

User Manual of Using Hong Kong GeoCode Conversion API (Beta Version)

(Manual revised on 24.09.2026)

1. Introduction:

This is a service to conduct four of the following conversions to/from Hong Kong GeoCode (HKGCode) by sending HTTP POST request with a JSON payload.

- a) From HK1980 Grid to HKGCode
- b) From HKGCode to HK1980 Grid
- c) From ITRF96 Geographic Coordinate System to HKGCode
- d) From HKGCode to ITRF96 Geographic Coordinate System

2. How to use:

User can conduct conversion programmatically with using the “HTTP request” to post the request in JSON format, and then converted Hong Kong GeoCode / coordinates will be returned in JSON format.

User can also use any OpenAPI client, e.g. Scalar API Client (<https://scalar.com/products/api-client/>) to import OpenAPI Specification of Hong Kong GeoCode (https://transform.geodetic.gov.hk/TransformationService/v3/api-doc/Transformation_beta.yaml). The API endpoint (<https://transform.geodetic.gov.hk/TransformationService/v3>) and examples will be loaded (Refer to Figure 2.1).

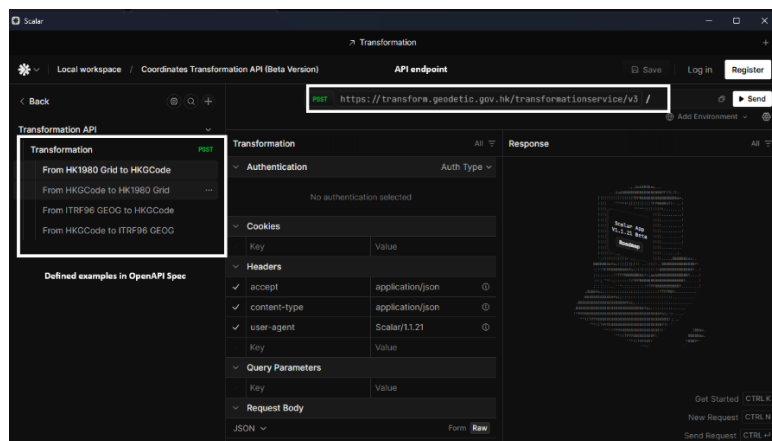


Figure 2.1

User can choose one of the examples, modify the request body, and then click send. Corresponding response will be shown (Refer to Figure 2.2).

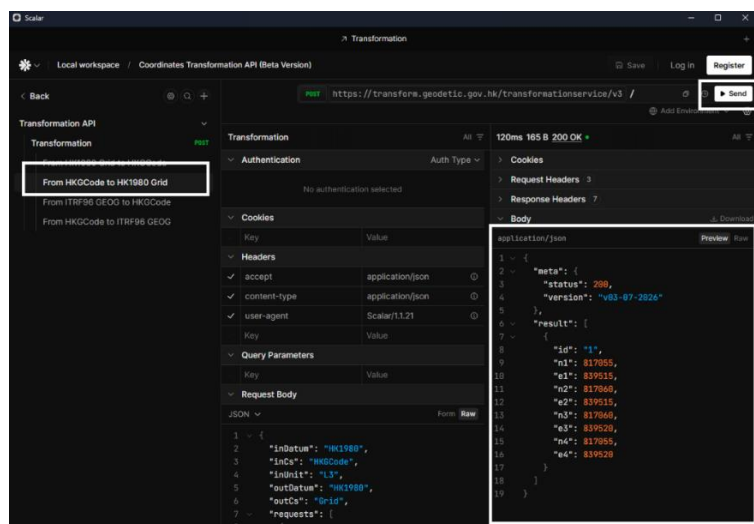


Figure 2.2

2a. Required parameters for different conversions

The required variables and options are different when using different conversions (Refer to Table 2.1).

Variables	Description	Conversion			
		From HK1980 Grid to HKGCode	From HKGCode to HK1980 Grid	From ITRF96 Geog to HKGCode	From HKGCode to ITRF96 Geog
<i>inDatum</i>	Input Datum	HK1980	HK1980	ITRF96	HK1980
<i>inCs</i>	Input Coordinate system	GRID	HKGCode	GEOG	HKGCode
<i>inUnit</i>	Input Unit	-	L1/L2/L3 ^(Table 2.2)	dms/decdeg/decmin ^(Table 2.3)	L1/L2/L3
<i>outDatum</i>	Output Datum	HK1980	HK1980	HK1980	ITRF96
<i>outCs</i>	Output Coordinate System	HKGCode	Grid	HKGCode	GEOG
<i>outUnit</i>	Output Unit	L1/L2/L3 ^(Table 2.2)	-	L1/L2/L3	dms/decdeg/decmin ^(Table 2.3)

Table 2.1 – Required parameters

2b. Options

The following options (Refer to Table 2.2) are available for the “inUnit” and “outUnit” parameters for “inCs” and “outCs” be “HKGCode” in the API call:

Option	Description
L1	Representing a grid of 2000m x 2000m, with two alphanumeric characters in the Hong Kong GeoCode
L2	Representing a grid of 100m x 100m, with four alphanumeric characters in the Hong Kong GeoCode
L3	Representing a grid of 5m x 5m, with six alphanumeric characters in the Hong Kong GeoCode

Table 2.2 – Level Options

The following options (Refer to Table 2.3) are available for the “inUnit” and “outUnit” parameters for “inDatum” and “outDatum” be “ITRF96” in the API call:

Option	Description
dms	<i>dms</i> The coordinates of latitude and longitude are composited in Degrees, Minutes and Seconds (e.g. 22°30'40.5" ⇔ 22.30405) For minute, Range between 0 and 59 For second, Range <60
decdeg	<i>decdeg</i> The coordinates of latitude and longitude are composited in Decimal Degrees (e.g. 22.51125° ⇔ 22.51125)
decmin	<i>decmin</i> The coordinates of latitude and longitude are composited in Degree and Decimal Minutes (e.g. 22°30.675' ⇔ 22.30675) For minute, Range <60

Table 2.3 – Unit Options

2c. Structure of return result

The return result is in JSON format (refer to Figure 2.3). The description and data type of parameters for return data is listed in Table 2.4.

Name of JSON data	Data Type	Description
id	Number	ID number
code	Strings	Hong Kong GeoCode depends on input level (L1/L2/L3)
n1	Numbers	Northing in HK1980 Geographical Coordinates of Southwestern corner for the Hong Kong GeoCode Grid

```

{
  "meta": {
    "status": 200,
    "version": "v03-07-2026"
  },
  "result": [
    {
      "id": "1",
      "code": "K8FA38"
    }
  ]
}

```

Figure 2.3 – Sample of return result

e1	Numbers	Easting in HK1980 Geographical Coordinates of Southwestern corner for the Hong Kong GeoCode Grid
n2	Numbers	Northing in HK1980 Geographical Coordinates of Northwestern corner for the Hong Kong GeoCode Grid
e2	Numbers	Easting in HK1980 Geographical Coordinates of Northwestern corner for the Hong Kong GeoCode Grid
n3	Numbers	Northing in HK1980 Geographical Coordinates of Northeastern corner for the Hong Kong GeoCode Grid
e3	Numbers	Easting in HK1980 Geographical Coordinates of Northeastern corner for the Hong Kong GeoCode Grid
n4	Numbers	Northing in HK1980 Geographical Coordinates of Southeastern corner for the Hong Kong GeoCode Grid
e4	Numbers	Easting in HK1980 Geographical Coordinates of Southeastern corner for the Hong Kong GeoCode Grid
lat1	Numbers	Latitude in ITRF96 Geographical Coordinates of Southwestern corner for the Hong Kong GeoCode Grid
long1	Numbers	Longitude in ITRF96 Geographical Coordinates of Southwestern corner for the Hong Kong GeoCode Grid
lat2	Numbers	Latitude in ITRF96 Geographical Coordinates of Northwestern corner for the Hong Kong GeoCode Grid
long2	Numbers	Longitude in ITRF96 Geographical Coordinates of Northwestern corner for the Hong Kong GeoCode Grid
lat3	Numbers	Latitude in ITRF96 Geographical Coordinates of Northeastern corner for the Hong Kong GeoCode Grid
long3	Numbers	Longitude in ITRF96 Geographical Coordinates of Northeastern corner for the Hong Kong GeoCode Grid

lat4	Numbers	Latitude in ITRF96 Geographical Coordinates of Southeastern corner for the Hong Kong GeoCode Grid
long4	Numbers	Longitude in ITRF96 Geographical Coordinates of Southeastern corner for the Hong Kong GeoCode Grid

Table 2.4 – Data Type and description of output parameters

2d. Result of conversion to Hong Kong GeoCode

The Crockford Base32 [<https://www.crockford.com/base32.html>] encoding scheme is adopted for Hong Kong GeoCode. Alphanumeric characters including 0-9, A-Z except letter “I”, “L”, “O” and “U” are used. The X and Y directions are indicated with the aforesaid alphanumeric characters respectively. The code is arranged in the order from Level 1 to 3: two characters form a L1 grid (e.g. K8), four characters form L2 grid (e.g. K8FA), and six characters form L3 grid (e.g. K8FA38).

2e. Result of conversion from Hong Kong GeoCode

The coordinates for Four corners of the Grid (Easting and Northing for the conversion to HK1980 Grid (refer to Figure 2.4)/ Latitude and Longitude for the conversion to ITRF96 Geog (refer to Figure 2.5)) of Hong Kong GeoCode will be displayed as the results.

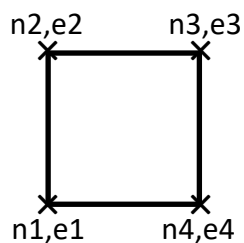


Figure 2.4

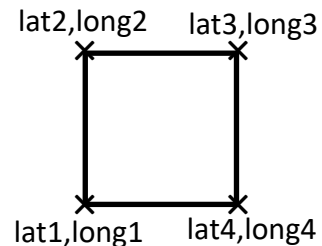


Figure 2.5

2f. Pseudocode

User can refer to the Pseudocode for referencing the computation logic of Hong Kong GeoCode Conversion API.

Link: <https://www.geodetic.gov.hk/transform/pseudocode.pdf>.

3. Examples:

Example 1: <i>From HK1980 GRID to HKGCODE</i>	
Request	<pre>{ "inDatum": "HK1980", "inCs": "Grid", "outDatum": "HK1980", "outCs": "HKGCODE", "outUnit": "L3", "requests": [{ "id": "1", "n": 817041.289, "e": 839515.959 }] }</pre>
Result	<pre>{ "meta": { "status": 200, "version": "v03-07-2026" } }</pre>

	<pre> }, "result": [{ "id": "1", "code": "K8FA38" }] } </pre>
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Example 2: HKGCODE to HK1980 GRID	
Request	<pre> { "inDatum": "HK1980", "inCs": "HKGCode", "inUnit": "L3", "outDatum": "HK1980", "outCs": "Grid", "requests": [{ "id": "1", "code": "K8FA3B" }] } </pre>
Result	<pre> { "meta": { "status": 200, </pre>

	<pre> "version": "v03-07-2026" }, "result": [{ "id": "1", "n1": 817055, "e1": 839515, "n2": 817060, "e2": 839515, "n3": 817060, "e3": 839520, "n4": 817055, "e4": 839520 }] </pre>
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Example 3: <i>From ITRF96 GEOG to HKGCODE</i>	
URL	<pre> { "inDatum": "ITRF96", "inCs": "GEOG", "inUnit": "dms", "outDatum": "HK1980", "outCs": "HKGCode", "outUnit": "L2", "requests": [</pre>

	<pre> { "id": "1", "lat": 22.173265634, "long": 114.123018087 }] } </pre>
Result	<pre> { "meta": { "status": 200, "version": "v03-07-2026" }, "result": [{ "id": "1", "code": "K8FA" }] } </pre>

Example 4: *From HKGCODE to ITRF96 GEOG*

Request	<pre> { "inDatum": "HK1980", "inCs": "HKGCode", "inUnit": "L3", "outDatum": "ITRF96", </pre>
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	<pre> "outCs": "GEOG", "outUnit": "dms", "requests": [{ "id": "1", "code": "K8FA3B" }] </pre>
Result	<pre> { "meta": { "status": 200, "version": "v03-07-2026" }, "result": [{ "id": "1", "lat1": 22.173265634, "long1": 114.123018087, "lat2": 22.173281889, "long2": 114.123018091, "lat3": 22.173281885, "long3": 114.123035558, "lat4": 22.17326563, "long4": 114.123035555 }] } </pre>

	] }
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4. **Contact:**

If you have any comment or suggestion of this service, please send email to geodetic@landsd.gov.hk.