

# SpeedCommanderEncoder™

## SCE - Incremental

### Installation guide



For use with:

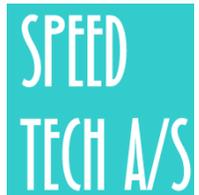


SCD™ series



SCD mini™ series

- Economical solution compatible with ALL motors.
- LED diagnostics light for easy alignment.
- IP65 hot-molded enclosure for wet environments.
- Molded-in threaded inserts for easy installation.



# INSTALL THE MAGNET

Before installing and using the SCE - Incremental encoder please read and understand the following guide, for any questions please contact your supplier.

## 1. Preparations & precautions:

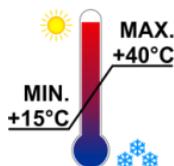
### Degrease:

To obtain optimum adhesion, the bonding surfaces must be well unified, clean and dry.



Typical surface cleaning solvents are IPA/water mixture (rubbing alcohol) or heptane.

### Temperature:



### Important:

The adhesive tape on the magnet is only guaranteed proper strength if allowed to cure within this temperature range.

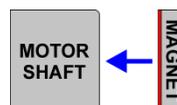
Note that this is NOT the same as the operating temperature range which is -20 to +40°C.

## 2. Install magnet on shaft:

### Example: Motor with brake



### Example: Motor without brake

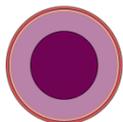


### Important:

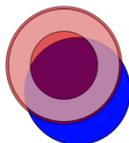
The spacer and screw **MUST** be made of a non-magnetic material/alloy such as brass, aluminum, zinc, copper, nickel, and most plastics

### Alignment:

#### ALIGNED

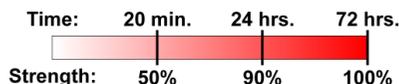


#### MISALIGNED



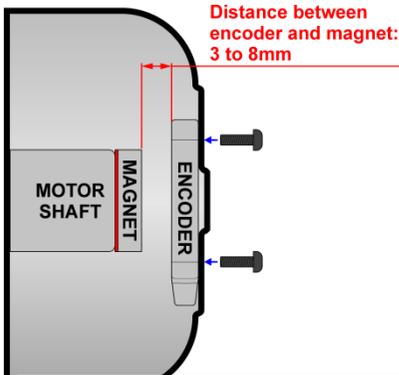
MAGNET  
SHAFT

### Bonding strength vs. time:



Center magnet on motor shaft.  
Avoid relocating after first contact.

### 3. Install encoder inside fan cowl:



**Do not apply excessive torque. Use threadlocking compound for nylon if necessary.**

Use **only** the M4 nylon screws sold with this product.

If it is necessary to adjust the encoder to magnet distance, use shims or spacers.

***If the encoder is to be mounted on an uneven surface it is highly recommended to use the optional "SCE Plate" between the encoder and the mounting surface as uneven tension might crack the rubber. The "SCE Plate" must be installed so that it is coincident with the back side of the encoder.***

### 4. Adjust:

When installing the encoder make sure that it is centered on the magnet.

**MISALIGNED**



**ALIGNED**



### Alignment check:

1. Apply power to the encoder:
  - White 0V
  - Brown +24V
2. Rotate the motor shaft **1 revolution** by hand while observing the LED color.



**Green = Good**

**Red = Bad**

# TECHNICAL DATA & ORDERING INFORMATION

## Ordering information:

### SCE-XX

**TYPE:**

SCE = SpeedCommanderEncoder

**RESOLUTION:****PULSES PER****REVOLUTION:**

04 = 4 PPR

20 = 20 PPR

50 = 50 PPR

**TYPICAL APPLICATION:**

MOTOR WITH GEAR RATIO &gt;20:1

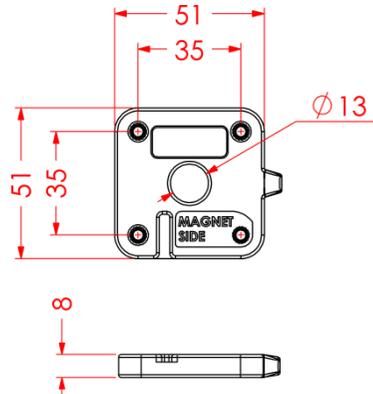
GEAR MOTOR

SLIDING DOOR WITHOUT GEARBOX

## Wire colors & mechanical dimensions:

Color:	Function:
	10-24V DC
	A
	B
	0V

The standard cable length is 5 meters.



## Technical data:

Details are subject to change

**Output voltage swing:**

Quadrature version only (RL = 2kΩ)

$$U_{\text{high}} \geq U_B - 280\text{mV}$$

$$U_{\text{low}} \leq U_B + 150\text{mV}$$

**Maximum pulse frequency:**

10KHz (6000 rpm. with a 50 pulse encoder)

**Phase shift tolerance:**

45° - 145° (Speed dependent)

**Power supply:****Supply voltage range:** 10~24VDC**Current consumption:** 25mA @ 24VDC**Ingress protection rating:**

IP 65

**Temperature range:**

-20 to +60°C

**Weight:**

135g (including 5m wire)