Classification	ISaGRAF Engl	ish FAQ-06	56					
Author	Chun Tsai	Version	1.0.0	Date	Apr.	2007	Page	1/8
How to pro RS-485 dev meter.	cess the li ice? Like t	nteger he devi	or Real va ice of Bar-	lue co Code	omir rea	ng fro der o	m the R r RS-232	S-232/ 2 weight
						Do	wnload FAO	-066 Demo.
Some device will "Bar-Code reader	send its Intege " or some RS-2	r or Real da 32 "weight	ata to the PAC v t meter".	via RS-23	32 or R	S-485 ir	nterface, for	example, the
Their data format	t may be simila	r as the fol	lowing.					
va	lue <cr> or</cr>	value <cr></cr>	<lf> or val</lf>	ue <lf>&lt;</lf>	<cr></cr>			
for example,								
34	56 <cr> or</cr>	543 <cr></cr>	> <lf> or -2</lf>	24 <lf>&lt;(</lf>	CR>			
Note that symbol its ASCII No. is 10	" <b><cr></cr></b> " means	the Enter	character, its A	SCII No.	is 13.	" <b><lf></lf></b> " i	s the New L	ine character,
If you are using IS RS-232/RS-485 de http://www.icpda "Demo_73.pia".	SaGRAF PAC - 7 evice, you may as.com/en/faq,	188EG, 718 apply the k /index.php	38XG, I-8xx7, I-8 pelow similar p ?kind=280#751	3437-80 rogram ( FAQ-06	or I-88 code to 6 to d	337-80 t o receiv ownload	o connect to e its data. Pl d the demo	o this kind of ease visit program
This example sup This device will se	pose using I-84 end a weight da	37-80's CC ata to the P	0M3 or COM4 R PAC if it detect a	S-232 to weight	o conn input	ect to a (grams)	RS232 "wei	ght meter".
1<	CR> ~	10000<0	CR>					
Pin assignment o	f the communi	cation cabl	<u>e</u> :					
(Using I-8437-8	30 <b>COM3</b> )			(Using	; I-843	7-80 <b>CO</b>	M4)	
Device	I-843	7-80		Dev	vice		I-8437-8	30
	(COM3: I	RS-232)					(COM4: RS	-232)
RXD —	2 T>	(D		Tک	KD —		— 2 RXD	
TXD —	3 R>	(D		R)	KD —		— 3 TXD	
GND —	5 GI	NU		G	ND -			)
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Author	Chun Tsai	Version	1.0.0	Date	Apr. 2007	Page	2/8
Architecture of t	he ISaGRAF proje	ect:					
-	ISaGRAF - DEM	)_73 - Ргод	rams				
Ī	<u>File M</u> ake <u>P</u> roject	<u>T</u> ools De <u>b</u> u	g <u>O</u> ptions <u>H</u> elp				
	🖹 🔟 🐣 🕮 🛛	ት 🗈 🍵	≫ 🎽 🗠 💷	<b>≱</b>	s 📃		
E	legin: 🧱	ST1					
E	egin: ST1 (Structure	ed Text)					

Variable :

Name	Туре	Attribute	Description
INIT	Boolean	Internal	Set its initial value to True
Port_OK	Boolean	Internal	True: Open Com port Ok
Get_One_Data	Boolean	Internal	Set as True when receiving a correct data to do more operation
Step	Integer	Internal	Internal use
NUM1	Integer	Internal	Returned value of "Comary_r()"
ii	Integer	Internal	Internal use
result_Gram	Integer	Internal	The weight data received, 1 to 10000 grams
Tmp_val	Integer	Internal	Internal use
Port_No	Integer	Internal	To use which COM port. Set its initial value to 3
CNT1	Integer	Internal	Value plus 1 if a correct data is received
T1	Timer	Internal	To tick time
Msg1	Message	Internal	Internal use, length is set as 255

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ST program - ST1:
(* first PLC scan *)
IF INIT THEN
  INIT := FALSE;
 Port Ok := COMOPEN(Port No, 9600, 8, 0, 1); (* Open COM as 9600, 8, N, 1 *)
 T1 := T#0s; (* Init as 0 *)
                    (* Init as 0 *)
 STEP := 0;
END IF ;
IF Port Ok = False THEN (* If open COM fail, return *)
  Return ;
END IF ;
(* process the COM port *)
CASE STEP OF
  0: (* Step 0 : Test if any byte coming *)
     IF COMREADY(Port No) THEN
                          (* Yes, one byte coming at least. Set "Step" as 1 *)
        STEP := 1;
        T1 := T#0s;
                          (* Reset "T1" as 0 *)
        Tstart(T1); (* start ticking Timer "T1" *)
     END_IF ;
  1: (* Wait some time to let all bytes completely coming from the device *)
     IF T1 > T#250ms THEN (* This value depends on the device, some is longer *)
       Tstop(T1);
                              (* Stop ticking "T1" *)
       T1 := T#0s;
       STEP := 0;
                            (* go back to Step 0 *)
       NUM1 := COMARY_R( Port_No , 1 ) ; (* receive all bytes to the No.1 byte array *)
      (* Here suppose every data contains 2 byte at least. Like 2 grams, data will be 2<CR>,
         The character '2' and the character "<CR>" contain one byte respectively. Max. 15 bytes.
         If your device data format is 3 bytes at least, please modify code to become "NUM1 >= 3" *)
      if (NUM1 < 15) and (NUM1 >=2) then
      (* supports "Ary Str()" since driver version of I-7188EG: 2.18, I-7188XG: 2.16, I-8xx7 : 3.20 *)
           Msg1 := Ary Str(1, NUM1); (* Convert No.1 Byte array to become a String *)
```

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      (* Extract some integers from a string and then save them into No.1 Integer array *)
           Tmp_val := Msg_N(Msg1, 1);
      (* if it returns -1, it means format error. Like 'A123', '5.63', ... are not integer *)
           if (Tmp val > 0) then (* If at least one integer is extracted *)
             Tmp val := Ary N r(1, 1); (* Get the first integer of No.1 Integer Array *)
             (* Test its value. Value between 1 to 10000 gram is correct *)
             If (\text{Tmp val} > 0) and (\text{Tmp val} <= 10000) then
                result_gram := Tmp_val; (* Correct, save value to "result_gram" *)
               Get_One_Data := True; (* Set as True to do more operation at below *)
             end if ;
           end if;
       end if;
     END IF ;
END CASE ;
if Get One Data then (* If value is True (correct data is received), do more operation *)
   Get One Data := False;
   CNT1 := CNT1+1 ;
   (* Here you can add code of "more operation" *)
   (* ... *)
end_if;
How to test?
We can simulate this RS-232 weight meter in PC.
Please connect PC's COM1 to I-8437-80's COM3: RS232 by a RS-232 cable.
Pin assignment of the cable is as below.
                       PC
                                          I-8437-80
                                       (COM3: RS-232)
                      2 RXD -
                                       — 2 TXD
                      3 TXD -
                                        — 3 RXD
                                  _____ 5 GND
                     5 GND -
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Then please dow "Demo_73" prog information abou	nload the "Der ram will show ıt 'Spy Lists').	mo_73" pro up. (Please	ogram to the I- refer to Chapt	8437-80 ter 9.12 c	PAC. If Ok, the	e "Spy list" w user manua	vindow of this al for more
1 45ac21 😤	F - DEMO 73-I	IST1 - Lista	of variables				X
<u>F</u> ile <u>E</u> dit	Options <u>H</u> elp	-1511 - 1718t C	11 Vallabies				
	) 🖷 🖞 😽	Q	0				_
Port_No	value 3		Comment init is COM	<b>V</b> 13			
NUM1 result_Gran	n 0						
CNT1 <end list<="" of="" td=""><td>•</td><td></td><td>plus 1 if c</td><td>one correct (</td><td>data is received</td><td></td><td></td></end>	•		plus 1 if c	one correct (	data is received		
							_
If there is correct represents the co Please run "Hype	weight data c prrect weight v r Terminal" in <u>地風應用程式</u> 188e	oming, the alue (unit is the PC to s ) (論 ) 通訊	value of "CNT s grams). imulate as a RS	1" will plu S-232 we 【 一 二 二 二 二 二 二 二 二 二 二 二 二 二 二 二 二 二 二	us 1, and the v ight meter as 網路安裝精靈 終端機	below.	ult_Gram"
(Enter a name to	it and then cli	ck "Ok")					
	連続	描述			<u>? ×</u>		
		🍐 新的連線					
	=+	~					
	新 名:	爲這個連線軸 稱(N):	人名梅亚選择圖亦	<u>.</u>			
	0	OM1,9600,8N1					
		示():		<u> </u>			
		🍋 🤜	Se 19		💐 🄏 📔		
		1					
			Ĩ	確定	取消		
		ICP DAS	Co., Ltd. Techr	nical Docu	ument		

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(Select the prope	r COM port in	your PC, No	ormal	value is "	'COM1"	)		
	· · · · · · · · · · · · · ·	<ul> <li>線到</li> <li>COM1,</li> <li>諸輸入要撥號</li> <li>國家(地區)(C)</li> <li>區碼(E):</li> <li>電話號碼(P):</li> </ul>	9600,81 的電話 : 「不乎 [02]	₩1 號碼詳細資 子 (975)	料:	? ×		
	1	使用連線( <u>N</u> ):	Soft Soft TCF	tV92 Data Fa W92 Data Fa M3 VIP (Winsoc)	x Modem x Modem k)			
Enter the COM p	ort parameter	as "9600, 8	, N, 1	, No flow	' control'	" for this "Den	no_73" prog	ram.
	СОМ	3 內容				<u>? ×</u>		
	連接	8埠設定				1		
		每秒傳輸位法	亡(B):	9600		•		
		資料位于	₸ <u>(</u> D):	8		•		
		同位檢:	查(P):	無		•		
		停止位:	元(5):	1		•		
		流量控	制Œ:	<u></u>				
					還原成預	項設値( <u>R</u> )		
			確定	Ĕ	取消	套用( <u>A</u> )		
		ICP DAS	Co., L	td. Techn	ical Docu	ument		

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Then the new cre	eated "Hyper T	erminal" w	indow will sho	w up.			
<b>※COM1</b> 檔案 I <sup>C</sup>	<mark>,9600,8N1 - 超都</mark> 編輯正) 檢視(V)	終端機 呼叫(C) 轉	送(1) 說明(11)			_	
▲ ● ● ● ●	.05 自動偵測	」 <u> </u> 自動偵測	SCROLL	CAPS	M [擷 ]列印		
Please run Windo copy this 123 wit	ows "Notepad" h the "Enter Ke	, enter val ey" charact	ue for example er as below.	e, 123 , th	nen press at "I	Enter" key. T	hen Please
■ # 123 1 1 1 1 1 1 1 1 1 1 1 1 1	<b>命名 - 記事本</b> 優 編輯 (E) 格示 復原 (U) 剪下 (T) 複製 (C) 貼上 (P) 刪除 (L)	式( <u>O</u> ) 檢視(V) Ctrl+Z Ctrl+X Ctrl+X Ctrl+C Ctrl+V Del	) 說明( <u>H</u> )				
Then please past	e these copied	characters	to the "Hyper	Termina	l" as below.		
COI	41,9600,8N1 - 超	銀終端機					1×
	▲編輯(E) 檢視(E) 核製(C) <u> 貼到主機(P)</u> 全選(S)	D) 呼叫(C) Ctrl+C Ctrl+V	轉送(I) 説明(H)				
▲ 野貼	簿] 的內容傳送到	遠端電腦				<u></u>	
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it succeed, yo	ou will see value	of "CNT1" a 3:LIST1 - Lis	and "result_ t of variables	Gram" chai	nged in the Sp	y List wind	ow.
File	Edit Options Help	: Q					
Port_ NUM1	No 3 4	lue	Cor init	nment is COM3			
result CNT1 यहात्त्र	_Gram 12: 1 <del>oflist≻</del>	$\geq$	plu	s 1 if one corre	ect data is received	1	
ick the link fo	or more ISaGRAF	FAQ:					
tp://www.icp	odas.com/en/fac	q/index.php	?kind=280#	751			
sit to the ISa	GRAF website fo	r more infoi	rmation abo	ut new pro	ducts:		
tps://www.io	pdas.com/en/p	roduct/guid	e+Software-	Developm	entTools+I	SaGRAF	