



## LiPAD®-100 PORTABLE ALIGNMENT DEVICE

### FAST

LiPAD®-100 provides instant measurement results in real time. It enables permanent data monitoring of dynamic survey applications during motion. Machines in operation can be monitored instantly without the need of measurement stops. After only 5 minutes alignment time, the device is ready for use. No inclination limitation and independent functionality allow the operator to directly measure any orientation without additional survey setups. Exchangeable batteries and external battery charger make sure you never run out of power in the field.

### EFFICIENT

LiPAD®-100 significantly enhances the efficiency of measurements. No special skills or additional alignment equipment is required to make it ready for operation. It eliminates the need of expensive survey service providers, and saves time drastically. Series of measurements that normally take days using a tachymeter, are made in a few hours by one person only. Measurement data can easily be exported for quality control purpose, and you can even use your own Android handheld device to operate it.

### RELIABLE

Calibration over temperature, shock stability and rain/dust protected housing make the device a solid companion in field. The airborne technology with extensive built-in tests guarantees data the operator can rely on. Particularly arrays of measurements, which are error sensitive, will not be an issue anymore: Since all data is recorded independent from previous survey point measurements, less measurement errors are accumulate. This is especially of great advantage in ragged environments or environments where no GPS signal is available.

## DESCRIPTION

LiPAD®-100 is a hand-held stand-alone system which provides roll, pitch and north heading directions. It weighs less than five kilogram and is designed for one-man operation. This portable meter contains the newest generation of navigational-grade fiber-optic gyroscopes and MEMS accelerometers. Combined together, this advanced inertial system performs independent measurement. The alignment, built-in tests, and performance control are all done internally.

LiPAD®-100 has built-in Bluetooth® connectivity to communicate with your hand-held device. An Android-based software app (free download in Google Play online store) enables the operator to control the device and view the measurement data in real time. All data can be stored and shared along with the operator reference, project name, date/time, and – if available – GPS information of your current position.

The device baseplate can be used to perform repeatable reference measurements as well as for attaching customized fixture mounts. Two replaceable and rechargeable batteries ensure that you never run out of power. A battery charging device, a storage/transport case and a technical manual are provided with the system.

## MAIN FEATURES

- Portable inertial measurement system
- Roll, pitch and North heading direction in real-time
- Single person operation in small space environments
- No special skills required
- No additional alignment equipment or survey setups
- Independent of temperature variation, vibration, magnetic interference, and GPS signal
- Convenient operation with Android software app

## TYPICAL APPLICATIONS

- Drilling rig alignment for construction and mining
- Injection and anchor drillings
- Geological survey
- Underground mining or tunneling tasks
- Orientation-depending sensor adjustment
- Relative adjustment of wind turbine sensors or machine parts

## HOW TO USE



## TECHNICAL DATA LiPAD®-100

Parameter	Typical Value	Value
Heading Accuracy* (1 $\sigma$ )	$\leq 0.25$ deg secant latitude	$\leq 0.35$ deg secant latitude
Alignment Time 5 min.		
Pitch & Roll Accuracy (1 $\sigma$ )	$\leq 0.02$ deg	$\leq 0.05$ deg
Setup Time		< 5 minutes
<b>Drift</b>		
Heading (1 $\sigma$ )	$\leq 0,025$ °/h	$\leq 0.1$ °/h
Pitch & Roll (1 $\sigma$ )	$\leq 0,025$ °/h	$\leq 0.1$ °/h
Size (HxWxD)		215 x 325 x 143 mm 8.5 x 12.5 x 5.6 inches
Weight (including battery)		4.6 kg / 10.2 lb
Battery Runtime		Min. 6 hours
Environmental		Water, sand and dust proof rating IP 64 Shockproof 20 g / 20 ms
Operating Temperature		-20 °C ... +60 °C

\*Secant latitude = 1/cosine latitude

FOR MORE INFORMATION,  
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