



GENERAL FEATURES

- Absolute encoder with parallel output
- Magnetic measurement
- Resolution up to 16384 pulse per revolution
- 3000 RPM operating speed
- 50 mm body diameter
- 6 mm or 8 mm shaft options
- High signal quality
- Robust structure, long service life
- Easy mounting
- IP67 protection class

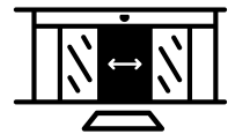
The SAS series encoders operate absolute. In other words, unlike the incremental systems, they do not lose their positions in power outages and continue to measure from where they left off.

They offer resolution up to 14 bit per revolution. The angle increase direction can be selected as clockwise (cw) or counterclockwise (ccw). With the reset function, the desired position can be specified as point 0. Output code can be selected as binary, gray or BCD. With its high protection class IP67, it is resistant to harsh environmental conditions and vibrations.

APPLICATION AREAS

Speed and position accuracy in one application; If it is more important than fault tolerance and system simplicity, absolute encoders should be used. Absolute encoders provide precise operation in applications.

- Identifying multi-axis orientation in CNC machines used in component manufacturing
- Automatically determine the height of the scissor bearings used in hospitals
- Correct placement of multiple stabilizers for large vehicles such as cranes or air lifts
- Automatic doors or slots to move without limiting key
- Continue robotic movement even after a power failure



TECHNICAL SPECIFICATIONS

Electrical Specifications		Mechanical Specifications	
Supply Voltage	5 ... 30 VDC	Operating Speed	≤ 3000 rpm
Current Consumption	≤ 60 mA	Body Diameter	50 mm
Protection	Reverse & over voltage Output short circuit	Shaft Diameter	6 mm or 8 mm
Code	Binary, Gray or BCD	Operating Temperature	-20...+85 °C
Resolution (per turn)	Up to 14 bit	Relative Humidity	%10 ... %90
Accuracy	±0,1°	Protection Class	IP67
Measuring Principle	Magnetic	Weight	≈350 gr
Inputs	Preset (Zero Setting) Changing direction (CW / CCW)	Material	Body: Aluminium Shaft: Stainless Steel
Output Signals	Push-Pull, PNP Open Collector, NPN Open Collector		
Output Logic	Positive Logic (Active High) Negative Logic(Active Low)		
Response Frequency	333 kHz		
Output Capacity	20 mA/channel		
Electrical Connection	18 x 0,22 mm ² shielded cable		

ELECTRICAL CONNECTIONS



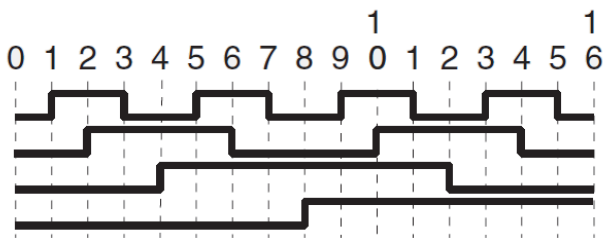
Cable Color	Function	Maximum Resolution	
Red	+V		
Black	0V (GND)		
Yellow	Reset		
Yellow/Brown	Changing Direction	Gray / Binary	BCD
Pink	Bit 0	2	2
Pink/Brown	Bit 1	4	4
Green	Bit 2	8	8
Green/White	Bit 3	16	10
Blue	Bit 4	32	20
Purple	Bit 5	64	40
Grey	Bit 6	128	80
Pink/Grey	Bit 7	256	100
Brown	Bit 8	512	200
Green/Brown	Bit 9	1024	400
White	Bit 10	2048	800
Black/White	Bit 11	4096	1000
Yellow/White	Bit 12	8192	2000
Red/Blue	Bit 13	16384	4000

RESET: With the reset function you can set the desired location to 0. The reset end is shorted and released with GND. The sensor accepts the position where it is located after two seconds.

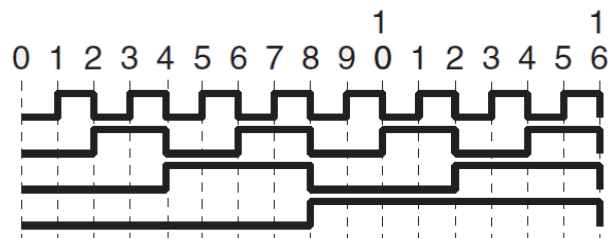
DIRECTION CHANGE: You can change the direction increase direction with the direction change function. The direction switch is shorted and released with GND. After two seconds, the sensor reverses the angle direction (CW is CCW and CCW is CW).

CODE EXAMPLES

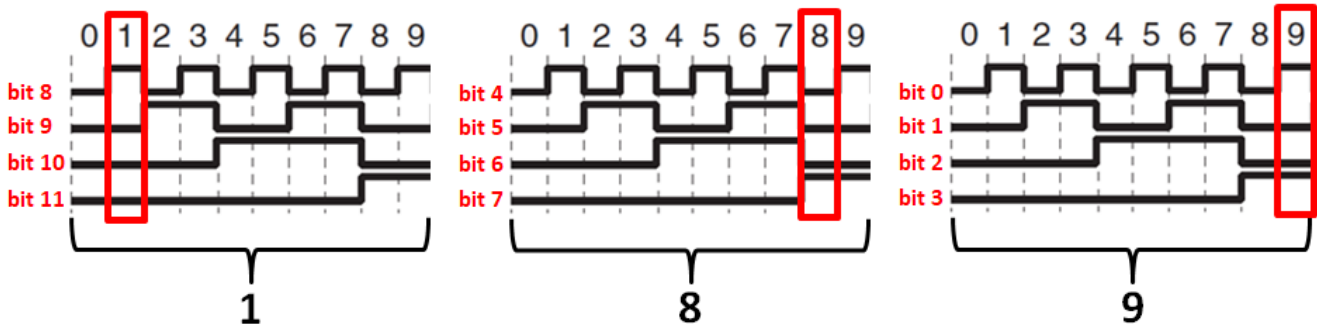
GRAY CODE



BINARY CODE



BCD CODE



BCD Code (Binary-Coded Decimal Code)

For example; to convert the decimal 189 to BCD code:

Number	189	0001	1000	1001
Bit		↑↑↑↑	↑↑↑↑	↑↑↑↑
Weight		8421	8421	8421
Digit		hundreds	tens	units

