

# Contactless release monitoring

for ROBA-stop<sup>®</sup> safety brakes



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- *Wear-free*
- *Robust*
- *Magnetic field-resistant*
- *Absolutely reliable*

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# Contactless release monitoring for ROBA-stop® safety brakes

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- ❑ **Magnetic field-resistant**
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## Release monitoring function

Release monitoring prevents unpermitted operating conditions such as for example starting up against a closed brake. *mayr*® power transmission, international leaders in safety brakes for safety-critical applications such as for example passenger elevators or vertical axes, now provides a contactless system with inductive proximity switches for its safety brakes as an alternative to the tried and tested release monitoring system with microswitches.

## Application also as wear monitoring

In almost all applications, the inductive proximity switch is used for release monitoring. However, it can also be used as a wear monitoring device.

## Maximum reliability

As there are no mechanical parts involved, the service lifetime of this new, contactless release monitoring system is not dependent on the switching frequency. The system is **magnetic field-resistant** and works **absolutely reliably** and **wear-free**. It is also resistant to impacts and vibrations, as there are no movable parts, and the electronics are completely encapsulated.

## High repetitive accuracy

Other advantages of the inductive proximity switch are the high switching point repetitive accuracy, the low hysteresis and the low temperature drift.

## Application errors excluded

The switching bolt for the inductive proximity switch is installed at the factory and is, in contrast to the release monitoring system with microswitch, not adjustable. Application errors through adjustment of the switching point position can be excluded. This feature, too, plays an important role in maximising functional and operating safety.



**Gearless elevator drive with the redundant safety brake ROBA®-twinstop®. Both brake circuits are equipped with a release monitoring unit each.**

## Optionally NO or NC contacts

The contactless release monitoring system can be designed either as an NO or NC contact.

### NC contact function

With the NC contact function, the ‚High‘ signal is generated if the brake is switched when de-energised. Here the armature disk drops and the brake closes. Cable breakage is recognised when the brake is closed.

### NO contact function

With the NO contact function, the ‚High‘ signal is generated if the brake is energised and the armature disk releases the rotor. The brake is released. Only on generation of the ‚High‘ signal is the motor enabled for start-up. This reliably prevents the motor from starting up against a closed brake. Cable breakage is recognised when the brake is open.

## Brake type series with release monitoring

Almost all safety brakes by *mayr*® power transmission, which have up to now been equipped with a release monitoring system on microswitch-basis, can now also be equipped with the contactless system with inductive proximity switch. It is possible to integrate the release monitoring system into the following brake type series:

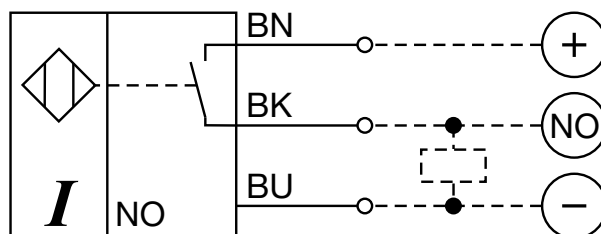
- ROBA®-topstop®
- ROBA®-twinstop®
- ROBA®-duplostop®
- ROBA-stop®-silenzio®
- etc.



## Technical data

Operating voltage	10 ... 30 VDC
DC rated operating current	< 150 mA
Ambient temperature	-25 to +85 °C
Repetitive accuracy	< 0,015 mm
Hysteresis	< 0,025 mm
Temperature drift (-25 °C to +85 °C)	< +/- 0,05 mm
Reliability characteristic value (MTBF acc. SN 29500)	6354 years

## NO contact function wiring diagram



### Please Observe:

Further variants of the electrical release monitoring system are possible. Further information is available on request.

## Same installation dimensions – Differences in electrical connection

### Compatible and interchangeable

The contactless release monitoring system has exactly the same installation dimensions as the microswitch design. Both systems are interchangeable.

The detail pictures below show a ROBA-stop®-silenzio® with proximity switch release monitoring (left) and microswitch release monitoring (right).

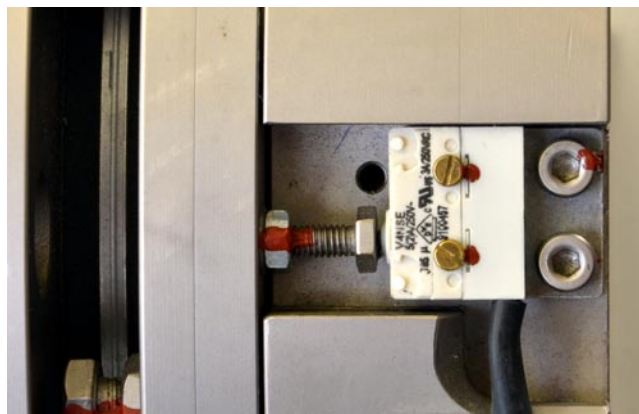
### Electrical connection

The **release monitoring with microswitch** requires only two lines as NC or NO contact. Only when used as a changeover contact, three lines are necessary.

The **contactless release monitoring** always requires three lines – one each for the voltage supply, the ground connection and the signal.



Contactless release monitoring with inductive proximity switches



Release monitoring with microswitch

## Headquarters

**Chr. Mayr GmbH + Co. KG**  
Eichenstrasse 1, D-87665 Mauerstetten  
Tel.: 0 83 41/8 04-0, Fax: 0 83 41/80 44 21  
[www.mayr.com](http://www.mayr.com), E-Mail: [info@mayr.com](mailto:info@mayr.com)



**mayr**<sup>®</sup>

## Service Germany

### Baden-Württemberg

Esslinger Straße 7  
70771 Leinfelden-Echterdingen  
Tel.: 07 11/45 96 01 0  
Fax: 07 11/45 96 01 10

### Bavaria

Eichenstrasse 1  
87665 Mauerstetten  
Tel.: 0 83 41/80 41 04  
Fax: 0 83 41/80 44 23

### Chemnitz

Bornaer Straße 205  
09114 Chemnitz  
Tel.: 03 71/4 74 18 96  
Fax: 03 71/4 74 18 95

### Franken

Unterer Markt 9  
91217 Hersbruck  
Tel.: 0 91 51/81 48 64  
Fax: 0 91 51/81 62 45

### Hagen

Im Langenstück 6  
58093 Hagen  
Tel.: 0 23 31/78 03 0  
Fax: 0 23 31/78 03 25

### Kamen

Lünener Strasse 211  
59174 Kamen  
Tel.: 0 23 07/23 63 85  
Fax: 0 23 07/24 26 74

### North

Schiefer Brink 8  
32699 Extertal  
Tel.: 0 57 54/9 20 77  
Fax: 0 57 54/9 20 78

### Rhine-Main

Hans-Böckler-Straße 6  
64823 Groß-Umstadt  
Tel.: 0 60 78/7 82 53 37  
Fax: 0 60 78/9 30 08 00

## Branch office

### China

Mayr Zhangjiagang  
Power Transmission Co., Ltd.  
Changxing Road No. 16,  
215600 Zhangjiagang  
Tel.: 05 12/58 91-75 65  
Fax: 05 12/58 91-75 66  
[info@mayr-ptc.cn](mailto:info@mayr-ptc.cn)

### Great Britain

Mayr Transmissions Ltd.  
Valley Road, Business Park  
Keighley, BD21 4LZ  
West Yorkshire  
Tel.: 0 15 35/66 39 00  
Fax: 0 15 35/66 32 61  
[sales@mayr.co.uk](mailto:sales@mayr.co.uk)

### France

Mayr France S.A.  
Z.A.L. du Minopole  
BP 16  
62160 Bully-Les-Mines  
Tel.: 03.21.72.91.91  
Fax: 03.21.29.71.77  
[contact@mayr.fr](mailto:contact@mayr.fr)

### Italy

Mayr Italia S.r.l.  
Viale Veneto, 3  
35020 Saonara (PD)  
Tel.: 0 49/8 79 10 20  
Fax: 0 49/8 79 10 22  
[info@mayr-italia.it](mailto:info@mayr-italia.it)

### Singapore

Mayr Transmission (S) PTE Ltd.  
No. 8 Boon Lay Way Unit 03-06,  
TradeHub 21  
Singapore 609964  
Tel.: 00 65/65 60 12 30  
Fax: 00 65/65 60 10 00  
[info@mayr.com.sg](mailto:info@mayr.com.sg)

### Switzerland

Mayr Kupplungen AG  
Tobeläckerstrasse 11  
8212 Neuhausen am Rheinfall  
Tel.: 0 52/6 74 08 70  
Fax: 0 52/6 74 08 75  
[info@mayr.ch](mailto:info@mayr.ch)

### USA

Mayr Corporation  
4 North Street  
Waldwick  
NJ 07463  
Tel.: 2 01/4 45-72 10  
Fax: 2 01/4 45-80 19  
[info@mayrcorp.com](mailto:info@mayrcorp.com)

## Representatives

### Australia

Regal Beloit Australia Pty Ltd.  
19 Corporate Ave  
03178 Rowville, Victoria  
Australien  
Tel.: 0 3/92 37 40 00  
Fax: 0 3/92 37 40 80  
[salesAUvic@regalbeloit.com](mailto:salesAUvic@regalbeloit.com)

### China

Mayr Power Transmission Co., Ltd.  
Shanghai Representative Office  
Room 2206, No. 888 Yishan Road  
200233 Shanghai, VR China  
Tel.: 0 21/64 32 01 60  
Fax: 0 21/64 57 56 21  
[Trump.feng@mayr.de](mailto:Trump.feng@mayr.de)

### India

National Engineering  
Company (NENCO)  
J-225, M.I.D.C.  
Bhosari Pune 411026  
Tel.: 0 20/27 13 00 29  
Fax: 0 20/27 13 02 29  
[nenco@nenco.org](mailto:nenco@nenco.org)

### Japan

MATSUI Corporation  
2-4-7 Azabudai  
Minato-ku  
Tokyo 106-8641  
Tel.: 03/35 86-41 41  
Fax: 03/32 24 24 10  
[k.goto@matsui-corp.co.jp](mailto:k.goto@matsui-corp.co.jp)

### South Africa

Bearings International  
Private Bag 9  
Elandsfontein 1406  
Tel.: 0 11/8 99 00 00  
Fax: 0 11/8 99 65 74  
[info@bearings.co.za](mailto:info@bearings.co.za)

### South Korea

Mayr Korea Co. Ltd.  
Room No.1002, 10th floor,  
Nex Zone, SK TECHNOPARK,  
77-1, SungSan-Dong,  
SungSan-Gu, Changwon, Korea  
Tel.: 0 55/2 62-40 24  
Fax: 0 55/2 62-40 25  
[info@mayrkorea.com](mailto:info@mayrkorea.com)

### Taiwan

German Tech Auto Co., Ltd.  
No. 28, Fenggong Zhong Road,  
Shengang Dist.,  
Taichung City 429, Taiwan R.O.C.  
Tel.: 04/25 15 05 66  
Fax: 04/25 15 24 13  
[abby@zfgta.com.tw](mailto:abby@zfgta.com.tw)

### China

machine tools only:  
Dynamic Power Transmission Co., Ltd.  
Block 5th, No. 1699, Songze Road,  
Xujing Industrial Zone  
201702 Shanghai, China  
Tel.: 021/59883978  
Fax: 021/59883979  
[dtschanghai@online.sh.cn](mailto:dtschanghai@online.sh.cn)

### More representatives:

Austria, Benelux States, Brazil, Canada, Czech Republic, Denmark, Finland, Greece, Hongkong, Hungary, Indonesia, Israel, Malaysia, New Zealand, Norway, Philippines, Poland, Romania, Russia, Slovakia, Slovenia, Spain, Sweden, Thailand, Turkey

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