RANGE FINDER

Sr#	Description	Qty
1	**BME680 Module (Sparkfun)** • Interface: SPI/I2C • Available @ robotshop.com	10
2	**Ultrasonic Range Finder** • Manufacturer: Devantech • Product No: SRF04 • Specifications: • Ranges from 3cm to 3m • Return positive TTL signal width proportional to range • 3-4cm Resolution • Range: 3cm to 600cm • Interface:I2C • Available @ robotshop.com	22
3	**Leddar One** • Range: 0 to 40 meters • Interface: UART • Available @ robotshop.com	10

4	**2D Scanner Laser Range Finder (Indoor)**
	• Manufacturer: Hokuyo
	• Product No: UST-J0LX
	• Specifications:
	  o Range: 10m
	  o Measurement steps: 1081
	  o Detection angle: 270"
	  o Angular resolution: 0.25"
	  o Supply Voltage: 12VDC/24 VDC (Operation range 10 to 30V ripple within 10%)
	  o IP-65
	• Accessories Required:
	  o Power Cable& Ethernet Cable
		7

5	**TerraRanger Duo**
	• Manufacturer: Terabee
	• Product Code: Terra Ranger Duo
	• Specifications:
	  o Maximum Reading Frequency 1000 Hz (Tof), 10 Hz (Sonar)
	  o Range: 0.2 – 14m (ToF), 0.05 – 7.65m (Sonar)
	  o Dual Technology: Infrared ToF + Ultrasounds
	  o Detection of Sound Absorbing Materials
	  o ROS ready
	  o Pre-Calibrated
	• Accessories Required with Terra Ranger Duo
	  o USB Dual Interface (with USB adapter set)
	  o Power Cable
		22

6	**Differential Line Driver Module** • Manufacturer: CNCdrive motion control • Features:	10

	o Screw Terminals o RJ45 Connector	
7	**H$_2$S Gas Sensor** • Mfr# SGX-4H2S-100	10
8	**SMBus Reader Module** • Mouser# 328-RRCSMBUSREADER	2
9	**Inertial Measurement Unit** • Manufacturer: VectorNav • Model No: VN-100 (Rugged) • Specifications: 　o Interface type :RS-232 　o Capable of IMU Measurements, Magnetic Heading, Attitude Filter • Accessories Required: 　o VN-100 Rugged Development kit	2
10	**GPS + Inertial Measurement Unit** • Manufacturer: VectorNav • Model No: VN-300 (Rugged) • Specifications: 　o Interface type :RS-232 　o Capable of IMU Measurements, Magnetic Heading, Attitude Filter, INS Filter & GPS-Compass Heading • Accessories Required: 　o VN-300 Rugged Development kit	1
11	**3D Scanning Laser Range Finder (Outdoor)** • Manufacturer: RoboSense • Product No: Rs-LiDAR-16 • Specifications: 　o ROS Compatible 　o Laser beams:16 　o Wavelengh:905 nm 　o Laser class:1 　o Accuracy:$\pm$ 2 cm 　o Detection range: 20cm to 150m (20% reflectivity) 　o Data rate: 320,000 pts/s 　o Field of view (vertical):+15^0 to -15^0 (30^0) 　o Angular resolution (vertical): 2^0 　o Field of view (horizontal):360^0 　o Angular resolution (horizontal/azimuth): 0.09^0 to 0.36^0 (5-20 Hz) 　o Rotational velocity: 300 to 1,200 rpm (5-20Hz)	1

	- Input voltage : 9-32 Vdc - Power consumption: 9W - Protection: IP67 - Operating temperature: -10 to +60^{0}C - Data type: Spatial Coordinates/intensity • <u>Accessories Required:</u> - All required cables including power and interface cable	