

# EMS-4000 USERS MANUAL

## Power Supply

+/-20V to +/-30V DC. Connection via the 4-pin labeled "power". Red is positive, Green is ground, Black is negative. Typically a 2x18V, 100W transformer, rectified and filtered with 6800µF/35V capacitors in each rail is sufficient for a pair of scanners. Stabilized and switching power supplies can also be used. If you decide to use a switching PS, make sure it can deliver at least 50W in each rail to ensure reliable operation.

## Signal Input

Connection via the 3-pin connector labeled "input". The input works with single ended or differential signal. There is no ground (common) connection in differential systems.

Single ended systems : connect signal and ground from your system to the two input wires

Differential systems : connect signal(+) and signal(-) to the two input wires

### **Reversing the input connector will invert the projection**

The scanners are factory adjusted to 54deg at full scale (+/- 10V single or +/-5V differential)

The input is internally limited and protects the scanners from overposition.

## Tuning

The scanners are always shipped tuned. The only trimpots adjustable by the user are gain (P1) and damping (P4), found together next to the corner screw. The other two trimpots are for symmetry (P2) and scale (P3) adjustment and should **not be altered by the user** or there is the possibility to damage the scanner. Contact us if you have a request about these controls.

## Mounting

The scanners are mounted on L-brackets. The position sensor is isolated from ground so it is not necessary to isolate the mounts from the system plate. Fix the scanners so that on one scanner the Eye-Magic sticker faces up and on the other scanner the sticker faces down. This arrangement permits easier adjustment of the scanners on the mounts.

## Position out

On the following schematic you can see where to extract the position signal (+/-10V). This can be used for scanner safety systems.

