Magnetic rotary angle and position sensor-control

Contactless sensor
PSC-360

The robust PSC-360 is a cost effective high performance non-contacting rotary position sensor for automotive, off-road, marine, medical and industrial applications without the limitations of potentiometric solutions (wear, limited electrical angles...). A configurable switch output, as an option, integrated within the sensor is available too.

Redundancy can be achieved by employing a dual die version providing independent voltage outputs with fully customized characteristics providing the possibility to detect error outputs by the host electronics.

Sealed for harsh environments and flange mounted for easy positioning when necessary, it provides high stability under harsh environment conditions such as vibration, shock, extreme temperatures / humidity, dither, moisture or dirt. Available with fly leads, can be customized to customer´s needs to any desired connector configuration.

Mechanical specifications

Rotational life (depends on application and mounting)	up to 50.000.000 cycles.
Operating temperature [1]	-40ºC to +125ºC.

Electrical specifications

Linearity [1]	±1% absolute (0.5% upon request).
Angular range	Programmable from 15 to 360 degrees.
Output	Analog (Ratiometric), PWM. Serial Protocol upon request.
Switch output	Upon request. Programmable.
Angular Resolution (depends on electrical angle and rotational speed)	Analog & PWM: up to 12 bits. Serial Protocol (SPI): up to 14 bits.
Supply voltage [1]	Up to 30V.
Supply current	Typ 8.5mA for single version. Typ 17mA for redundant version.

[1] Others: check availability.

Key features

- Simple and robust magnetic design.
- High resolution (up to 14-bit).
- Ratiometric analog or PWM outputs.
- Absolute position feedback up to 360º (keeps position on power loss).
- True full redundant version.
- Sealed construction for harsh environments such as off-highway and marine.
- Protected from dust, moisture, vibration and extreme temperatures.
- Endless rotation.
- Fully programmable transfer function output at the factory with electrical outputs up to 360º.
- Self-diagnostic features.
- Over voltage protection and reverse voltage protection.
- Extended voltage input supply values.

Also upon request:
- Programmable switch output.
- SPI output.
- Lever with return spring.

Industries served

- Automotive and On-highway (road vehicles, trucks, recreational vehicles, road sweepers).
- Off-highway (agriculture, construction and forestry, motorsport, airport operations).
- Material handling.
- Marine engines.
- Medical.
- Industrial.

Applications

- Steering wheel angle sensor.
- Brake and clutch accelerator pedal.
- Arm control.
- Hitch position.
- Throttle control / sensor..
- Bucket position.
- Fork height and mast tilt.
- Transmission gear shifter.
- Suspension and height sensor.
- Steering, accelerator and shifter sensor for marine engine.

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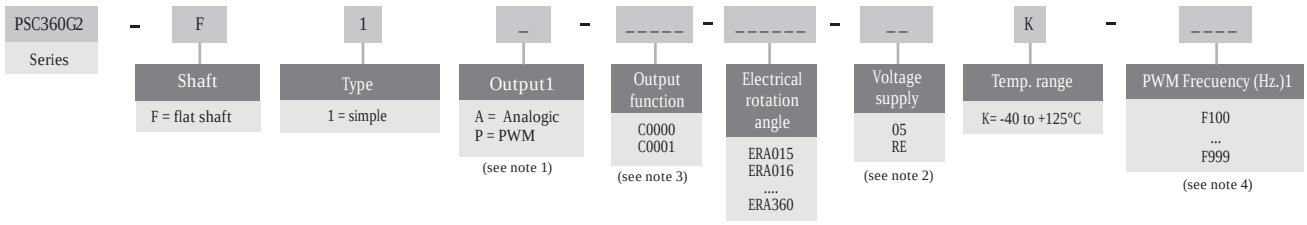
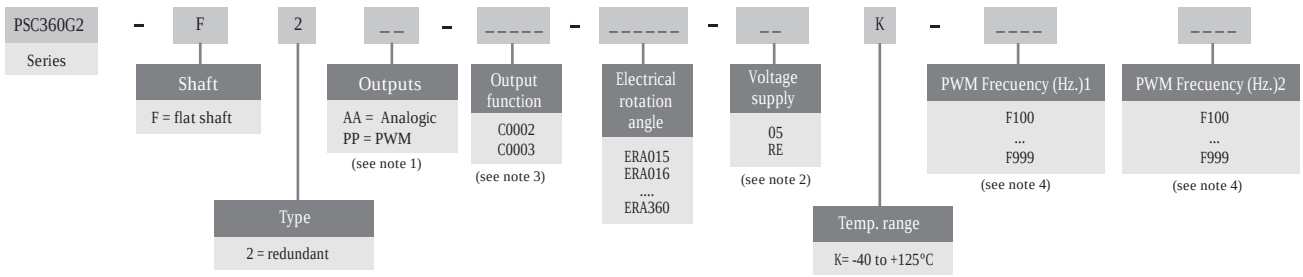
How to order (example: PSC360G2-F1A-C0000-ERA360-05K)

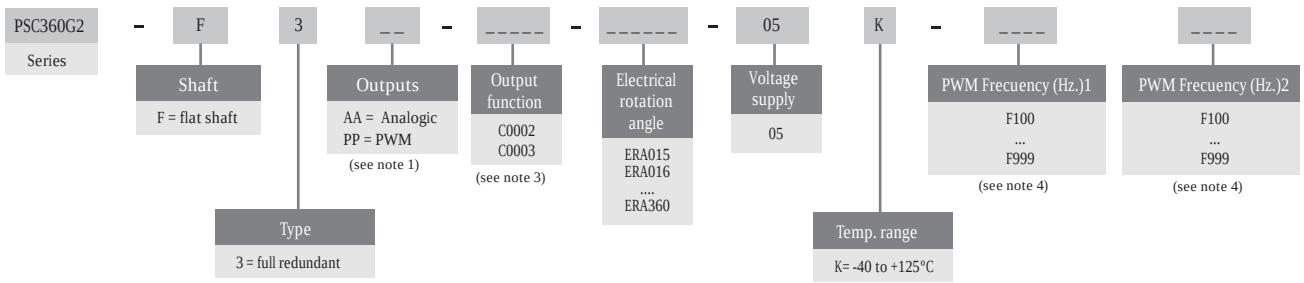
Simple output (analogic / PWM)



Redundant output (analogic / PWM)



Full redundant output (analogic / PWM)



Other product configurations will be studied case by case.

Notes

(1) The analog output is a ratiometric output, proportional to:
- For supply voltage 5V: to input supply voltage.
- For supply voltage RE: to 5V.

(2) 05: 5V ±10%
RE: 7V - 30V

(3) Other output functions available check availability. In the How To Order reference, enter CXXXX meanwhile the new output function reference is not defined.

(4) Leave empty if no applicable. Default frequency is 200 Hz