

SC0180 – Transient Suppression Module



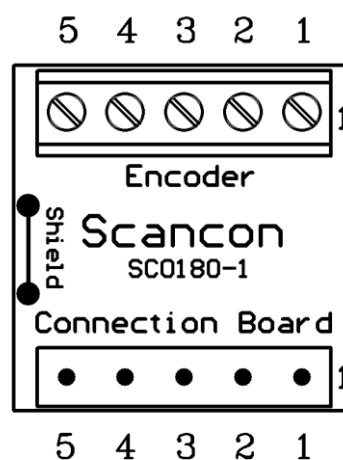
1: Introduction.

The SC0180 Transient Suppression Module is intended to be used in environments where severe electrical transient and disturbances are encountered. The module will protect the encoder from malfunctioning due to disturbances coming through the cable.

The module should be connected between the encoder cable and the connection cable and should be mounted as close as possible to the encoder.

2: Connection.

Terminal Block – Encoder



Pin Header – Connection Board

Terminal no.	Name	Comment
1	Vcc	Positive Supply for Encoder
2	0-Volt	0-Volt Supply for Encoder
3	Ch 1	Channel A or B from Encoder
4	Ch 2	Channel B or A from Encoder
5	Shield	Cable Shield

Pin assignments are identical for terminal block and pin header.

3: Shield Connection.

The module has an option for either leaving the encoder cable shield unconnected (isolated) or connecting the encoder cable shield/housing to the connection cable. If the Shield jumper is not mounted, the encoder will be isolated from the connection cable shield (*Mounting Option A*). If the Shield jumper is mounted, the encoder shield will be connected to the connection cable shield (*Mounting Option B*).

Note -- for the encoder to be truly isolated, the encoder housing and the shaft must also be isolated from the local ground (machine part).

It is difficult to give precise guidelines on whether the encoder should be isolated or not as this depends on the type of disturbances and how the disturbances enter the encoder. Also the “quality” of a local or remote ground is important. If the ground itself is carrying electrical disturbances, connecting the encoder housing to this ground may transfer these disturbances directly into the encoder electronics.

Generally, 3 situations exist:

1. The connection cable shield can be considered to be an adequate protective ground:
 - Connect the encoder cable shield to the connection cable shield.
2. The connection cable shield cannot be considered to be an adequate protective ground but the local ground (machine part) can be considered to be an adequate protective ground:
 - Connect the encoder housing to ground (machine part) and leave the encoder cable shield unconnected to the connection cable shield.
3. The connection cable shield cannot be considered to be an adequate protective ground and the local ground (machine part) cannot be considered to be an adequate protective ground:
 - Leave the encoder cable shield and the encoder housing completely isolated.