

2000/2006 Series **Product Selection Guide** Geared Rotary Limit Switches **GEMCO**[®]

SUPERIOR DESIGN AND OPERATING FEATURES ■ ALL METAL GEARING FOR LONGEVITY

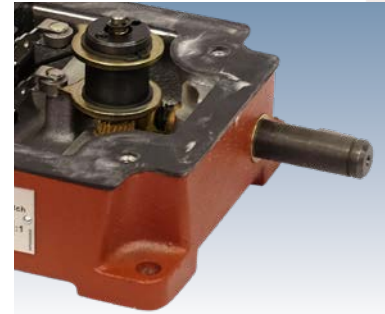


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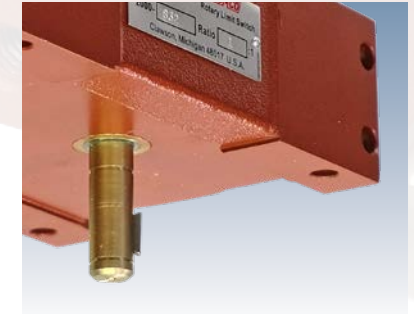
Accuracy & Longevity

A **METEK Factory Automation** engineers, manufactures, and markets sensors and controls for demanding and harsh industrial environments. Our Geared Rotary Limit Switch line is designed for longevity. Units include all metal gearing and switches that are rated for 15 million operations. All units are built in the USA to meet global application needs.

The Gemco® Geared Rotary Limit Switches are primarily used in material handling and rotary operations where motion is expressed in shaft rotation. The input shaft is typically connected to the motor or drive mechanism. After a set amount of turns, the cam trips the switches, thus starting or stopping the movement. The primary purpose of the switch is to control the intermediate or end limits in linear or rotary motion. The switch is often used as a safety device to protect against accidental damage to equipment due to overtravel.



Typical Worm Gear type



Typical Spur Gear type

Rugged & Flexible Enclosure Solutions

Gemco switches are provided in a variety of enclosure styles and ratios to meet your varied environmental and mounting conditions. NEMA 12, 4, 7, & 9 enclosure ratings are available. In addition to our standard materials, enclosures may also be special ordered in cast iron & bronze.



Fibralloy® Enclosure



Thick Wall Cast Aluminum Enclosure



Cast Aluminum Enclosure

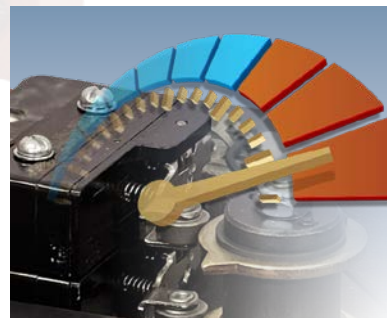
Quality Parts Make Each Geared Rotary Limit Switch Highly Dependable



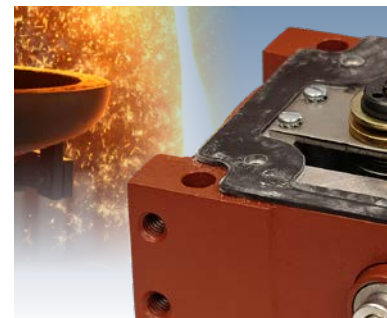
The 1/2" input shaft drives a bronze gear which rotates the steel cams and cam block. The cam block houses independently adjustable cams that actuate the precision type snap action switches.



Each Rotary Limit Switch can be provided with up to 4 switches and can be rotated clockwise or counter-clockwise.



No minimum speed is specified because snap action contacts are used. Maximum rated speed of the input shaft is 1,000 rpm for the 2000 Series and 2,000 rpm for the 2006 Series. Gemco Geared Rotary Limit Switches offer the broadest range of standard gear selections of any switch available. Standard ratios ranges from 5:1 to 5,333:1.



Operating temperature from -40° F (-40° C) to 180° F (82.2° C) provides for mounting and operation in even the harshest industrial environments.



U.L. Listed Snap Action Switches rated for 15 million mechanical operations.

Every switch features: Self-lubricating bearings, powdered metal impregnated for life-time lubrication ■ External mounting holes to permit mounting without internal interference ■ Bronze gears and steel cams for longevity

Typical Industries

- Screw Jacks ■ Overhead Doors ■ Material Handling ■ Windmill ■
- Crane & Hoists ■ Valve Positioning ■ Satellite & Telescope ■ Solar
- Mechanical Stamping Presses ■ Steel Mills ■ Stage & Theater ■
- Gymnasium—Basketball Backboard ■ Factory Automation

2000 Series

2000 Series **General Purpose**

NEMA 12 enclosure, molded from Fibrallyo[®], a special fiberglass material that is resistant to acids, alcohols, hydrocarbons and heat. A tight fitting synthetic gasket prevents the entrance of oils and coolants. External mounting holes enable switch mounting without internal interference. Available in 2, 3, and 4 circuit units with either SPDT or DPDT switches, with ratios form 5:1 to 5333:1. Permissible speeds to 1000 rpm.

NEMA 12 – General Purpose, shock resistant Fibrallyo[®] enclosure ■ ½" Input Shaft with Woodruff Key for quick drive connection ■ Gear ratios from 5:1 to 5333:1 ■ Snap Action Switches – SPDT or DPDT – UL Recognized and CSA approved.

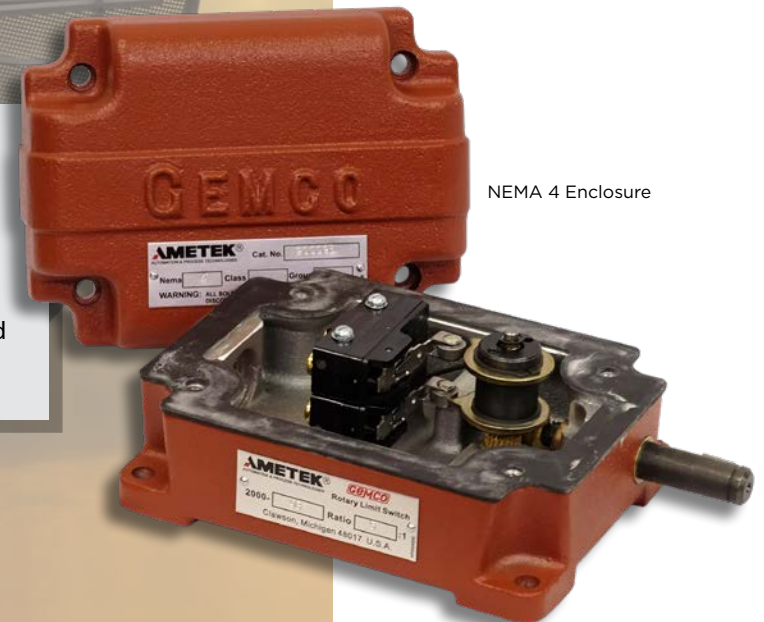


NEMA 12 Enclosure

2000 Series **Watertight**

NEMA 4 enclosure, made of cast aluminum with ½" input shaft. External mounting holes enable switch mounting without internal interference. Available in 2, 3, and 4 circuit units with either SPDT or DPDT switches, with ratios form 5:1 to 5333:1. Cast iron or cast bronze enclosures can be provided upon request. Permissible speeds to 1000 rpm.

NEMA 4 – Heavy duty, Cast Aluminum enclosure ■ ½" Input Shaft with Woodruff Key for quick drive connection ■ Gear ratios from 5:1 to 5333:1 ■ Snap Action Switches – SPDT or DPDT – UL Recognized and CSA approved.



NEMA 4 Enclosure

2000 Series



2000 Series Heavy Duty

NEMA 12 enclosure, made of cast aluminum with $\frac{3}{4}$ " input shaft. External mounting holes enable switch mounting without internal interference. Available in 2, 3, and 4 circuit units with either SPDT or DPDT switches, with ratios from 5:1 to 3000:1. Permissible speeds to 1800 rpm. Designed for installations such as mechanical press ram adjustments, press extractors, and shuttles requiring a limit switch that will withstand rapid starting and stopping, shock, and vibration and still successfully control the end or intermediate limits of such devices. Because of these high demands, Gemco's Heavy Duty Rotary Limit Switch has been built to far exceed any other on the market.

NEMA 12 - Heavy duty, Cast Aluminum enclosure ■ $\frac{3}{4}$ " Input Shaft with Woodruff Key on 5:1 – 30:1 ratios ■ $\frac{1}{2}$ " Input Shaft with Woodruff Key on 125:1 – 3000:1 ratios ■ Gear ratios from 5:1 to 3000:1 ■ Snap Action Switches – SPDT or DPDT – UL Recognized and CSA approved.



2000 Series Hazardous Locations

NEMA Type 7 & 9 enclosures, made of cast aluminum with $\frac{1}{2}$ " input shaft. External mounting holes enable switch mounting without internal interference. Available in 2, 3 and 4 circuit units with either SPDT or DPDT switches. Permissible speeds to 1000 rpm. Designed and manufactured to our interpretation of the following Underwriters Laboratory (UL) standards and have not been submitted for 3rd party approvals: UL 1203 Explosion-Proof and Dust-Ignition-Proof Electrical Equipment for Use in Hazardous (Classified) Locations (Second Edition, July 27, 1994) • UL 698 Industrial Control Equipment for Use in Hazardous (Classified) Locations (Twelfth Edition, June 22, 1995) • NEMA 7, Class I, Division 1 & 2, Group D • NEMA 9, Class II, Division 1 & 2, Group E, F, G.

NEMA 7 & 9 - Heavy duty, Cast Aluminum enclosure ■ $\frac{1}{2}$ " Input Shaft with Woodruff Key for quick drive connection ■ Gear ratios from 5:1 to 5333:1 ■ Snap Action Switches – SPDT or DPDT – UL Recognized and CSA approved ■ Optional Cast Iron and Cast Bronze enclosures available upon request.



2000 & 2006 Series

2000 Series Spur Gear

NEMA 12, 4, & 7 enclosure styles, NEMA 12 enclosures are made from Fibrallyloy®; whereas the 4 & 7 units are made of cast aluminum. Used in applications requiring ratios below 3:1 and 1:3 for controlling end and/or intermediate limits of reciprocating or rotary motions. This device extends the line of Gemco Rotary Limit Switches by providing ultra-sensitive control for small increments or movement. External mounting holes enable switch mounting without internal interference. Available in 2, 3 and 4 circuit units with either SPDT or DPDT switches. Permissible speeds to 1000 rpm.

NEMA 12, 4, & 7 style enclosures ■ ½" Input Shaft with Woodruff Key for quick drive connection ■ Gear ratios from 1:3 to 3:1 ■ Snap Action Switches – SPDT or DPDT – UL Recognized and CSA approved ■ Unique mounting—Mounting holes are provided for either direct or sprocket drive applications in three different positions ■ Optional Potentiometer outputs available upon request.



Spur Gear NEMA 4 Enclosure

2000 & 2006 Series Right Angle Gear Reducer Adapter

NEMA 4 enclosure, made of cast aluminum with ½" slotted input shaft. Flange Mount 40:1 Right Angle Gear Reducers are available for both the 2000 and 2006 Series Rotary Limit Switches.

NEMA 4 – Rugged, Cast Aluminum base-plate ■ ½" Input Shaft with slotted keyway for quick drive connection ■ Gear ratio 40:1—in addition to ratio on Rotary Limit Switch ■ Bases available for 2000 Series and 2006 Series.



2006 with Right Angle Gear Reducer

- 2000 Series P/N SD0384300
- 2006 Series-2 Circuit Model P/N SD0315400
- 2006 Series-4 Circuit Model P/N SD0315100

2006 Series

2006 Series General Purpose

Water-tight/Oil-tight/Dust tight NEMA 4/5 enclosure, made of cast aluminum with 1/2" input shaft. External mounting holes enable switch mounting without internal interference. Available in 2, 3 and 4 circuit units with either SPDT or DPDT switches, with ratios from 5:1 to 1080:1. Permissible speeds to 2000 rpm.

NEMA 4/5 Rugged, Cast Aluminum enclosure ■ 1/2" Input Shaft with Woodruff Key for quick drive connection ■ Gear ratios from 5:1 to 1080:1 ■ Snap Action Switches – SPDT or DPDT with isolated contacts – UL Recognized ■ Optional Potentiometer output available upon request ■ Optional Pneumatic Switches available upon request.



NEMA 4
2-circuit Enclosure



NEMA 4
4-circuit Enclosure

2006 2-circuit with Optional Potentiometer





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