Advantech AE Technical Share Document

Date	2015/07/08	SR#	1-2097725911
Category	■FAQ □SOP	Related OS	N/A
Abstract	ADAM-5K_6K_62XX, The data format of streaming function		
Keyword	ADAM-5000/TCP, ADAM-60XX, ADAM-62XX, Data streaming, Example Program		
Related	ADAM-5000/TCP , ADAM-60XX and ADAM-62XX		
Product			

Problem Description:

This documentation explains the function of data streaming in ADAM-5000/TCP, ADAM-60XX and ADAM-62XX series.

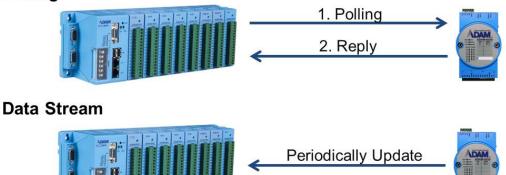
The data format will also be addressed to let the user learn how to develop their apps.

Brief Solution - Step by Step:

Unlike the Modbus/TCP protocol communication requires an active polling for the response, the data stream function allows the remote I/O like ADAM-5000/TCP, ADAM-60XX and ADAM-62XX automatically update the I/O status of the host with particular IP periodically.

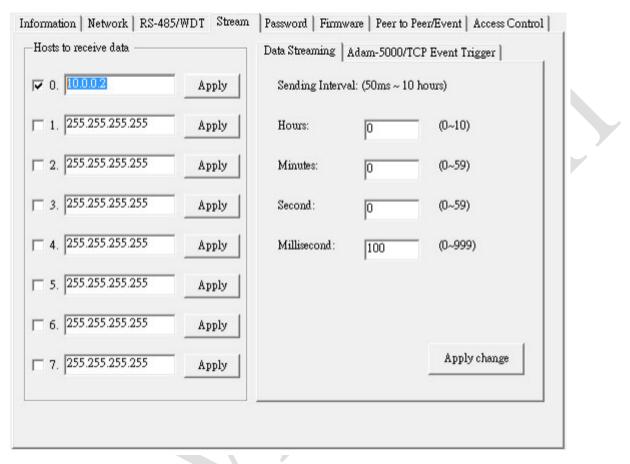
Dataflow in Ethernet Communication

Polling



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User can set the IP of the host and the sending interval in the "Stream" tab of the utility. Please note that you can't enable both data streaming and GCL function at the same time. When you enable GCL function, Data Stream function will automatically be disabled until you disable GLC function.



The user can refer to the sample code of our library to understand how to get the I/O status from data streaming packet.

∷) ► Program Files (x86) ► A	Advantech 🕨 AdamApax.NET Class L	ibrary 🕨 Sample Coo	de 🖡 ADAM	Win32 CSharp	Others DataStreaming
共用對象 ▼ 焼錄 新	f增資料夾				
名稱	修改日期	類型	大小		
_					
퉬 bin	2015/2/10 下午 0	檔案資料夾			
🌗 obj	2015/2/10 下午 0	檔案資料夾			
🌗 Properties	2015/6/16 上午 1	檔案資料夾			
🐼 DataStreaming.csproj	2015/6/12 下午 0	Visual C# Project	4 KB		
🐉 DataStreaming.sln	2013/3/21 下午 0	Microsoft Visual	1 KB		
Son DataStreaming.suo	2015/7/1 下午 06	Visual Studio Sol	23 KB		
省 DataStructure.cs	2013/8/7 上午 09	Visual C# Source	2 KB		
Form1.cs	2014/6/11 上午 1	Visual C# Source	22 KB		
Form1.Designer.cs	2013/8/7 上午 09	Visual C# Source	3 KB		
🛃 Form1.resx	2013/3/21 下午 0	.NET Managed R	6 KB		
Program.cs	2013/7/23 下午 0	Visual C# Source	1 KB		

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If the customer want more detail information regarding the data structure of the streming data, please refer to the following table.

For ADAM-6K and ADAM-62XX series:

DIO data format,

Туре	Bytes	Order	Value
Header	4	0-3	'MADM'
Function	1	4	0x0 <mark>1</mark>
Data length	1	5	160
DI status	2	6-7	DI_STATUS(Bit 0-7), (Bit 8-15)
DO flag	1	8	DO_FLAG
Reserved	13	9-21	0x00
Counter number of DI[0]	4	22-25	(Bit 8-15), (Bit 0-7), (Bit 24-31), (Bit 16-23)
Counter number of DI[1]	4	26-29	(Bit 8-15), (Bit 0-7), (Bit 24-31), (Bit 16-23)
:	:	:	:
Counter number of DI[N]	4		(Bit 8-15), (Bit 0-7), (Bit 24-31), (Bit 16-23)
Reserved			0x00

AIO data format,

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Туре	Bytes	Order	Value
Header	4	0-3	'MADM'
Function	1	4	0x0 <mark>2</mark>
Data length	1	5	160
DI status	2	6-7	0x00, 0x00
DO flag	1	8	DO_FLAG
Reserved	13	9-21	0x00,
AI[0] Value	2	22-23	(Bit 8-15), (Bit 0-7)
AI[1] ~ [7] Value &	16	24-39	(Bit 8-15), (Bit 0-7)
AI[8] ← average			
AI[0] Max. Value	2	40-41	(Bit 8-15), (Bit 0-7)
AI[1] ~ [7] Max. Value &	16	42-57	(Bit 8-15), (Bit 0-7)
AI[8] ←average			
AI[0] Min. Value	2	58-59	(Bit 8-15), (Bit 0-7)
AI[1] ~ [7] Min. Value &	16	60-75	(Bit 8-15), (Bit 0-7)
AI[8] ← average			
Reserved	74	76–149	0x00,
AI High Alarm Status	2	150-151	(Bit 8-15), (Bit 0-7)
Reserved	6	152-157	0x00,
AI Low Alarm Status	2	158-159	(Bit 8-15), (Bit 0-7)

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For ADAM-5000/TCP:

Туре	Byte	Order	Value
Header	4	0~3	'MADA'
Function	1	4	0x01
Modbus Data Length(0x & 4x)	1	5	144(0x90) : (Modbus_0x ~ Modbus_4x data)
Modbus_0x data	16	I b~∠I I	Slot0(6,7) , Slot1(8,9) , Slot2(10,11), Slot3(12,13)
Moubus_ox data	10		Slot4(14,15), Slot5(16,17), Slot6(18,19), Slot7(20,21)
	128	128 22~149	Slot0 : Ch0(22,23), Ch1(24,25), Ch2(26,27), Ch3(28,29)
			Ch4(30,31), Ch5(32,33), Ch6(34,35), Ch7(36,37)
			Slot1 : Ch0(38,39), Ch1(40,41), Ch2(42,43), Ch3(44,45)
			Ch4(46,47), Ch5(48,49), Ch6(50,51), Ch7(52,53)
			Slot2 : Ch0(54,55), Ch1(56,57), Ch2(58,59), Ch3(60,61)
			Ch4(62,63), Ch5(64,65), Ch6(66,67), Ch7(68,69)
			Slot3 : Ch0(70,71), Ch1(72,73), Ch2(74,75), Ch3(76,77)
Malline day date			Ch4(78,79), Ch5(80,81), Ch6(82,83), Ch7(84,85)
Modbus_4X data			Slot4 : Ch0(86,87), Ch1(88,89), Ch2(90,91), Ch3(92,93)
			Ch4(94,95), Ch5(96,97), Ch6(98,99), Ch7(100,101)
			Slot5 : Ch0(102,103), Ch1(104,105), Ch2(106,107), Ch3(108,109)
			Ch4(110,111), Ch5(112,113), Ch6(114,115), Ch7(116,117)
			Slot6 : Ch0(118,119), Ch1(120,121), Ch2(122,123), Ch3(124,125)
			Ch4(126,127), Ch5(128,129), Ch6(130,131), Ch7(132,133)
			Slot7 : Ch0(134,135), Ch1(136,137), Ch2(138,139), Ch3(140,141)
			Ch4(142,143), Ch5(144,145), Ch6(146,147), Ch7(148,149)
Alarm status	16	150~165	Hi Alarm: Slot0(150), Slot1(151), Slot2(152), Slot3(153), Slot4(154), Slot5(155), Slot6(156), Slot7(157)
Alarin status	10	130~105	Lo Alarm: Slot0(158), Slot1(159), Slot2(160), Slot3(161), Slot4(162), Slot5(163), Slot6(164), Slot7(165)