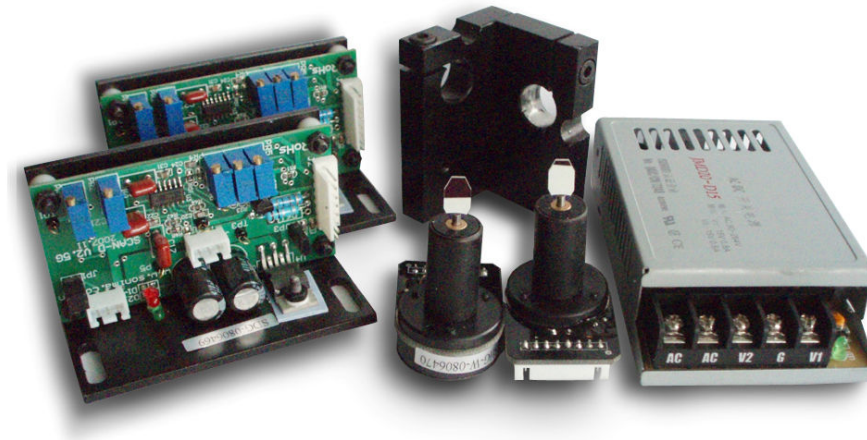


# SCANPRO20

## 20K high performance scanner set



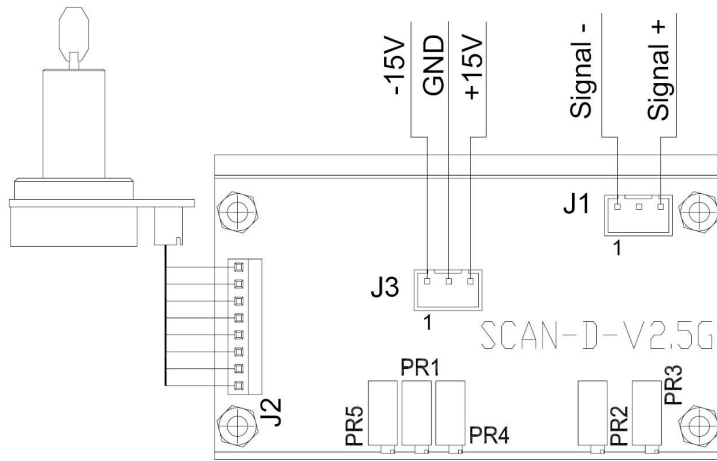
### Technical Information

- Max Scan angle:  $\pm 30^\circ$  optical (factory calibration @  $\pm 20^\circ$ )
- Mirror Size: 6mm\*11mm\*0.7mm, (5mm\*10mm\*0.7mm for higher speed)
- Mirror coating: High quality dielectric film,
- Reflectivity:  $>98\%$  @  $45^\circ$  incidence (400nm-700nm)
- Dimension of Galvo: 12mm (diameter for fixture ) x 42mm (length without mirror)
- Power requirements:  $\pm 15\text{VDC}$  @ 0.8A each
- Input Voltage:  $\pm 5\text{VDC}$  differential
- Dimensions of Amp: 75mm\*40mm\*35mm

Scan angle	Operating voltage	Speed @ Mirror size	Speed @ Mirror size	Test Pattern
$\pm 30^\circ$ Opt	$\pm 15\text{ VDC}$	16Kpps @ 6*11*0.7	17Kpps @ 5*10*0.7	ILDA 30K
$\pm 20^\circ$ Opt	$\pm 15\text{ VDC}$	20Kpps @ 6*11*0.7	21Kpps @ 5*10*0.7	ILDA 30K
$\pm 15^\circ$ Opt	$\pm 15\text{ VDC}$	23Kpps @ 6*11*0.7	24Kpps @ 5*10*0.7	ILDA 30K
$\pm 8^\circ$ Opt	$\pm 15\text{ VDC}$	28Kpps @ 6*11*0.7	30Kpps @ 5*10*0.7	ILDA 30K
$\pm 5^\circ$ Opt	$\pm 15\text{ VDC}$	32Kpps @ 6*11*0.7	33Kpps @ 5*10*0.7	ILDA 30K

All measurements above were obtained with the ILDA 12/30k frame, being output from a Pangolin QM2000 card

## Board trimmer and connector locations



### Potentiometer description:

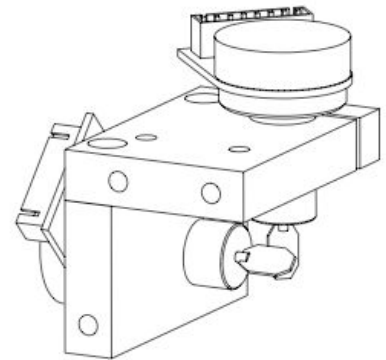
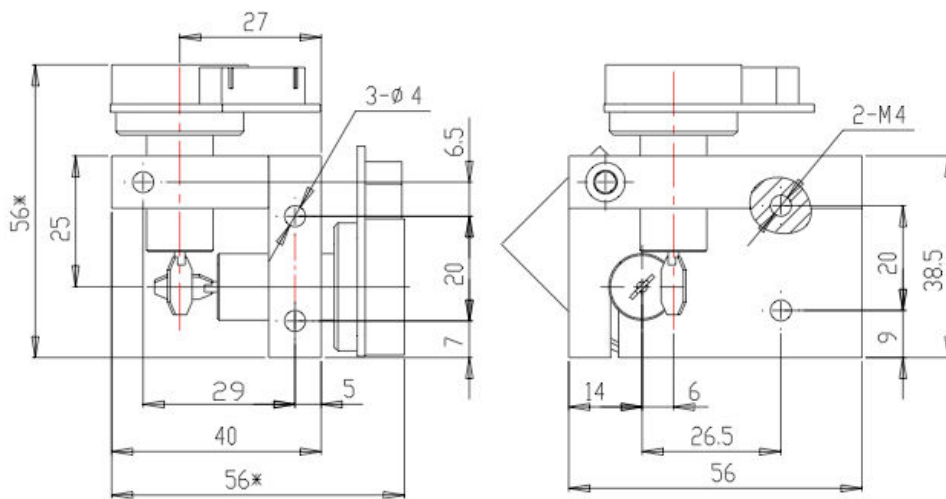
PR1: Position scale (input gain, image size adjustment)

PR2: Low frequency damping

PR3: Servo gain

PR4: High frequency damping

PR5: Position offset (**adjusted only in factory**)



## Assembly instructions and tips:

### Wiring:

Please refer to the diagram above, for pinout of the scan amps. The legend for the power supply pins is printed on the top of the power supply

- Wire your mains to the connectors marked AC, AC and FG(frame ground). Please pay special attention to safety here, as mains voltage levels are dangerous and can maim or kill.
- Wire the scan amps to the power supply, using the pinout details listed above.
- Before applying power, without the power connectors plugged into the scanner drivers, check for correct voltages on relevant power pins of the power connector
- Control signal + and – are connected to x, or y of the ILDA.
- It is recommended that the signal GND stays unconnected, but rather connect ILDA ground to power supply ground at the power supply (G)
- Connect the scanners to the driver boards. Be sure to match the serial number of the driver up with the same serial number scanner.

### Mounting the scanners:

Mounting the scanners involves a little bit of trial and error to get the optimal orientation. Here are a few suggestions.

- Laser enters the scanners from the left (if looking at the front of scanner block). The mounting block will need to be orientated so that the open part of the mounting block faces the laser and forwards.
- The laser will hit the first scanner. This scanner needs to be orientated so the laser hits the first surface of the mirror, and is reflected downwards, onto the second scanner. The second scanner will need to be mounted so the first surface reflects the beam out of the scanner mounting block.
- Rough positioning of the laser and scanners in the mounting block can be done with the scanners unpowered. Once you have everything roughly positioned, power up the scanners without an input signal so they center and perform final adjustments to positioning and rotation of each scanner.

**Please pay close attention to safety. Wear appropriate laser safety goggles and be sure your mains wiring is 100% safe. Happy scanning!**

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