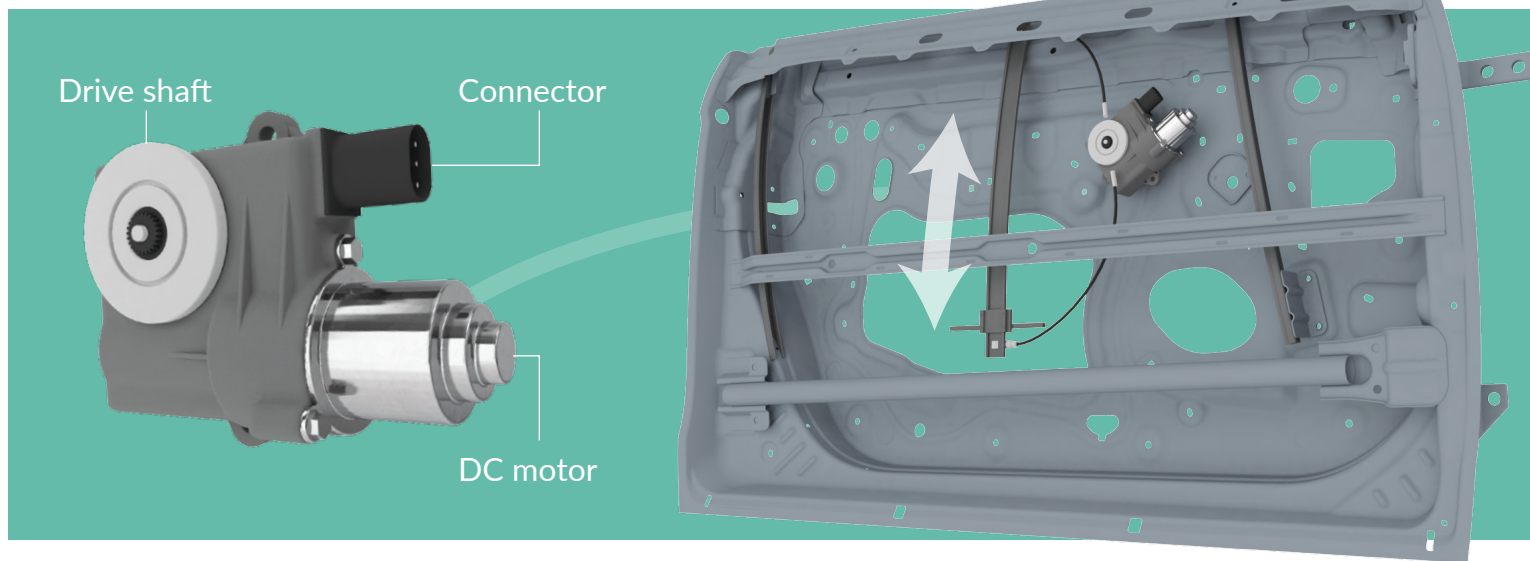


## AUTOMOTIVE WINDOW LIFTER

Windows regulators are a standard feature on most vehicles sold today. They enable convenience features like automatically raising or lowering the window ("one-touch" operation) thus allowing the driver to maintain focus on controlling the vehicle. To allow safe operation they also provide anti-pinch and obstruction detection. Although

traditionally driven by a DC brushed motor, many applications are moving to brushless DC motors to reduce weight, space, and noise while increasing the reliability of the window actuator.



### Melexis solutions for window lift applications

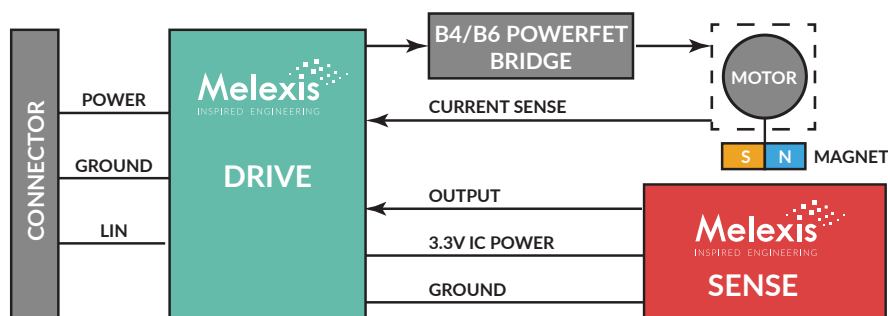
Melexis offers a variety of solution kits for DC and BLDC motors. They cover low- and high-end window lifter and sun roof motors.

For the actuation Melexis suggests the MLX81344 (high-end/BLDC) or MLX81160 (low-end/DC). They are

single-chip LIN pre-drivers in a small QFN (5x5 or 4x4) package.

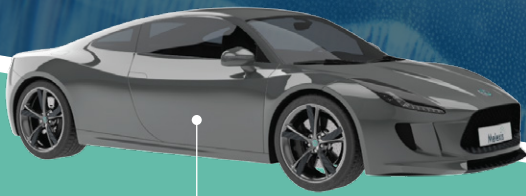
For the motor control, Melexis suggest either resolvers (BLDC) for the positioning or latches (DC) for motor indexing.

### Block diagram



### Key features

- One or two chip solution
- Integrated regulator for 12V battery operation
- Integrated LIN transceiver
- Optional PWM control
- Position feedback via relative position with Hall latches



# AUTOMOTIVE WINDOW LIFTER

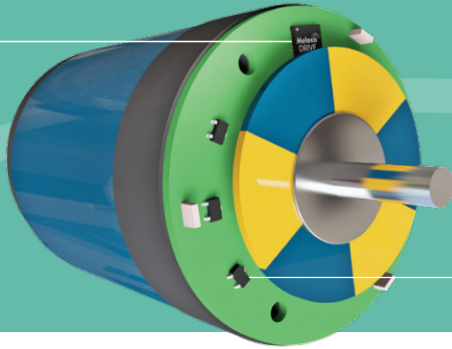
## Application Products

### Selected Drive products

- MLX81344
- MLX81160



DC & BLDC motor



### Selected Sense products

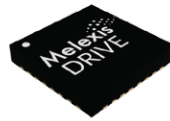
Latches (Speed, pulse and direction)

- MLX92212
  - MLX92251 / MLX92255
  - MLX92351 / MLX92352
- Resolver (Sine, Cosine)
- MLX90380
  - MLX90381

## Melexis Drive

### MLX81344 - BLDC

- For 12 and 24 V applications
- LIN interface
- 90 KB memory (64 KB Flash, 26 KB ROM)
- 12x multi-function I/Os
- 3 pre drivers (<60nC FET)
- Diagnostic
- Current Sense
- Package QFN-24 (4x4mm) or QFN-32 (5x5mm)



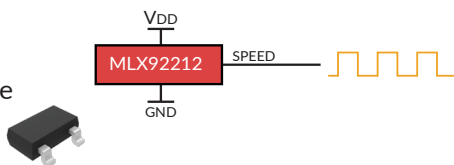
### MLX81160 - DC relay

- For 12V and 24V applications
- LIN interface
- 48 KB memory (32 KB Flash, 16 KB ROM)
- 12x multi-function I/Os
- 6 drivers for external relay
- Diagnostic
- Current Sense
- Package QFN-24 (4x4 mm)

## Melexis Sense

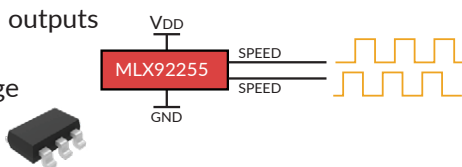
### MLX92212

- Speed Output
- 2.5V - 5.5V
- TSOT-3 Package



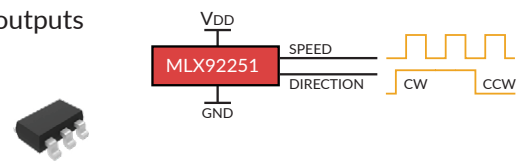
### MLX92255

- Speed & speed outputs
- 2.5V - 5.5V
- TSOT-5 Package



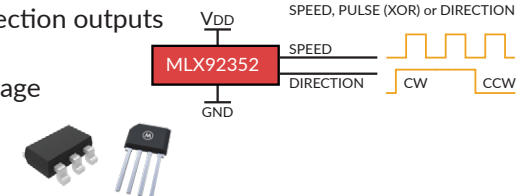
### MLX92251

- Speed & direction outputs
- 2.7V-24V
- TSOT-5 Package



### MLX92352

- Speed, pulse or direction outputs
- 2.7V-60V
- TSOT-5 or VA Package
- Pitch independent



## More about our products and solutions

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