

WAGO-I/O-PRO CAA Library

WagoLibHttp_02.lib

This library provide function blocks to exchange data with a remote webserver via HTTP protocol. Function blocks available for method POST and GET.

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WagoLibHttp_02.lib

HTTP_GET

WAGO-I/O-PRO Library elements			
Category:	Communication		
Name:	HTTP_GET		
Type:	Function	Function block X	Program
Library name:	WagoLibHttp_02.lib		
Used Librarys	WagoLibEthernet_01.lib, WagoLibBase64_01.lib,		
Applicable to:	WAGO Ethernet Controller except 750-842		
Inputparameters:			
Data type:	Comments:		
sServerName	STRING	IP-Address or hostname of web server, e.g.: 85.220.143.234 or www.to-pass.com	
wServerPort	WORD	PortNumber of webserver. Default: 80	
sUserName	STRING(30)	Name of user for "BasicAuthentication"	
sPassword	STRING(30)	Password for "BasicAuthentication"	
pabUrlData	POINTER TO ARRAY [0.. MAX_RECEIVE_TCP_CLIENT] OF BYTE;	The HTTP-GET-Request, e.g.: 'http://192.168.1.7/MyDb/GetDetails.php?id=4711'	
uiUrlLength	UINT	Length of HTTP-GET-Request	
tTimeOut	TIME	WatchDogTime, operation aborted after time is elapsed. Default: t#30s	
In-/Out parameters:			
Data type:	Comments:		
xSend	BOOL	Send HTTP-GET-Request on rising edge. Internally reset when response received or "tTimeOut" elapsed.	
Outputparameters:			
Data type:	Comments:		
diError	DINT	Error code of last transmission. See section 'Function description' for details	
sStatus	STRING(255)	Textual description of current state	
abContentData	ARRAY [0.. MAX_RECEIVE_TCP_CLIENT] OF BYTE;	The HTTP response	
uiContentLength	UINT	Length of HTTP response in byte	

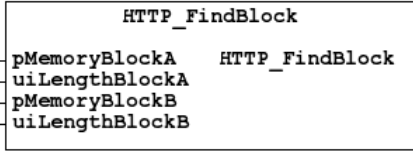
WAGO-I/O-PRO Library elements	
Graphic display:	
<pre> oHttpGet HTTP_GET '127.0.0.1'-sServerName diError 80-wServerPort sStatus ' user'-sUserName abContentData ' user'-sPassword uiContentLength ADR(sUrl)-pabUrlData LEN(sUrl)-uiUrlLength -tTimeout xHttpSend-xSend </pre>	<pre> diError sStatus abResponse uiResponse </pre>
Function description:	
<p>This function block send a HTTP 1.0 GET request to the given URL and return the response data. Request parameters are omitted as part of the URL. The maximum length of URL is limited. When user and password is set, the HTTP-GET-Request is send together with "Basic Access Authentication".</p> <p>The function block send any HTTP-GET-Request to the given server:</p> <pre> sUrl : STRING(250):= 'http://192.168.1.7/MyDb/GetDetails.php?id=4711' sUrl : STRING(250):= 'http://gateway.sms77.de/balance.php?u=<usr>&p=<pwd>' sUrl : STRING(250):= '/webserv/GetExample01.html' </pre> <p>The Server/Script answer with the HTTP-GET-Response e.g:</p> <p>RetVal dwError:</p> <pre> 16#00000000: 'SUCCESS' 16#80001001: TCP-ERROR: DNS-Request failed, could not retrieve servers IP address' 16#80001002: TCP-ERROR: Could not convert servers IP address into dotted format' 16#80002001: HTTP-ERROR: Server returns "xyz" instead of "200 - OK" (http://en.wikipedia.org/wiki/List_of_HTTP_status_codes) 16#80002002: HTTP-ERROR: "Content-Length" not found in response header' 16#80002003: HTTP-ERROR: Begin of data area [CR;LF;CR;LF] not found in response header' 16#80002004: HTTP-ERROR: 'Invalid HTTP Responsecode' 16#80004001: TIMEOUT: <actual processed step in state machine>' </pre> <p>Remark: The string operation CONCAT on series 750 is limited to maximum of 250 characters.</p>	

HTTP_POST

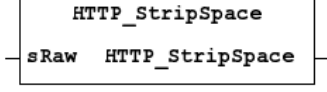
WAGO-I/O-PRO Library elements			
Category:	Communication		
Name:	HTTP_POST		
Type:	Function	Function block X	Program
Library name:	WagoLibHttp_02.lib		
Used Librarys	WagoLibEthernet_01.lib, WagoLibBase64_01.lib,		
Applicable to:	WAGO Ethernet Controller except 750-842		
Inputparameters:			
Data type:	Comments:		
sServerName	STRING	IP-Address or hostname of web server, e.g.: 85.220.143.234 or www.to-pass.com	
wServerPort	WORD	PortNumber of webserver. Default: 80	
sUserName	STRING(30)	Name of user for "BasicAuthentication"	
sPassword	STRING(30)	Password for "BasicAuthentication"	
sScript	STRING(200)	URL of ressource to call, e.g.: 'http://192.168.1.7/MyDb/GetDetails.php'	
pabReqData	POINTER TO ARRAY [0.. MAX_RECEIVE_TCP_CLIENT] OF BYTE;	Pointer to HTTP-POST request-parameters , e.g.: 'id=4711'	
uiReqDataCount	UINT	Length of HTTP-POST params	
tTimeOut	TIME	WatchDogTime, operation aborted after time is elapsed. Default: t#30s	
In-/Out parameters:			
Data type:	Comments:		
xSend	BOOL	Send HTTP-POST request on rising edge. Internally reset when response received or "tTimeOut" elapsed.	
Outputparameters:			
Data type:	Comments:		
diError	DINT	Error code of last transmission. See section 'Function description' for details	
sStatus	STRING(255)	Textual description of current state	
abContentData	ARRAY [0.. MAX_RECEIVE_TCP_CLIENT] OF BYTE;	The HTTP response	
uiContentLength	UINT	Length of HTTP response in byte	

WAGO-I/O-PRO Library elements	
Graphic display:	
<pre> '192.168.1.7' wServerPort sUserName sPassword sMyScript ADR (sReqData) LEN (sReqData) tTimeout xDoIt </pre>	<pre> oHttpPost HTTP_POST sServerName sStatus abContentData uiContentLength sScript pabReqData uiReqDataCount xSend </pre>
<pre> diError sStatus abResponse uiResponseCount </pre>	<pre> dwError </pre>
Function description:	
<p>This function block send a HTTP 1.0 POST request to the given URL and return the response data. Request parameters will transmittet in a separate section then the URL. When user and passwort is set, the HTTP-POST-Request is send together with "Basic Access Authentication".</p> <p>The function block send any HTTP-POST-Request to the given script:</p> <pre> sScript : STRING(200) := 'http://192.168.1.7/MyDb/GetDetails.php sReqData : STRING(250) := `id=4711` pabReqData := ADR(sReqData); sScript : STRING(200) := 'http://gateway.sms77.de/balance.php' sReqData : STRING(250) := `u=<usr>&p=<pwd> pabReqData := ADR(sReqData); sScript : STRING(200) := '/webserv/GetExample01.html'; pabReqData := 0; (* When no request params needed *) </pre> <p>The Server/Script answer with the HTTP response e.g:</p> <p>RetVal dwError:</p> <pre> 16#00000000: 'SUCCESS' 16#80001001: TCP-ERROR: DNS-Request failed, could not retrieve servers IP address' 16#80001002: TCP-ERROR: Could not convert servers IP address into dotted format' 16#80002001: HTTP-ERROR: Server returns "xyz" instead of "200 - OK" (http://en.wikipedia.org/wiki/List_of_HTTP_status_codes) 16#80002002: HTTP-ERROR: "Content-Length" not found in response header' 16#80002003: HTTP-ERROR: Begin of data area [CR;LF;CR;LF] not found in response header' 16#80002004: HTTP-ERROR: 'Invalid HTTP Responsecode' 16#80004001: TIMEOUT: <actual processed step in state machine>' </pre>	

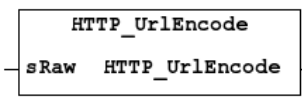
HTTP_FindBlock

WAGO-I/O-PRO Library elements			
Category:	Communication		
Name:	HTTP_FindBlock		
Type:	Function X	Function block	Program
Library name:	WagoLibHttp_02.lib		
Used Librarys	WagoLibEthernet_01.lib, WagoLibBase64_01.lib,		
Applicable to:	WAGO Ethernet Controller except 750-842		
Inputparameters:			
	Data type:	Comments:	
pMemoryBlockA	DWORD	address of MemoryBlockA	
uiLengthBlockA	DWORD	length of MemoryBlockA in byte	
pMemoryBlockB	DWORD	address of MemoryBlockB"	
uiLengthBlockB	DWORD	length of MemoryBlockA in byte	
Return parameters:			
	Data type:	Comments:	
	UINT	Position of block B in block A	
Graphic display:			
			
Function description:			
<p>Function look for the first appearance of "MemoryBlockB" in "MemoryBlockA" Function return 0 if "MemoryBlockB" is not found. Otherwise the function return the position of the first appearance.</p>			
<p>Example:</p> <pre> abyMemoryBlockA : ARRAY[0..9] OF BYTE := 0,1,2,3,4,5,6,7,8,9 ; abyMemoryBlockB : ARRAY[0..2] OF BYTE := 6,7,8 ; uiPos := MEM_FindBlock(ADR(abyMemoryBlockA) , 10 , ADR(abyMemoryBlockB) , 3) ; uiPos will equal to 7 </pre>			

HTTP_StripSpace

WAGO-I/O-PRO Library elements			
Category:	Communication		
Name:	HTTP_StripSpace		
Type:	Function X	Function block	Program
Library name:	WagoLibHttp_02.lib		
Used Librarys	WagoLibEthernet_01.lib, WagoLibBase64_01.lib,		
Applicable to:	WAGO Ethernet Controller except 750-842		
Inputparameters:			
Data type:	Comments:		
sRaw	STRING	String to be processed	
Return parameters:			
Data type:	Comments:		
	STRING	Processed string	
Graphic display:			
			
Function description:			
Returns a string in which [Space] is replaced with '%20' URL safe character			

HTTP_UrlEncode

WAGO-I/O-PRO Library elements																																			
Category:	Communication																																		
Name:	HTTP_UrlEncode																																		
Type:	Function X	Function block	Program																																
Library name:	WagoLibHttp_02.lib																																		
Used Librarys	WagoLibEthernet_01.lib, WagoLibBase64_01.lib,																																		
Applicable to:	WAGO Ethernet Controller except 750-842																																		
Inputparameters:																																			
	Data type:	Comments:																																	
sRaw	STRING	String to be processed																																	
Return parameters:																																			
	Data type:	Comments:																																	
	UINT	URL safe string																																	
Graphic display:																																			
																																			
Function description:																																			
Returns an URL safe string in which all special characters are replaced with a percent '%' sign followed by two hex digits.																																			
<table border="1" style="width: 100%; border-collapse: collapse;"> <tbody> <tr><td>[space]</td><td>%20</td></tr> <tr><td>"</td><td>%22</td></tr> <tr><td>#</td><td>%23</td></tr> <tr><td>\$</td><td>%24</td></tr> <tr><td>%</td><td>%25</td></tr> <tr><td>&</td><td>%26</td></tr> <tr><td>+</td><td>%2B</td></tr> <tr><td>[comma]</td><td>%2C</td></tr> <tr><td>/</td><td>%2F</td></tr> <tr><td>:</td><td>%3A</td></tr> <tr><td>;</td><td>%3B</td></tr> <tr><td><</td><td>%3C</td></tr> <tr><td>err</td><td>%3D</td></tr> <tr><td>></td><td>%3E</td></tr> <tr><td>?</td><td>%3F</td></tr> <tr><td>@</td><td>%40</td></tr> </tbody> </table>				[space]	%20	"	%22	#	%23	\$	%24	%	%25	&	%26	+	%2B	[comma]	%2C	/	%2F	:	%3A	;	%3B	<	%3C	err	%3D	>	%3E	?	%3F	@	%40
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Example: HTTP_UrlEncode('Hello world'); will provide 'Hello%20world'																																			