of the pump, turns on the brake lights. On the diagnostics page of the **LOGICAL INPUT ALGA**, you can check the input signal by **STOP LIGHT SIGNAL**. By pressing the brake pedal, this element changes from **FALSE** to **TRUE**.



DOBERMANN EVO HS

In this version there are some more sensors and changes:

BRAKE PUMP CODE 99055083

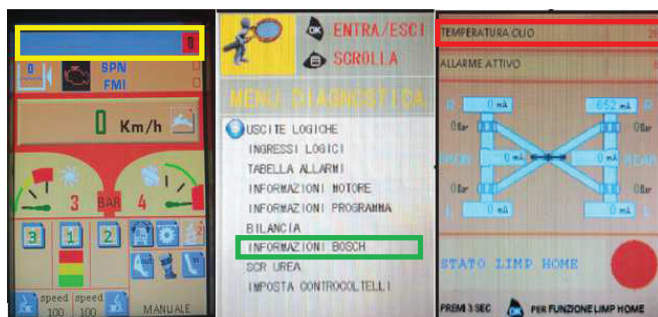
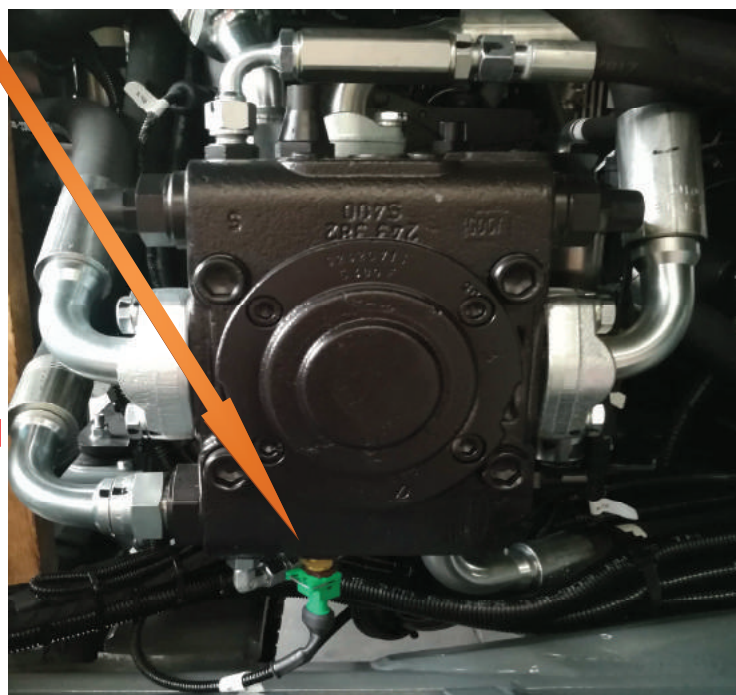
Compare to the LS-AS version, the brake light sensor is installed on the same side of the angle sensor.



MILLING-CUTTER PUMP

Code: 99400973

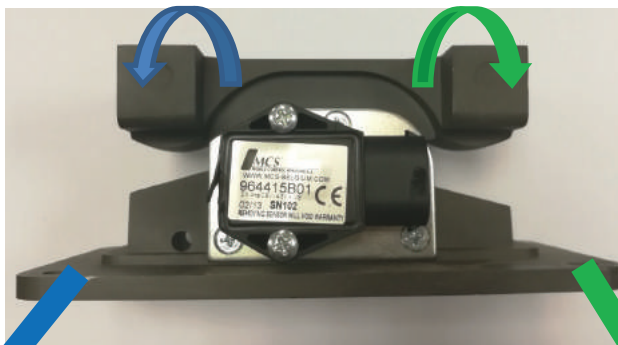
The hydraulic oil temperature sensor is mounted under the defacer pump (HS version only). If the temperature is below 30 °C or above 100 °C, an alarm will be displayed on the first page at the top of the display (highlighted in yellow): **Oil temperature alarm**. The temperature can be seen on the Bosch information page (highlighted in green) in the first position above (highlighted in red).



DRIVE PEDAL CODE 99400953

FORWARD

REVERSE



INPUT	
MC2M	
INPUT NAME	READ
NC	FALSE
PARKING BRAKE SWITCH ON	TRUE
CLUTCH RPM FEEDBACK SIGNAL	0
EMERGENCY SWITCH SIGNAL	TRUE
NC	FALSE
LOADINGBELT SPEED POTI SIGNAL	0
SAFETY SEAT SWITCH SIGNAL	TRUE
NC	FALSE
LOCKED CUTTER ARM SIGNAL	FALSE
NC	FALSE
FORWARD IDLE ACCEL. PEDAL SIGNAL	FALSE
NC	FALSE
REVERSE IDLE ACCEL. PEDAL SIGNAL	FALSE

The accelerator pedal has two potentiometers: one for **FORWARD** and one for **REVERSE**. The potentiometer inside is divided into two sections, a potentiometric part and an **ON-OFF** part. On page 1 and 4 of the MC2M **LOGIC INPUT** you can check the **FORWARD** pedal function. If you press the **FORWARD** pedal, on page 4 the FORWARD IDLE ACCEL PEDAL SIGNAL indication must change from **FALSE** to **TRUE** (this is the ON-OFF part of the potentiometer and is used to help the control unit, to understand which direction the machine is going). On the 1st page with the indication FORWARD PEDAL POTI SIGNAL when the pedal is released, a value of $\pm 480\text{mV}$ will be displayed. When you press the pedal, this value increases to a maximum of $\pm 4700\text{mV}$ (this is the potentiometer section of the pedal). If you have these two values, the pedal will work correctly and the controllers will receive the correct signal. The same applies to the **REVERSE**. Obviously, the information is changed with REVERSE IDLE ACCEL PEDAL SIGNAL and REVERSE PEDAL POTI SIGNAL on pages 4 and 2.

INPUT	
MC2M	
INPUT NAME	READ
NC	FALSE
PARKING BRAKE SWITCH ON	TRUE
CLUTCH RPM FEEDBACK SIGNAL	0
EMERGENCY SWITCH SIGNAL	TRUE
NC	FALSE
LOADINGBELT SPEED POTI SIGNAL	0
SAFETY SEAT SWITCH SIGNAL	TRUE
NC	FALSE
LOCKED CUTTER ARM SIGNAL	FALSE
NC	FALSE
FORWARD IDLE ACCEL. PEDAL SIGNAL	FALSE
NC	FALSE
REVERSE IDLE ACCEL. PEDAL SIGNAL	FALSE

INPUT	
MC2M	
INPUT NAME	READ
OVERBOOST CLUTCH SWITCH	TRUE
STEERING POTI B SIGNAL SECTION	5
STEERING POTI A SIGNAL SECTION	5
UNLOADINGBELT CENTRED	FALSE
OVERBOOST	FALSE
PARKING BRAKE PRES. SWITCH	TRUE
OVERBOOST CUTTER SWITCH	FALSE
BRAKE POTI SIGNAL	590
FORWARD PEDAL POTI SIGNAL	480
NC	FALSE
NC	FALSE
THROTTLE POTI SIGNAL	430
NC	FALSE

INPUT	
MC2M	
INPUT NAME	READ
LH UNLOAD BELT SPEED POTI SIG	5
CUTTER ARM POSITION POTI SIG	22
NC	FALSE
NC	FALSE
NC	FALSE
NC	FALSE
WORKING SWITCH SIGNAL	TRUE
REVERSE PUMP PRESS. SIGNAL	480
RH UNLOAD BELT SPEED POTI SIG	4991
UNLOAD. DOOR POTI A SIGNAL	3666
NC	FALSE
FUEL LEVEL SIGNAL	65
REVERSE PEDAL POTI SIGNAL	495

Code: 99400590



Vacuum Sensor -0.5 bar:

If the hydraulic oil temperature is too low, the dashboard warning light will turn on and the hand throttle function will be blocked. The difference between the LS-AS and the HS model is the position of the sensor itself. As seen on the AS-LS machine, the sensor is located on the left side (front view) of the hydrostatic pump and is mounted directly on the housing. For the HS machines, the sensor is mounted on the nipple above the pump connected to the hydraulic hose.

DOBERMANN EVO AS-LS

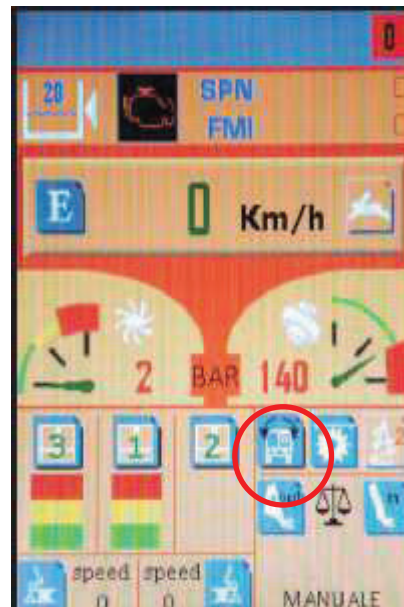


DOBERMANN EVO HS



DOBERMANN EVO HS

INCLINOMETER CODE 99401584



The system works so as to prevent excessive side tilt that would compromise the stability of the machine.

The inclinometer measures the roll angle of the self-propelled machine. This parameter, together with the speed, determines the control of the stop valve situated on the hydraulic circuit of the front suspension.

The final result is greater stability during cornering and on rough terrain.

Activation of control is displayed by the corresponding light on the dashboard (ON = orange, OFF = grey) and takes place at a speed greater than **~15 km/h** and roll angle **> 3°**



DRIVE PUMP PRESSURE SENSOR CODE 99401412

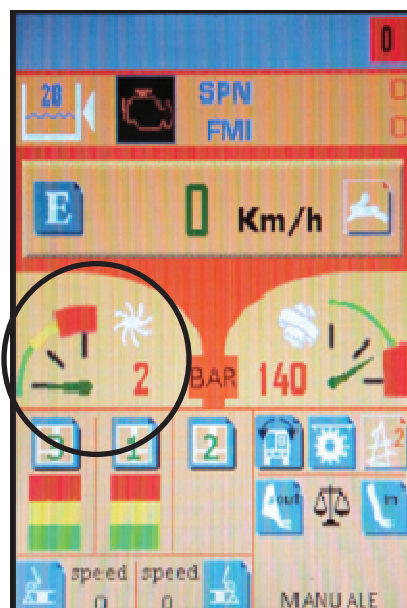
The pressure sensor, located on the hydrostatic pump, show us on the diagnostics page of the **LOGICAL INPUT** MC2M, the mVolt value of both working directions. With the BODAS-BOSCH tool, it permits us to check the working pressure in bar of the pump.



INPUT	
MC2M	
INPUT NAME	READ
LH UNLOAD BELT SPEED POTI SIG	5
CUTTER ARM POSITION POTI SIG	22
NC	FALSE
NC	FALSE
NC	FALSE
NC	FALSE
WORKING SWITCH SIGNAL	TRUE
REVERSE PUMP PRESS. SIGNAL	480
RH UNLOAD BELT SPEED POTI SIG	4991
UNLOAD. DOOR POTI A SIGNAL	3666
NC	FALSE
FUEL LEVEL SIGNAL	65
REVERSE PEDAL POTI SIGNAL	495

INPUT	
MC2M	
INPUT NAME	READ
LOADINGBELT. SPEED POTI SIG	5
FORWARD PUMP PRESS. SIGNAL	480
2ND AUGER SPEED SIGNAL	TRUE
UNLOAD. DOOR POTI C SIGNAL	5
1ST AUGER SPEED SIGNAL	FALSE
REVERSE DIRECTION SWITCH SIG	FALSE
CUTTER SPEED POTI SIG	5
CUTTER PRESS. SENSOR SIGNAL	475
BRAKE CIRCUIT PRESSUR SIGNAL	1875
UNLOAD. DOOR POTI B SIGNAL	5
NC	FALSE
EXTERNAL LOADIGNBELT SWITCH	FALSE
NC	FALSE

MILLING CUTTER PUMP PRESSURE SENSOR CODE 99401413



INPUT	
MC2M	
INPUT NAME	READ
LOADINGBELT. SPEED POTI SIG	5
FORWARD PUMP PRESS. SIGNAL	480
2ND AUGER SPEED SIGNAL	TRUE
UNLOAD. DOOR POTI C SIGNAL	5
1ST AUGER SPEED SIGNAL	FALSE
REVERSE DIRECTION SWITCH SIG	FALSE
CUTTER SPEED POTI SIG	5
CUTTER PRESS. SENSOR SIGNAL	475
BRAKE CIRCUIT PRESSUR SIGNAL	1875
UNLOAD. DOOR POTI B SIGNAL	5
NC	FALSE
EXTERNAL LOADIGNBELT SWITCH	FALSE
NC	FALSE

This sensor shows us on the ALGA TFT panel by the functions menu, the instant working pressure of the milling cutter. When the milling cutter is OFF, the display shows the boost pump pressure. On the diagnostics page of the **LOGICAL INPUT** MC2M will be reported the mVolt value of the pump.

HYDAC SUPENSION SENSOR CODE 99401626

