SpeedCommanderEncoder™

SCE - Absolute
Installation guide
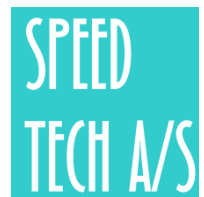

For use with:

SCD™ series

SCD mini™ series

- Economical solution compatible with ALL motors.
- LED diagnostics light for easy alignment.
- IP65 hot-molded enclosure for wet environments.
- Absolute functionality (when using the SCE Battery Box).
- Battery level and encoder status feedback.

SPEED TECH A/S

🔧 INSTALL THE MAGNET

Before installing and using the SCE - Absolute encoder please read and understand the following guide, for any questions please contact your supplier.
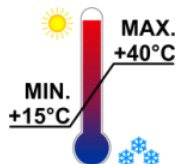
1. Preparations & precautions:

Degrease:

3M™ VHB™
SATCHET

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:

MAX. +40°C
MIN. +15°C

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.
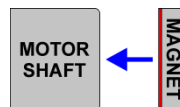
2. Install magnet on shaft:

Example: Motor with brake

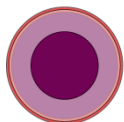MOTOR SHAFT | 40mm SPACER | MAGNET ← SCREW

Important:
*The spacer and screw **MUST** be made of a non-magnetic material/alloy such as brass, aluminum, zinc, copper, nickel, and most plastics*
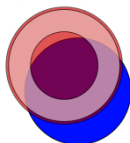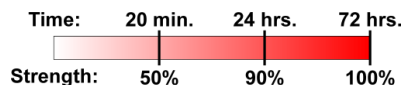
Example: Motor without brake

MOTOR SHAFT ← MAGNET

Alignment:
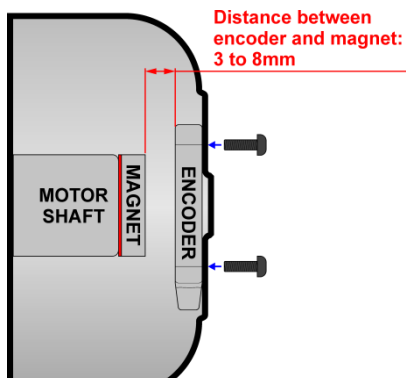
ALIGNED   **MISALIGNED**

MAGNET
SHAFT

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

Bonding strength vs. time:

Time:	20 min.	24 hrs.	72 hrs.
Strength:	50%	90%	100%

🔧 INSTALL THE ENCODER

3. Install encoder inside fan cowl:

Distance between encoder and magnet: 3 to 8mm

MOTOR SHAFT | MAGNET | ENCODER

⚠️ *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.
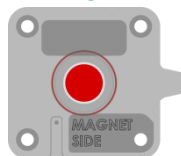*The "SCE Plate" must be installed so that it is coincident with the back side of the encoder.*

4. Adjust:

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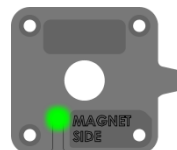
MISALIGNED

MAGNET SIDE

ALIGNED

MAGNET SIDE
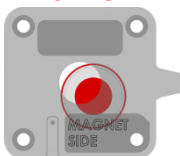
Alignment check:

1. Apply power to the encoder:
   - White 0V
   - Brown +24V

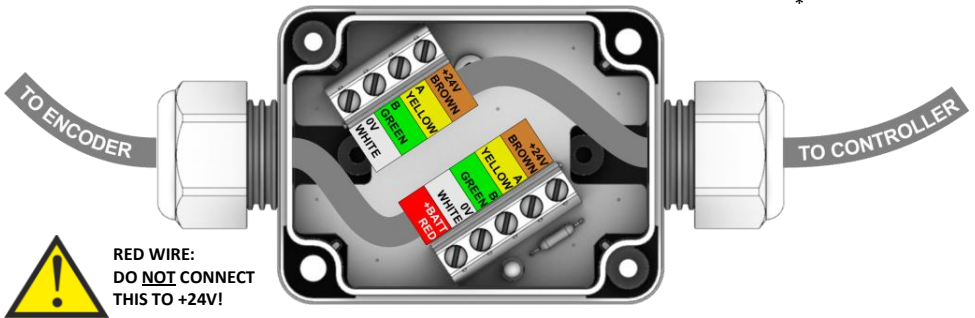2. Rotate the motor shaft **1 revolution** by hand while observing the LED color.

MAGNET SIDE

Green = Good
Red = Bad

TECHNICAL DATA

SCE Battery Box connection:

*

RED WIRE:
DO NOT CONNECT
THIS TO +24V!

Wire colors & mechanical dimensions:

Color:	Function:
Red	**Battery**
Brown	**10-24V DC**
Yellow	**A**
Green	**B**
White	**0V**

The standard cable length is 5 meters.

RED WIRE:
MUST BE LEFT
UNCONNECTED IF
NOT USED!
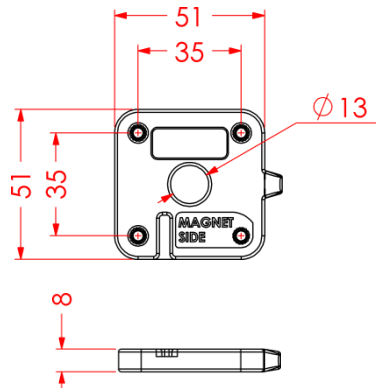
Technical data: Details are subject to change

Maximum rotational speed:	3000 rpm.
Power supply:	**Supply voltage range:** 8 to 26VDC
	Current consumption: 24VDC: 50mA Battery (3,6V): 0,03mA
Communications:	RS485, 100K baud rate
Ingress protection rating:	IP 65
Operating temperature range:	-20 to +60°C
Weight:	135g (including 5m wire)