Classification	Classification DCON Utility Pro FAQ						DCON_02_005
Author	Martin	Version	1.0.0	Date	2020/12/23	Page	1/2

## 如何對選購的 NTC 熱敏電阻溫度計設定 User define type?

DCON Utility Pro 支援的 Thermistor 溫度量測模組及支援的溫度感測器類別如下表

模組名稱	通道數	支援的温度 Sensor
I-87005	8	Precon ST-A3,
I-7005/M-7005		Fenwell U,
tM-TH8		YSI L100,
		YSI L300,
		YSI L1000,
		YSI B2252,
		YSI B3000,
		YSI B5000,
		YSI B6000,
		YSI B10000,
		YSI H10000,
		YSI H30000
		User-defined

其中最後一項 User-defined 類別是提供讓使用者自行選購上述列表以外的 NTC 熱敏電阻溫度計,就必須自行使用 DCON Utility Pro 設定表單裡面的 User Define Type 設定功能建立溫度/電阻值對應關係後才能量到正確的溫度

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現在以泓格科技官方網站上有提供一款 NTC 熱敏電阻溫度計,型號為 CA-TM-M100-L050P 來示範如何使用 DCON Utility Pro 來說明 tM-TH8 熱敏溫度感測模組如何設定這個感測器的 User-defined type code

https://www.icpdas.com/en/product/CA-TM-M100-L050P

方法一、利用溫度阻值對應表 RT-TABLE 進行設定

步驟一、從感測器廠商取得溫度阻值對應表 RT-TABLE (RESISTANCE-TEMPERATURE),在表中 選定要量測的溫度範圍中取最大值,中間值及最小值三個點的溫度與電阻值如下圖

$T_{amp}$ (°C)		Resistance $(\Omega)$	
Temp. (C)	MIN.	CENTER	MAX.
-10	41700	42800	43900
-9	39900	40900	41900
-8	38100	39100	40000
34	7091	7189	7286
35	6840	6937	7034
36	6599	6695	6791
37	6367	6463	6558
78	1714	1765	1817
79	1666	1716	1766
80	1619	1668	1717
	ICP DAS Co., Ltd. Teo	chnical document	

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步驟二、搜 數字填入設 算結果 步驟三、選 tTH8 Firmware[A11 Configuration A Set By Resistor T1 -10 T2 35 T3 80	!尋到模組後選定 U :定畫面,按下 " C : 理要設定的 Type ( 02] I User Defined Type Comr and Temperature Set By Stein mperature ℃ R1(ohms R2(ohms R3(ohms) Please input temperature a	iser Defi: alculate code 按下 mands Log Sun nhart Coefficients Resistor ;) 42800 ;) 6937 ;) 1668 nd resistor values	ne Type 頁針 "計算後, "Setting" mmary About 5 Help Value		<sup>越</sup> 表格中的三個 它的 Steinhar ,成設定。 <sup>te</sup> 2	點的溫 t Coeff	度與電阻值 icients 計
Exit Analog Input Under tTH8 Firmware[A1 Configuration A Set By Resistor	er Range==>Please connect to 102] AI User Defined Type Com r and Temperature Set By Steir Float Format	input source or mands Log Sur nhart Coefficient Hex Format	check the input conr nmary About <sup>s</sup> Help	lector			ii. X
A 0.00	J0860188316994386 3/	A617E43		Calcualte			
в 0.00	0025637505126661 39	9866A14		Clear			
C 1.69	lease input A , B , C Coefficients	in float format	Sel	ect Type Co '0 Setting	de Select Type C 0x70 0x71 0x72 0x73 0x74 0x75 0x76 0x77	iode	
Exit				9			
Analog Input Unde	er Range==>Please connect to	input source or	check the input con	nector			њ.

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步驟四、實 tTH8 Firmwar Configuratio	「際切換到 AI 的頁 e[A102] n AI User Defined	籤檢視量	」 測的溫度是 mmands Log Si	否正確 ummary	About	moratur	o Offro
☑ СН:00	+020.880	[70] 0x70	) User-defined -	50 ~ 150		00.00	+ -
CH:01	-AAAA'AA [Ougetkauge	[63] YSI I	_ Mix 100 @ 25	°C -80 ~	100 ~	00.00	+ -
以下步驟會 Coefficier	す些 MC 蒸報電圧 説明如何使用 Ste nt float	inhart Co	向 曾 <del>灰 庆 St</del>	611111a1 係數來	2.制定 User-de	fine t	上间示致。 ype code。
A:	0.00086018	383169943	86				
В:	0.00025637	50512666	1				
5. 步驟一、取	1.09742393 納 Steinhart Coef	ficients	UT A.B.C. 三個/	係數 並步	直入設定書面,;	按下"(	`alculate"
把浮點數字	:轉換成 16 進制格:	式。	I, D, C — IA				
tTH8 Firmware[A1	02]						×
Configuration A	I User Defined Type Com	mands Log Sur	nmary About				
Set By Resistor	and Temperature Set By Ste	inhart Coefficient	s Help				
A 0.00 B 0.00 C 1.69	Float Format 10860188316994386 1025637505126661 10742393827106E-07	Hex Format		Calcualte Clear lect Type Co	2		
1	lease input A , B , C Coefficient:	s in float format	0x	70 Setting	~		
Exit		input course co	chack the input car	mactor			
Analog Input Unde	er Range==>Please connect to	mput source or	check the input con	meccor			
	l	CP DAS Co	., Ltd. Techni	cal docu	ment		

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## 步驟二、將轉換後的16進制數值選擇要制定的Type Code 並按下 Setting 即完成

Configuration	AT	User Defined Type	Commands Log Summany About	
ornguration	AI	oser benned type	Commands Log Summary About	
Set By Resis	tor and	Temperature Set I	By Steinhart Coefficients Help	
	F	Float Format	Hex Format	
A 0	.00086	0188316994386	3A617E43 Calcualte	
вО	.00025	637505126661	39866A14 Clear	
<b>C</b> 1	.69742	393827106E-07	3436426F Select Type Code	
			0x70 ~	
	Please	input A , B , C Coef	ficients in float format	
			setting	
			4	
			4	
Exit				
alog Input U	nder Ra	ange==>Please conr	ect to input source or check the input connector	