

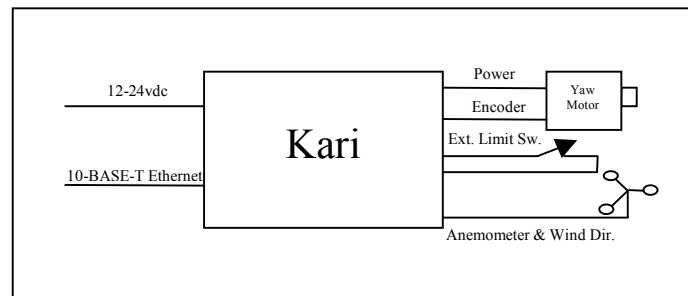
Kari™ (Kari - A giant who was the personification of wind - Norse Mythology)

Wind Turbine Controller

Kari is a networked controller for the 10-25KW class of wind turbines. It combines features such as active yaw control, including high wind speed feathering, and high wind stow. **Kari** also monitors generator operation, and inverter status, and provides an extensive array of data monitoring and remote control.

Features

- Support for limited yaw range of motion thus eliminating slip rings.
 - Automatic feathering during high wind speeds to ensure maximum and safe energy production.
 - Detection of motor and/or encoder failure
 - Yaw motor torque control
 - Parameterized furling algorithm
 - Parameterized turbine rotational safe operating envelope.
 - Detection and safe shut down in case of grid or inverter failure.
 - Detection and safe shutdown in case
 - Networked controller, with support for remote diagnostics, software update, and monitoring.
- **Kari** can now be monitored, diagnosed, and controlled through the iPhone/iPod touch
 - **Kari** has an optional barometric pressure sensor



Description

Kari is a controller for wind turbines in the 10KW to 25KW class. It is ideally suited for turbine applications where yaw rotational limits are enforced rather than using slip ring technology. Without slip rings, a turbine’s yaw rotation is typically limited to a few complete turns.

Efficient and Safe Operations:

With rotational limits enforced, **Kari** will attempt to maintain a turbine’s yaw position at close to the half way point without sacrificing turbine energy production. Upon reaching maximum operational turbine rotational speed, **Kari** will actively furl the turbine position such that the rotational speed is maintained. At a preset wind speed and/or turbine rotational speed, the controller will stow the turbine perpendicular to the wind direction. **Kari** is capable of detecting inverter and/or grid failure. In case of such failure, the controller will proceed to stow the turbine in addition to applying a turbine brake.

Remote Monitoring

During installation and operation, an iPhone or iPod touch can be used to monitor and control local turbine activity. The **Kari** wind controller is networked, and remotely managed with the Lauritzen Valhalla server. Through the server, it is possible to remotely monitor, diagnose and control all controller operations. Additionally, a set of controller data and operational events are recorded within the Valhalla server for subsequent browsing

Electrical Ratings

Parameter	Min	Typ	Max	Units
Controller Voltage Supply	100	120-240	265	VAC
Controller Power Consumption		0.25	0.40	W
Yaw Motor Voltage	12	24	30	V
Yaw Motor Current, Peak(10sec)			10	A
Yaw Motor Current, Sustained			5	A

Thermal Characteristics

Parameter	Min	Typical	Max	Units
Storage Temperature	-40		120	°C
Operating Temperature	-10		60	°C

Ordering Information

For further information related to ordering, quantity discounts, and other products or optional accessories, please visit www.lauritzen.biz and fill out the [online submission form](#)