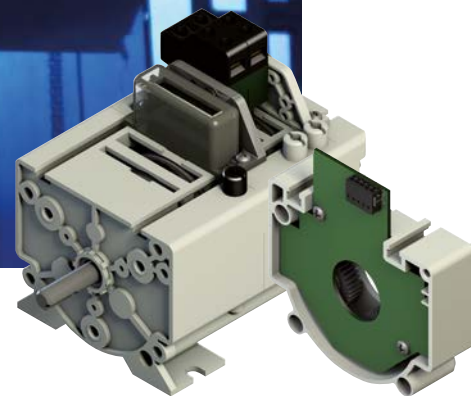


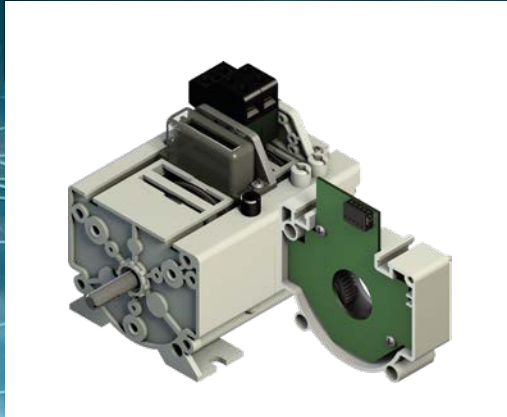


# Controls and Sensors for Stage and Theatre Applications

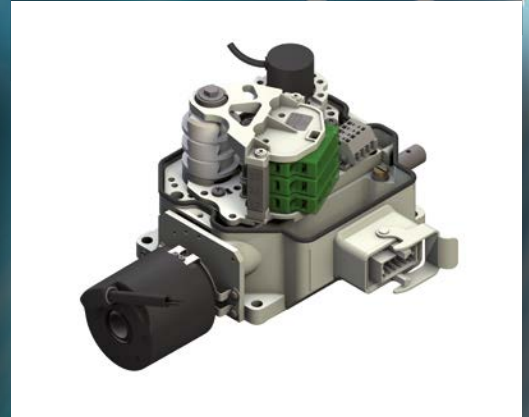


# OUR TECHNOLOGY PLAYS AN IN

**Stromag Smart Cam®**  
with multi-turn absolute encoder



**Stromag Light Cam® M**  
with aluminium housing



## GEARED CAM LIMIT SWITCHES FOR STAGE AND THEATRE TECHNOLOGY

Ensuring the safety in many of the world's most famous theatres and opera houses. The actors often work under suspended loads which are in motion throughout the performance. Depending on the production, stage podiums weighing several tons are often being moved, quickly or extremely slowly, across the whole stage for the duration of the performance. This process must be completely secure, as well as switched off at an exact position to stop the movement when required to ensure the actors are entirely safe.

Geared cam limit switches from Stromag reliably switch off sequences of motion and restrict machines with independently and precisely adjustable cam discs. Electrical drives and winches for upper and lower machinery are equipped with redundant braking systems and

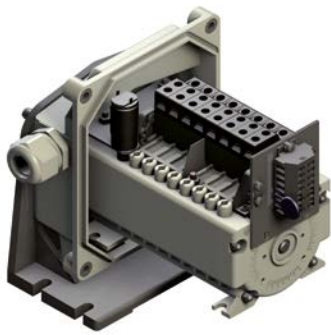
the geared cam limit switches are used for the safe switching off in the point hoists of upper machinery or for precise position sensing in spindle lifting devices in lower machinery.

The unique Series 51, based on a planetary form-fit gear system, is particularly popular in the wide-ranging field of theatre technology, which demands the highest standards of safety as per DGUV V17.

Many other famous theatres, including La Bastille in Paris, the Oslo Opera House and the Royal Opera House in London, use this technology from Stromag to help ensure they can be confident about the safety of the stage, and the technology is also now being applied to television studios and other stage applications across the world.

# INVISIBLE BUT IMPORTANT PART

**Stromag Series 51**  
with motor-driven block adjustment



**Stromag Series 51**  
with aluminium housing and EZX



## OUR COMBINED TECHNIQUE FOR SPECIAL REQUIREMENT

The form-fit Electromagnetic Spring-Applied Toothed Clutch EZX 0.1 has been developed specifically for use with stage hoisting gear and can be combined with all Stromag current geared cam limit switch series to fully meet all requirements of this special application.

- Internal and external centring of the input hub for direct flange-mounting of Controlflex couplings as well as chains and/or toothed pulleys
- Large bearing distances for taking up high radial forces
- Form-fit crown gear closed by spring pressure and opened electromagnetically
- Backlash-free torque transmission via double diaphragm
- Largely dimensioned coil for reliable switching via large air gap
- Clamping ring for backlash-free torque transmission to geared cam limit switch
- Additional form-fit shaft connection between clutch and geared cam limit switch
- In an open condition, the clutch acts as a brake for the geared cam limit switch. Accidental adjustment is prevented
- Additional centring for the provision of a contact ring for monitoring the switch condition of the clutch by means of non-contact switch (also safety approved)

## Stromag Facilities

### Europe

#### Germany

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Geared Cam Limit Switches, Discs,  
Wind Brakes*

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*Electromagnetic Clutches & Brakes*

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*Disc Brakes & Drum Brakes*

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Industrial Caliper Brakes*

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*Electromagnetic Clutches & Brakes*

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219-874-5248

*Couplings*

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940-723-3400

*Geared Cam Limit Switches,  
Industrial Caliper & Drum Brakes*

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Cam Limit Switches, Wind Brakes*

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*Clutches & Brakes, Electromagnetic  
Clutches & Brakes, Couplings, Industrial  
Caliper & Drum Brakes, Discs, Geared  
Cam Limit Switches, Wind Brakes*

## The Brands of Altra Industrial Motion

### Couplings

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[www.ameridrives.com](http://www.ameridrives.com)

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[www.guardiancouplings.com](http://www.guardiancouplings.com)

**Huco**  
[www.huco.com](http://www.huco.com)

**Lamiflex Couplings**  
[www.lamiflexcouplings.com](http://www.lamiflexcouplings.com)

**Stromag**  
[www.stromag.com](http://www.stromag.com)

**TB Wood's**  
[www.tbwoods.com](http://www.tbwoods.com)

### Geared Cam Limit Switches

**Stromag**  
[www.stromag.com](http://www.stromag.com)

### Electric Clutches & Brakes

**Inertia Dynamics**  
[www.idicb.com](http://www.idicb.com)

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**Warner Electric**  
[www.warnerelectric.com](http://www.warnerelectric.com)

### Linear Products

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### Engineered Bearing Assemblies

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[www.kilianbearings.com](http://www.kilianbearings.com)

### Heavy Duty Clutches & Brakes

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[www.indclutch.com](http://www.indclutch.com)

**Twiflex**  
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**Stromag**  
[www.stromag.com](http://www.stromag.com)

**Svendborg Brakes**  
[www.svendborg-brakes.com](http://www.svendborg-brakes.com)

**Wichita Clutch**  
[www.wichitaclutch.com](http://www.wichitaclutch.com)

### Belted Drives

**TB Wood's**  
[www.tbwoods.com](http://www.tbwoods.com)

### Gearing

**Bauer Gear Motor**  
[www.bauergears.com](http://www.bauergears.com)

**Boston Gear**  
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**Delroyd Worm Gear**  
[www.delroyd.com](http://www.delroyd.com)

**Nuttall Gear**  
[www.nuttallgear.com](http://www.nuttallgear.com)

### Overrunning Clutches

**Formsprag Clutch**  
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**Marland Clutch**  
[www.marland.com](http://www.marland.com)

**Stieber**  
[www.stieberclutch.com](http://www.stieberclutch.com)

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