PRECISION GPS+

TOPCON®

MILLIMETER GPS™

A new dimension of precision and productivity

WORLD'S FIRST

ANSI-RAB QMS ACCREDITED

BSI REGISTERED

ISO 9001:2000
FM 68448

Imagine entering a zone where your GPS system is instantly 300% more accurate...

Now stop imagining because it's here. Practical, affordable MILLIMETER GPS™ featuring Topcon's Lazer Zone™ technology. It's here, and it's Only from Topcon!

The Lazer Zone™ system is comprised of three components:

PZL-1
Positioning Zone Laser transmitter sets up and operates much like a standard rotating laser.

PZS-1
Positioning Zone Sensor mounts to your GPS range pole, receives the laser signal and wirelessly transmits to your existing HiPer rover.

PZS-MC
Positioning Zone Sensor for machine control replaces your machine mounted GPS antenna.

Imagine taking your GPS rover and transforming it into a super-precise measuring device that rivals a robotic total station. Or enabling your highly productive 3D-GPS+ stakeless grading systems to speed through your highest precision work. At a fraction of the cost of a robotic total station system, and without the single-user limitation. That's the power of MILLIMETER GPS™.

- **World's first millimeter accurate GPS system—up to 300% more accurate than standard GPS**
- **Lazer Zone transmitter provides precise vertical measurement area 600m in diameter, 10m in height**
- **Works existing Topcon GPS+ systems**
- **Multiple rover support** (machine or pole mounted)

MILLIMETER GPS™

MILLIMETER GPS™ is the perfect solution for the times when high-precision elevations are required. Precision staking becomes a one-man operation with a Topcon GPS system. Set up the Topcon RTK GPS+ system, add a wireless PZS-1 sensor to a rover (or multiple rovers) and set up the PZL-1 transmitter. You get instant millimeter accurate elevations anywhere in the Lazer Zone.

Introducing Lazer Zone™ –

where precision and productivity merge

LAZER ZONE™

Topcon proudly introduces a new dimension of control technology—Lazer Zone™. The PZL-1 Positioning Zone Laser projects a Laser Zone beam that sweeps over a 600 meter area. This unique signal creates a 10 meter high zone of precision elevation control. The Lazer Zone sensors, either on a rover pole or machine mast, compute precise elevation anywhere within the Laser Zone. This provides instant millimeter accurate elevation control.

It's another Topcon **WORLD'S FIRST** technology that will put your productivity and job quality in a zone by itself.

High-precision, three-dimensional stakeless grading has been available for years. But it required an expensive specialized robotic total station for each piece of automated machinery. With the MILLIMETER GPS system, you can add high-precision control to your Topcon 3D-GPS+ grade control system for a fraction of the cost, and—like GPS—one PZL-1 transmitter can operate multiple PZS-MC equipped machines. For added convenience on large or extremely steep areas, multiple PZL-1 transmitters can be linked, providing continuous, high-speed, high-precision control.

HiPer+
Wireless GPS+ Receiver

FC-100
Windows CE® Field Controller

System Five-3D
Windows CE® based 3D Control Box

GB-1000
Modular GPS+ Receiver

Specifications

PZL-1 TRANSMITTER:

Zone Width	±10° (0-30m), ±5m (30-300m)
Zone Radius	300 meters (985 feet)
Lazer Zone Accuracy	Vertical: 1 arc second resolution
RTK GPS+ Accuracy	Horizontal: 10mm + 1ppm
Self-Leveling Range	±5°
Rotation Speed	600 rpm
Laser Class	Class 1
Channels	4
Plumb Beam	YES
Bluetooth	YES
I/O port	RS-232C
Power Supply	Rechargeable Ni-MH (w/runcharge) 4 D-Cell Alkaline
Operating Time	about 20 hours (Alk), 15 hours Ni-MH
Waterproof	IPX6
Operating Temp	-20° to +50° C

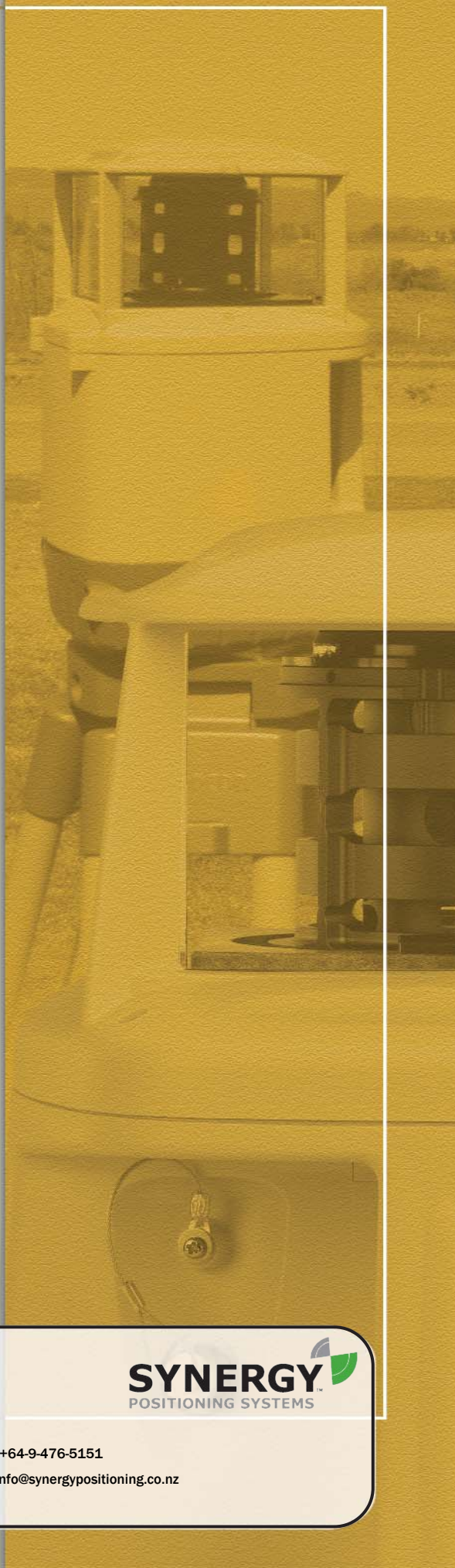
PZS-1 ROVER SENSOR:

Beam Detection	±10° by ±10° window
Channels	4
I/O port	RS-232C
Mounting	5/8x11 Thread
Waterproof	IPX6
Operating Temp	-20° to +50° C
Power Supply	BT-59Q Camcorder battery
Operating Time	about 8 hours
Weight	about 1kg

PZS-MC MACHINE CONTROL SENSOR:

Beam Detection	±10° by 360°
Channels	4
Waterproof	IPX6
Operating Temp	-20° to +50° C
Power Supply	DC8V~DC32V
Weight	Less than 3kg

Specifications as of 3/10/2004 and are subject to change without notice



TOPCON

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Patents Pending

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