

KODEN

With Graphic Display
GPS/DGPS Navigator

KGP-913/913D



High performance and accuracy, compact and easy-to-operate.

With all these features, the KGP-913/913D is ideal for pleasure craft and fishing boats.

FEATURES

- **Differential GPS (KGP-913D only)**

Thanks to a built-in beacon receiver, it can be used as a high-accuracy differential GPS navigator. Beacon stations all over the world are pre-installed (in countries where differential beacons are located).

- **Easy-to-operate**

"Fix anywhere" capability automatically fixes your position at turn on. A user-friendly menu makes operation easy from the very start.

- **Easy-to-see display**

An easy-to-see LCD with backlight, displays various information for navigation. For current position indication, Loran C LOPs are also available for those who have been using a Loran C-type navigator.

- **Graphic display**

Two types of graphic displays lead you to your destination.

- **Navigational data**

Displays of lat/long, boat speed and heading, average speed, average bearing, passed time, distance/bearing to waypoint, cross track error, course deviation, time to go, total time/distance to destination, DOP value, present date/time (UTC or LTC), GPS satellite status, DGPS status and MOB indication are all selectable.

- **Position memory**

Two hundred waypoints (which can be named or commented) and 200 event memories for storing the position of wrecks, reefs and fishing spots with one key press.

- **Route navigation**

A total of 400 stored waypoints can be used to create up to 20 routes. A route may be taken in forward or reverse order.

- **Cross track error and course deviation**

In navigation mode, indication of track error to the destination with distance (cross track error) and angle (course deviation) in addition to speed and bearing are shown.

- **Alarm capability**

Audible and visual alarms of cross track error, course deviation, waypoint proximity, anchor watch drift and DGPS are available for power saving and hazard prevention.

- **MOB (Man Over Board) display**

In case of emergency, the Man Over Board function automatically stores the position where the emergency has occurred, providing continuous update of distance and bearing to that position, making recovery quick and easy.

- **Flexible data output**

NMEA-0183 output for interfacing with other devices onboard.

- **Plotter function**

Your vessel's track history (up to 2,000 points) and course line to the destination are simultaneously displayed.

SPECIFICATIONS

GPS receiver section (KGP-913/913D common)

Receiving frequency	1575.42 MHz ± 1 MHz
Receiving channel	Digital 11-channel parallel/sequential
Receiving code	C/A code
Sensitivity	Better than -130 dBm (elevation angle: 5° or over)
Tracking speed	200 knots maximum
Accuracy	Position 10 meters RMS (DGPS ON), 100 m 2DRMS (DGPS OFF)
(PDOP: 3 or less) Velocity	0.1 knot RMS (DGPS ON)

Note: Accuracy is subject to change in accordance with DoD civil GPS user policy.

Beacon receiver section (KGP-913D only)

Receiving frequency	283.5 to 325.0 kHz
Channel separation	500 Hz step
Modulation	MSK: 50, 100, 200 bit/second
Sensitivity	2.5 μV/m (at BA-02)
Signal detection (S/N)	Better than 6 dB
Dynamic range	92 dB

Display section (KGP-913/913D common)

Display	LCD with backlight (128 x 64 dots, effective picture area: 85.71 x 54.35 mm)
Display mode	NAV1, NAV2, NAV3, PLOT, MOB (Man Over Board), MENU
Position data display	Latitude/longitude in increments of 0.0001 minute, converted Loran C LOP, converted Loran A LOP or converted Decca LOP
Track display	Display range 0.025, 0.05, 0.1, 0.2, 0.5, 1, 2, 5, 10, 20 nm (sm, km)
Usable ground	Within 80° in latitude
Plotting interval	10, 20, 30 seconds, 1, 3, 5 minutes, 0.1, 0.5, 1 nm (sm, km)
Plotting capacity	2,000 points
Navigational display	Speed, course, velocity made good/course made good/elapsed time, altitude, distance/bearing/cross track error/CDI/time to go to waypoint, total time to go and distance on route, DOP value, present time (UTC or LTC), satellite status, beacon receiving status, distance/bearing between two points, MOB display
Instant (event) memory	200 points (incl. one MOB point)
Waypoint memory	200 points (usable as waypoint)
Route memory	20 routes (Max. 400 waypoints) reverse trail possible
Alarm	Arrival proximity, cross track error, CDI, anchor watch, DGPS, GPS
Position compensation	Latitude/longitude, Loran C LOP, Loran A LOP, Decca LOP or Datum
Magnetic compensation	Auto or manual
Parameters	Loran C LOP/Loran A LOP/Decca LOP conversion, memory of waypoints and name (up to 10 letters), selection of measuring unit (nm, km, sm), antenna height, averaging (smoothing) factor, positioning mode (2D or 3D automatic selection), selection and registration of beacon station
Output data format (KGP-913: NMEA-0183 only)	NMEA-0183 (AAM, APB, BOD, BWC, DCN, GGA, GLC, GLL, GSA, GSV, GTD, MSS, ODA, RMB, RMC, Rnn, SGR, SNU, VTG, WDC, WPL, XTE, and ZDA), NMEA1, NMEA2, CIF, SHIPMATE 0183
Data out interval	1 second (CIF, SHIPMATE, and NMEA1), 3 seconds (NMEA2), and 1 to 99 seconds selectable (NMEA 0183)
Memory protection	By built-in battery
Power supply	10.8 to 41.6 VDC
Power consumption	4.8 W or less (KGP-913D), 3.3 W or less (KGP-913), at 24 VDC
Operating temperature	Display unit: -15 °C to +55 °C (+5 °F to +131 °F) Antenna unit: -25 °C to +55 °C (-13 °F to +131 °F)

Display section (KGP-913D only)

Differential	ON, OFF, AUTO
Beacon station selection	Auto (requires position information) or manual
Beacon station data	User entry (20 stations), beacon almanac data (10 stations), ROM (built-in stations around the world)
Operating temperature	Antenna coupler: -25 °C to +55 °C (-13 °F to 131 °F)

EQUIPMENT LIST

Standard Equipment List (KGP-913/913D common)

Display unit		With vinyl cover and mounting bracket	1
Antenna unit	GA-08 (GA-07)	For GPS reception, with antenna cable Connected to GA-08/BNC connector	1
Antenna cable	GA-08L (GA-07L)	For GPS reception, with antenna cable Connected to GA-08L/BNC connector	1
DC power cable	CW-241-1.8M	With a connector, waterproof cap	1.8 m (5 15/16 ft)
Fuse	F-7161, 2A	For spare	1
Truss tapping screw	TPT 5 x 20U	For mounting bracket	2
Operation manual			1

Standard Equipment List (KGP-913D only)

Antenna coupler	BA-02	For beacon reception, with antenna cable Connected to BA-02/BNC connector	1
Antenna cable	BA-02L	For beacon reception, with antenna cable Connected to BA-02L/BNC connector	1

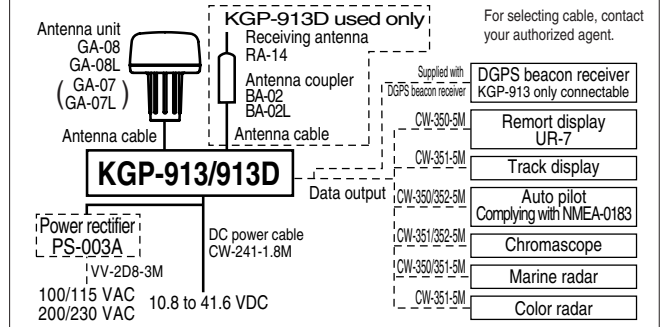
Options

Remote display	UR-7	With power and connecting cable	1.3 kg (2.9 lb)
Connecting cable	CW-350-5M	With 6-pin and BNC connectors	5 m (16 3/8 ft)
	CW-351-5M	With 6-pin connectors	5 m (16 3/8 ft)
	CW-352-5M	With 6-pin connector and lugs	5 m (16 3/8 ft)
Power Rectifier	PS-003A	With two 5A fuses	2.8 kg (6.2 lb)
AC power cable	VV-2D8-3M	Both end plain for power rectifier	3 m (9 13/16 ft)
Flush mount kit	FMK-1	Flush mount frame with screws	
Antenna holder	RAH-29	Ratchet mount	0.68 kg (1.5 lb)

Options (KGP-913D only)

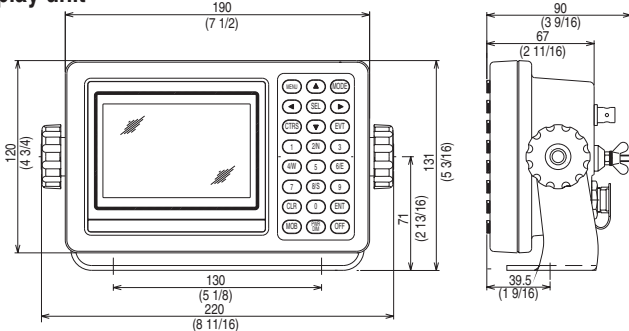
Receiving antenna	RA-14	2.45 m, whip	0.3 kg (0.67 lb)
H-field loop antenna	BA-03	With antenna cable Connected to BA-03/BNC connector	1.4 kg (3.1 lb) 10 m (32 13/16 ft)
Antenna cable	BA-03L	With antenna cables Connected to BA-03L/BNC connector	1.6 kg (3.6 lb) 15 m (49 3/16 ft)
	BA-03S	With antenna cables Connected to BA-03S/BNC connector	0.99 kg (2.2 lb) 0.5 m (1 5/8 ft)
GPS/H-field beacon antenna	GBA-01	With antenna cables Connected to GBA-01/BNC connector	1.9 kg (4.2 lb) 10 m (32 13/16 ft)
Antenna cable	GBA-01L	With antenna cables Connected to GBA-01L/BNC connector	2.2 kg (4.9 lb) 15 m (49 3/16 ft)
	GBA-01S	With antenna cables Connected to GBA-01S/BNC connector	1.1 kg (2.5 lb) 0.5 m (1 5/8 ft)
Antenna extension cable	CW-826-0.5M	With N-P/BNC connectors For BA-03S/GBA-01S	0.5 m (1 5/8 ft)
	RG-10UY-20M	With N-J connectors For BA-03S/GBA-01S	20 m (66 ft)
	RG-10UY-30M	With N-J connectors For BA-03S/GBA-01S	30 m (98 7/16 ft)

CONNECTIONS

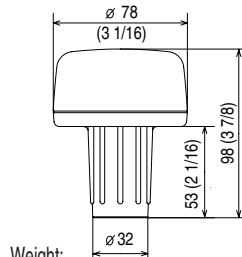


DIMENSIONS AND WEIGHT

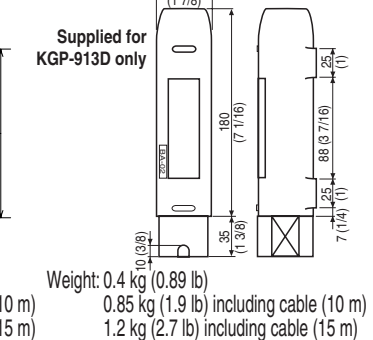
Display unit



Antenna unit (GPS) GA-08/08L



Antenna coupler (beacon) BA-02/02L



* Specifications subject to change without notice.

KODEN

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Certified to ISO 9001 (TUV PRODUCT SERVICE)



To ensure proper and safe use of the equipment, please carefully read and follow the instructions in the OPERATION MANUAL.

FOR DETAILS, PLEASE CONTACT: