CM3-30 and CMP3-30 Distance sensors

- **A family of light-weight distance measurement sensors for indoor and outdoor use**
- **Based on pulsed time-of-flight technology, allowing fast measurement of distances from natural surfaces**
- **Small size, highly integrated technology**
- **Comprehensive inbuilt operation for many measurement tasks**
- **Eye safe**
- **Parameter programmable, automatic operation**

The family of compact, highly integrated laser rangefinders can be used as OEM products in many applications, from demanding industrial measurements to portable systems. The nitrogen-filled, watertight casings make the units very reliable under varying environmental conditions. The flexible parameter-driven operation of the sensor makes it easy to adapt to user-specified tasks.

CM3 / CMP3 Laser rangefinders

Noptel's laser distance measurement techniques have their origins in research into the applications of optoelectronics carried out in the Faculty of Technology at the University of Oulu in the 1970s. Continued close co-operation has led to the development of highly integrated distance measurement products for range finding and 2D/3D scanning applications.

Technology

The distance measurement sensors use pulsed time-of-flight technology and integrated modules together with our own ASICs for time calculation and signal processing. This technology allows high-speed measurement of distances from poorly reflecting surfaces and has excellent resolution. The units are small in size, light in weight and have low power consumption. The technological solutions make the sensors very small and reliable. The units are nitrogen-filled to ensure reliable operation under varying temperature and environmental conditions.

Technology

Typical applications for such sensors are traffic control, industrial measurements, forest measurements, portable systems and OEM applications, wherever measurement at high speed and with poorly reflecting targets is required. The most rapidly growing application area is traffic control, where many automatic control systems need reliable measurement in difficult environments. Noptel's sensors are in use in intelligent traffic camera triggering systems, vehicle profile measurement and vehicle classification systems and speed measurement devices.

CM Sensor

The CM type of sensor a uses narrow laser beam for measurement purposes. It is suitable for applications where the target is small or known.

CMP Sensor

The CMP type of sensor uses a wide laser beam that covers wider measurement area at short distances. Used with a retro-reflector at long distances, the unit will find the target more easily due to the wide beam, which makes installation and pointing easier.

Typical specifications		CM3	CMP3
• Measurement range	2 - 30 m (1 - 70 m) (natural surface)		
•	2 - 380 m (reflective target)		
• Beam divergence		1.9 mrad	20 mrad
• Precision, single shot	5 - 20 mm		
• Temperature range	-20 - + 50 °C		
• Supply voltage	12V: 5-13 24V: 8-25V (30V)		
• Power	full speed 2.4 - 2.9W, power save 0.1W		
• Measurement rate	up to 4 kHz (special version up to 10 kHz)		
• Wavelength	905 nm		
• Weight		375 g	300 g
• Protection	Nitrogen-filled		
• Size (H/L/W)		36 / 132 / 78 mm	36 / 71 / 78 mm
• Laser class	1		
• Interface	RS-232, RS-422 Digital I/O, and analogue output		
• Internal laser pointer	(5 mW, laser class 3A)		

Applications

- Traffic control
- Industrial measurements
- Positioning
- Security measurements
- OEM applications
- Portable measurements

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