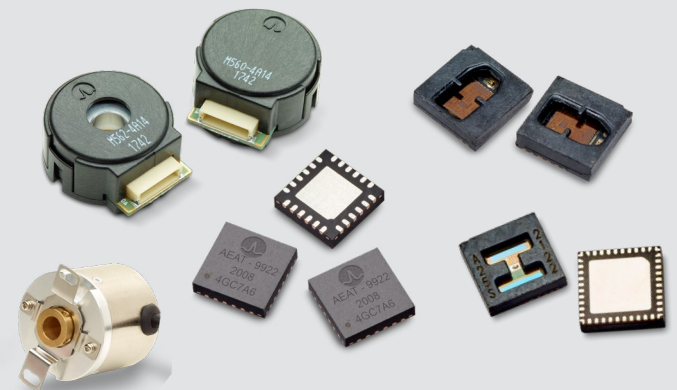# BROADCOM®

Going Green?

Increase Efficiency with Broadcom Encoders

Broadcom Encoders

Industry's most versatile encoder solutions enabling green applications

Broadcom encoders are ideal for position sensing, motion control and motor feedback in an array of green applications e.g. solar and wind turbines. Incremental encoders are also used for speed control of servo motors.

Built on years of innovation and technology leadership, Broadcom´s optical and magnetic encoders are designed to operate at temperatures required for harsh and challenging environments.

☑ **Wind Turbine**
Absolute encoders are used for monitoring the Yaw control of the nacelle (the main structure which houses all generating components, gearbox, drive train, etc.).

Absolute encoders are ideal for the pitch control of the blades to adapt to different wind conditions.

Incremental encoders can be used for speed monitoring of the generator.

☑ **Solar Tracker**
Absolute encoders are an ideal solution for monitoring the panel position to adapt to optimum sunlight direction & conditions.

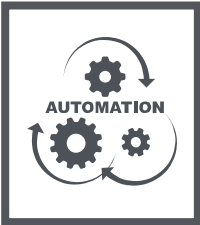☑ **LiDAR (Light Detection and Ranging) in Autonomous Electric Vehicles**
LiDAR uses a pulsed laser to detect distance, velocity and angle with a high precision system solution. LiDAR can classify objects, detect lane markings and is used to precisely position an autonomous vehicle relative to a high definition map to safely navigate in a wide range of ambient and environmental conditions.

Broadcom´s encoder products are enabling LiDAR solutions in intelligent ADAS (Advance Driver Assistance Systems) in electric vehicles – our high temperature, small form factor and versatile (multiple time programmable encoding registers) reflective and magnetic encoders are the perfect fit here.

Wind and Solar

Absolute encoders for monitoring the Yaw control of the nacelle (the structure which houses the generating components, gearbox, drive train, etc.) and rotor blade angle and shaft speed, eg. by using Energy Harvesting technology.
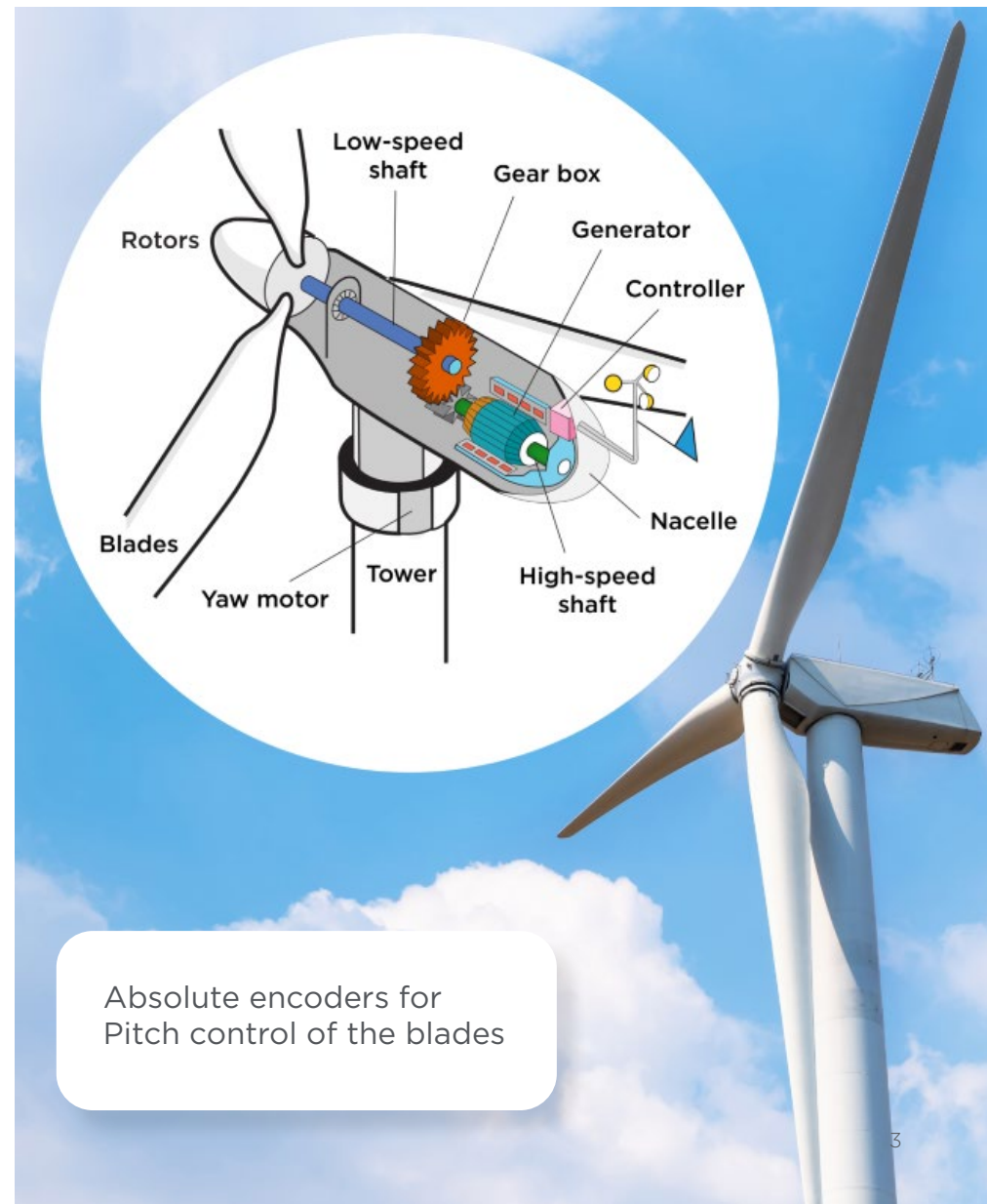
Motion Encoders

Optical Single-Turn

AR18/AR25/AR35

Optical Incremental

HEDS-90/91xx
AEDx/HEDx-55xx
AEDR-98/99xx

Magnetic Single-Turn ASIC

AEAT-9922/9933
AEAT-9955/9966

Optical Energy Harvesting Multi-Turn

AS35 Series
AS38 Series

Wind Turbine Control
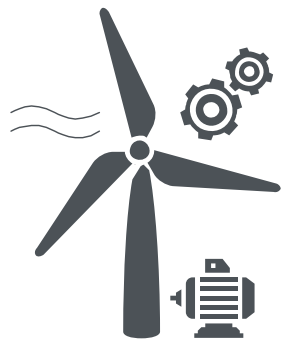
Solar Panel Positioning

Absolute encoders for Pitch control of the blades

LiDAR in Electric and Automated Guided Vehicles

Premium spinning LiDAR for high resolution, long range and broad field of view, typical field of view 360°

Broadcom´s high temperature, small form factor and versatile (multiple time programmable encoding registers) reflective and magnetic encoders enable LiDAR solutions in intelligent ADAS (Advance Driver Assistance System) and Navigation System in

- Electric Vehicles
- Smart cities (efficient traffic flow)
- Robotics
- AGVs (Automated Guided Vehicles) and AMRs (Autonomous Mobile Robots)
- Drones

Encoders in other LiDAR Applications:

- Scan LiDAR with 145 degree field of view
- Hybrid solid state LiDAR
- Short range and microLiDAR for lane keeping - assist pedestrian automated emergency braking to automated parking assist applications

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Precise Encoders ● ● ●

For polygon, rotating mirror positioning and speed control

Reflective Encoder, small form factor, high temperature, high resolution

AEDR-9820A/9830A
(Automotive Grade 1, AEC-Q100)
Production/QMS per IATF16949

Magnetic Encoder, programmable multiple On / Off Axis, high accuracy, high temperature and robust

AEAT-9955/9966
(Functional Safety ISO 26262 ASIL D and IEC 61508 SIL 3 enabled) Redundancy safety option, avoid downtime

Encoder Product Stewardship

Broadcom strives to provide the highest quality products while ensuring compliance with the relevant regulatory requirements, including RoHS, REACH and regulations related to Conflict Minerals. Refer to Broadcom's Environmental, Social & Governance (ESG) report for more information on environmental stewardship.

- RoHS
- REACH
- TSCA
- China VOC
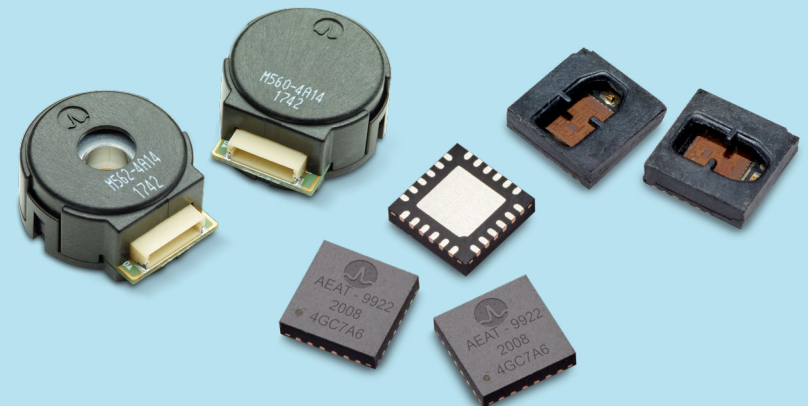
Broadcom Inc. is a global infrastructure technology leader built on 50 years of innovation, collaboration and engineering excellence.

Broadcom Inc. (NASDAQ: AVGO) is a global technology leader that designs, develops and supplies a broad range of semiconductor and infrastructure software solutions.

Broadcom's category-leading product portfolio serves critical markets including data center, networking, enterprise software, broadband, wireless, storage and industrial. Our solutions include data center networking and storage, enterprise, mainframe and cyber security software focused on automation, monitoring and security, smartphone components, telecoms and factory automation.

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