

## SOLAR PHOTOVOLTAIC TRACKING SYSTEM

### Background

Large solar panel installation is becoming more economical as a viable alternative to coal, oil or gas-fired power plants. To make the most of the panels, it is cost effective to install them on a structure that can follow the sun from east to west (azimuth) and from north to south (elevation) as the sun moves across the sky. By tracking the sun's path across the sky the solar panels can produce 10% to 25% more energy per day than a similar system that has no tracking capability.

### Solution

Since the sun's movement across the sky is predictable from day-to-day and from season to season, by providing a motor/feedback system for each axis of each solar panel, it is straightforward to program the correct movement of the panel depending on the season. As the panels themselves are large and subject to hot, dusty conditions they typically need a geared motor for precise movement, which in turn requires multi-turn absolute encoders. Should there be a power outage during tracking, it is important that the encoder can maintain information about its current position, so that when power is restored, it can move directly to the correct position without having to follow a homing sequence.

*“As the panels themselves are large and subject to hot, dusty conditions they typically need a geared motor for precise movement, which in turn requires a MT absolute encoder for tracking”*





## RECOMMENDED PRODUCTS

Reference on Diagram	Product	Type	Features	Part Number	Function	Brand
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MHK5

Hollow Shaft Encoder

Ethernet IP or PROFINET interface

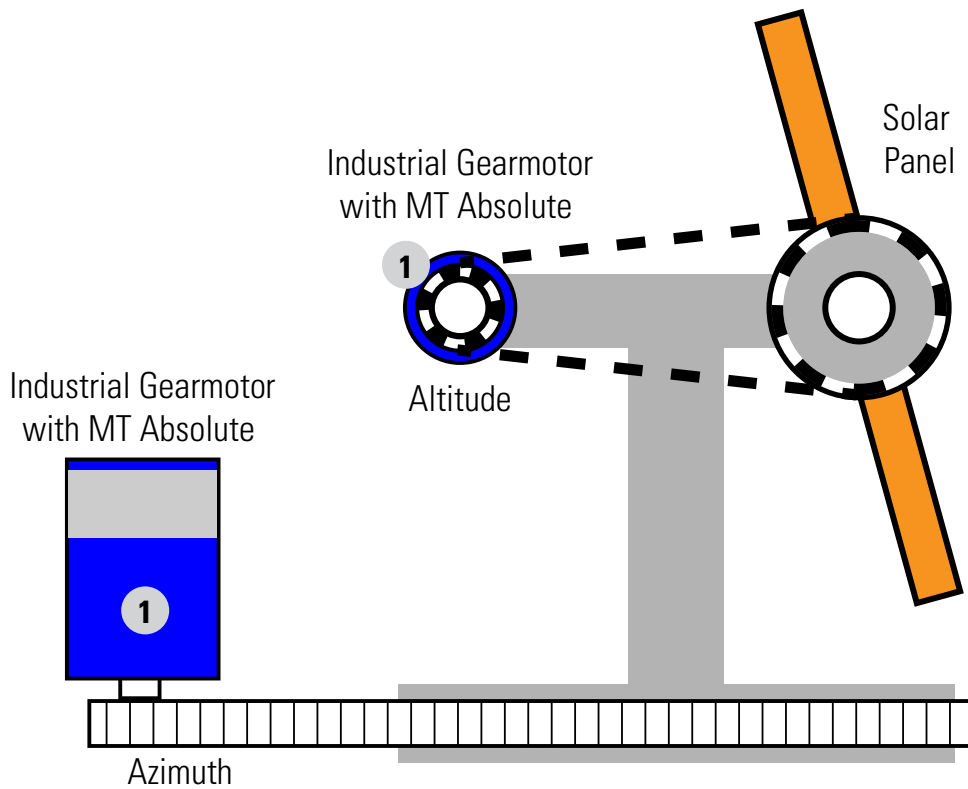
MHM5/MHK5 Family

Rotary Multi-Turn Encoder

BEI Sensors



## DIAGRAM



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