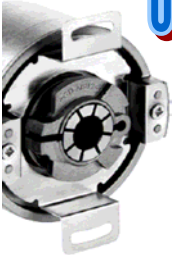




Industrial Encoders
Direct Ltd

60HA Series

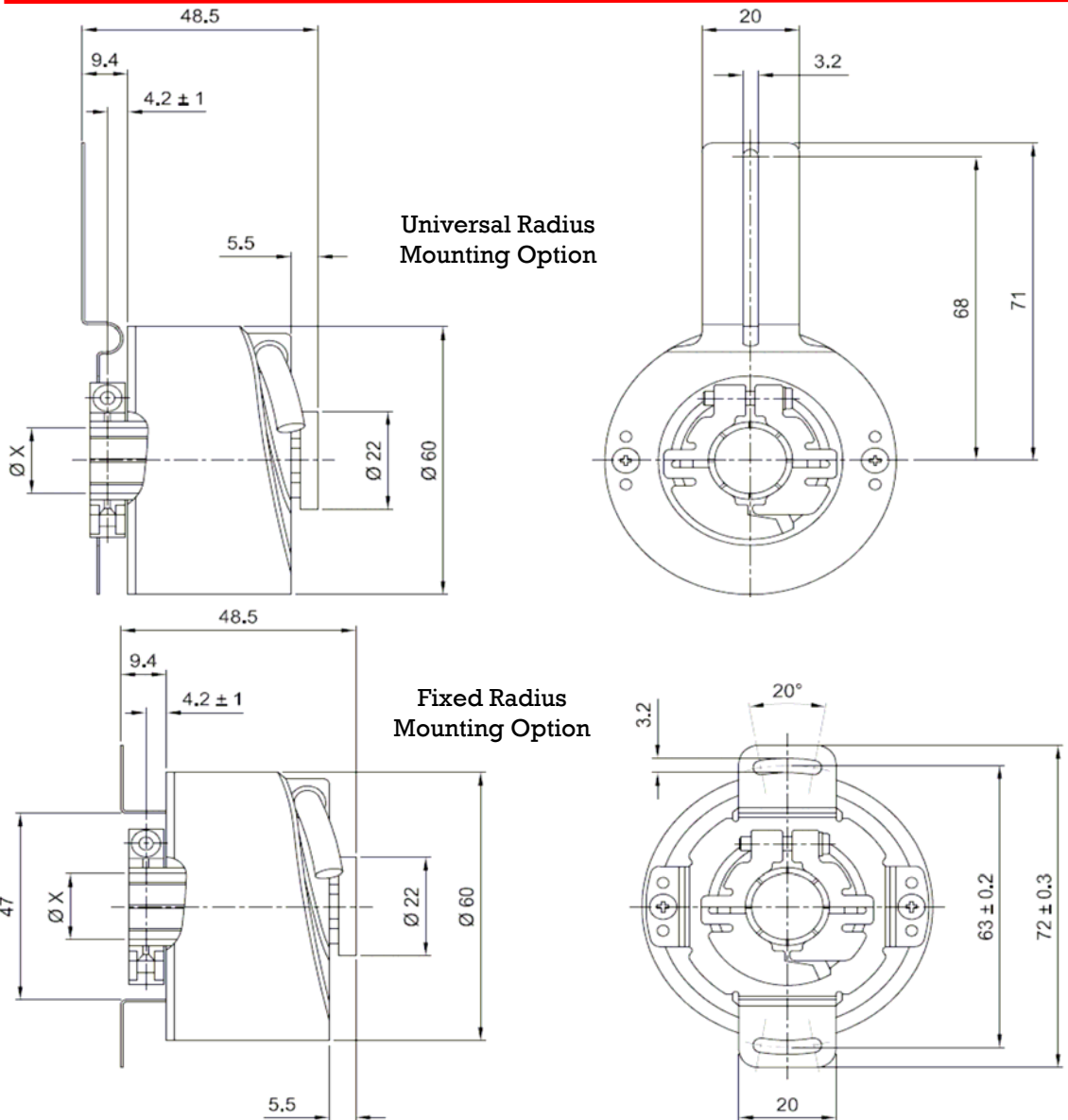
Universal Hollow Shaft Encoder



Features

- **Factory Set for Same Day Dispatch (1 to 65,536 Pulses Per Rev)**
- **100 Degrees Centigrate capability as standard**
- **Opto-ASIC Technology**
- **Any bore - up to 15mm bore (Metric) or (Imperial)**

The 60HA encoder is designed to fit directly on to motor shafts, or any shaft where position, direction, or velocity information is needed. The advanced electronics provides superior performance and high noise immunity. The encoder features a simple clamp mount for easy mounting over a large range of shaft sizes, whilst the universal anti-rotation flex mount maintains housing stability. Alternatively, if body rotation is required, there is the option of rotatable mounting on a fixed radius instead.



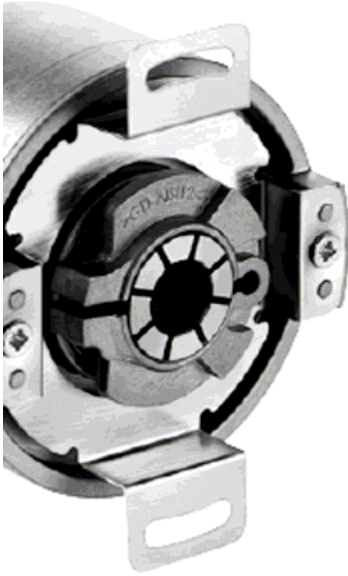
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Industrial Encoders
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60HA Series

Universal Hollow Shaft Encoder



Protection:

IP65 (higher on request)

User Shaft Runout (max):

Up to 10,000ppr =

+/- 0.1mm (radial)+/- 0.2mm (axial)

Above 10,000ppr =

+/- 0.05mm (radial)+/- 0.01mm (axial)

Operating Temperature:

-20 to +100°C

Storage Temperature:

-40 to +100°C

Maximum Speed:

9000 RPM

Vibration:

20g @ 10...2000Hz

Shock:

60g @ 6ms

Humidity:

90% RH (non-condensing)

Supply Voltage:

5 to 32VDC

Current Consumption (max):

40mA - without load

Load Current (max):

30mA

Cable:

Screened, oil and salt water

Impulse Frequency (max):

1 to 10,000ppr = 600KHz

10,000 to 65536ppr = 800KHz

Noise Immunity:

EN 61000-6-2

EN 61000-6-4

Shaft Loading:

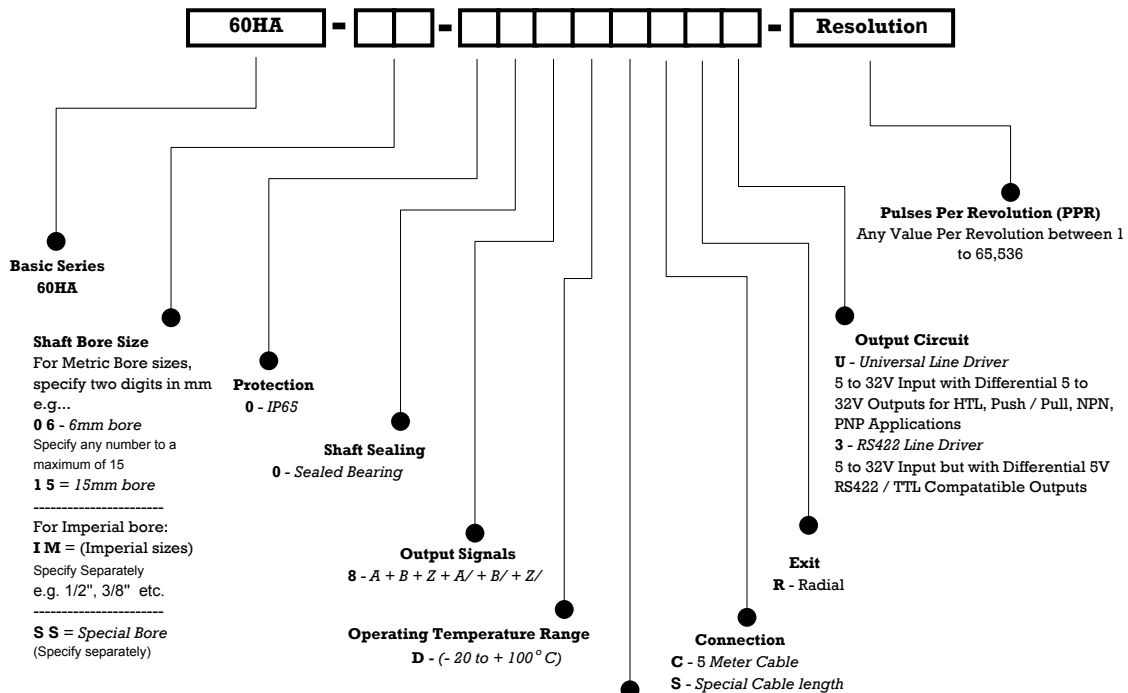
Flexible Mounted (supplied)

Torque @ 20°C:

0.8Ncm (Start)

0.6Nm

Ordering Code



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Output Signals

6 - 600KHz

(800KHz for resolutions above 10,000 PPR)

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60AA Series

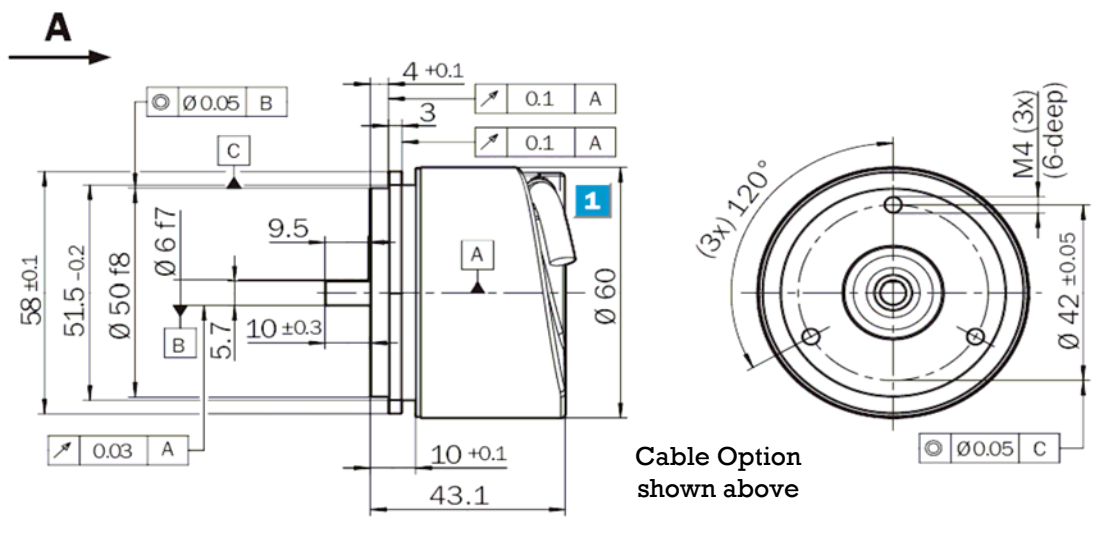
Solid Shaft Encoder



Features

- Factory Set for Same Day Dispatch (1 to 65,536 Pulses Per Rev)
- 100 Degrees Centigrate capability as standard
- Industry Standard Mounting
- IP65 Protection
- Same Day Dispatch

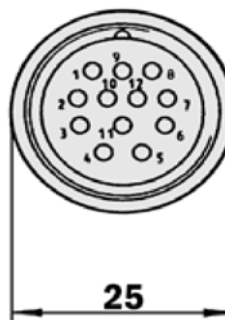
The 60AA encoder is designed to be directly interchangeable with industry standard servo-mount style encoders, but with that added advantages of the ability to choose any resolution from 1 pulse to 65,536 pulses per revolution and high temperature capability as standard. The advanced electronics provides superior performance and high noise immunity. Its very slim construction allows it to be mounted virtually anywhere, whilst still maintaining good environmental protection.



Cable Option
shown above

PIN, 12-pin M23 Connector	Colour of wires	Signal TTL, HTL
6	Brown	\bar{A}
5	White	A
1	Black	\bar{B}
8	Pink	B
4	Yellow	\bar{Z}
3	Lilac	Z
10	Blue	GND
12	Red	+U _s
9	Screen	Screen
2	-	N. C.
11	-	N. C.

12 pin (M23) Connector
Option
(below)





Industrial Encoders
Direct Ltd

60AA Series

Solid Shaft Encoder



Protection:

IP65 (higher on request)

Shaft Loading:

80N (radial) 40N (axial)
Use with suitable flexible coupling

Operating Temperature:

-20 to +100°C

Storage Temperature:

-40 to +100°C

Maximum Speed:

10,000 RPM

Vibration:

20g @ 10...2000Hz

Shock:

60g @ 6ms

Humidity:

90% RH (non-condensing)

Supply Voltage:

5 to 32VDC

Current Consumption (max):

40mA - without load

Load Current (max):

30mA

Cable:

Screened, oil and salt water

Impulse Frequency (max):

1 to 10,000ppr = 600KHz

10,000 to 65536ppr = 820KHz

Noise Immunity:

EN 61000-6-2

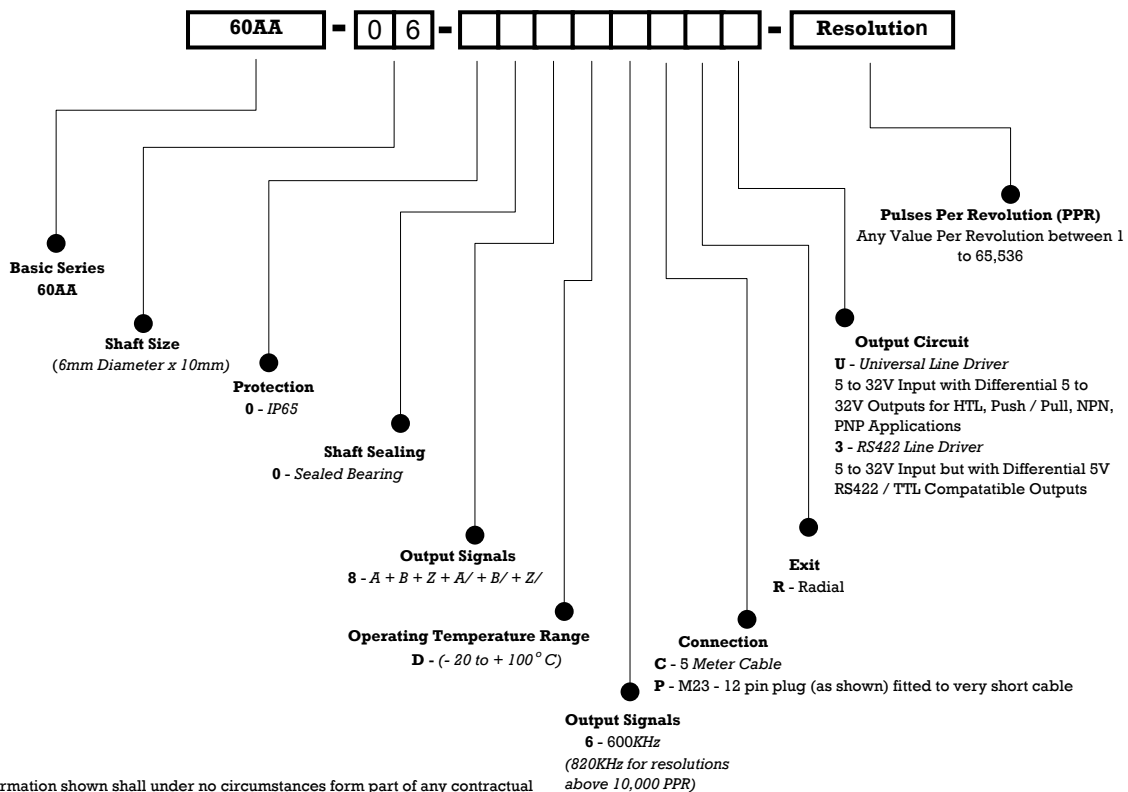
EN 61000-6-4

Torque @ 20°C:

0.5Ncm (Start)

0.3Nm

Ordering Code



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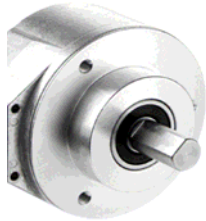
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60MA Series

Solid Shaft Encoder

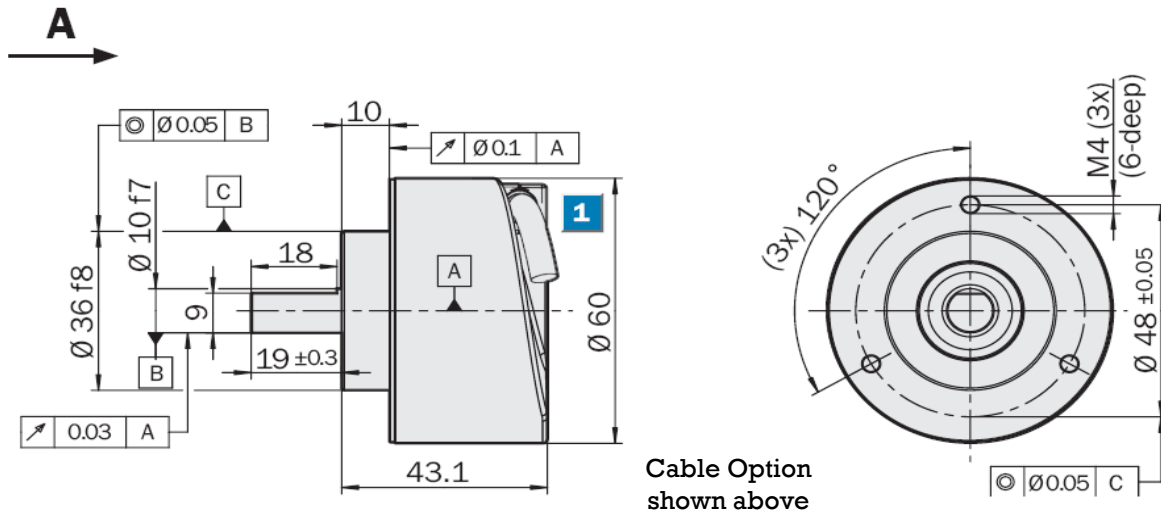


Features

- Factory Set for Same Day Dispatch (1 to 65,536 Pulses Per Rev)
- 100 Degrees Centigrate capability as standard
- Industry Standard Mounting
- IP65 Protection
- Same Day Dispatch

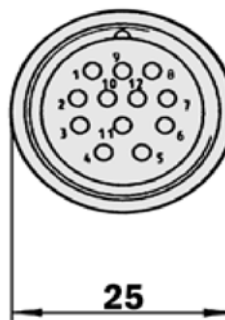
The 60MA encoder is designed to be directly interchangeable with industry standard clamping flange style encoders, but with that added advantages of the ability to choose any resolution from 1 pulse to 65,536 pulses per revolution and high temperature capability as standard. The advanced electronics provides superior performance and high noise immunity.

Its very slim construction allows it to be mounted virtually anywhere, whilst still maintaining good environmental protection.



PIN, 12-pin M23 Connector	Colour of wires	Signal TTL, HTL
6	Brown	\bar{A}
5	White	A
1	Black	\bar{B}
8	Pink	B
4	Yellow	\bar{Z}
3	Lilac	Z
10	Blue	GND
12	Red	+U _s
9	Screen	Screen
2	-	N. C.
11	-	N. C.

12 pin (M23) Connector
Option
(below)



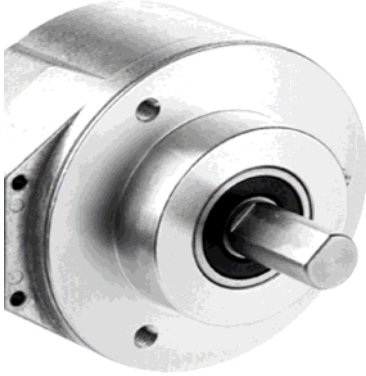
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Industrial Encoders
Direct Ltd

60MA Series

Solid Shaft Encoder



Protection:

IP65 (higher on request)

Shaft Loading:

80N (radial) 40N (axial)
Use with suitable flexible coupling

Operating Temperature:

-20 to +100°C

Storage Temperature:

-40 to +100°C

Maximum Speed:

10,000 RPM

Vibration:

20g @ 10...2000Hz

Shock:

60g @ 6ms

Humidity:

90% RH (non-condensing)

Supply Voltage:

5 to 32VDC

Current Consumption (max):

40mA - without load

Load Current (max):

30mA

Cable:

Screened, oil and salt water

Impulse Frequency (max):

1 to 10,000ppr = 600KHz

10,000 to 65536ppr = 820KHz

Noise Immunity:

EN 61000-6-2

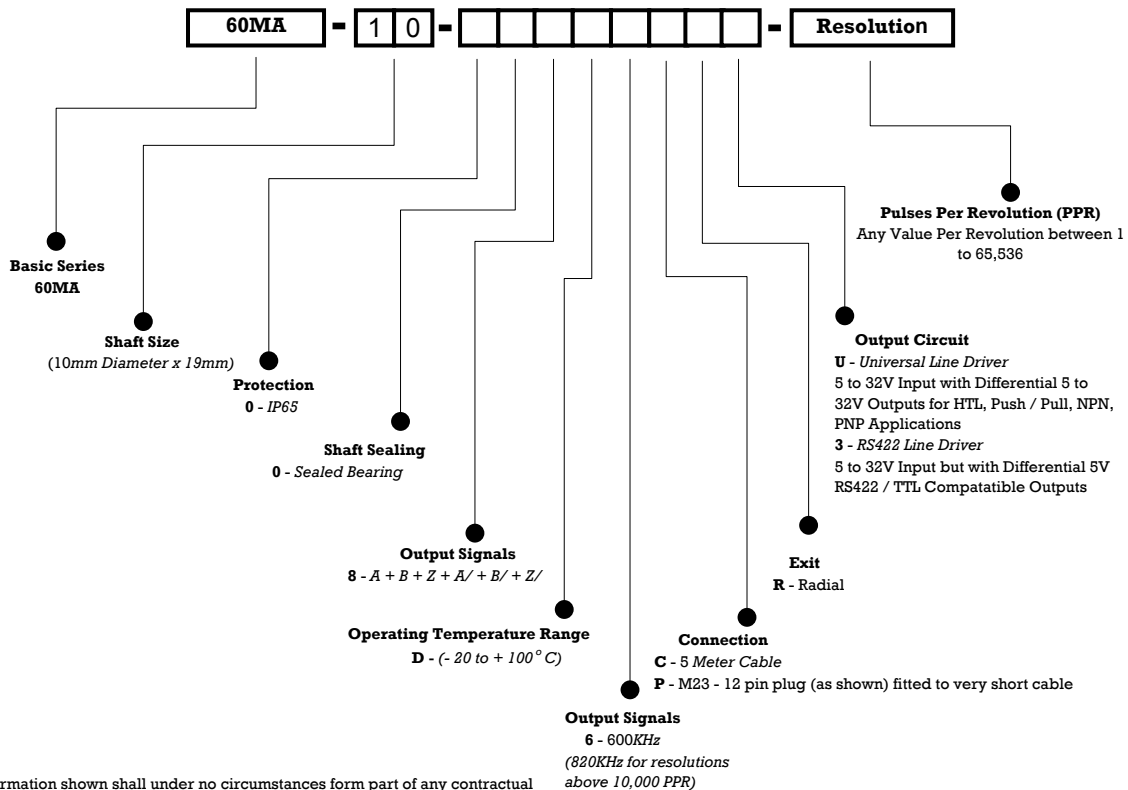
EN 61000-6-4

Torque @ 20°C:

0.5Ncm (Start)

0.3Nm

Ordering Code



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