

# FEATURED PRODUCT

## Luminary Digital Drive

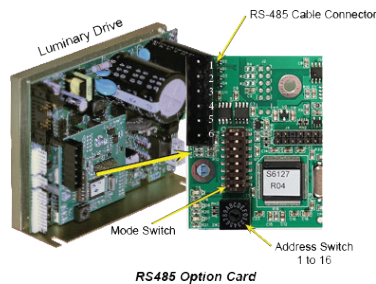


### **Controlling Speed Can Be Crucial**

Precise speed control is crucial for reliable results in a variety of medical processes. Knowing your speed is set and regulated, within a tolerance of +/- 0.1 RPM for extended periods of time, assures consistent results in a liquid mixing or pumping application.

### **Luminary Servo Drive Series**

Using servo drive technology by Industrial Indexing Systems (IIS), the Luminary Servo Drive Series is easily configured for a variety of applications using the digital drive interface option. The digital drive interface option bypasses the normal analog circuit path to allow access to the digital registers which control the operation of the speed control loop. Using the universal Rs485 device bus with Modbus RTU as its connectivity scheme, the digital drive is reachable from a variety of HMI, PLC and PC type controllers. The Rs485 multi-drive configuration permits drive networks of up to 16 units.



### **Controlling Speed**

The drive's speed control loop consists of a circuit to monitor and control the motor's torque using a speed command as the input target value. In this control loop process, the speed of the motor shaft is measured on a periodic time-base and compared to the input target value. Any difference between the two values is applied as a correction to the torque control that is needed to accelerate or decelerate the motor shaft back to the desired speed. The shaft speed stays constant, within a small tolerance, due to the quick reaction time of the correction applied to the torque control loop.

### **What Causes Speed Changes**

External forces that can affect the shaft speed are a result of torque on the motor shaft due to friction, inertia, and variations in fluid viscosity.

- Friction develops torque on a shaft in proportion to its speed.
- Inertia develops torque during changes in speed.
- Viscosity develops torque from an object mounted to the motor shaft as it moves through a fluid medium.

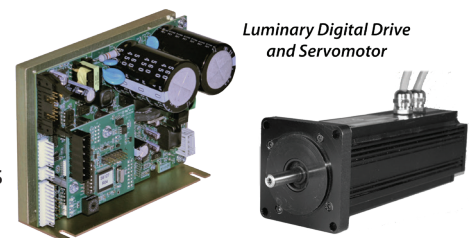
- An object's shape and size, such as a propeller, moves through the medium acting as a moment arm developing torque.
- The amount of torque needed to keep a constant speed depends on the viscosity of fluid medium.
- Viscosity of a fluid can also vary as its temperature changes.

### **Best Motor Size**

The size of the motor will depend on the volume of the medium, the viscosity at its lowest temperature and the speed the fluid required. If the need arises, customized motors that meet your specifications, are available on request. Our motors are for complex environments such as food production, medical applications, oil refining, explosive liquid, dust and vapor atmospheres, and submersible assemblies. Agency standards: UL, cUL, ATEX, IECEx and FDA (rated and certified).

### **We Can Help**

Engineers at IIS are ready for requests to design features into the Luminary drive that reach beyond the standard features we offer. Modified acceleration profiles, variable speed selections, inputs and outputs with special sequencing are just a few of the possibilities without additional hardware costs. Functionality specific to handling your process can be built into the drive firmware. This results in a faster reaction time compared to handling it over the Rs485 network.



### **System Overview**

The IIS Luminary Digital Drive and motor combinations range from 50 watts to 3500 watts with speeds to 4000 RPM. Each drive is setup to provide the full capacity of the motor it is matched with, before shipment.

### **Results**

Electronic motion control is at the heart of the business activity at IIS and has been for over 40 years. Our focus continues to be dedication to what our customers require, delivering results and providing unparalleled support.

**Call us today at (585) 924-9181 to discuss these products in greater detail**

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# INDUSTRIAL INDEXING SYSTEMS, INC

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## Team IIS



Our objective is to bring state-of-the-art servo system products to practical use on the factory floor. Whether it is a complete turnkey system or servo components, IIS' commitment to quality products and personalized support is unsurpassed. Our business philosophy is pretty simple. We take responsibility for everything we sell. By doing that we make a long-term commitment to our customer's success.

## Headquarters in Victor NY



To accommodate the steady growth we've enjoyed over the years, our facility has been expanded several times to its present 17,000 square foot capacity. This location houses all critical departments - Sales, Marketing, Applications Engineering, R&D, Production, Warehouse, Panel Shop, Quality Control and Customer Support. Having everything under one roof speeds communications and provides better service to our customers.

## Sales Representatives

### ■ Potter - GMH Technologies

Area: AZ, NV, Southern CA  
Mike Habelow (714) 926-7482  
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### ■ Motors, Drives & Gears + Controls

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### ■ Brundage Associates, Inc

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### ■ Satek Engineered Components, Inc

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### ■ IIS Headquarters, Victor, NY

US States, Canada and Mexico

Alaska	Kansas	Northern CA
DC	Minnesota	Oregon
Guam	Missouri	Puerto Rico
Hawaii	Montana	South Dakota
Idaho	Nebraska	Virgin Islands
Iowa	North Dakota	Washington

Our motion control technology is helping OEM machinery builders strive for precise, repeatable performance and higher production speeds



Check out our website for the latest product information at: <https://www.iis-servo.com/>