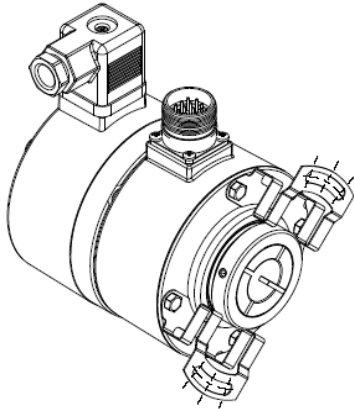


## OVERSPEED SPEED SWITCH, GHU9 SERIES

The overspeed switch function on the 90mm range – a sturdy mechanical security module without external power supply:

- radial commutation centrifugal switch without permanent contact.
- high quality mechanics reliability.
- excellent repeatability.
- securised system, works without power supply.
- modular mounting possibility.
- commutation speed : standard calibration range between 800 and 4 000 rpm (rotation per minute).

Especially designed for heavy duty industry (steel and paper mills, lumber, cranes, engine etc...). Sturdy compact conception. Excellent resistance to shocks/vibrations and to extreme axial/radial loads. 20mm blind shaft (reduction hubs available).



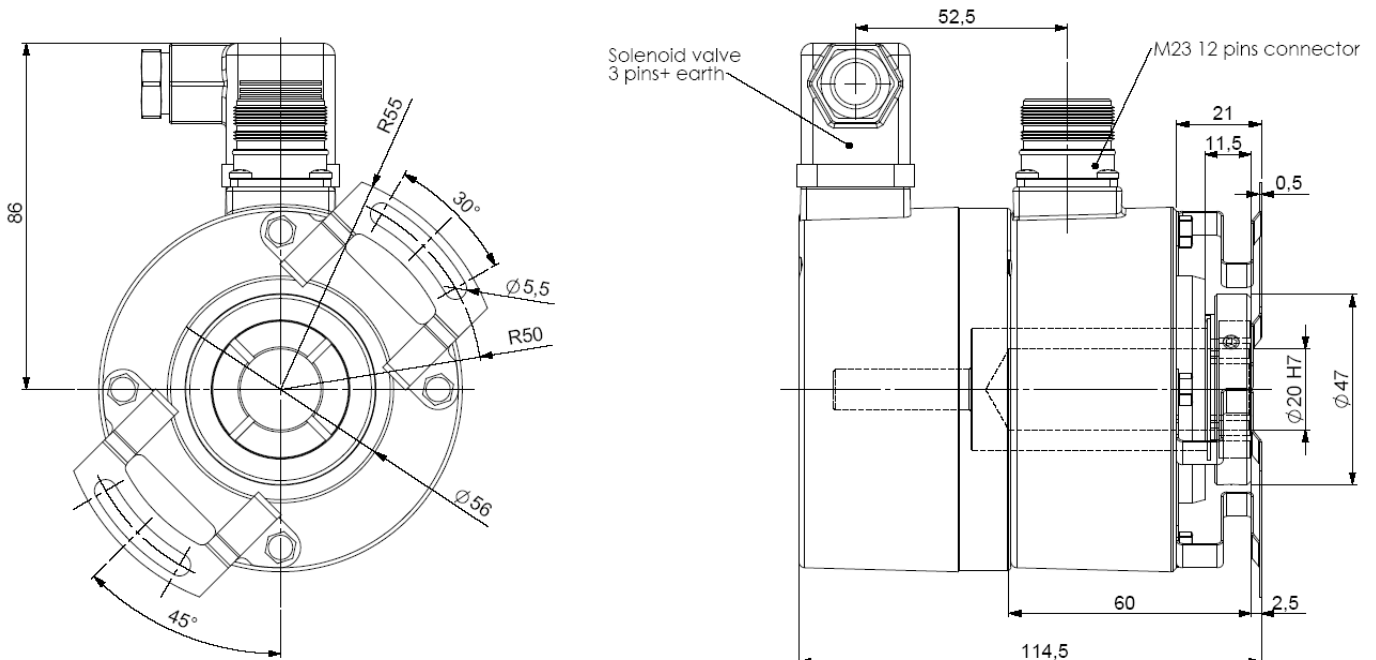
Blind shaft GHU9\_20 with overspeed switch



20mm blind shaft triple mounting example

The compactness of the assembly, which can be proposed by BEI SENSORS, allows the combination of overspeed switch and encoder presenting a particularly interesting cost / performances relation.

### EXAMPLE : INCREMENTAL ENCODER GHU9\_20 WITH OVERSPEED SWITCH



### CENTRIFUGAL SWITCH CHARACTERISTICS

Material	Cover : zinc alloy	Weight	1,10kg
	Body: aluminium		Operating temperature
Max. speed	1,5 . n <sub>s</sub>	IP(EN 60529)	IP 65 (mounted)

## OVERSPEED SPEED SWITCH, GHU9 SERIE

### CHARACTERISTICS

Switching speed	800 ... 4 000 rpm
Principle	centrifugal
Mechanical life-time	500 000 cycles
Contact type	opened or closed

Max current	6 A / 240 Vac
Contact material	silver-cadmium
Maximum breaking sequence	4/min
Breaking accuracy	min <sup>-1</sup> - 5% ... +8%

The commutation speed  $n_s$  is definitely calibrated in our factory.

Right or left rotation direction.

The switching speed  $n_s$  is defined for an acceleration =  $100 \text{ s}^{-2}$  (other, consult us).

Nota:  $1 \text{ rad.s}^{-2} \leftrightarrow 9,55 \text{ rpm.s}^{-1}$

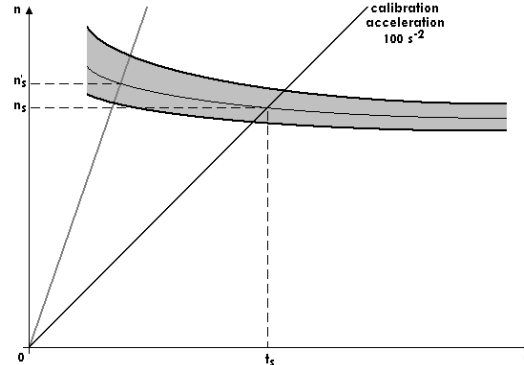
The hysteresis is about -3% in counter clockwise direction compared with clockwise direction.

It is advised to choose the switching speed  $n_s$  in order that  $n_s > 1,15.n_n$  ( $n_n$ : working speed, nominal speed).

The centrifugal relay must be used only in the case of an increasing speed.

In decreasing speed, the centrifugal switch will open automatically at a slower speed of approximately 40% of the calibrated switching speed  $n_s$ .

In the case of a higher acceleration than  $100 \text{ s}^{-2}$ , the switching speed will be higher ( $n'_s$ , cf here-under drawing).

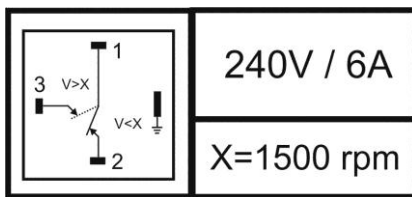


Shocks / impacts can create premature switching or transient opening. This is particularly the case when the switch's direction of action and the shock are the same. Rotating the mounting position ( $60^\circ$  division on flange) reduces the problem.

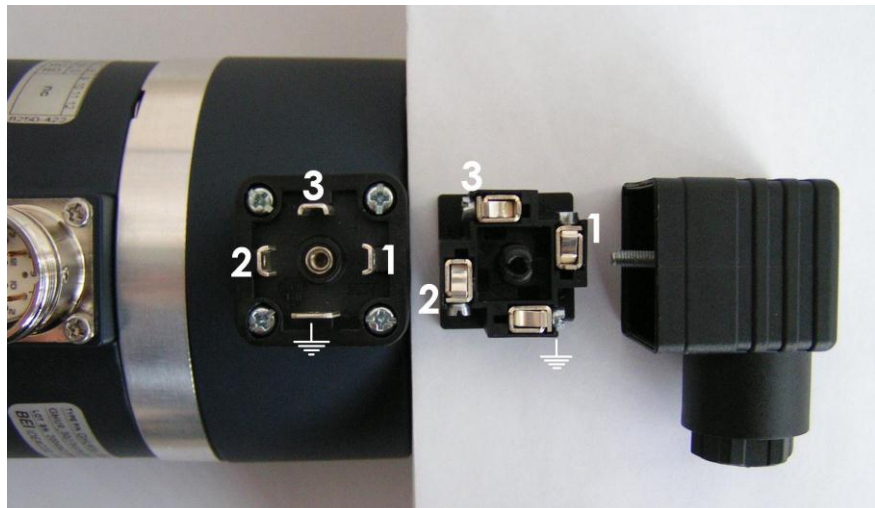
### STANDARD CONNECTION

With 4 pinout solenoid valve connector.

Contact 1 to 3 can be connected according to the desired configuration (rest, work or opposite).



The earth pin of the connector must be connected to the ground of the installation.



### AVAILABLE COMBINATION (Consult us for special version: ex: flange / connection / specific speed...)

Available combination:

- incremental encoder + overspeed switch,
- tacho-encoder + overspeed switch,
- absolute encoder + overspeed switch,
- incremental encoder + opto-tacho + overspeed switch,
- overspeed switch + overspeed switch ...

Standard speeds (rpm) : 1 000, 1 200, 1 500, 1 800, 3 000 (consult us for other speed).

Reference: consult us.

Note : The switch commutation speed is calibrated in our factory, no correction and no later modification is possible.

Made in France