DEWE-VGPS-200C

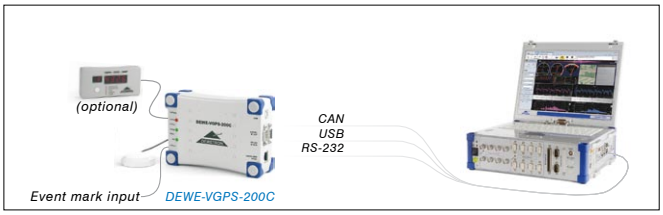
GPS based speed and displacement sensor

- *20 Hz GPS engine*
- *200 Hz update rate for speed and distance output*
- *Supports differential GPS (SBAS) as a standard*
- *RS-232, USB and CAN interfaces*
- *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*

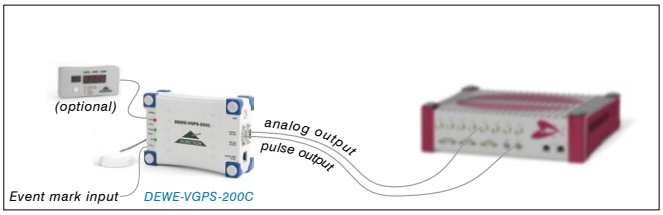
DEWE-VGPS-200C			
Measurement specifications			
Speed		Absolute position	valid for RS-232, USB, CAN
Accuracy	0.1 km/h ±0.05 % of range [1]	Accuracy	< 40 cm CEP [4]
Min to Max	0.1 km/h to 500 km/h	Refresh rate	20 Hz
Resolution	0.01 km/h	Resolution	< 10 cm
Analog output	25 mV/km/h [2] (0 to 5 V)	Latency 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	200 Hz	Clock acc. GPS unlocked	< 1 ppm
Latency time	12 ms	Clock/Trigger signal level	TTL (LVDS for ORION-1624)
System specifications			
Input	TNC connector for GPS antenna, event mark input		
Output	Speed, displacement, RS-232, USB, CAN, VGPS display, Timebase generator		
Power Supply	9 to 36 V_{DC}, 3 W		
Dimensions	165 x 115 x 50 mm (6.5 x 4.5 x 2 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)		
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 ½ sinus 11 ms 10 g, 3 shocks positive, 3 shocks negative		

(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. conververter), 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)		
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)		
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(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*
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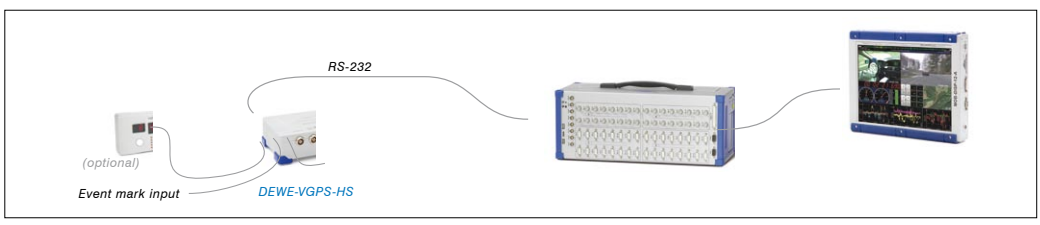
Transportation case

Application



Speed and displacement measurement with systems running DEWESoft

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