EtherNet/IP™

– for all demanding applications



EtherNet/IP™ encoders are available for automation solutions in all harsh environments, including steel, mining and metals, as well as maritime and offshore applications like the oil & gas industries.

The reliability of Leine & Linde encoders is well established and appreciated, especially among the most physically demanding industry applications. EtherNet/IP™ is one of the most widespread protocols for industry solutions where accuracy, flexibility, and high-speed performance are vital factors.

Leine & Linde provides EtherNet/IP™ in three different encoder series and a gateway for fulfilling the widest range of challenges and customer demands.

Meet the 1000, 900, and 600 series

For the most extreme environments, such as in steel and mining applications, Extreme 1000 series handles the temperatures, mechanical forces, vibrations and shocks with exceptional durability, thanks to its sturdy construction and dual sets of bearings.
Premium 900 series also withstands intense cold and extreme heat together with continuous vibrations and instant shocks without compromising on functionality and resolution.
In demanding environments where space is an issue, Industrial 600 series proves itself among the world's most robust and flexible Ø58 mm encoders. The 600 series EtherNet/IP™ encoders are available in anodized aluminium or stainless steel.

Mechanics, connectivity and outputs

The encoders' clever, modular design has enabled a variety of mechanical adaptions, connection choices, and signal output solutions. Both the 1000 series and the 900 series can deliver a second output signal, for applications where redundancy or an incremental signal is wanted in addition to the absolute – to enhance control in drive applications.

Encoder gateway

This assortment of encoders becomes even more complete with the gateway, which enables connection via EtherNet/IP™ from EnDat. Thereby, the encoder can withstand ambient temperatures up to 100°C, while the EtherNet/IP™ connections are physically located away in a cabinet. This will also enable encoder replacement without interrupting communication, as contact is maintained via the gateway at all times.

Ex certifications

For hazardous or explosive environments, there are EtherNet/IP™ encoders with ATEX and IECEx certifications, zone 1/21. The singleturn Ex 647 model, and the multiturn Ex 648, are both available with solid shaft or hollow-shaft mounting to fit well into the oil and gas industry applications. Their certifications include high level of protection in atmospheres with gas and dust. EtherNet/IP is a trademark of ODVA, Inc.

LEINE LINDE

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EtherNet/IP™ functionality

- Encoder device profile 0x22
- Cycle time can be as low as 1 ms
- Supports up to 64 bit data
- Ready-to-use assemblies
- Position
- Scaling: free, binary and non-binary
- Preset
- Speed limits: low and high
- Acceleration limits: low and high
- Position limits: low and high
- Boot loader for firmware upgrade and IP search included

Technical data

	1000 series	900 series	600 series
Solid shaft / hollow shaft	Yes / no	Yes / yes	Yes / yes
Operating temperature	-40°C...+70°C	-40°C...+70°C	-40°C...+70°C
Absolute resolution	19 bit singleturn 12 bit multiturn	19 bit singleturn 16 bit multiturn	19 bit singleturn 12 bit multiturn
Optional incremental output	Yes	Yes	No
Vibration [IEC 60068-2-64]	300 m/s^2	200 m/s^2	300 m/s^2
Shock [IEC 60068-2-27]	2000 m/s^2	1500 m/s^2	2000 m/s^2
Shaft load axial / radial	1000 N / 680 N	210 N / 420 N	100 N / 140 N
Ingress protection	IP 67	IP67 / IP66	IP66 and IP67
Available for zone	Upon request	2/22	2/22

Technical data cont.

	Ex 647/648	Gateway
Solid shaft / hollow shaft	Yes / yes	Yes / yes*
Operating temperature	-40°C...+70°C	-40°C...+100°C**
Absolute resolution	19 bit singleturn 12 bit multiturn	19 bit singleturn*** 16 bit multiturn
Optional incremental output	No	No
Vibration [IEC 60068-2-64]	10 g 55-2000 Hz	10 g 10-2000 Hz
Shock [IEC 60068-2-27]	100 g, 11 ms / 200 g, 6 ms	n/a
Shaft load axial / radial	50 N / 60 N	n/a
Ingress protection	IP66 and IP67	IP66
Available for zone	1/21	2/22

* EnDat encoder, available with either solid shaft or hollow shaft variants.
** EnDat encoder up to +100°C, gateway up to +80°C.
*** Supports singleturn resolution up to 28 bit.

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