

SENSORS



ROCKER



SPRING
MACHINE CONTROL
ON BOARD ELECTRONIC SYSTEMS



ROCKER

ROCKER is an angular sensor particularly suitable in the applications where the Machinery Directive requires a high safety technology.

It works on 3 axis, X Y Z. Thanks to its integrated technology, it can read the redundant signals between the load cell and the angle. Using also a Cable Reel, ROCKER can read both the angle and the length of the arm.

Is also possible to manage an extra Analog Input for reading the signal of an ANEMOMETER and a Digital Input.

APPLICATIONS

Directly on articulated arms of industrial machines, such as aerial platforms, in order to read the angle and the load cells signals and internally of the cable reels used to read the angle and extension of the telescopic arms.

The technical features permits the redundant readings.

ROCKER is made in the conformity with the requirement of UNI EN ISO 13849-1 and UNI EN ISO 13849-2 PL d

Also available in **CAN**open®



Software, hardware e sensori sono progettati
e commercializzati con il nostro marchio.



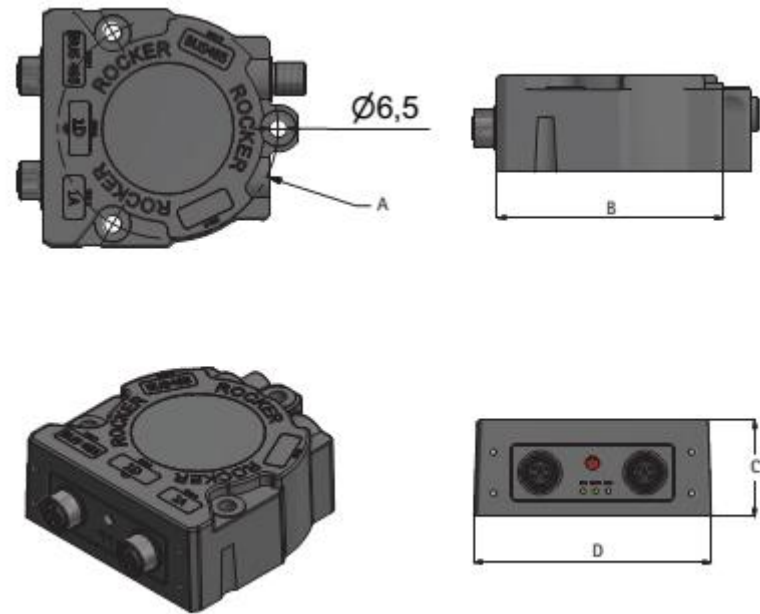
SPRING
MACHINE CONTROL
ON BOARD ELECTRONIC SYSTEMS



ROCKER

Size

.....



DIMENSIONS				
MODEL	A	B	C	D
ROCKER	80mm	82mm	35mm	86mm

ROCKER

General technical features

- Power supply 10 .. 30 Vdc
- Processor 32 bit @ 80 MHz
- Memories:
 - 256 KByte program Flash Memory
 - 15 KByte system RAM
 - 8 byte for SN string, may be protected to avoid rewritings
- 2 different accelerometer sensors with 3 axle reading (3D) each, used for reading the position
 - Both sensors are mounted standard, in order to have the redundant reading
- Possibility to install the sensor in every position
- Reading of 2 analog sensor 4 .. 20 mA, with 12 bit resolution (4.096 ADC divisions)
- Protection of the RS485 BUS with Transil, in order to permit the “hot swap” (connection / disconnection) in safety redundant
- 3 different non-volatile memories:
 - 32 KByte non-volatile RAM (FRAM technology)
 - 32 KByte EEPROM
 - 4 MByte Flash, suitable to be used to store data events, like a Black Box
- Double Watch Dog timer
- The internal software may be reprogrammed by RS485 or RS232 with a Boot Loader
- Double uController card, in order to have a module fully redundant
- Diagnostic LED, visible from the external
 - Power supply for the module present
 - Power supply for External sensors
 - Activity on the RS485 BUS
 - Activity on the CAN BUS
 - Status of the ON/OFF outputs
 - MIR card: power
 - MIR card: Activity on the RS485 BUS
- External connections, with connectors:

1) UP-M12 MP – Possible functions available, with different configurations:

- a. BUS RS485
- b. CAN BUS, 15 Mail Box. Managed protocols: J1939, CANopen.

Is possible to manage more protocols by setting the proper configuration

2) UP-M8 FP – Analog Input, configurable with different hardware options:

- a. Single Ended Voltage: 0 .. +5 Vdc
- b. Current: 0 .. 20 or 4 .. 20 mA

3) UP-M8 FP – Analog Input, configurable with different hardware options:

- a. Single Ended Voltage: 0 .. +5 Vdc
- b. Current: 0 .. 20 or 4 .. 20 mA

With the 2nd uController card present (MIR = Mirror) for redundancy

4) DW-M12 FP – External connection, configurable with different hardware options:

- a. BUS RS485
- b. CAN BUS, 15 Mail Box. Managed protocols: J1939, CANopen.

Is possible to manage more protocols by setting the proper configuration

- c. “FUS” 4 Analog Inputs, current 4 .. 20 mA (redounded, with ADC2)
- d. Direct connection with 4 .. 20 mA current transmitter, standard pinout. Example: pressure transducer, linear sensor, ...

5) DW-M12 FP – External connection, configurable with different hardware options:

- a. BUS RS485
- b. CAN BUS, 15 Mail Box. Managed protocols: J1939, CANopen.

Is possible to manage more protocols by setting the proper configuration

- Possibility to have direct custom connection, with a Pig Tail cable

- Analog inputs
- Digital inputs
- Analog Outputs
- ON/OFF outputs
- RS232