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# FIBOCOM NL668 AT Commands User Manual\_HTTP

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### Applicability Type

| No. | Type                       | Note |
|-----|----------------------------|------|
| 1   | NL668-CN-00/01/02/03/04/10 | NA   |
| 2   | NL668-EAU-00               | NA   |
| 3   | NL668-EU-00/01/03          | NA   |
| 4   | NL668-AM-00/01             | NA   |
| 5   | NL668-JP-00/01             | NA   |
| 6   | NL668-LA-00                | NA   |
| 7   | NL661-EU-00                | NA   |

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## Versions

| Version | Date       | Remarks  |
|---------|------------|--|
| V1.0.0  | 2016-12-05 | Initial version  |
| V1.0.1  | 2017-03-09 | Declare that https is not support;<br>Delete ERR_CODE chapter; |
| V1.0.2  | 2017-08-22 | Change to new template   |
| V1.0.3  | 2018-04-21 | Add NL668 serial   |
| V1.0.4  | 2018-11-13 | Add NL668-AM serial and NL668-EU serial                        |
| V1.0.5  | 2018-12-04 | Add +HTTPHEAD command  |
| V1.0.6  | 2018-12-15 | Modify +HTTPSET cmommad  |
| V1.0.7  | 2018-12-26 | Add AT example   |
| V1.0.8  | 2019-04-17 | List all the specific application types                        |
| V1.2.1  | 2019-05-30 | Add Note for +HTTPREAD command                                 |
| V1.2.2  | 2019-10-14 | Add NL668-CN-10  |

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# 1 HTTP Commands

## 1.1 +HTTPSET, Set HTTP or HTTPS parameters

### 1.1.1 Description

This command is used to set service type of HTTP or HTTPS.

### 1.1.2 Syntax

| Command                                     | Response  |
|---|---|
| +HTTPSET=<" httpParam">,<" httpParamValue"> | OK<br>or:<br>ERROR  |
| +HTTPSET?                                   | +HTTPSET: "httpParam","httpParamValue"<br>+HTTPSET: "httpParam","httpParamValue"<br>...<br>OK |
| +HTTPSET=?                                  | +HTTPSET: (<" httpParam">),(<" httpParamValue">)<br><br>OK                                    |

### 1.1.3 Attributes

| Pin Restricted | Persistent | Sync Mode | Effect Immediately | Time of duration |
|----------------|------------|-----------|--------------------|------------------|
| Yes            | Yes        | Yes       | Yes                | < 1s             |

### 1.1.4 Defined Values

| httpParam | httpParamValue  |
|-----------|---|
| URL       | <p>http server address, character string type, string length is 0-255, the string format must be any kind of the following:</p> <p>For HTTP</p> <p><a href="http://host/path:port">http://host/path:port</a> e.g.<a href="http://news.sohu.com/20131010/n387881216.shtml">http://news.sohu.com/20131010/n387881216.shtml</a>:80</p> |

| httpParam          | httpParamValue  |
|--------------------|---|
|                    | <p><a href="#">host/path:port</a> e.g. news.sohu.com/20131010/n387881216.shtml:80</p> <p><a href="#">http://host/path</a> e.g.http://news.sohu.com/20131010/n387881216.shtml</p> <p>For HTTPS</p> <p><a href="#">https://host:port</a>e.g. https:// www.googleapis.com:443</p> <p><a href="#">https://host</a>e.g. https:// www.googleapis.com</p> <p>Notes:</p> <p>Host --- http or https host name or host IP address</p> <p>Path --- the file path requested by http or https</p> <p>Port --- http or https port , optional setting. The default number for http is 80, and 443 for https.</p> <p>Note:</p> <p>No matter http or https, it requires the port in the end of URL string.</p> |
| UAGENT             | User-Agent Value, character string type, optional settings.   |
| CONTYPE            | Content-Type Value, character string type, optional settings.   |
| ACCEPT             | Accept Value, character string type, optional settings.   |
| RESPONSEHEAD<br>ER | Response Header Value, character string type, optional settings, the default value is "0", it means HTTP head information is showed in AT+HTTPREAD output.  |
| MODE               | <p>Read mode Value, character string type, optional settings, the default value is "0".</p> <p>When the value is "1", the received data will be sent to UART since connection built up. AT+HTTPREAD execution can read continuous data until the end of receiving.</p>  |
| REDIR              | <p>Redirect Value, character string type, option settings, the default value is "0".</p> <p>When the value is "1", and the module receives 3XX or 500 and other return codes from server, it will redirect to the new URL automatically.</p>  |
| RANGE              | <p>Content-Range value, character string type, optional settings, the default value is NULL. Enter each time you use it in accordance with the protocol standard format, such as "bytes=0-12". Receives 206 for success. Overwrite the last record each time it is used. If you don't want to use RANGE, you can assign it to NULL. Post does not apply.</p>  |



**Note :**

The value of <httpParam> is only support capital letter.

## 1.2+HTTPDATA, send POST data to modem

### 1.2.1 Description

This command is used to send data to the module via UART for HTTPPOST procedure.

### 1.2.2 Syntax

| Command            | Response   |
|--------------------|--|
| +HTTPDATA=<length> | ><br>.....<br>OK<br>or:<br>ERROR                   |
| +HTTPDATA?         | OK   |
| +HTTPDATA=?        | +HTTPDATA: (list of supported <length>s)<br><br>OK |

### 1.2.3 Attributes

| Pin Restricted | Persistent | Sync Mode | Effect Immediately | Time of duration |
|----------------|------------|-----------|--------------------|------------------|
| Yes            | No         | No        | Yes                | < 1s             |

### 1.2.4 Defined Values

<length>: integer type;length of the data will be input. Range 1-64000 byte.



**Note :**

When the received data length reaches to the given size, the module exits from data mode and responses OK.

The time out of data input is 30 seconds, then the module exits from data mode and response ERROR

## 1.3 +HTTTPACT, start HTTP or HTTPS service

### 1.3.1 Description

This command used to start HTTP or HTTPS connect (GET or POST)

### 1.3.2 Syntax

| Command                       | Response   |
|-------------------------------|--|
| +HTTTPACT=<mode>[,<timernum>] | OK<br>or:<br>ERROR:  |
| +HTTTPACT?                    | OK   |
| +HTTTPACT=?                   | +HTTTPACT: (list of supported <mode>s) [, list of supported <timernum>s]<br><br>OK |
| URC                           | +HTTP: < status ><br>+HTTPS: <status>  |
| URC                           | +HTTTPRES: <mode>,<reply>,<length>   |

### 1.3.3 Attributes

| Pin Restricted | Persistent | Sync Mode | Effect Immediately | Time of duration |  |
|----------------|------------|-----------|--------------------|------------------|--|
| Yes            | No         | No        | Yes                | < 1s             |  |

### 1.3.4 Defined Values

<mode>: integer type and range 0-1

- 0 GET
- 1 POST.

<timernum>: integer type;timeout value, default value is 15s, range 10-60s.

<reply>: HTTP result code

- 200 OK
- 404 Not Found
- More in RFC2616

<length>: integer type; the length of data receive form server, max support 360000 byte.

< status > : integer type

- 0 connection failed
- 1 connection success

## 1.4 +HTTPREAD, Read data

### 1.4.1 Description

This command used to read data from module which are received from HTTP or HTTPS server.

### 1.4.2 Syntax

| Command  | Response  |
|--|---|
| Read all received data:<br>AT+HTTPREAD                       | OK<br>+HTTPREAD: <reslength><br>Data<br>or<br>ERROR     |
| Read part of received data:<br>AT+HTTPREAD=<offset>,<length> | +HTTPREAD: <reslength><br>Data<br><br>OK<br>or<br>ERROR |
| AT+HTTPREAD?   | OK  |
| AT+HTTPREAD=?  | +HTTPREAD: [<offset>,<length>]<br><br>OK                |

### 1.4.3 Attributes

| Pin Restricted | Persistent | Sync Mode | Effect Immediately | Time of duration |
|----------------|------------|-----------|--------------------|------------------|
| Yes            | No         | No        | Yes                | < 1s             |

### 1.4.4 Defined Values

<offset>: integer type;offset from the head of received data. 0-360000

<length>: integer type;length to read. 1-360000

<reslength>: integer type;read data length actually. 1-360000



**Note:**

During execute HTTPREAD, it is not recommended to execute other AT commands before the length data is read completely.

## 1.5 +HTTPHEAD, Set HTTP or HTTPS header parameters

### 1.5.1 Description

The purpose of this command is that it will require HTTP header data to import modules through the serial port. Use in HTTP GET and POST requests.

### 1.5.2 Syntax

| Command            | Response                        |
|--------------------|---------------------------------|
| +HTTPHEAD=<length> | ><br>.....<br>OK<br>or<br>ERROR |
| +HTTPHEAD?         | OK                              |
| +HTTPHEAD=?        | +HTTPHEAD: (1-5120)<br><br>OK   |

### 1.5.3 Attributes

| Pin Restricted | Persistent | Sync Mode | Effect Immediately | Time of duration |
|----------------|------------|-----------|--------------------|------------------|
| Yes            | No         | YES       | Yes                | < 1s             |

## 1.5.4 Defined Values

<length>: integer type; length of the data will be input. Range 1-5120 byte.



**Note:**

1. When using HTTPHEAD, except URL, the other head parameters set by HTTPSET are invalid.
2. When the received data length reaches to the given size, the module exits from data mode and responses OK.
3. The time out of data input is 30 seconds, then the module exits from data mode and response ERROR.

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## 2 HTTP(S) Example

### 2.1 +HTTPSET

```
//Set URL
AT+HTTPSET="URL","http://news.sohu.com/20131010/n387881216.shtml"
OK
AT+HTTPSET?
+HTTPSET: "URL","http://news.sohu.com/20131010/n387881216.shtml"
+HTTPSET: "UAGENT","Fibocom GPRS module"
+HTTPSET: "ACCEPT","/*/*"
+HTTPSET: "CTYPE","application/x-www-form-urlencodedmultipart/form-data"
+HTTPSET: "RESPONSEHEADER","0"
+HTTPSET: "MODE","0"
+HTTPSET: "REDIR","0"
+HTTPSET: "RANGE",""

OK
```

### 2.2 +HTTPDATA

```
//Input HTTP POST request data
AT+HTTPDATA=10
> //input post request data
```

OK

### 2.3 +HTTTPACT

```
//Query network status
AT+COPS?
+COPS: 0,0,"CHINA MOBILE",7
```

OK

```
//Active PDN context
```

```
AT+MIPCALL=1
```

OK

+MIPCALL: 10.236.166.81

//Set URL

AT+HTTPSET="URL","http://news.sohu.com/20131010/n387881216.shtml"

OK

//Do HTTP GET request

AT+HTTPACT=0

OK

+HTTP: 1

+HTTPRES: 0,200,82254

## 2.4 +HTTPREAD

//Query network status

AT+COPS?

+COPS: 0,0,"CHINA MOBILE",7

OK

//Active PDN context

AT+MIPCALL=1

OK

+MIPCALL: 10.95.9.33

//Set URL

AT+HTTPSET="URL","http://111.231.250.105"

OK

//Do HTTP GET request

AT+HTTPACT=0

OK

+HTTP: 1

+HTTPRES: 0,200,1257

//Read HTTP response data

AT+HTTPREAD

OK

+HTTPREAD: 1257

http/1.1 200 ok

date: fri, 26 oct 2018 09:38:41 gmt

server: apache/2.4.29 (win64) openssl/1.1.0g

content-length: 1075

connection: close

content-type: text/html;charset=utf-8

<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 3.2 Final//EN">

<html>

<head>

<title>Index of /</title>

</head>

<body>

<h1>Index of /</h1>

<ul><li><a href="10K.txt"> 10K.txt</a></li>

<li><a href="123.txt"> 123.txt</a></li>

<li><a href="400K.txt"> 400K.txt</a></li>

<li><a href="500K.txt"> 500K.txt</a></li>

<li><a href="G500-GL/"> G500-GL</a></li>

<li><a href="H330S/"> H330S</a></li>

<li><a href="L710/"> L710</a></li>

<li><a href="L71021/"> L71021</a></li>

<li><a href="L71030/"> L71030</a></li>

<li><a href="L716/"> L716</a></li>

<li><a href="L718/"> L718</a></li>

<li><a href="M910/"> M910</a></li>

<li><a href="N700/"> N700</a></li>

<li><a href="NL668-757S/"> NL668-757S</a></li>

<li><a href="NL668/"> NL668</a></li>

<li><a href="NL678/"> NL678</a></li>

<li><a href="big.txt"> big.txt</a></li>

```
<li><a href="cf/"> cf/</a></li>
<li><a href="http/"> http/</a></li>
<li><a href="https/"> https/</a></li>
<li><a href="lg/"> lg/</a></li>
<li><a href="linz/"> linz/</a></li>
<li><a href="lxj/"> lxj/</a></li>
<li><a href="midea/"> midea/</a></li>
</ul>
</body></html>
```

## 2.5 +HTTPHEAD

//Input HTTP request head data

AT+HTTPHEAD=209

>

//Input data according to HTTP protocol

//Example data

POST /mjc/webtrans/VPB\_lb HTTP/1.1

HOST: https://202.101.25.188/mjc/webtrans/VPB\_lb:20141

User-Agent: Donjin Http 0.1

Cache-Control: no-cache

Content-Type:x-ISO-TPDU/x-auth

Accept: \*/\*

Content-Length: 62

OK

AT+HTTPSET="URL",[https://202.101.25.188/mjc/webtrans/VPB\\_lb:20141](https://202.101.25.188/mjc/webtrans/VPB_lb:20141)

Note: When using HTTPHEAD, except URL, the other head parameters set by HTTPSET are invalid.

//Set HTTP POST data

AT+HTTPDATA=62

>

//Example data (use serial port tools HEX mode input)

003c600502000061310031000108000020000000c000120071383334303830303130383938333430383  
4313131303030310011000000000300003303031

OK

//Do HTTP POST request

AT+HTTPACT=1

OK

+HTTPS: 1

+HTTPRES: 1,200,310

//Read HTTP response data

AT+HTTPREAD

OK

+HTTPREAD: 310

HTTP/1.1 200 OK

Allow: POST, PUT

Content-Type: x-ISO-TPDU/x-auth

Date: Wed, 26 Dec 2018 06:19:39 GMT

Content-Length: 123

Server: Access-Guard-1000-Software/1.0

Connection: close

\0y\0\0a1\01\0\08\0

繼\0q8\$&\0 6\01424133970400034080010898340841110001\0\0\0\00\0@鯨喉e睛:t襪ai?F?#<>m`f?

噤\0\0\0\0\0\0?G