

**ONE** small device  
**ALL** functionalities



## SMC-ONE

### GNSS Receiver Dual Antenna for Machine Control Systems

SMC-ONE is a GNSS receiver specifically designed for machine control applications.

It is equipped with all the functionality you need for a machine control application in one small device. Stream all your sensor and GNSS data over a single Serial, CAN BUS or ethernet connection to your controller.

#### Standard connectors

- High quality standard M12 connectors
- RF signals on TNC connectors

#### Extended Connectivity

Rich hardware interfaces make the integration seamless in all applications.

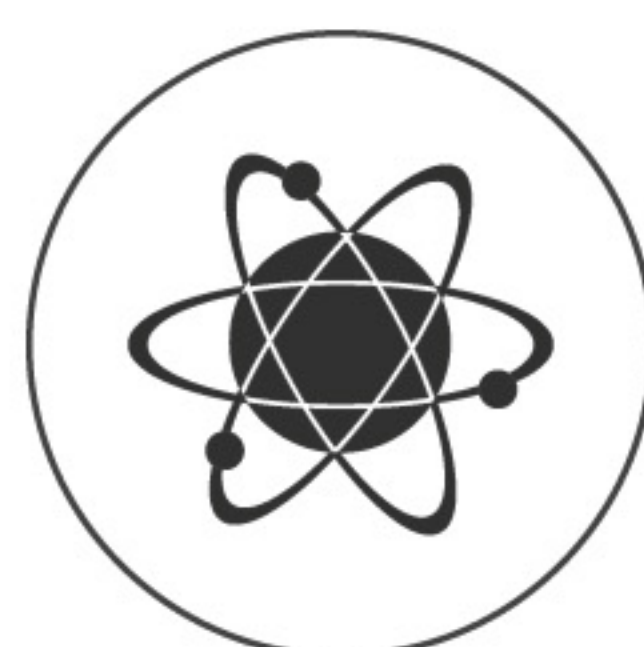
With RS232 serial port, CAN Bus, LAN ethernet and low latency PPS output, SMC-ONE GNSS offers unmatched compatibility with industrial and machine applications.



#### ▪ SP (CRS) FILE MANAGEMENT

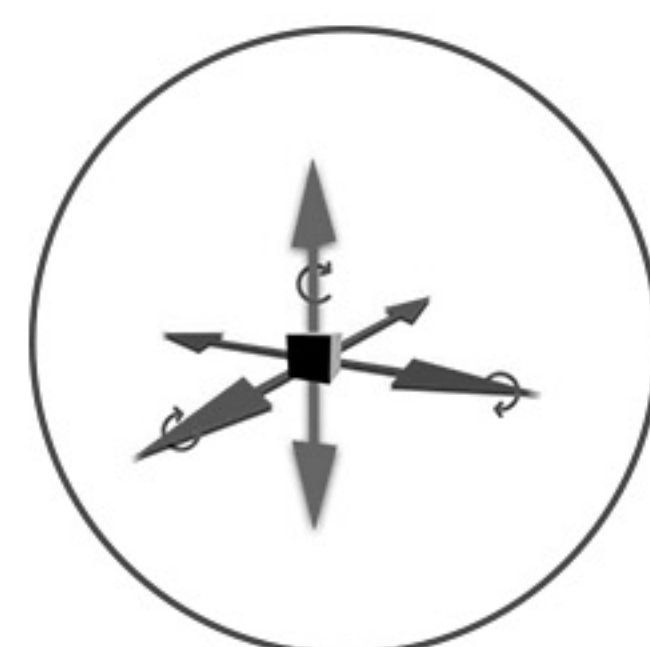
#### ▪ CAN BUS PROTOCOL

#### ▪ SET UP AND REMOTE DIAGNOSTICS



#### MULTI CONSTELLATION

All GNSS signals (GPS, GLONASS, BEIDOU, GALILEO, and QZSS) are included at no additional cost



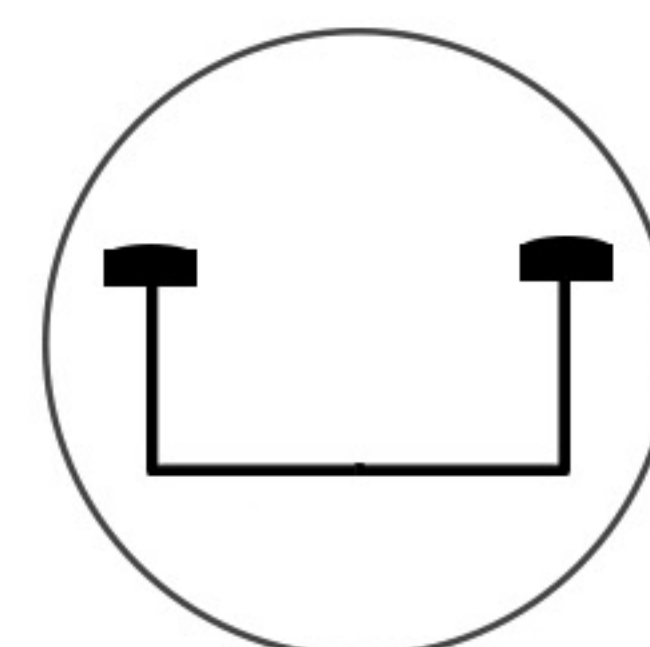
#### PITCH AND ROLL

The sensors track the movements of the machine's body, both pitch and roll



#### HIGH ACCURACY

High end receiver technology



#### HEADING

Dual antenna for heading



# SMC-ONE TECHNICAL FEATURES

## RECEIVER

Satellite signals tracked	GPS: L1 C/A, L1C, L2P (Y), L5
	GLONASS: L1 C/A, L2C/A, L3, L2P
	BEIDOU: B1I, B1C, B2a, B2I, B3I
	GALILEO: E1, E5a, E5b
	QZSS: L1 C/A, L1C, L2C, L5
	SBAS: EGNOS, WAAS, GAGAN, MSAS, SDCM
Channels	544
Update rate	Up to 100 Hz
Signal Reacquisition	< 1 s
RTK Signal Initialization	Typically < 45 s
Hot Start	Typically < 20 s
Internal Memory	32 GB
OS	Linux A7

## POSITIONING<sup>1</sup>

STANDALONE ACCURACY	
Horizontal	1.2 m RMS
Vertical	1.9 m RMS
DGNSS ACCURACY	
Horizontal Accuracy	0.40 m RMS
Vertical Accuracy	0.70 m RMS
SBAS <sup>2</sup> ACCURACY	
Horizontal Accuracy	0.60 m RMS
Vertical Accuracy	0.80 m RMS
REAL TIME KINEMATIC (< 40 Km) – NETWORK RTK <sup>3</sup>	
Fixed RTK Horizontal	6 mm + 0.5 ppm RMS
Fixed RTK Vertical	10 mm + 1 ppm RMS
HEADING ACCURACY – Antenna separation 1 m	
Heading	0.15°
Pitch/Roll	0.25°
HEADING ACCURACY – Antenna separation 5 m	
Heading	0.03°
Pitch/Roll	0.05°

## INTERNAL RADIO 1 WATT

Type	Tx - Rx
Frequency Range	410 - 470 MHz
Channel Spacing	12.5 KHz / 25 KHz
Range	5 Km in urban environment
	Up to 15 Km with optimal conditions <sup>4</sup>

## COMMUNICATION

I/O Connectors	M12 5-pin female for CAN and external power supply
	M12 5-pin male for CAN and external power supply
	M12 8-pin female for RS232
	M12 4-pin D-code female for ethernet LAN
	2* TNC, for radio and GPRS
Bluetooth	2* GNSS port for external antenna
	Micro SIM card
	TF card
	PPS out
Bluetooth	BT 5.0 EDR downward compatibility LE
Wi-Fi	802.11 b/g/n
4G LTE	Full Netcom communication module
Ethernet	100M
Web UI	Firmware upgrade, manage the status and settings, data download, etc. via Smartphone, tablet or other electronic device with Wi-Fi capability
	ROX, RTCM2.x, RTCM3.x, CMR, CMR+, Rinex v3.04/v2.11/etc
Reference Outputs	
Navigation Outputs	NMEA0183, Stonex CAN protocol

## POWER SUPPLY

Voltage	+7V~ +36V DC external power input with over-voltage protection
Power consumption	5 W

## PHYSICAL SPECIFICATION

Dimensions	L*158.4×W*121×H*43 mm
Weight	0.60 Kg
Operating Temperature	-40°C to 80°C (-40°F to 149°F)
Storage Temperature	-40°C to 85°C (-40°F to 176°F)
Waterproof/Dustproof	IP68
Humidity	anti-condensing by 100%
Shock Resistance	Designed to endure to a 1.5 m pole drop on concrete ground with no damage
Vibration	Vibration resistant

1. Accuracy and reliability are generally subject to satellite geometry (DOPs), multipath, atmospheric conditions and obstructions. In static mode they are subject even to occupation times: the longer is the Baseline, the longer must be the occupation time
2. Depends on SBAS system performance
3. Network RTK precision depends on the network performances and are referenced to the closest physical base station
4. Varies with the operating environment and with electromagnetic pollution

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