

Integrated Position Brake

FOR INTEGRATION INTO A COMPACT
ELECTRIC POWERTRAIN

PARKING AND EMERGENCY BRAKING WITH PRECISION

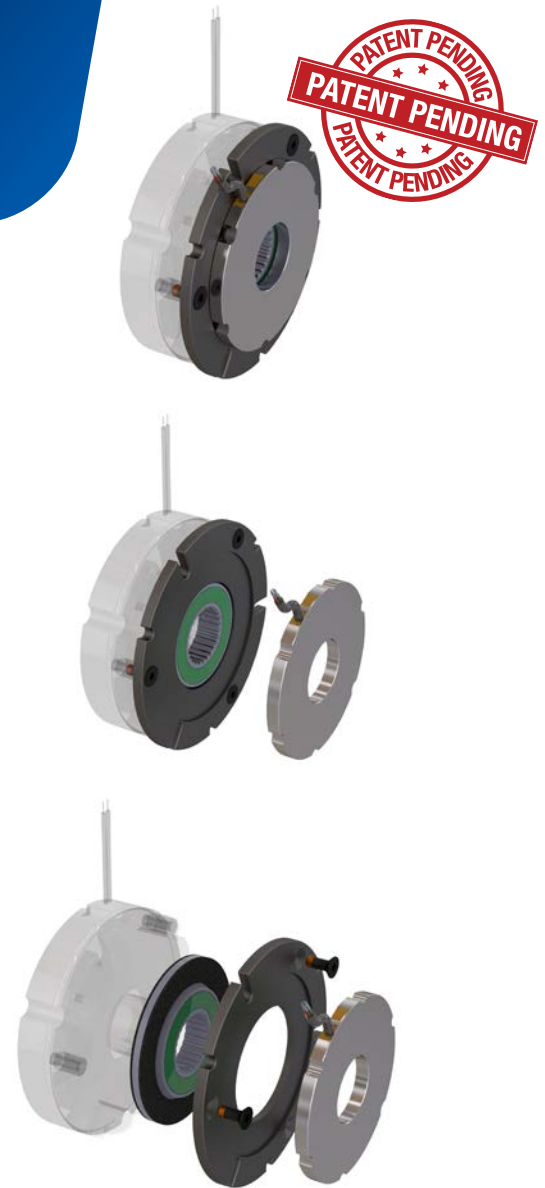
The Integrated Position Brake (IPB) is a spring-applied, electrically released parking brake with an embedded absolute position sensor.

This compact assembly allows for the reduction of axial length in the drivetrain by eliminating the need for a traditional 20-40mm overall length encoder or resolver.

Leveraging Warner Electric's™ industry-leading thin brake designs, the new IPB provides the option of either ABZ quadrature encoder output or accurate analog SINE/COSINE outputs.

FEATURES AND BENEFITS:

- Reliable and fully integrated plug-and-play solution with easy assembly
- Contactless, compact, and very thin with only 8mm of additional length over a standard brake
- Absolute position sensing compatibility with IPM and ACIM motors
- Enables reduction of overall powertrain length or allowance for additional motor windings to generate a higher power package in the same space
- Programmable tooth count quadrature encoder output (tooth count is not limited by diameter)
- True 360-degree differential or single ended analog SIN/COSINE output available
- Immune to common external magnetic disturbance
- Operation not affected by air gap
- No rotating permanent magnets, ensuring dust protection and eliminating the need for additional sealing in heavy-duty operations
- Allows for through-shaft operation
- Wide range of operating temperature from -40° to +125°C



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FOR INTEGRATION INTO A COMPACT ELECTRIC POWERTRAIN

PARKING AND EMERGENCY BRAKING WITH ABSOLUTE POSITION SENSING

| Brake size | 005 | 010 | 020 | 035 | 060 | 100 |
|---------------------------------|------|------|-----|-----|-----|-----|
| B (standard PK brake thickness) | 41.5 | 39.7 | 43 | 43 | 59 | 60 |
| B1* | 51 | | | | | |

* Other sizes & configurations available. Contact an expert to learn more.

Specifications

General

| | |
|---------------------|--------------|
| Voltage input (VDD) | 4.5 - 24 VDC |
| Ingress Protection | IP65 |

Quadrature

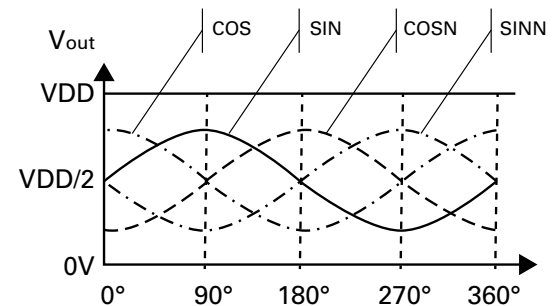
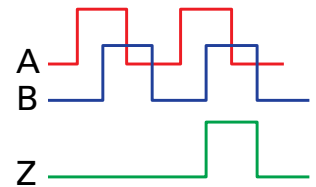
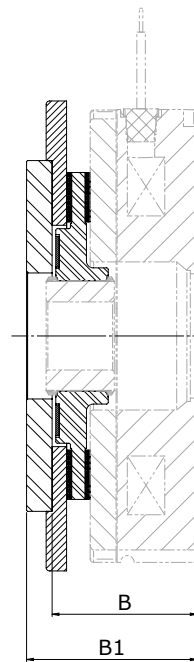
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|--------------|--|
| Frequency | .1Hz - 20kHz |
| Output Level | 0 - VDD |
| AB Output | Phase shift left/right hand motion: $270^{\circ} \pm 45^{\circ}$ / $90^{\circ} \pm 45^{\circ}$ |
| Z Output | Single pulse aligned with tooth "1" |
| Tooth Count | 36, 64, 128, 256, 512 |
| Temperature | -40C - +105C |

SINE/COSINE

| | |
|---------------|------------------------------|
| Output Level | Between 0 - 4.5 VDC |
| Analog output | Differential or Single Ended |
| Zero crossing | 2.5 VDC |
| Temperature | -40C - +125C |

Samples available in 2024

| |
|--|
| SIN/COS Analog: Frame size 20 (38Nm torque, 3x 115 -132mm PCD) |
| ABZ Quadrature: Frame size 35 (50Nm torque, 4x 165mm PCD) |
| Additional integrations may be possible on request |



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