

# BEARINGLESS MRI 2854

Hazardous area encoder with optional condition monitoring



The explosion-proof bearingless MRI 2854 encoder comes with a sturdy enclosure and a perfect fit for easy mounting onto standard NEMA 8.5" C-face motors. Resistant to high moisture, humidity, salt water and vibrations, and with non-contact scanning, it is practically immune to mechanical wear. This encoder also comes with an option to use data and diagnostics for condition-based maintenance.

The bearingless encoder model MRI 2854 is built to enhance motor performance in the true heavy-duty operations in the toughest of environments, like pulp & paper, steel, oil & gas, and marine industries.

The MRI 2854 is mounted directly on the main shaft of NEMA standard 8.5" C-Face motors, with shaft diameters

up to 90 mm, and can be provided with resolutions from 1 to 16383 ppr. It is developed and thoroughly tested for use in hazardous environments and comes with all the right certifications.

#### Compact, rugged, compatible

With the base in the well-proven technology of Leine Linde's Bearingless 2000 series, the robust electronics of this model includes advanced sensing technology to ensure stable speed measurement without ripple or ghost pulses. The sturdy enclosure in anodized aluminium covers all parts of the encoder. Without ball bearings or other contact surfaces, it is immune to mechanical wear. Several robust connections and electronic options are available.

#### cULus with USL and CNL certificates

##### USL

Class I Division 1 Groups B,C,D T4  
Class I Zone 1 AEx db ia IIC T4 Gb X  
Class I Zone 1 AEx db ia op is IIC T4 Gb X

##### CNL

Class I Division 1 Groups B,C,D T4  
Ex db ia IIC T4 Gb X  
Ex db ia op is IIC T4 Gb X

##### ATEX

Ⓜ II 2G Ex db ia op is IIC T4 Gb  
Ⓜ II 2G Ex db ia IIC T4 Gb

##### IECEx

Ex db ia op is IIC T4 Gb  
Ex db ia IIC T4 Gb

**LEINE LINDE**

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## Flexible encoder configuration for hazardous areas

The 2854 can be equipped with one or two scanning heads, with fixed mounting position. Therefore the customer can choose to achieve redundancy for safety critical systems or have separate signal types with two scanning heads.

Each scanning head can deliver up to six output signals plus optional diagnostic signals. When using a certified cable gland through the housing, the unit complies with all major certifications for hazardous locations.

The electrical outputs are all closed-circuit protected both to 0 V and to supply voltage. The supply lines are protected against reverse polarity.

Order the ring size and mounting type of your choice with the outputs needed for your application. Several robust connections and electronic options are available

## Easy to fit – or retrofit

The encoder fits directly on 1"–4" shafts (or 25 mm – 100 mm) without the need for a stub shaft. There is a fixed distance between the pulse wheel and the scanning head, which also means easy mounting.

Mount the encoder with one or two scanning heads to get one or two output signals, depending on the needs of the application.

### Technical data - MRI 2854

<b>Power supply</b>	9-30 Vdc (PELV or SELV required)
<b>Current consumption</b>	90 mA at 24 Vdc (max 110 mA)
<b>Incremental output load (max)</b>	+/- 40 mA
<b>Output frequency (max)</b>	100 kHz
<b>Cable length (max)</b>	350 m at 100 kHz (HC-HTL output)
<b>Operating temperature</b>	-40 ...+70°C, -40 ... +158°F
<b>Ingress protection class [IEC 60529]</b>	IP67
<b>Vibration [IEC 60068-2-6]</b>	<200 m/s <sup>2</sup>

## Code key - MRI 2854



**Model**

2854 = 8,5" C-Face mount with MRH 024 scanning head(s)

**Functionality**

0 = Standard

**SCANNING HEAD A**

**Connection**

- N = None
- 0 = M20x1,5 cable entry A
- 1 = M25x1,5 cable entry A

**Electronics**

- N = None
- 4 = 3ch HC-HTL (9-30 Vdc supply, 9-30 Vdc output)
- 5 = 6ch HC-HTL (9-30 Vdc supply, 9-30 Vdc output)
- 7 = RS422 (9-30 Vdc supply, 5 Vdc output)

**Resolution 2**

1-16383 ppr\*\*

**Resolution 1**

1-16383 ppr\*\*

**Shaft size**

1"-4" (25 -100 mm)

**Electronics**

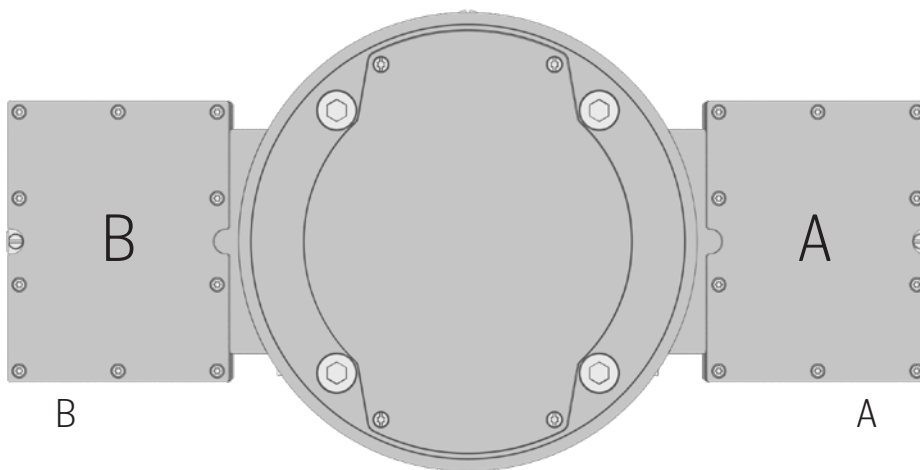
- N = None
- 4 = 3ch HC-HTL (9-30 Vdc supply, 9-30 Vdc output)
- 5 = 6ch HC-HTL (9-30 Vdc supply, 9-30 Vdc output)
- 7 = RS422 (9-30 Vdc supply, 5 Vdc output)

**SCANNING HEAD B**

**Connection**

- N = None
- 2 = M20x1,5 cable entry B
- 3 = M25x1,5 cable entry B

\*\*Max 100 kHz pulse frequency



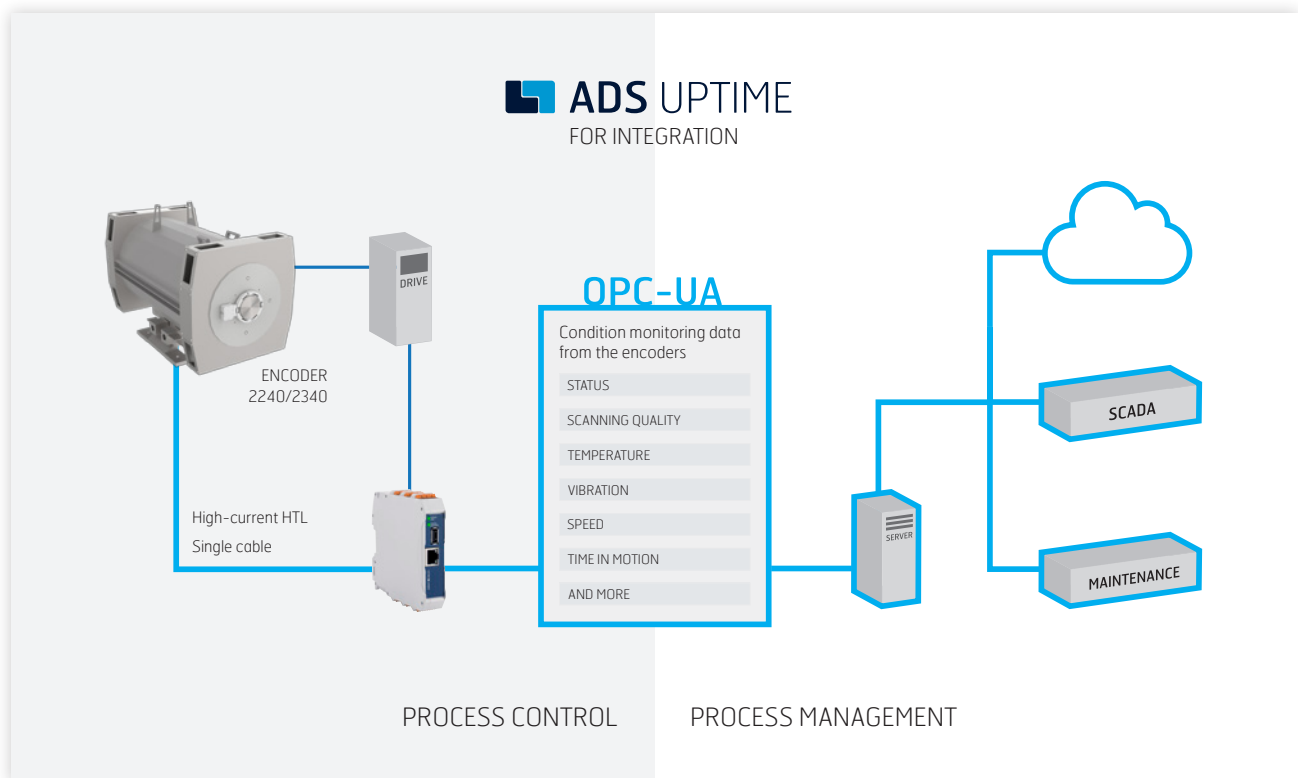
## OPTIONAL: Condition monitoring and predictive maintenance with ADS Uptime

An advanced diagnostic system, ADS, constantly monitors the encoder's key functions, fully integrated into each unit. Thereby, the user can receive a warning immediately when an impending fault is detected – automatically.

Fault interpretation determines the seriousness of the fault and categorizes it into various status levels. ADS Uptime will secure your machine uptime.

ADS Uptime is an option available for the bearingless MRI 2854 encoders. When ADS Uptime functionality is enabled it can be integrated with the control or process management systems, communicating over OPC-UA. Order the ADS Link unit separately and install it in the control cabinet to get the full functionality of the ADS Uptime..

Contact your Leine Linde sales contact for more information about solutions that can secure your machine uptime.



### Order number ADS Link

ADS Link for MRI 2000 series

1315991-01