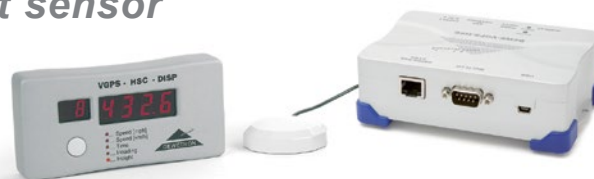


DEWE-VGPS-HSC

GPS based speed and displacement sensor

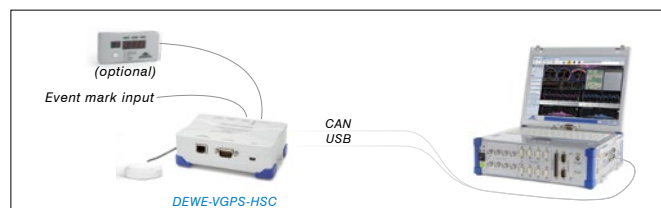
- 100 Hz GPS engine
- Supports differential GPS (SBAS) as a standard
- USB and CAN interface
- Additional analog voltage output for speed and pulse output for distance
- Lowest latency time at speed and distance output
- Online signal quality monitoring for standalone applications
- Special feature: Clock output for synchronizing multiple DEWETRON instruments



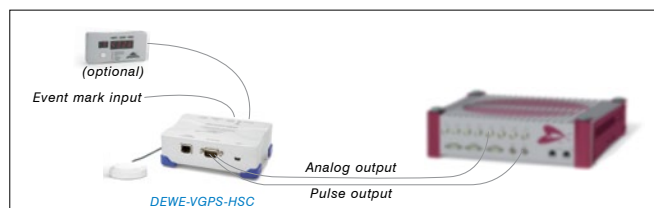
DEWE-VGPS-HSC			
Measurement specifications			
Speed		Absolute position	valid for USB, CAN
Accuracy	0.1 km/h ± 0.05 % of range ¹⁾	Accuracy	< 40 cm CEP ⁴⁾
Min to Max	0.1 km/h to 500 km/h	Refresh rate	1 to 100 Hz
Resolution	0.01 km/h	Resolution	< 10 cm
Analog output	25 mV/km/h ²⁾ (0 to 5 V)	Latency time	< 2 ms using DEWESoft
Displacement		Timing	
Accuracy	< 20 cm/km ³⁾	Trigger accuracy	100 ns
Digital output	500 pls/m ²⁾ (TTL level)	Clock acc. GPS locked	without drift
Refresh rate	1 to 100 Hz	Clock acc. GPS unlocked	< 1 ppm
Latency time	12 ms	Clock/Trigger signal level	TTL (LVDS for ORION-1624)
System specifications			
Input	SMA connector for GPS antenna, LEMO connectors for event mark input and power supply		
Output	Speed, displacement, USB, CAN, VGPS display, timebase generator		
Power supply	9 to 36 V _{DC} , 3 W		
Dimensions	130 x 89 x 43 mm (5.1 x 3.5 x 1.7 in.)	Display: 131 x 64 x 27 mm (5.2 x 2.5 x 1.1 in.)	
Weight	410 g (1.63 lbs)	Display: 265 g (0.58 lbs)	
Operating temperature	0 °C to 60 °C (standard)		(1) Acquiring more than 6 satellites, averaged over 3 values
Storage temperature	-20 °C to +70 °C		
Humidity (operating)	10 % to 80 %, non condensing; 5 % to 95 %, rel. humidity		(2) Free programmable
Vibration	MIL-STD 810F 514.5 procedure I operating test procedure frequency range: 5 to 200 to 5 Hz; 5 x 12 min each direction displacement amplitude ± 3.5 mm (5 to 8.45 Hz) acceleration amplitude 1 g (8.45 to 92 Hz) displacement amplitude 92 to 113 Hz: ± 0.029 mm acceleration amplitude 1.5 g (113 to 200 Hz)		(3) Acquiring more than 6 satellites, driving at constant speed (4) Circular Error Probable • 40 cm differential operation using local base station • 90 cm differential operation using BEACON
Shock	MIL-STD 810F 516.5 procedure I non operating test procedure $\frac{1}{2}$ sinus 11 ms 10 g, 3 shocks positive, 3 shocks negative		• 1.8 m differential operation using SBAS • 3 m autonomous operation

- (1) Acquiring more than 6 satellites, averaged over 3 values
- (2) Free programmable
- (3) Acquiring more than 6 satellites, driving at constant speed
- (4) Circular Error Probable
 - 40 cm differential operation using local base station
 - 90 cm differential operation using BEACON
 - 1.8 m differential operation using SBAS
 - 3 m autonomous operation

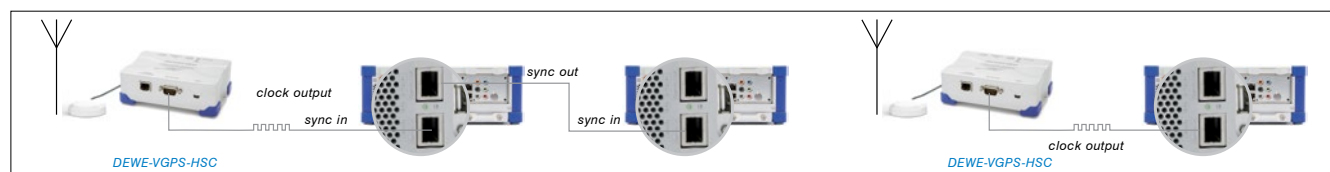
Applications



Speed and displacement measurement with systems running DEWESoft



Speed and displacement measurement with third party systems



Synchronization of multiple DEWETRON instruments over long distances

DEWE-VGPS-HS

High speed GPS based speed and displacement sensor

- 100 Hz GPS engine
- Supports differential GPS (SBAS) as a standard
- RS-232 interface (external USB converter)
- Speed and displacement update rate up to 100 Hz
- Position update rate up to 50 Hz
- Lowest latency using unique PPS sync over RS232/USB interface
- Perfectly suited for DEWETRON systems running DEWESoft software



DEWE-VGPS-HS

Measurement specifications

Speed		Absolute position	valid for RS-232, USB
Accuracy	0.1 km/h ± 0.05 % of range ¹⁾	Accuracy	< 40 cm CEP ³⁾
Min to Max	0.1 km/h to 500 km/h	Refresh rate	5 to 50 Hz
Resolution	0.01 km/h	Resolution	< 10 cm
Refresh rate	5 to 100 Hz	Latency time	< 2 ms using DEWESoft
Displacement			
Accuracy	< 20 cm/km ²⁾		
Refresh rate	5 to 100 Hz		

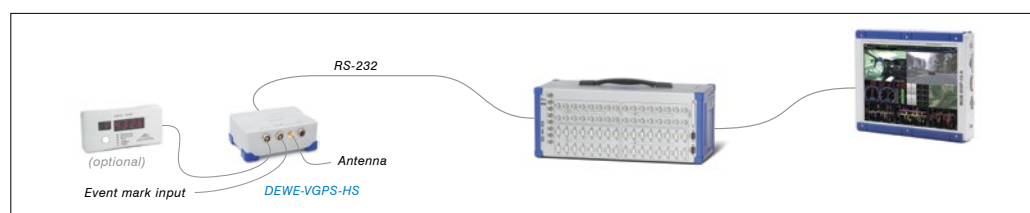
System specifications

Input	SMA connector for GPS antenna, Lemo for event input and power supply		
Output	DSUB-9 for RS-232, USB (ext. converter), Lemo for VGPS display		
Power Supply	6 to 36 V _{DC} , 2 W		
Dimensions	115 x 93 x 35 mm (4.5 x 3.6 x 1.4 in.)	Display: 131 x 64 x 27 mm (5.2 x 2.5 x 1.1 in.)	
Weight	740 g (1.63 lbs)	Display: 265 g (0.58 lbs)	
Operating temperature	0 °C to 60 °C (standard)	⁽¹⁾ Acquiring more than 6 satellites, averaged over 3 values ⁽²⁾ Acquiring more than 6 satellites, driving at constant speed ⁽³⁾ Circular Error Probable • 40 cm differential operation using local base station • 90 cm differential operation using BEACON • 1.8 m differential operation using SBAS • 3 m autonomous operation	
Storage temperature	-20 °C to +70 °C		
Humidity (operating)	10 % to 80 %, non condensing 5 % to 95 %, rel. humidity		
Vibration	MIL-STD 810F 514.5 procedure I operating test procedure frequency range: 5 to 200 to 5 Hz; 5 x 12 min each direction displacement amplitude ± 3.5 mm (5 to 8.45 Hz) acceleration amplitude 1 g (8.45 to 92 Hz) displacement amplitude 92 to 113 Hz: ± 0.029 mm acceleration amplitude 1.5 g (113 to 200 Hz)		
Shock	MIL-STD 810F 516.5 procedure I non operating test procedure $\frac{1}{2}$ sinus 11 ms 10 g, 3 shocks positive, 3 shocks negative		



Transportation case

Application



Speed and displacement measurement with systems running DEWESoft