

NORMAND®

INCREMENTAL ENCODERS

**Normand Incremental Encoder
NORXX-XXXXX-H15-2RW**



Electrical Data

Interface	Incremental
Supply Voltage	4.75 – 30 VDC (On power supplies comply with EN 50178)
Current Consumption	≤ 70 mA @ 10 V DC, ≤ 40 mA @ 24 V DC
Power Consumption	≤ 1.0 W
Start-Up Time	< 250 ms
Min. Load Resistance	120 Ω
Output Driver	Push-Pull (HTL) or RS422 (TTL)
Output Voltage High Level Push-Pull (HTL)	> 4 V @ 4.75-9 V Supply Voltage > V-3 V @ 9-30 V Supply Voltage
Output Voltage Low Level Push-Pull (HTL)	< 0.5 V
Output Voltage High Level RS422 (TTL)	> 4 V
Output Voltage Low Level RS422 (TTL)	< 0.5 V
Maximum Frequency Response	1 MHz
Maximum Switching Current	50 mA per Channel

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Sensor

Technology	Magnetic
Pulses per Revolution	1 - 16 384
Accuracy (DNL)	$\pm 0.003^\circ$ (PPR > 2048 @ 100RPM) or $\pm 0.006^\circ$ (PPR > 1024 @ 100RPM)
Accuracy (INL)	$\pm 0.0878^\circ$ (≤ 12 bit)
Duty Cycle	$180^\circ \pm 27^\circ$ (Speed > 100RPM)
Phase Angle	$90^\circ \pm 14^\circ$ (Speed > 100RPM)

Environmental Specifications

Protection Class (Shaft)	IP66/IP67
Protection Class (Housing)	IP66/IP67
Operating Temperature	-30 °C fixed (-22 °F), -5 °C flexible (+23 °F) - +70 °C (+158 °F)
Humidity	98% RH, no condensation
Housing Material	Steel
Housing Coating	Cathodic corrosion protection (>720 h salt spray resistance) + Wet Painted
Flange Type	Blind Hollow, \varnothing 58 mm (H)
Flange Material	Aluminum
Shaft Type	Blind Hollow, Depth = 30 mm
Shaft Diameter	\varnothing 15 mm (\varnothing 0.59")
Shaft Material	Stainless Steel V2A (1.4305, 303)
Maximum Axial / Radial Misalignment	Static ± 0.3 mm / ± 0.5 mm; Dynamic ± 0.1 mm / ± 0.2 mm
Max. Permissible Mechanical Speed	≤ 3000 1/min
Shock Resistance	≤ 100 g (half sine 6 ms, EN 60068-2-27)
Permanent Shock Resistance	≤ 10 g (half sine 16 ms, EN 60068-2-29)
Vibration Resistance	≤ 10 g (10 Hz – 1000 Hz, EN 60068-2-6)
Length	71,2 mm (2.80")
Weight	280 g (0.62 lb)

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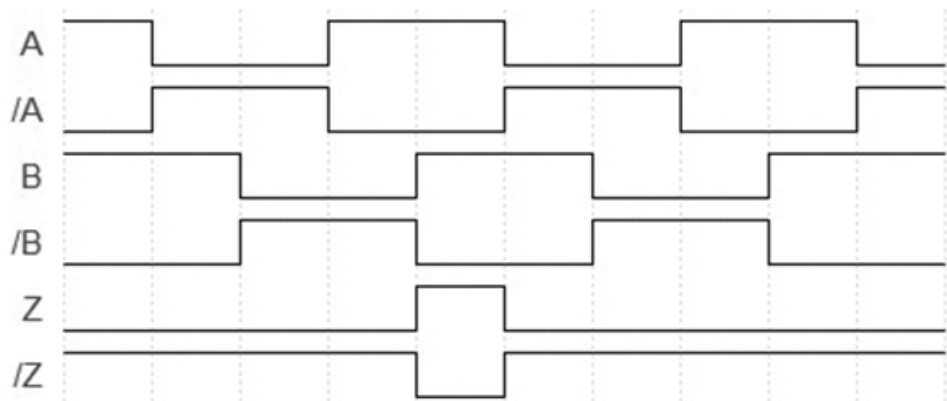
Normand Incremental Encoder

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Electrical Connection

Connection Orientation	Radial
Cable Length	2 m [79"]
Wire Cross Section	0.14 mm ² / AWG 26
Cable Diameter	6 mm (0.24 in)
Minimum Bend Radius	30 mm (1.18 in) fixed, 60 mm (2.36 in) flexing

Pulse Diagram



Connection Plan

SIGNAL	CABLE COLOR
A	Green
/A	Yellow
B	Gray
/B	Pink
Z	Blue
/Z	Red
Power Supply	Brown
GND	White
Shielding	Shield

Connector-View on Encoder

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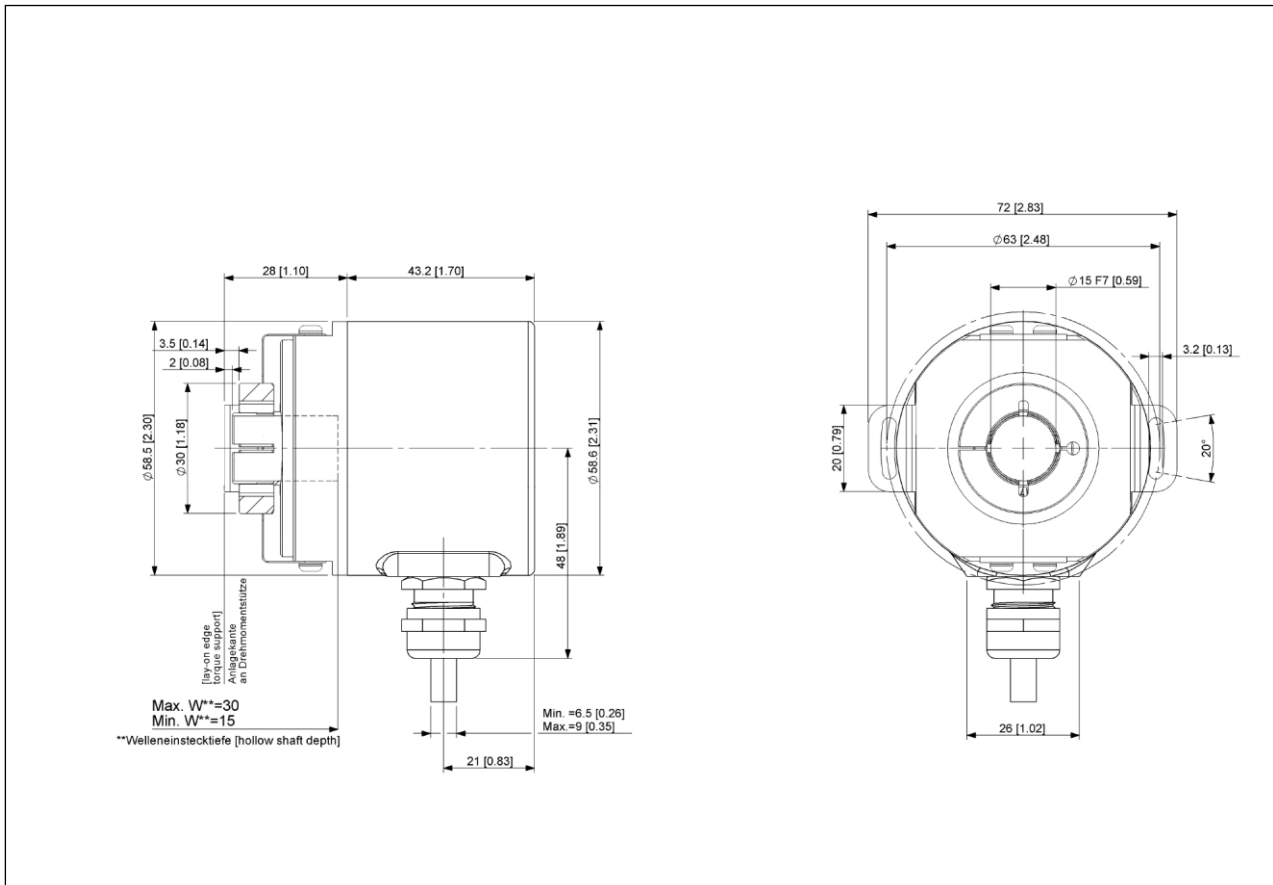
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Rotation Clockwise (seen on shaft)



Accessories



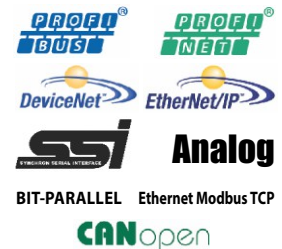
Normand Power Supplies



Encoder Couplings



Measuring Wheel



Encoder Interfaces

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