BMA项目进展

F4控制器程序
目前程序能设置（写入）参数，读取当前温度，步序等部分参数，编辑和下载Profile

当前还需要实现：
参数读取143个
60+26+48+9=143
参数解析41种
6+26+6+3=41 种

PID参数	6*10=60
Crtl Output	26*1=26
DO Output	6*8=48
Main Page	3*3=9

技术实现
1 NI DSC Modbus Server（放弃）
无需编写读写寄存器VI
变量自动发布到网络上
需要解析寄存器变量意义
无法更改控制器使用的串口和地址
2 Modbus library
需要编写读取每个参数寄存器VI
需要解析寄存器变量意义
可以更改控制器使用的串口和地址
无CRC校验

工作量估计

143个寄存器的读取VI	143*20=2,860 min
41个解析VI	41*30=1,230 min
4个界面刷新VI	4*40=160 min

2860+1230+160=4250 min
4250/60=70.8333 hour
71/8=8.875 day
测试功能
2 day
预计完成时间3周

下一步需要完成的任务：
1 第三方韦恩控制器
无法安装控制软件，控制器型号未知，接口未知
2无法保存到EEPROM，掉电会失去配置的参数，如果能读取控制器状态也可以不需要保存了
3 F4 控制器 其他寄存器的读取和解析

PID参数	14*10=140
Crtl Output	26*1=26
DO Output	6*8=48
Main Page	3*3=9
SYSTEM	17*1=17

DI+AI	6*4+14*3=66
Compresser	4*1=4
OutPUT	4*1=4
Main Page	3*3=9
Current Step	32+28=60

150+26+48+9+17+66+4+4+9+60=393

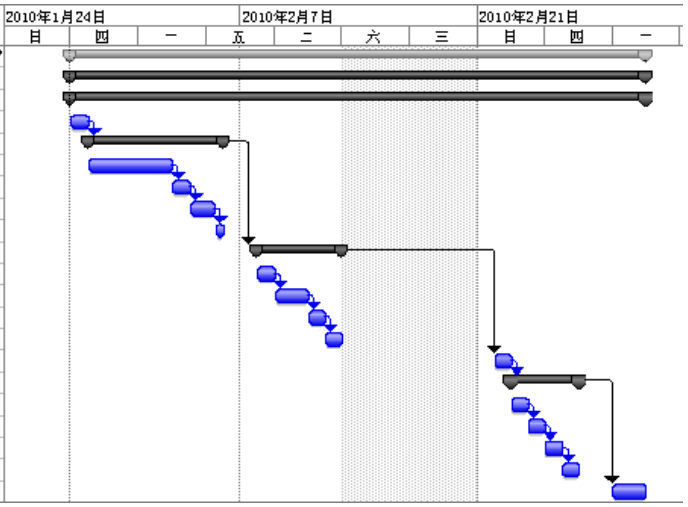
393-143=250

4 剖面执行监控

进度安排

2010年1月28日
17:55

标识号		任务名称	工期
0		**BMA软件**	**19 工作日?**
1		**1 F4控制器**	**19 工作日?**
2		**1.1 F4程序功能补充**	**19 工作日?**
3		1.1.1 技术调研	1 工作日?
4		**1.1.2 编写读取每个参数寄存器V**	**6 工作日?**
5		1.1.2.1 PID 60个参数	3 工作日
6		1.1.2.2 Crtl Output 26个参数	1 工作日?
7		1.1.2.3 DO Output 48个参数	1.5 工作日
8		1.1.2.4 Main Page 9个参数	0.5 工作日?
9		**1.1.3 解析寄存器变量意义**	**5 工作日?**
10		1.1.3.1 PID 参数 6种参数	1 工作日?
11		1.1.3.2 Crtl Output 26种参数	2 工作日?
12		1.1.3.3 DO Output 6种参数	1 工作日?
13		1.1.3.4 Main Page 3种参数	1 工作日?
14		1.1.4 测试VI是否能够正确读取参数	1 工作日?
15		**1.1.5 修改并画出标机制**	**4 工作日?**
16		1.1.5.1 PID 参数	1 工作日?
17		1.1.5.2 Crtl Output	1 工作日?
18		1.1.5.3 DO Output	1 工作日?
19		1.1.5.4 Main Page	1 工作日?
20		1.1.6 测试软件	2 工作日?



优先1 **PIDrSeufrtgs** Setl Set2 Set3 Set4 Set5 SetS Set7 SetB Set9 Set1O

Phop BandA mmh. with devicewn. with devicemmh devicemm. with devicemm. wiih devicew n with devicemm. w eth devicemm. w iih devicewn. with devicemni Wi device

Reset A mm, with device in uith **device mm** with dwvice mm with dwvice mm uith device vn with **device mm** web dwvice **mm** uith device in uith **device** mm with dwvice

RateA mm.. with devicewm. uith devicemm h devicemm. with devicemm. uith devicewn. with **devicemm.** with devicemm. utth devicewm. uith device'mmn. h device

lntegraA mm. with devise-in. with devicemn. h devicemm. with devisemm. with devicemn. oith devicelnm. with devisenm. with devisewn. with deviceimn. oith device

DerivdtiveA mm. with devisewn. with devicemm. h devicemm. with devise-tin, uith devicewn. with devicemm. Wi devisemm. **uith devicewn.** with devicemi. h device

Dead 8andA mmh. wtth devicemn. **utth devicemm with devicemm.** wtth devicemm. **utth** devicewn with devicemm. with devicenm. utth devicewn. wtth devicemm h device

HysteesisA Enm. with devicamn with **devicemm** weth devicemm. with devicemm. uith devicewi weth **deviceMnm.** with dev.cemm. with devicemn with **deviceMnm** h device

Phop. Band **B** hnm with devicewn. with **deviceinm** weth devicemm. with devecemm. with **devicewn.** with **devicemn.** en devicenm. with devicewn **with devicein,** with **device**

Reset **B** [mm. **with** devicewn. **with deviceimn.** en devicemn. web device-nm. with deviceiven. with **dewicemn.** en devicemn. with devicemn. with **deviceinm.** en **device**

Rate B **[mm. with** devicewn. **with devicemm. en devicemm. web** devisewn. **with** devicewn. Wi device:nm. en devisemm. **with** devicewn. **with devicewn. en** device

IntegrM B **mmh. with** devise-tin. **with device-nm nerdevicemm.** with devisemm. **with** devicewn. with **devicemm.** en devisenm. **with** device-tin, **with devicrnm. Wi** device

Derivative **B mmm. with** devicewn. **with deviceimn. en** devicemm. with devicemm. with devicewn. with devicenm. **en** devicenm. with devicewn. **with** device-nm. **en** device

Dead 8and **B [nm. with** devicewn. **with devicemm** with **devicemm. with dewicemm. with devlce(vmn** with **devicemn.** en **devicemn. with** devicewn **with devicemm.** with **device**

Hystetesã B [nm. with devicewn. **with devicemmn. en device[mm. web** devicemm. **with** devicemn. with **deviceimn. en devicemm. with** devicewn. **with device,n. h device**

Channel 1 Channel 2

PID Settings	Set 1	Set 2	Set 3	Set 4	Set 5	Set 6	Set 7	Set 8	Set 9	Set 10
Prop. Band A	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device
Reset A	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device
Rate A	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device
Integral A	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device
Derivative A	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device
Dead Band A	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device
Hysteresis A	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device
Prop. Band B	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device
Reset B	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device
Rate B	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device
Integral B	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device
Derivative B	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device
Dead Band B	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device
Hysteresis B	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device	nm. with device
	Channel 1					Channel 2				

屏幕剪辑的捕获时间: 2010-1-27, 13:16

读写

PID优先1

Prop. Band A
Reset A
Rate A
Prop. Band B
Reset B
Rate B

6*10=60

屏幕剪辑的捕获时间: 2010-1-27, 13:26

14*10=140

优先2 CLil Oudput ___
Ftnthon 1A jNo Conww .*h d
CycleTinelAlNo Cann Cndt
Process 1A Not a p. ecess ou
H Pvw Lmm 1A mm. *C device*
L Pm Lmh 1A mm. *C* device
BuistVd1A Nonconmn'.with-d?
FunchoniB INoConmo.hdi
Cycle Tine **1B** No Coma. d
Process 18 Not apocns ou
H Pm Lmt 18 mm C device
LPmLindlB mmCdevice
GuustValB Nonconm:wth-dh
Furicbon2A Noncormw'mh-dh
Cycle Time 2A No Cant. web d
Process 24 Not anpwcess ou
H Pw Lmt 2A mm *C* device
L P LEmIáJ 2A 'mn *e* device
BusstVd2A No Conmn'.wehydd
Furiction28 No ccamm'.wth-dd
Cycle Time 28 No coamne.Uthldd
Process 28 Not a pncess ou
H Pw mmt 28 'mm. *C* device
L Pw LEnd 28 mm *e* device
Buistvd28 INoCcnmn.wehd
Act **RD** Set **1** Invalid
Act **RD** Set 2 llnvalid

Ctrl Output	
Function 1A	No Comm. with d
Cycle Time 1A	No Comm. with d
Process 1A	Not a process ou
H Pwr Limit 1A	omm. with device
L Pwr Limit 1A	omm. with device
Burst Val 1A	No Comm. with d
Function 1B	No Comm. with d
Cycle Time 1B	No Comm. with d
Process 1B	Not a process ou
H Pwr Limit 1B	omm. with device
L Pwr Limit 1B	omm. with device
Burst Val 1B	No Comm. with d
Function 2A	No Comm. with d
Cycle Time 2A	No Comm. with d
Process 2A	Not a process ou
H Pwr Limit 2A	omm. with device
L Pwr Limit 2A	omm. with device
Burst Val 2A	No Comm. with d
Function 2B	No Comm. with d
Cycle Time 2B	No Comm. with d
Process 2B	Not a process ou
H Pwr Limit 2B	omm. with device
L Pwr Limit 2B	omm. with device
Burst Val 2B	No Comm. with d
Act PID Set 1	Invalid
Act PID Set 2	Invalid

屏幕剪辑的捕获时间: 2010-1-27, 13:15

读写
优先2

26*1

优先3 Dig 0tiputs **Name**
Dig0tiUl Norcomm:..eh?
DigOilU2 NorComm:.,Ci?
Dig0usU3 No Comm ,,th
Dig Oil **U4 No Comm.** wlti
DigOuaUS **NoComm.smti**
DigOulUS **NorComme.with?**
Dig0tlfl7 INoComm.ueti
Dig0ulUS **NorComm.uAbh**

Function Conp. 0ut Boost % Piw Boost **Tm DIy** Slam
Noncomm.uwith N/A N/A N/A Nonconmn'.with?
Noncomm'.with N/A N/A N/A N0nco4Tmn'.uith?
No comm. with **N/A N/A N/A** No comm with
NoCommr.wlth **N/A N/A N/A** Norcommr.wtiht
Nocomm.wlthhnm.wehdevioe **N/A N/A** NoConmn'.wlthm
No comm. with **N/A mm.** with device No **comm.** with No comm. uith
No comm. with **N/A -mm.** with device No **comm.** with No comm. with
Noncomm.'with N/A N/A N/A Noncoamm.uwith.

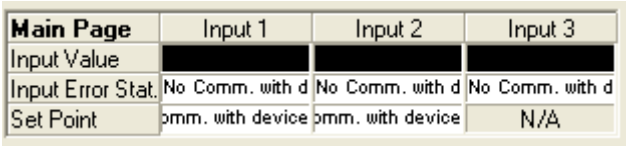
Dig Outputs	Name	Function	Comp. Out	Boost % Pwr	Boost Tm Dly	Status
Dig Out #1	No Comm. with	No Comm. with	N/A	N/A	N/A	No Comm. with
Dig Out #2	No Comm. with	No Comm. with	N/A	N/A	N/A	No Comm. with
Dig Out #3	No Comm. with	No Comm. with	N/A	N/A	N/A	No Comm. with
Dig Out #4	No Comm. with	No Comm. with	N/A	N/A	N/A	No Comm. with
Dig Out #5	No Comm. with	No Comm. with	nm. with device	N/A	N/A	No Comm. with
Dig Out #6	No Comm. with	No Comm. with	N/A	nm. with device	No Comm. with	No Comm. with
Dig Out #7	No Comm. with	No Comm. with	N/A	nm. with device	No Comm. with	No Comm. with
Dig Out #8	No Comm. with	No Comm. with	N/A	N/A	N/A	No Comm. with

屏幕剪辑的捕获时间: 2010-1-27, 13:15

读写
优先3

8*6

优先 4 读写 **Main Page** Input 1 Input 2 Input 3
Input value
lnput Error Stat. No comm. uith d No comm. with d No comm. with d
Set Point jmm. with device mm. wath device N/A

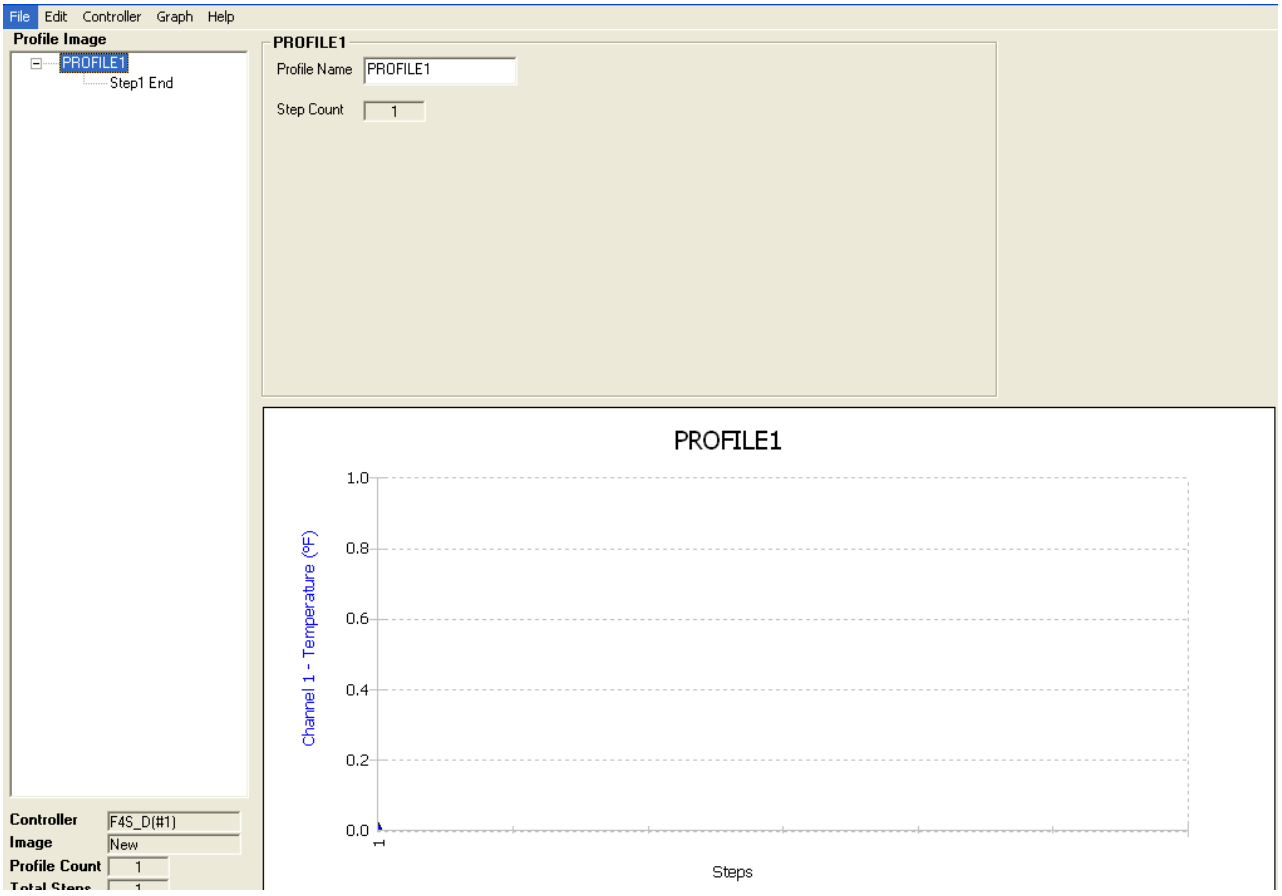


屏幕剪辑的捕获时间: 2010-1-27, 13:24

优先4读写

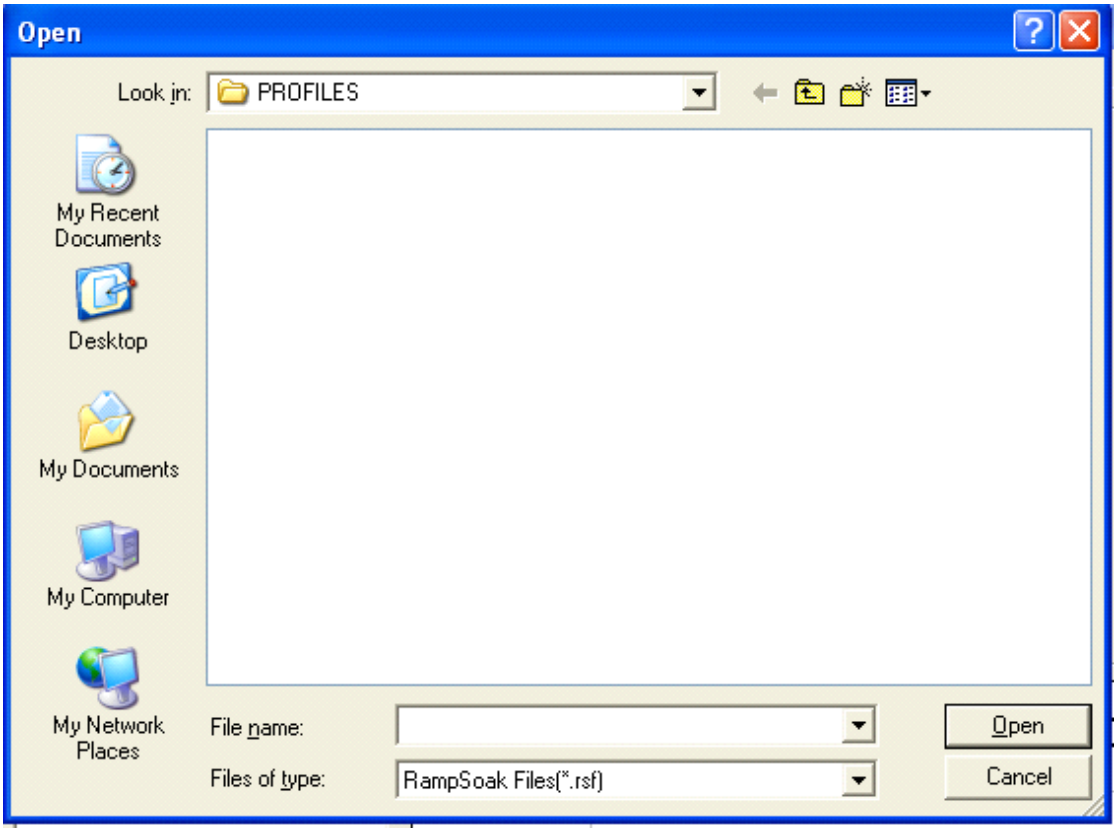
3*3

优先 5 存储profile文件



屏幕剪辑的捕获时间: 2010-1-27, 13:18

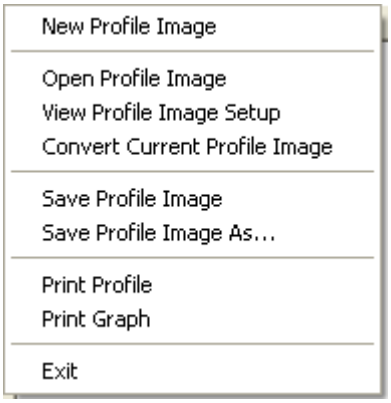
读取/保存



屏幕剪辑的捕获时间: 2010-1-27, 13:18

读取/保存

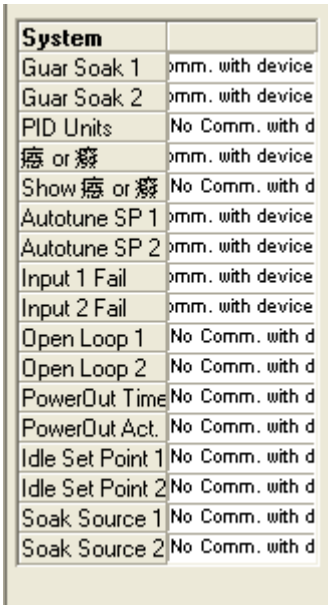
读/写/下载



屏幕剪辑的捕获时间: 2010-1-27, 13:19

读/写/下载

Systen
Guar Soak 1 mm. uith device
Suar Soak 2)mm. uith device
PiD units JNo Comm. w tihmd
jor 1mm. w ith device
showI or INo Comm. wtihea
Autotune SP 1 mm. utth device
Autotune sP 2 mm. with device
lnput 1 rail [mm. with device
lnput 2 Fail mm. with device
Open Logp tJNo_Comm. with d
Open Loop 2 INO Comm. with d
PowerOut TimeNo Comm. utth d
PowerOut Act. No Comm. utth d
ldle Set Point 1 No Comm. utth d
Idle Set Point No Comm. with d
soak Source 1 1No comn. with d
Soak Source 2INo comn. oith d



屏幕剪辑的捕获时间: 2010-1-27, 13:14

读写

17*1

Dig Inputs Input 1 _Input2 Input 3 Input4_
Name No Comm. uh No Comm. uh No Comm. ud No Comm. uit
Function No Comm. w it No Comm. uit No Comm. uit No Comm. uit
Condition No Comm. uit No Comm. uit No Comm. uit No Comm. uit
Status No Comm. uit No Comm. uit No Comm. uit No Comm. uit
Start ProFiie401 Func not **s** biFunc not **s** DI Func not **s** DI Func not **s**
Start step DI rune not sbiFunc not **s** Oi Func not **s** T Func not **s**
Analog Input Input 1 Input 2 Input 3 –
Sensor No Comm. uith di No Comm. uith di No Comm. uith di
Type No comm. uith di No comm. uith di No comm. uith di
Units No Comm. with di No Comm. uith di No Comm. uith di
Decimal No Comm. uith diNo Comm. uith diNo Comm. utth di
Scale Low frt a process input xt a process input zt a process input
scale High it a process inputjt a process inpunt a process input
Filter Time omm. utth device omm. utth device omm. utth device
Cal 0 llset omm. utth device omm. w tth device omms. utth device
Error Latch No Comm. w tth diNo Comm. utth diNo Comm. utth di
SP Low No Comm. utth di No Comm. utth di No Comm. utth di
SF High No comm. uith diNo comm. uith diNo comm. w ith di
Scale Inversion Invalid Invalid Invalid
Altitude N/A No Comm. utth di N/A
Cascade Type N/A N/A No comm. uith d.

6*4+14*3

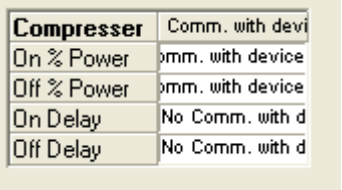
Dig Inputs	Input 1	Input 2	Input 3	Input 4
Name	No Comm. wit	No Comm. wit	No Comm. wit	No Comm. wit
Function	No Comm. wit	No Comm. wit	No Comm. wit	No Comm. wit
Condition	No Comm. wit	No Comm. wit	No Comm. wit	No Comm. wit
Status	No Comm. wit	No Comm. wit	No Comm. wit	No Comm. wit
Start Profile	DI Func not s	DI Func not s	DI Func not s	DI Func not s
Start Step	DI Func not s	DI Func not s	DI Func not s	DI Func not s

Analog Input	Input 1	Input 2	Input 3
Sensor	No Comm. with d	No Comm. with d	No Comm. with d
Type	No Comm. with d	No Comm. with d	No Comm. with d
Units	No Comm. with d	No Comm. with d	No Comm. with d
Decimal	No Comm. with d	No Comm. with d	No Comm. with d
Scale Low	ot a process input	ot a process input	ot a process input
Scale High	ot a process input	ot a process input	ot a process input
Filter Time	omm. with device	omm. with device	omm. with device
Cal Offset	omm. with device	omm. with device	omm. with device
Error Latch	No Comm. with d	No Comm. with d	No Comm. with d
SP Low	No Comm. with d	No Comm. with d	No Comm. with d
SP High	No Comm. with d	No Comm. with d	No Comm. with d
Scale Inversion	Invalid	Invalid	Invalid
Altitude	N/A	No Comm. with d	N/A
Cascade Type	N/A	N/A	No Comm. with d

屏幕剪辑的捕获时间: 2010-1-27, 13:14
读写

Compresser comm. t. devi
On Powei . At dence
oU%Power frnm.wattdewiice
OnDe(ay No Comm .ehd
OFIDSyP No conmn..ehd

4*1



屏幕剪辑的捕获时间: 2010-1-27, 13:15

读写

OutPUT
2____
1A mm. wib devic.
18 mmehdevlce?
24 mm. wit **device**
2R bmm. h device

4*1

Output %	
1A	mm. with device
1B	mm. with device
2A	mm. with device
2B	mm. with device

屏幕剪辑的捕获时间: 2010-1-27, 13:15

读取

Current Step
watEverd1 Noncomm:.w ithrd.?
w ait Event 2 No comm w ithSm
waitEvent3 Norcomm.iwhd.h
wait Event **4** No comm. iwuh-Sm
wait ãsWog 1 No comm. witrSS
wait Anaog 2 No comm. wWtrÔS
wait Anaiog 3 No Comm. **iwuhrSm**
DigpldOripulNo Comm. **iwuhrSO**
Digptd OuEpLd 2No Comm. **iwthSd**
Digitd **0u4.i** 3[No Comm. **CS**
Digitd Otipui **4** No Comm. **CmSm**
DigitdOu*put5No comm. **CrSm**
Digld Oiipt$ 6.No comm. e S
Digld Otipti 7No Comm. e **S**
Digptd OuIp.4 8No Comm. iwtrS4

Step Type: No Comm wil Opesation Mode (Statan} **No Comi**

Curent Step
Op. Mode Stat.
Ptolde File
step Number
Step **Type**
Rar wait
His Remaining
Mm Remaining
Sec Remaining
S P Chii
S P Oi2
Gil MD Set
CIi2PID **Set**
Last Jump **Cnt**
Last Jump File
lurnp **step**
ErdSPChl
ErdS PCh2

No Loan wtihrdh
No comm wtth d
No comwn wtth d
No Lenim. wtth d
No Corm. wtth d
No Comn. wtih'dh
No Cenm wtth d
No Comm wtth d
No commm. wtth d
No comin. with d
No Comn. wth d
No Corn, with d
No Corn. with d
No Corn wtth d
No Lomim wtth d
No Lommn wtth d
No comm with d

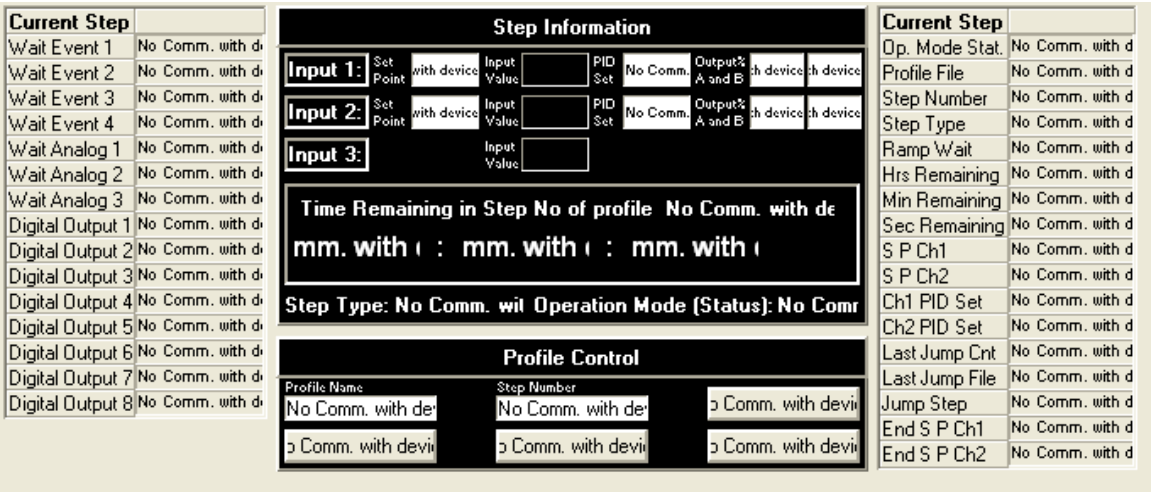
Step Infonnation

Input????? rrr IrbputF IPC
____fllu I I tar A dS
Input???c?? 2:I? ?E? 119W F IPaD **JWirmt**
_____V'hael ltd k' tIcr!
Iiput?????? −I??? Input I I
_____VIuul_____

I Time Remaining **in Step No ol piolile No Come. with di** 1
mm. with a : mm.wlthli mmn.withli_

Prolile Control
N Stca N
CommC.._hrr Noconin **wdh.mg' Coinm with**
Fëomm. with iz& c, **Corn with**

32+28



屏幕剪辑的捕获时间: 2010-1-27, 13:16

读取

概念界面设计

2010年1月29日
11:44

同时监控10台机箱的界面
需要显示控制器名字 温度 湿度
只需要界面
方案概念说明用

PIDSettings

2010年2月1日
10:30

Main > Operations > Edit PID > PID Set Channel 1 > PID Set x (1 to 5)

PID Set x (1 to 5)

Main > Operations > Edit PID > PID Set Channel 1 > **PID Set x (1 to 5)**

Proportional Band x (A or B) Define the proportional band for PID control.	0° to 30000° (0 to 30000)	25°F (25) 14°C (14)	1A 1B Set 500 550 [1] 510 560 [2] 520 570 [3] 530 580 [4] 540 590 [5] r/w	Active: Always (Channel 1). °F Default for US °C Default for SI
Integral x (A or B) Set the integral time in minutes.	0.00 to 300.00 minutes (0 to 30000)	0 minutes (0)	1A 1B Set 501 551 [1] 511 561 [2] 521 571 [3] 531 581 [4] 541 591 [5] r/w	Active if PID Units (Setup Page) is set to SI and Proportional Band is not set to 0.
Reset x (A or B) Set the reset time in repeats per minute.	0.00 per minute to 99.99 per minute (0 to 9999)	0 per minute (0)	1A 1B Set 502 552 [1] 512 562 [2] 522 572 [3] 532 582 [4] 542 592 [5] r/w	Active if PID Units (Setup Page) is set to U.S. and Proportional Band is not set to 0.
Derivative x (A or B) Set the derivative time.	0.00 to 9.99 minutes (0 to 999)	0.00 minutes (0)	1A 1B Set 503 553 [1] 513 563 [2] 523 573 [3] 533 583 [4] 543 593 [5] r/w	Active if PID Units (Setup Page) is set to SI and Proportional Band is not set to 0.

Operations Page Parameter Table

Parameter Description	Range (Modbus Value)	Default	Modbus Register read/write [I/O, Set, Ch]	Conditions for Parameters to Appear
Rate x (A or B) Set the rate time.	0.00 to 9.99 minutes (0 to 999)	0.00 minutes (0)	1A 1B Set 504 554 [1] 514 564 [2] 524 574 [3] 534 584 [4] 544 594 [5] r/w	Active if PID Units (Setup Page) is set to U.S. and Proportional Band is not set to 0.
Dead Band x (A or B) Define the effective shift in the heating and cooling set points to prevent conflict.	0 to 30000 (0 to 30000)	0 (0)	1A 1B Set 505 555 [1] 515 565 [2] 525 575 [3] 535 585 [4] 545 595 [5] r/w	Active if Proportional Band is not set to 0 and one output is set to heat and the other to cool (Setup Page).
Hysteresis x (A or B) Define the process variable change from the set point required to re-energize the output (in on-off mode).	1 to 30000 (1 to 30000)	3 (3)	1A 1B Set 507 557 [1] 517 567 [2] 527 577 [3] 537 587 [4] 547 597 [5] r/w	Active if Proportional Band is set to 0 and one channel is set to heat and the other to cool (Setup Page).

PID Set x (6 to 10)

Main > Operations > Edit PID > PID Set Channel 2 > **PID Set x (6 to 10)**

Proportional Band x (A or B) Set the proportional band.	0° to 30000° (1 to 30000)	25°F (25) 14°C (14)	2A 2B Set 2500 2550 [6] 2510 2560 [7] 2520 2570 [8] 2530 2580 [9] 2540 2590 [10] r/w	Active: Always (Channel 1).
Integral x (A or B) Set the integral time in minutes.	0.00 to 99.99 minutes (0 to 9999)	0 minutes (0)	2A 2B Set 2501 2551 [6] 2511 2561 [7] 2521 2571 [8] 2531 2581 [9] 2541 2591 [10] r/w	Active if PID Units (Setup Page) is set to SI and Proportional Band is not set to 0.
Reset x (A or B) Set the reset time in repeats per minute.	0.00 per minute to 99.99 per minute (0 to 9999)	0 per minute (0)	2A 2B Set 2502 2552 [6] 2512 2562 [7] 2522 2572 [8] 2532 2582 [9] 2542 2592 [10] r/w	Active if PID Units (Setup Page) is set to U.S. and Proportional Band is not set to 0.
Derivative x (A or B) Set the derivative time.	0.00 to 9.99 minutes (0 to 999)	0.00 minutes (0)	2A 2B Set 2503 2553 [6] 2513 2563 [7] 2523 2573 [8] 2533 2583 [9] 2543 2593 [10] r/w	Active if PID Units (Setup Page) is set to SI and Proportional Band is not set to 0.
Rate x (A or B) Set the rate time.	0.00 to 9.99 minutes (0 to 999)	0.00 minutes (0)	2A 2B Set 2504 2554 [6] 2514 2564 [7] 2524 2574 [8] 2534 2584 [9] 2544 2594 [10] r/w	Active if PID Units (Setup Page) is set to U.S. and Proportional Band is not set to 0.

Operations Page Parameter Table

Parameter Description	Range (Modbus Value)	Default	Modbus Register read/write [I/O, Set, Ch]	Conditions for Parameters to Appear
Dead Band x (A or B) Define the effective shift in the heating and cooling set points to prevent conflict.	0 to 30000 (1 to 30000)	0 (0)	2A 2B Set 2505 2555 [6] 2515 2565 [7] 2525 2575 [8] 2535 2585 [9] 2545 2595 [10] r/w	Active if Proportional Band is not set to 0 and one output is set to heat and the other to cool (Setup Page).
Hysteresis x (A or B) Define the process variable change from the set point required to re-energize the output (in on-off mode).	1 to 30000 (1 to 30000)	3 (3)	2A 2B Set 2507 2557 [6] 2517 2567 [7] 2527 2577 [8] 2537 2587 [9] 2547 2597 [10] r/w	Active if Proportional Band is set to 0 and one channel is set to heat and the other to cool (Setup Page).

Proportional Band x (A or B)

2010年2月1日
10:46

Proportional Band x (A or B)
Define the proportional band for PID control.

1A 1B Set
500 550 [1]
510 560 [2]
520 570 [3]
530 580 [4]
540 590 [5]
r/w

0° to 30000°
(0 to 30000)

2A 2B Set
2500 2550 [6]
2510 2560 [7]
2520 2570 [8]
2530 2580 [9]
2540 2590 [10]
r/w

Reset x (A or B)

2010年2月1日
10:49

Reset x (A or B)
Set the reset time in
repeats per minute.

1A 1B Set
502 552 [1]
512 562 [2]
522 572 [3]
532 582 [4]
542 592 [5]
r/w

0.00 per minute to
99.99 per minute
(0 to 9999)

2A 2B Set
2502 2552 [6]
2512 2562 [7]
2522 2572 [8]
2532 2582 [9]
2542 2592 [10]
r/w

Rate x (A or B)

2010年2月1日
10:52

Rate x (A or B)
Set the rate time.

1A 1B Set	0.00 to 9.99 minutes
504 554 [1]	(0 to 999)
514 564 [2]	
524 574 [3]	
534 584 [4]	
544 594 [5]	
r/w	

2A 2B Set
2504 2554 [6]
2514 2564 [7]
2524 2574 [8]
2534 2584 [9]
2544 2594 [10]
r/w

Control Output

2010年2月1日
17:37

Control Output x (1A,1B, 2A and 2B)

Main > Setup > Control Output x (1A,1B, 2A and 2B)

Function Select type of function for output.	Off (0) Heat (1) Cool (2)	Heat (1A and 2A) (1) Off (1B, 2B) (0)	Output 700 [1A] 717 [1B] 734 [2A] 751 [2B] r/w	Active if Analog Inputs 1 and 2 are enabled.
Choose Cycle Time Enter the value of the variable burst cycle time.	Variable Burst (0) Fixed Time (1)		Output 509 [1A] 559 [1B] 2509 [2A] 2559 [2B] r/w	Active always.

Setup Page Parameter Table

Parameter Description	Range (Modbus Value)	Default	Modbus Register read/write [I/O, Set, Ch]	Conditions for Parameters to Appear
Enter Cycle Time Select the duration of cycle.	.1 to 60 (1 to 600)	Fixed Time 1.0 sec. (10)	Output 506 [1A] 556 [1B] 2506 [2A] 2556 [2B] r/w	Active if the selected output is not Process and Burst is set to No.
Process Set process output type.	4 to 20mA (0) 0 to 20mA (1) 0 to 5V (2) 1 to 5V (3) 1 to 10V (4)	4 to 20mA (0)	Output 701 [1A] 718 [1B] 735 [2A] 752 [2B] r/w	Active if the selected output is set to a process output.
High Power Limit Set high limit control (PID mode only) output power level.	Low Limit +1 to 100% (Low Limit +1 to 100)	100% (100)	Output 714 [1A] 731 [1B] 748 [2A] 765 [2B] r/w	Active: Always.
Low Power Limit Set low limit control (PID mode only) output power level.	0% to High Limit -1 (0 to High Limit -1)	0% (0)	Output 715 [1A] 732 [1B] 749 [2A] 766 [2B] r/w	Active: Always.

Function

2010年2月1日
17:48

Function
Select type of function
for output.

700 [1A]
717 [1B]
734 [2A]
751 [2B]
r/w

Off (0)
Heat (1)
Cool (2)

Choose Cycle Time

2010年2月1日
17:50

Choose Cycle Time
Enter the value of the variable burst cycle time.

Variable Burst (0)
Fixed Time (1)

509 [1A]
559 [1B]
2509 [2A]
2559 [2B]
r/w

Enter Cycle Time

2010年2月1日
17:51

Enter Cycle Time	.1 to 60
Select the duration of cycle.	(1 to 600)

506 [1A]
556 [1B]
2506 [2A]
2556 [2B]
r/w

Process

2010年2月2日
13:38

Process
Set process output type.

4 to 20mA (0)
0 to 20mA (1)
0 to 5V (2)
1 to 5V (3)
1 to 10V (4)

701 [1A]
718 [1B]
735 [2A]
752 [2B]
r/w

High Power Limit

2010年2月2日
13:41

High Power Limit
Set high limit control
(PID mode only)
output power level.

Low Limit +1 to 100%
(Low Limit +1 to 100)

714 [1A]
731 [1B]
748 [2A]
765 [2B]
r/w

Low Power Limit

2010年2月2日
13:43

Low Power Limit Set low limit control (PID mode only) output power level.	0% to High Limit -1 (0 to High Limit -1)

715 [1A]
732 [1B]
749 [2A]
766 [2B]
r/w

Digital Output

2010年2月2日
13:52

Digital Output x (1 to 8)

Main > Setup > Digital Output x (1 to 8)

Name Name the digital output for easy reference.	<selected by user> (ASCII Values)	DIGIT OUTX	3100-3109 3110-3119 3120-3129 3130-3139 3140-3149 3150-3159 3160-3169 3170-3179 r/w	Active: Always.
Function Choose a function for each digital output.	Off (0) Event Output (1) Complementary Output (Digital 5) (2) *Control Output 1A *Control Output 1B *Control Output 2A *Control Output 2B **Boost Heat (Digital 6) (3) **Boost Cool (Digital 7) (4) **Compressor (Digital 8) (5)	Off (0)	2001 [1] 2011 [2] 2021 [3] 2031 [4] 2041 [5] 2051 [6] 2061 [7] 2071 [8] r/w	Active: Always. *Active if the selected output is not Process. **Operates based on Channel 1 power requirements.
Boost Percent Power Enable boost above chosen power level.	0% to 100% for Heat -100% to 0% for Cool	Heat 100% (100) Cool -100% (-100)	Output 2052 [6] 2062 [7] r/w	Active if Digital 6 or 7 Function is set to Boost Heat or Boost Cool.
Boost Time Delay Set time to delay boost.	0 to 9999 seconds (0 to 9999)	30 seconds (30)	Output 2054 [6] 2064 [7] r/w	Active if Digital 6 or 7 Function is set to Boost Heat or Boost Cool.

Setup Page Parameter Table

Parameter Description	Range (Modbus Value)	Default	Modbus Register read/write [I/O, Set, Ch]	Conditions for Parameters to Appear
Compressor On % Power The compressor will be on below this chosen power level.	-100% to 100% (-100 to 100)	0% (0)	2072 r/w	Active if Digital 8 Function is Compressor.
Compressor Off % Power The compressor will be off above this chosen power level.	Compressor on % power to 100%	Compressor on % power	2073 r/w	Active if Digital 8 Function is Compressor.
Compressor Off Delay Set time to delay compressor turn-off.	0 to 9999 seconds (0 to 9999)	10 seconds (10)	2075 r/w	Active if Digital 8 Function is Compressor.
Compressor On Delay Set time to delay compressor turn-on.	1 to 9999 seconds (1 to 9999)	30 seconds (30)	2074 r/w	Active if Digital 8 Function is Compressor.

Name

2010年2月2日
13:54

Name
Name the digital
output for easy reference.

(ASCII Values)

3100-3109 Active: Always.
3110-3119
3120-3129
3130-3139
3140-3149
3150-3159
3160-3169
3170-3179
r/w

Function

2010年2月2日
13:56

Function
Choose a function
for each digital output.

2001 [1]
2011 [2]
2021 [3]
2031 [4]
2041 [5]
2051 [6]
2061 [7]
2071 [8]
r/w

Off (0)
Event Output (1)
Complementary Output
(Digital 5) (2)
*Control Output 1A
*Control Output 1B
*Control Output 2A
*Control Output 2B
**Boost Heat (Digital 6)
(3)
**Boost Cool (Digital 7)
(4)
**Compressor (Digital
8) (5)

Boost Percent Power

2010年2月2日
13:57

Boost Percent Power Enable boost above chosen power level.	0% to 100% for Heat -100% to 0% for Cool Heat 100% (100) Cool -100% (-100)
2052 [6] 2062 [7] r/w	Active if Digital 6 or 7 Function is set to Boost Heat or Boost Cool.

Boost Time Delay

2010年2月2日
13:59

Boost Time Delay Set time to delay boost.	0 to 9999 seconds (0 to 9999)

2054 [6]
2064 [7]
r/w

Compressor On % Power

2010年2月2日
14:00

The compressor will be on below this chosen power level.

-100% to 100% (-100 to 100)

2072 r/w

Active if Digital 8 Function is Compressor.

Compressor Off % Power

2010年2月2日
14:01

Compressor Off % Power
The compressor will
be off above this
chosen power level.

Compressor on %
power to 100%

2073 r/w

Active if Digital 8 Function is
Compressor

Compressor Off Delay

2010年2月2日
14:03

Compressor Off Delay
Set time to delay
compressor turn-off.

0 to 9999 seconds
(0 to 9999)

2075 r/w

Compressor On Delay

2010年2月2日
14:04

Compressor On Delay Set time to delay compressor turn-on.	1 to 9999 seconds (1 to 9999)
2074 r/w	Active if Digital 8 Function is Compressor.

Main Page

2010年2月2日
16:01

300 Set Point 1, value
319 Set Point 2, value

如何解析？

pdf描述不清晰

100 Input 1 Value, Status
101 Input 1 Error, Status
102 Alarm 1, Status
103 % Power Output 1A, Status
104 Input 2 Value, Status
105 Input 2 Error, Status
106 Alarm 2 , Status
107 % Power Output 1B, Status
108 Input 3 Value, Status
109 Input 3 Error, Status
111 % Power Output 2A, Status
115 % Power Output 2B, Status

Input Value

2010年2月2日
14:41

The measured value after scaling and filtering are applied.

Parameter Type

Main Page

Range

Determined by the Sensor and Type chosen for the analog input.

Protection

This parameter is read-only.

Available

Always

Note

The fields in which this parameter is displayed are color coded to indicate the alarm status of the corresponding input.
This parameter cannot be included in a recipe type.
This parameter may be plotted on the trend plot graph (see: Set Up a Graph).
Modbus Address: 40101

modbus地址和LabVIEW库相差一

Input Error Status

2010年2月2日
15:07

ndicates an error reading an analog input.

Parameter Type

Main Page

Range

No error
A/D underflow
Sensor under range
Sensor over range
A/D overflow
A/D timeout
Openloop

Protection

This parameter is read-only.

Available

Always

Note

This parameter cannot be included in a recipe type.
Modbus Address: 40102

Set Point

2010年2月2日
15:08

Use this parameter to set the desired process value for a channel when a profile is not running.

Parameter Type

Set Points

Range

Set Point Low Limit to Set Point High Limit

Default

75?F or 24?C

Available

Always

Note

This parameter may be plotted on the trend plot graph and logged in a data log.
Modbus Address: 40301