

# SVEESix-CM3™

## GPS Module for Embedded OEM

### Performance Specifications

|                        |   |
|------------------------|---|
| General:               | L1 frequency, C/A code (SPS), 6-channel, continuous tracking receiver                                     |
| Update rate:           | TSIP @ 2 Hz, NMEA & TAIP @ 1 Hz   |
| Accuracy:              | Position: 25 m SEP without SA<br>Velocity: 0.1 m/sec without SA<br>Time: 1 micro-second (nominal)         |
| DGPS accuracy:         | Position: 2 to 5 m (2 sigma)<br>Velocity: 0.1 m/sec<br>Time: 1 micro-second (nominal)                     |
| Acquisition (typical): | Cold start: 2 to 5 minutes<br>Warm start: 50 seconds<br>Hot start: 30 seconds                             |
| Reacquisition:         | <2 seconds  |
| Dynamics:              | Velocity: 500 m/sec maximum<br>Acceleration: 4g (39.2 m/sec <sup>2</sup> )<br>Jerk: 20 m/sec <sup>3</sup> |

### Environmental Specifications

|                     |   |
|---------------------|---|
| Operating temp:     | -10° to +60°C (standard)<br>-40° to +85°C (optional)  |
| Storage temp:       | -55° to +100°C  |
| Vibration:          | 0.008g <sup>2</sup> /Hz 5 Hz to 20 Hz<br>0.05g <sup>2</sup> /Hz 20 Hz to 100 Hz<br>-3dB/octave 100 Hz to 900 Hz |
| Operating humidity: | 5% to 95% R.H. non-condensing @ +60°C   |
| Altitude:           | -400 m to +18,000 m   |

### Technical Specifications

|                              |   |
|------------------------------|---|
| Prime power:                 | +5 volts DC (-3% to +5%)  |
| Power consumption (nominal): | SVEESix-CM3: 230 ma, 1.15 watts<br>with antenna: 240 ma, 1.20 watts                                   |
| Backup power:                | +3 to +5 volts DC   |
| Backup consumption:          | 1 micro-amp @ +3 volts and +25°C (nominal)  |
| Serial port / 1PPS:          | CMOS TTL levels   |
| Protocol options:            | TSIP @ 9600 baud, 8-Odd-1<br>NMEA 0183 v2.0 @ 4800 baud, 8-None-1<br>TAIP @ 4800 baud, 8-None-1       |
| NMEA messages:               | Standard: GGA and VTG<br>Optional: Any combination of GGA, GLL, VTG, ZDA, GSA, GSV and RMC            |
| Antenna power:               | Short circuit protection<br>Short circuit detection<br>Short to +20 volt protection<br>Open detection |

### Physical Characteristics

|             |  |
|-------------|--|
| Dimensions: | 3.25" L x 1.83" W x 0.58" H<br>(82.6 mm x 46.5 mm x 14.7 mm) |
| Weight:     | 1.3 oz. (36.4 grams)   |
| Connectors: | RF: SMB; I/O: 8-pin (2x4), 2 mm header                       |

### Upgrades and Accessories

Differential GPS: Allows the module to decode and incorporate GPS corrections to improve position accuracy. Accepts RTCM SC-104 through secondary serial port or uses TSIP and TAIP correction messages through primary port.

GPS antenna and J Mount:



Rooftop antenna:

Compact, active micropatch antenna with 5-meter cable and magnetic mount. 2.45" Diameter x 0.45" High  
J Mount accessory for mounting on trunk or door flange.  
Bullet antenna with 75 feet of cable and SMB adapter.

### Ordering Information

SVEESix-CM3 modules:

|          |                        |
|----------|------------------------|
| 26889-61 | TSIP (binary) protocol |
| 26889-62 | NMEA (ASCII) protocol  |
| 26889-63 | TAIP (ASCII) protocol  |

SVEESix-CM3 modules with DGPS option:

|          |                        |
|----------|------------------------|
| 26890-61 | TSIP (binary) protocol |
| 26890-62 | NMEA (ASCII) protocol  |
| 26890-63 | TAIP (ASCII) protocol  |

SVEESix-CM3 with passive antenna support:

|          |                        |
|----------|------------------------|
| 26891-61 | TSIP (binary) protocol |
| 26891-62 | NMEA (ASCII) protocol  |
| 26891-63 | TAIP (ASCII) protocol  |

GPS antenna:

|          |   |
|----------|---|
| 26774-00 | Magnetic mount antenna with 5-meter cable |
| 27018-00 | J Mount accessory kit                     |

SVEESix-CM3 Starter Kit:

|          |   |
|----------|---|
| 21589-50 | Includes SVEESix-CM3 with DGPS, magnetic mount antenna, TSIP, NMEA and TAIP firmware, software toolkits for TSIP and TAIP, interface cable, and manual. |
|----------|---|

Note: Other configurations are available. Consult your local Trimble representative for details.

Specifications are subject to change without notice.



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# SVeeSix-CM3™

## GPS Module for Embedded OEM

Tracking &  
Communication  
Products

Gain an expanded feature set—low power consumption, fast warm start, 12 volt antenna protection—at a lower integration cost

The SVeeSix-CM3 is Trimble's latest advance in GPS core module technology. Form-fit compatible with SVeeSix-CM2 applications, the CM3 lowers integration costs while adding a wealth of features.

An antenna monitoring feature protects against cable shorts to ground or 12 volts. It also alerts the user should the antenna become shorted or disconnected. These unique capabilities make the

SVeeSix-CM3 ideal for car navigation.

An optional second serial port allows for direct input of RTCM SC-104 differential corrections. This feature dramatically lowers the cost of integrating differential.

A real-time clock means faster acquisition. Users can begin operation without hooking up to a computer and downloading the time.

Optional passive antenna support adds flexibility. And the board's new design lowers power consumption.

A rugged and reliable six-channel receiver, the SVeeSix-CM3 provides position and velocity data anywhere on Earth, at any time of day, in any weather.

It also provides accurate time. A one-pulse-per-second signal is synchronized to UTC within a nominal accuracy of one microsecond—ideal for multi-site synchronization and time-distribution applications.

To help you evaluate and integrate the SVeeSix-CM3, Trimble offers the System Designer's Starter Kit. It includes an RS-232 serial port adapter, a choice of binary, ASCII, or industry standard protocols, and source code for software interface programs.

More features, lower integration cost, and shorter integration time—three very good reasons for choosing the SVeeSix-CM3.

