AI-EtherCAT32 转换器说明书 V2.5



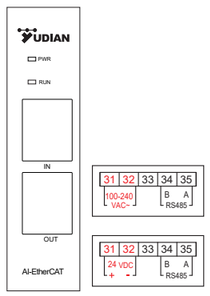
一 . 版本历史

版本	修改内容	日期
V1.0	修改为发行版本的 ID 号	2023-5-18
V1.1.3	新增 SCB、HIAL 参数	2024-8-28
V1.2	新增支持 8 路表	2024-12-31
V1.3	新增支持 6016、6032	2025-1-8
V1.4	新增部分参数	2025-1-15
V1.5	新增支持 8848	2025-6-20
v2.5	硬件改为 4 层板	2026-7-14

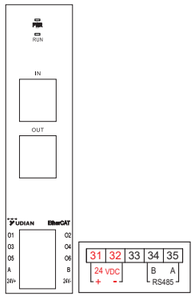
二 . 型号说明

AI -	□-	□-	□-	□	说明
型号	EtherCAT32				32 通道协议转换器
外形	D71				
	D92				
物理地址		D			拨码地址（默认不选用，v2.5 及后续版本不再区分）
供电方式			100-240AC		默认为 24VDC 供电
			24VDC		

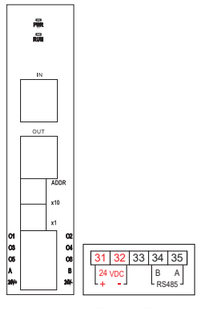
三 . 外观及接线



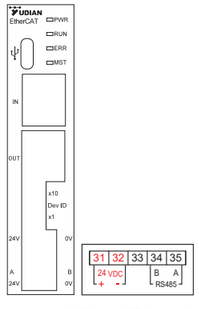
D71 外形及接线图



D92 外形及接线图（V2.0 ）



D92D 外形及接线图（V2.0 ）



D92 外形及接线图（V2.5 ）

指示灯：

PWR: 电源指示灯　　ERR: 从站错误指示灯

RUN: 总线指示灯　　MST: 485 通讯超时指示灯

旋转编码器：

x10: EtherCAT 地址十位（十进制）

x1：EtherCAT 址址个位（十进制）

默认为 0，此时可通过上位机设置 EtherCAT 地址；当拨码地址大于 0 时， EtherCAT 使用拨码地址

接线说明：

端□	说明
IN	EtherCAT 输入□
OUT	EtherCAT 输出□
A	RS485-A（外接）
B	RS485-B（外接）
24V+	24VDC 电源正极
24V-	24VDC 电源负极
O1-O6	预留

其他注意事项：

1. 背板电源 24VDC 与面板电源 24VDC 任接一组即可；
2. 背板 RS485 与面板 RS485 相通。

四 . 概述

AI-EtherCAT 转换器适配宇电自 AI 系列温控仪表的 V9 版本支持 MODBUS RTU 协议的 7048/7248/7648 等四路控制仪表、8388/8588 等八路控制仪表、6016 及 6032 仪表。

上述温控仪表与 AI-EtherCAT 转换器连接时，需要将仪表设置为标准 MODBUS RTU 模式，即 AF 参数（v9.05 以上版本）的 H 位设置为 1(十进制 128)，或有 AFC 的版本（v9.21 及以上）将 AFC 设 0 切换至 MODBUS；Baud 参数设为 19200。

7X48、8848 等 4 路仪表 Addr 设置为 1、5、9、13、17、21、25、29。

8X88 等 8 路仪表 Addr 设置为 1、9、17、25。

6016 仪表 Addr 设置为 1、17。

6032 仪表 Addr 设置为 1。

仪表标志位未进行设置时，默认为 000，此时转换器自动识别仪表特征字（仅识别 7x48 系列仪表，其余仪表必须设置仪表标志位）；仪表标志位设置为 111 时表示八路表，100 时表示四路表（8848 除外，需设置为 101），011 时表示 16 路仪表 6616，010 时表示 32 路仪表 6032。

五 . 输入数据（Input mapping）

5.1 输入数据总览

索引	子索引	I/O 端品名称	数据类型	初始值	备注
0x6000	1	Ch1 Operating Status	UINT16	0	Ch1~32 运行状态，详情见 5.2
	2	Ch2 Operating Status	UINT16	0	
	3	Ch3 Operating Status	UINT16	0	
	4	Ch4 Operating Status	UINT16	0	
	5	Ch5 Operating Status	UINT16	0	
	6	Ch6 Operating Status	UINT16	0	
	7	Ch7 Operating Status	UINT16	0	
	8	Ch8 Operating Status	UINT16	0	
	9	Ch9 Operating Status	UINT16	0	
	10	Ch10 Operating Status	UINT16	0	
	11	Ch11 Operating Status	UINT16	0	
	12	Ch12 Operating Status	UINT16	0	
	13	Ch13 Operating Status	UINT16	0	
	14	Ch14 Operating Status	UINT16	0	
	15	Ch15 Operating Status	UINT16	0	
	16	Ch16 Operating Status	UINT16	0	
	17	Ch17 Operating Status	UINT16	0	
	18	Ch18 Operating Status	UINT16	0	
	19	Ch19 Operating Status	UINT16	0	
	20	Ch20 Operating Status	UINT16	0	
	21	Ch21 Operating Status	UINT16	0	
	22	Ch22 Operating Status	UINT16	0	
	23	Ch23 Operating Status	UINT16	0	
	24	Ch24 Operating Status	UINT16	0	
	25	Ch25 Operating Status	UINT16	0	
	26	Ch26 Operating Status	UINT16	0	
	27	Ch27 Operating Status	UINT16	0	
	28	Ch28 Operating Status	UINT16	0	
	29	Ch29 Operating Status	UINT16	0	
	30	Ch30 Operating Status	UINT16	0	
	31	Ch31 Operating Status	UINT16	0	
	32	Ch32 Operating Status	UINT16	0	
0x6001	1	Ch1 Process Data	INT16	0	Ch1~32 测量值（PV），默认单位为 0.1℃。单位可在仪表上设置，具体参考说明书
	2	Ch2 Process Data	INT16	0	
	3	Ch3 Process Data	INT16	0	
	4	Ch4 Process Data	INT16	0	
	5	Ch5 Process Data	INT16	0	
	6	Ch6 Process Data	INT16	0	
	7	Ch7 Process Data	INT16	0	
	8	Ch8 Process Data	INT16	0	
	9	Ch9 Process Data	INT16	0	
	10	Ch10 Process Data	INT16	0	
	11	Ch11 Process Data	INT16	0	
	12	Ch12 Process Data	INT16	0	
	13	Ch13 Process Data	INT16	0	
	14	Ch14 Process Data	INT16	0	
	15	Ch15 Process Data	INT16	0	
	16	Ch16 Process Data	INT16	0	
	17	Ch17 Process Data	INT16	0	
	18	Ch18 Process Data	INT16	0	
	19	Ch19 Process Data	INT16	0	
	20	Ch20 Process Data	INT16	0	
	21	Ch21 Process Data	INT16	0	
	22	Ch22 Process Data	INT16	0	
	23	Ch23 Process Data	INT16	0	
	24	Ch24 Process Data	INT16	0	
	25	Ch25 Process Data	INT16	0	
	26	Ch26 Process Data	INT16	0	
	27	Ch27 Process Data	INT16	0	
	28	Ch28 Process Data	INT16	0	
	29	Ch29 Process Data	INT16	0	
	30	Ch30 Process Data	INT16	0	
	31	Ch31 Process Data	INT16	0	
	32	Ch32 Process Data	INT16	0	
0x6002	1	Ch1 Set Value	INT16	0	Ch1~32 SV 值，单位同测量值
	2	Ch2 Set Value	INT16	0	
	3	Ch3 Set Value	INT16	0	
	4	Ch4 Set Value	INT16	0	
	5	Ch5 Set Value	INT16	0	
	6	Ch6 Set Value	INT16	0	
	7	Ch7 Set Value	INT16	0	
	8	Ch8 Set Value	INT16	0	
	9	Ch9 Set Value	INT16	0	
	10	Ch10 Set Value	INT16	0	
	11	Ch11 Set Value	INT16	0	
	12	Ch12 Set Value	INT16	0	
	13	Ch13 Set Value	INT16	0	
	14	Ch14 Set Value	INT16	0	
	15	Ch15 Set Value	INT16	0	
	16	Ch16 Set Value	INT16	0	
	17	Ch17 Set Value	INT16	0	
	18	Ch18 Set Value	INT16	0	
	19	Ch19 Set Value	INT16	0	
	20	Ch20 Set Value	INT16	0	
	21	Ch21 Set Value	INT16	0	
	22	Ch22 Set Value	INT16	0	
	23	Ch23 Set Value	INT16	0	
	24	Ch24 Set Value	INT16	0	
	25	Ch25 Set Value	INT16	0	
	26	Ch26 Set Value	INT16	0	
	27	Ch27 Set Value	INT16	0	
	28	Ch28 Set Value	INT16	0	
	29	Ch29 Set Value	INT16	0	
	30	Ch30 Set Value	INT16	0	
	31	Ch31 Set Value	INT16	0	
	32	Ch32 Set Value	INT16	0	
0x6003	1	Ch1 PV Input Shift	INT16	0	Ch1~32 测量平移修正（SCB）
	2	Ch2 PV Input Shift	INT16	0	
	3	Ch3 PV Input Shift	INT16	0	
	4	Ch4 PV Input Shift	INT16	0	
	5	Ch5 PV Input Shift	INT16	0	
	6	Ch6 PV Input Shift	INT16	0	
	7	Ch7 PV Input Shift	INT16	0	
	8	Ch8 PV Input Shift	INT16	0	
	9	Ch9 PV Input Shift	INT16	0	
	10	Ch10 PV Input Shift	INT16	0	
	11	Ch11 PV Input Shift	INT16	0	
	12	Ch12 PV Input Shift	INT16	0	
	13	Ch13 PV Input Shift	INT16	0	
	14	Ch14 PV Input Shift	INT16	0	
	15	Ch15 PV Input Shift	INT16	0	
	16	Ch16 PV Input Shift	INT16	0	
	17	Ch17 PV Input Shift	INT16	0	
	18	Ch18 PV Input Shift	INT16	0	
	19	Ch19 PV Input Shift	INT16	0	
	20	Ch20 PV Input Shift	INT16	0	
	21	Ch21 PV Input Shift	INT16	0	
	22	Ch22 PV Input Shift	INT16	0	
	23	Ch23 PV Input Shift	INT16	0	
	24	Ch24 PV Input Shift	INT16	0	
	25	Ch25 PV Input Shift	INT16	0	
	26	Ch26 PV Input Shift	INT16	0	
	27	Ch27 PV Input Shift	INT16	0	
	28	Ch28 PV Input Shift	INT16	0	
	29	Ch29 PV Input Shift	INT16	0	
	30	Ch30 PV Input Shift	INT16	0	
	31	Ch31 PV Input Shift	INT16	0	
	32	Ch32 PV Input Shift	INT16	0	
0x6004	1	Ch1 MV Monitor	INT16	0	Ch1~32 输出百分比（MV）
	2	Ch2 MV Monitor	INT16	0	
	3	Ch3 MV Monitor	INT16	0	
	4	Ch4 MV Monitor	INT16	0	
	5	Ch5 MV Monitor	INT16	0	
	6	Ch6 MV Monitor	INT16	0	
	7	Ch7 MV Monitor	INT16	0	
	8	Ch8 MV Monitor	INT16	0	
	9	Ch9 MV Monitor	INT16	0	
	10	Ch10 MV Monitor	INT16	0	
	11	Ch11 MV Monitor	INT16	0	
	12	Ch12 MV Monitor	INT16	0	
	13	Ch13 MV Monitor	INT16	0	
	14	Ch14 MV Monitor	INT16	0	
	15	Ch15 MV Monitor	INT16	0	
	16	Ch16 MV Monitor	INT16	0	
	17	Ch17 MV Monitor	INT16	0	
	18	Ch18 MV Monitor	INT16	0	
	19	Ch19 MV Monitor	INT16	0	
	20	Ch20 MV Monitor	INT16	0	
	21	Ch21 MV Monitor	INT16	0	
	22	Ch22 MV Monitor	INT16	0	
	23	Ch23 MV Monitor	INT16	0	
	24	Ch24 MV Monitor	INT16	0	
	25	Ch25 MV Monitor	INT16	0	
	26	Ch26 MV Monitor	INT16	0	
	27	Ch27 MV Monitor	INT16	0	
	28	Ch28 MV Monitor	INT16	0	
	29	Ch29 MV Monitor	INT16	0	
	30	Ch30 MV Monitor	INT16	0	
	31	Ch31 MV Monitor	INT16	0	
	32	Ch32 MV Monitor	INT16	0	
0x6005	1	Ch1 Output and Alarm Status	UINT16	0	Ch1~32 输出和报警状态，详情见 5.3、5.4、5.5
	2	Ch2 Output and Alarm Status	UINT16	0	
	3	Ch3 Output and Alarm Status	UINT16	0	
	4	Ch4 Output and Alarm Status	UINT16	0	
	5	Ch5 Output and Alarm Status	UINT16	0	
	6	Ch6 Output and Alarm Status	UINT16	0	
	7	Ch7 Output and Alarm Status	UINT16	0	
	8	Ch8 Output and Alarm Status	UINT16	0	
	9	Ch9 Output and Alarm Status	UINT16	0	
	10	Ch10 Output and Alarm Status	UINT16	0	
	11	Ch11 Output and Alarm Status	UINT16	0	
	12	Ch12 Output and Alarm Status	UINT16	0	
	13	Ch13 Output and Alarm Status	UINT16	0	
	14	Ch14 Output and Alarm Status	UINT16	0	
	15	Ch15 Output and Alarm Status	UINT16	0	
	16	Ch16 Output and Alarm Status	UINT16	0	
	17	Ch17 Output and Alarm Status	UINT16	0	
	18	Ch18 Output and Alarm Status	UINT16	0	
	19	Ch19 Output and Alarm Status	UINT16	0	
	20	Ch20 Output and Alarm Status	UINT16	0	
	21	Ch21 Output and Alarm Status	UINT16	0	
	22	Ch22 Output and Alarm Status	UINT16	0	
	23	Ch23 Output and Alarm Status	UINT16	0	
	24	Ch24 Output and Alarm Status	UINT16	0	
	25	Ch25 Output and Alarm Status	UINT16	0	
	26	Ch26 Output and Alarm Status	UINT16	0	
	27	Ch27 Output and Alarm Status	UINT16	0	
	28	Ch28 Output and Alarm Status	UINT16	0	
	29	Ch29 Output and Alarm Status	UINT16	0	
	30	Ch30 Output and Alarm Status	UINT16	0	
	31	Ch31 Output and Alarm Status	UINT16	0	
	32	Ch32 Output and Alarm Status	UINT16	0	
0x6006	1	Ch1 Proportional Band Monitor	INT16	0	Ch1~32 比例带监控，单位同测量值
	2	Ch2 Proportional Band Monitor	INT16	0	
	3	Ch3 Proportional Band Monitor	INT16	0	
	4	Ch4 Proportional Band Monitor	INT16	0	
	5	Ch5 Proportional Band Monitor	INT16	0	
	6	Ch6 Proportional Band Monitor	INT16	0	
	7	Ch7 Proportional Band Monitor	INT16	0	
	8	Ch8 Proportional Band Monitor	INT16	0	
	9	Ch9 Proportional Band Monitor	INT16	0	
	10	Ch10 Proportional Band Monitor	INT16	0	
	11	Ch11 Proportional Band Monitor	INT16	0	
	12	Ch12 Proportional Band Monitor	INT16	0	
	13	Ch13 Proportional Band Monitor	INT16	0	
	14	Ch14 Proportional Band Monitor	INT16	0	
	15	Ch15 Proportional Band Monitor	INT16	0	
	16	Ch16 Proportional Band Monitor	INT16	0	
	17	Ch17 Proportional Band Monitor	INT16	0	
	18	Ch18 Proportional Band Monitor	INT16	0	
	19	Ch19 Proportional Band Monitor	INT16	0	
	20	Ch20 Proportional Band Monitor	INT16	0	
	21	Ch21 Proportional Band Monitor	INT16	0	
	22	Ch22 Proportional Band Monitor	INT16	0	
	23	Ch23 Proportional Band Monitor	INT16	0	
	24	Ch24 Proportional Band Monitor	INT16	0	
	25	Ch25 Proportional Band Monitor	INT16	0	
	26	Ch26 Proportional Band Monitor	INT16	0	
	27	Ch27 Proportional Band Monitor	INT16	0	
	28	Ch28 Proportional Band Monitor	INT16	0	
	29	Ch29 Proportional Band Monitor	INT16	0	
	30	Ch30 Proportional Band Monitor	INT16	0	
	31	Ch31 Proportional Band Monitor	INT16	0	
	32	Ch32 Proportional Band Monitor	INT16	0	
0x6007	1	Ch1 Integration Time Monitor	INT16	0	Ch1~32 积分时间监控，单位为秒
	2	Ch2 Integration Time Monitor	INT16	0	
	3	Ch3 Integration Time Monitor	INT16	0	
	4	Ch4 Integration Time Monitor	INT16	0	
	5	Ch5 Integration Time Monitor	INT16	0	
	6	Ch6 Integration Time Monitor	INT16	0	
	7	Ch7 Integration Time Monitor	INT16	0	
	8	Ch8 Integration Time Monitor	INT16	0	
	9	Ch9 Integration Time Monitor	INT16	0	
	10	Ch10 Integration Time Monitor	INT16	0	
	11	Ch11 Integration Time Monitor	INT16	0	
	12	Ch12 Integration Time Monitor	INT16	0	
	13	Ch13 Integration Time Monitor	INT16	0	
	14	Ch14 Integration Time Monitor	INT16	0	
	15	Ch15 Integration Time Monitor	INT16	0	
	16	Ch16 Integration Time Monitor	INT16	0	
	17	Ch17 Integration Time Monitor	INT16	0	
	18	Ch18 Integration Time Monitor	INT16	0	
	19	Ch19 Integration Time Monitor	INT16	0	
	20	Ch20 Integration Time Monitor	INT16	0	
	21	Ch21 Integration Time Monitor	INT16	0	
	22	Ch22 Integration Time Monitor	INT16	0	
	23	Ch23 Integration Time Monitor	INT16	0	
	24	Ch24 Integration Time Monitor	INT16	0	
	25	Ch25 Integration Time Monitor	INT16	0	
	26	Ch26 Integration Time Monitor	INT16	0	
	27	Ch27 Integration Time Monitor	INT16	0	
	28	Ch28 Integration Time Monitor	INT16	0	
	29	Ch29 Integration Time Monitor	INT16	0	
	30	Ch30 Integration Time Monitor	INT16	0	
	31	Ch31 Integration Time Monitor	INT16	0	
	32	Ch32 Integration Time Monitor	INT16	0	

0x6008	1	Ch1 Derivative Time Monitor	INT16	0	Ch1~32 微分时间监控，单位为 0.1 秒
	2	Ch2 Derivative Time Monitor	INT16	0	
	3	Ch3 Derivative Time Monitor	INT16	0	
	4	Ch4 Derivative Time Monitor	INT16	0	
	5	Ch5 Derivative Time Monitor	INT16	0	
	6	Ch6 Derivative Time Monitor	INT16	0	
	7	Ch7 Derivative Time Monitor	INT16	0	
	8	Ch8 Derivative Time Monitor	INT16	0	
	9	Ch9 Derivative Time Monitor	INT16	0	
	10	Ch10 Derivative Time Monitor	INT16	0	
	11	Ch11 Derivative Time Monitor	INT16	0	
	12	Ch12 Derivative Time Monitor	INT16	0	
	13	Ch13 Derivative Time Monitor	INT16	0	
	14	Ch14 Derivative Time Monitor	INT16	0	
	15	Ch15 Derivative Time Monitor	INT16	0	
	16	Ch16 Derivative Time Monitor	INT16	0	
	17	Ch17 Derivative Time Monitor	INT16	0	
	18	Ch18 Derivative Time Monitor	INT16	0	
	19	Ch19 Derivative Time Monitor	INT16	0	
	20	Ch20 Derivative Time Monitor	INT16	0	
	21	Ch21 Derivative Time Monitor	INT16	0	
	22	Ch22 Derivative Time Monitor	INT16	0	
	23	Ch23 Derivative Time Monitor	INT16	0	
	24	Ch24 Derivative Time Monitor	INT16	0	
	25	Ch25 Derivative Time Monitor	INT16	0	
	26	Ch26 Derivative Time Monitor	INT16	0	
	27	Ch27 Derivative Time Monitor	INT16	0	
	28	Ch28 Derivative Time Monitor	INT16	0	
	29	Ch29 Derivative Time Monitor	INT16	0	
	30	Ch30 Derivative Time Monitor	INT16	0	
	31	Ch31 Derivative Time Monitor	INT16	0	
	32	Ch32 Derivative Time Monitor	INT16	0	
0x6009	1	HIAL	INT16	0	Ch1~32 上限报警，详情见 5.6
	2	HIAL1_16DIF	UINT16	0	
	3	HIAL17_32DIF	UINT16	0	
0x600A	1	LOAL	INT16	0	Ch1~32 下限报警，详情见 5.7
	2	LOAL1_16DIF	UINT16	0	
	3	LOAL17_32DIF	UINT16	0	

5.2 Ch □ Operating Status

名称	位	说明
启停状态	bit0	0：停止 1：运行
	bit1	预留
AT 状态	bit2	0-AT 停止状态，1-AT 运行中
预留	bit3	预留
通道状态	bit4	0- 正常，1- 掉线
手自动状态	bit5	0- 自动，1- 手动
主机掉线保护	bit6	0- 关闭，1- 开启，EtherCAT 连接失效时，通道设备停止运行，默认开启
位 7~11	bit7~11	预留
仪表标志	bit12~14	000- 默认；　100-4 路仪表（101-8848）； 111-8 路仪表；　011-6016；　010-6032
通道轮询状态	bit15	0- 正常，1- 当前通道不轮询

注：仪表标志为未设置时，7x48 系列仪表可自动识别，此时仪表标志默认为 000。

5.3 7x48 系列 Ch □ Output and Alarm Status

名称	位	说明	功能
HIAL	bit0	上限报警	0：无报警；1：报警
LOAL	bit1	下限报警	0：无报警；1：报警
位 2~3	bit2~bit3	预留	
ORAL	bit4	超量程报警	0：无报警；1：报警
AL1*1	bit5	AL1 输出	0：OFF，1：ON
AL2*1	bit6	AL2 输出	0：OFF，1：ON
位 7	bit7	预留	
OP1	bit8	OP1 输出	0：OFF，1：ON
位 9~15	bit9~15	预留	

5.4 8848、8x88 系列 Ch □ Output and Alarm Status

名称	位	说明	功能
HIAL	bit0	上限报警	0：无报警；1：报警
LOAL	bit1	下限报警	0：无报警；1：报警
HDAL	bit2	上限偏差报警	0：无报警；1：报警
LDAL	bit3	下限偏差报警	0：无报警；1：报警
ORAL	bit4	超量程报警	0：无报警；1：报警
位 5~15	bit5~15	预留	

5.5 6016、6032 系列 Ch □ Output and Alarm Status

名称	位	说明	功能
HIAL	bit0	上限报警	0：无报警；1：报警
LOAL	bit1	下限报警	0：无报警；1：报警
HDAL	bit2	上限偏差报警	0：无报警；1：报警
LDAL	bit3	下限偏差报警	0：无报警；1：报警
ORAL	bit4	超量程报警	0：无报警；1：报警
位 5~7	bit5~7	预留	
OP	bit8	OP 输出	0：OFF，1：ON
位 9~15	bit9~15	预留	

5.6 HIAL

名称	位	说明
HIAL		通道 1 的 HIAL 值
HIAL1_16DIF	bit0~bit15	位从低到高依次表示通道 1~16，当前通道 HIAL 值与通道 1 的 HIAL 值相同时为 1，不同为 0
HIAL17_32DIF	bit0~bit15	位从低到高依次表示通道 17~32，当前通道 HIAL 值与通道 1 的 HIAL 值相同时为 1，不同为 0

5.7 LOAL

名称	位	说明
LOAL		通道 1 的 LOAL 值
LOAL1_16DIF	bit0~bit15	位从低到高依次表示通道 1~16，当前通道 LOAL 值与通道 1 的 LOAL 值相同时为 1，不同为 0
LOAL17_32DIF	bit0~bit15	位从低到高依次表示通道 17~32，当前通道 LOAL 值与通道 1 的 LOAL 值相同时为 1，不同为 0

六、输出数据（Output mapping）

6.1 输出数据总览

索引	子索引	I/O 端品名称	数据类型	初始值	备注
0x7000	1	Ch1 Operation Command	UINT16	0	Ch1~32 运行命令，详情见 6.2
	2	Ch2 Operation Command	UINT16	0	
	3	Ch3 Operation Command	UINT16	0	
	4	Ch4 Operation Command	UINT16	0	
	5	Ch5 Operation Command	UINT16	0	
	6	Ch6 Operation Command	UINT16	0	
	7	Ch7 Operation Command	UINT16	0	
	8	Ch8 Operation Command	UINT16	0	
	9	Ch9 Operation Command	UINT16	0	
	10	Ch10 Operation Command	UINT16	0	
	11	Ch11 Operation Command	UINT16	0	
	12	Ch12 Operation Command	UINT16	0	
	13	Ch13 Operation Command	UINT16	0	
	14	Ch14 Operation Command	UINT16	0	
	15	Ch15 Operation Command	UINT16	0	
	16	Ch16 Operation Command	UINT16	0	
	17	Ch17 Operation Command	UINT16	0	
	18	Ch18 Operation Command	UINT16	0	
	19	Ch19 Operation Command	UINT16	0	
	20	Ch20 Operation Command	UINT16	0	
	21	Ch21 Operation Command	UINT16	0	
	22	Ch22 Operation Command	UINT16	0	
	23	Ch23 Operation Command	UINT16	0	
	24	Ch24 Operation Command	UINT16	0	
	25	Ch25 Operation Command	UINT16	0	
	26	Ch26 Operation Command	UINT16	0	
	27	Ch27 Operation Command	UINT16	0	
	28	Ch28 Operation Command	UINT16	0	
	29	Ch29 Operation Command	UINT16	0	
	30	Ch30 Operation Command	UINT16	0	
	31	Ch31 Operation Command	UINT16	0	
	32	Ch32 Operation Command	UINT16	0	
0x7001	1	Ch1 Set Value	INT16	0	Ch1~32 SV 值，单位同测量值
	2	Ch2 Set Value	INT16	0	
	3	Ch3 Set Value	INT16	0	
	4	Ch4 Set Value	INT16	0	
	5	Ch5 Set Value	INT16	0	
	6	Ch6 Set Value	INT16	0	
	7	Ch7 Set Value	INT16	0	
	8	Ch8 Set Value	INT16	0	
	9	Ch9 Set Value	INT16	0	
	10	Ch10 Set Value	INT16	0	
	11	Ch11 Set Value	INT16	0	
	12	Ch12 Set Value	INT16	0	
	13	Ch13 Set Value	INT16	0	
	14	Ch14 Set Value	INT16	0	
	15	Ch15 Set Value	INT16	0	
	16	Ch16 Set Value	INT16	0	
	17	Ch17 Set Value	INT16	0	
	18	Ch18 Set Value	INT16	0	
	19	Ch19 Set Value	INT16	0	
	20	Ch20 Set Value	INT16	0	
	21	Ch21 Set Value	INT16	0	
	22	Ch22 Set Value	INT16	0	
	23	Ch23 Set Value	INT16	0	
	24	Ch24 Set Value	INT16	0	
	25	Ch25 Set Value	INT16	0	
	26	Ch26 Set Value	INT16	0	
	27	Ch27 Set Value	INT16	0	
	28	Ch28 Set Value	INT16	0	
	29	Ch29 Set Value	INT16	0	
	30	Ch30 Set Value	INT16	0	
	31	Ch31 Set Value	INT16	0	
	32	Ch32 Set Value	INT16	0	
0x7002	1	Ch1 PV Input Shift	INT16	0	Ch1~32 测量平移修正（SCB）
	2	Ch2 PV Input Shift	INT16	0	
	3	Ch3 PV Input Shift	INT16	0	
	4	Ch4 PV Input Shift	INT16	0	
	5	Ch5 PV Input Shift	INT16	0	
	6	Ch6 PV Input Shift	INT16	0	
	7	Ch7 PV Input Shift	INT16	0	
	8	Ch8 PV Input Shift	INT16	0	
	9	Ch9 PV Input Shift	INT16	0	
	10	Ch10 PV Input Shift	INT16	0	
	11	Ch11 PV Input Shift	INT16	0	
	12	Ch12 PV Input Shift	INT16	0	
	13	Ch13 PV Input Shift	INT16	0	
	14	Ch14 PV Input Shift	INT16	0	
	15	Ch15 PV Input Shift	INT16	0	
	16	Ch16 PV Input Shift	INT16	0	
	17	Ch17 PV Input Shift	INT16	0	
	18	Ch18 PV Input Shift	INT16	0	
	19	Ch19 PV Input Shift	INT16	0	
	20	Ch20 PV Input Shift	INT16	0	
	21	Ch21 PV Input Shift	INT16	0	
	22	Ch22 PV Input Shift	INT16	0	
	23	Ch23 PV Input Shift	INT16	0	
	24	Ch24 PV Input Shift	INT16	0	
	25	Ch25 PV Input Shift	INT16	0	
	26	Ch26 PV Input Shift	INT16	0	
	27	Ch27 PV Input Shift	INT16	0	
	28	Ch28 PV Input Shift	INT16	0	
	29	Ch29 PV Input Shift	INT16	0	
	30	Ch30 PV Input Shift	INT16	0	
	31	Ch31 PV Input Shift	INT16	0	
	32	Ch32 PV Input Shift	INT16	0	
0x7003	1	Ch1 Manual MV	INT16	0	Ch1~32 手动 MV，单位同测量值
	2	Ch2 Manual MV	INT16	0	
	3	Ch3 Manual MV	INT16	0	
	4	Ch4 Manual MV	INT16	0	
	5	Ch5Manual MV	INT16	0	
	6	Ch6 Manual MV	INT16	0	
	7	Ch7 Manual MV	INT16	0	
	8	Ch8 Manual MV	INT16	0	
	9	Ch9 Manual MV	INT16	0	
	10	Ch10 Manual MV	INT16	0	
	11	Ch11 Manual MV	INT16	0	
	12	Ch12 Manual MV	INT16	0	
	13	Ch13 Manual MV	INT16	0	
	14	Ch14 Manual MV	INT16	0	
	15	Ch15 Manual MV	INT16	0	
	16	Ch16 Manual MV	INT16	0	
	17	Ch17 Manual MV	INT16	0	
	18	Ch18 Manual MV	INT16	0	
	19	Ch19 Manual MV	INT16	0	
	20	Ch20 Manual MV	INT16	0	
	21	Ch21Manual MV	INT16	0	
	22	Ch22 Manual MV	INT16	0	
	23	Ch23 Manual MV	INT16	0	
	24	Ch24 Manual MV	INT16	0	
	25	Ch25 Manual MV	INT16	0	
	26	Ch26 Manual MV	INT16	0	
	27	Ch27 Manual MV	INT16	0	
	28	Ch28 Manual MV	INT16	0	
	29	Ch29 Manual MV	INT16	0	
	30	Ch30 Manual MV	INT16	0	
	31	Ch31 Manual MV	INT16	0	
	32	Ch32 Manual MV	INT16	0	
0x7004	1	Ch1 Proportional Band	INT16	0	Ch1~32 比例带，单位同测量值
	2	Ch2 Proportional Band	INT16	0	
	3	Ch3 Proportional Band	INT16	0	
	4	Ch4 Proportional Band	INT16	0	
	5	Ch5 Proportional Band	INT16	0	
	6	Ch6 Proportional Band	INT16	0	
	7	Ch7 Proportional Band	INT16	0	
	8	Ch8 Proportional Band	INT16	0	
	9	Ch9 Proportional Band	INT16	0	
	10	Ch10 Proportional Band	INT16	0	
	11	Ch11 Proportional Band	INT16	0	
	12	Ch12 Proportional Band	INT16	0	
	13	Ch13 Proportional Band	INT16	0	
	14	Ch14 Proportional Band	INT16	0	
	15	Ch15 Proportional Band	INT16	0	
	16	Ch16 Proportional Band	INT16	0	
	17	Ch17 Proportional Band	INT16	0	
	18	Ch18 Proportional Band	INT16	0	
	19	Ch19 Proportional Band	INT16	0	
	20	Ch20 Proportional Band	INT16	0	
	21	Ch21 Proportional Band	INT16	0	
	22	Ch22 Proportional Band	INT16	0	
	23	Ch23 Proportional Band	INT16	0	
	24	Ch24 Proportional Band	INT16	0	
	25	Ch25 Proportional Band	INT16	0	
	26	Ch26 Proportional Band	INT16	0	
	27	Ch27 Proportional Band	INT16	0	
	28	Ch28 Proportional Band	INT16	0	
	29	Ch29 Proportional Band	INT16	0	
	30	Ch30 Proportional Band	INT16	0	
	31	Ch31 Proportional Band	INT16	0	
	32	Ch32 Proportional Band	INT16	0	
0x7005	1	Ch1 Integration Time	INT16	0	Ch1~32 积分时间，单位为秒
	2	Ch2 Integration Time	INT16	0	
	3	Ch3 Integration Time	INT16	0	
	4	Ch4 Integration Time	INT16	0	
	5	Ch5 Integration Time	INT16	0	
	6	Ch6 Integration Time	INT16	0	
	7	Ch7 Integration Time	INT16	0	
	8	Ch8 Integration Time	INT16	0	
	9	Ch9 Integration Time	INT16	0	
	10	Ch10 Integration Time	INT16	0	
	11	Ch11 Integration Time	INT16	0	
	12	Ch12 Integration Time	INT16	0	
	13	Ch13 Integration Time	INT16	0	
	14	Ch14 Integration Time	INT16	0	
	15	Ch15 Integration Time	INT16	0	
	16	Ch16 Integration Time	INT16	0	
	17	Ch17 Integration Time	INT16	0	
	18	Ch18 Integration Time	INT16	0	
	19	Ch19 Integration Time	INT16	0	
	20	Ch20 Integration Time	INT16	0	
	21	Ch21 Integration Time	INT16	0	
	22	Ch22 Integration Time	INT16	0	
	23	Ch23 Integration Time	INT16	0	
	24	Ch24 Integration Time	INT16	0	
	25	Ch25 Integration Time	INT16	0	
	26	Ch26 Integration Time	INT16	0	
	27	Ch27 Integration Time	INT16	0	
	28	Ch28 Integration Time	INT16	0	
	29	Ch29 Integration Time	INT16	0	
	30	Ch30 Integration Time	INT16	0	
	31	Ch31 Integration Time	INT16	0	
	32	Ch32 Integration Time	INT16	0	
0x7006	1	Ch1 Derivative Time	INT16	0	Ch1~32 微分时间，单位为 0.1 秒
	2	Ch2 Derivative Time	INT16	0	
	3	Ch3 Derivative Time	INT16	0	
	4	Ch4 Derivative Time	INT16	0	
	5	Ch5 Derivative Time	INT16	0	
	6	Ch6 Derivative Time	INT16	0	
	7	Ch7 Derivative Time	INT16	0	
	8	Ch8 Derivative Time	INT16	0	
	9	Ch9 Derivative Time	INT16	0	
	10	Ch10 Derivative Time	INT16	0	
	11	Ch11 Derivative Time	INT16	0	
	12	Ch12 Derivative Time	INT16	0	
	13	Ch13 Derivative Time	INT16	0	
	14	Ch14 Derivative Time	INT16	0	
	15	Ch15 Derivative Time	INT16	0	
	16	Ch16 Derivative Time	INT16	0	
	17	Ch17 Derivative Time	INT16	0	
	18	Ch18 Derivative Time	INT16	0	
	19	Ch19 Derivative Time	INT16	0	
	20	Ch20 Derivative Time	INT16	0	
	21	Ch21 Derivative Time	INT16	0	
	22	Ch22 Derivative Time	INT16	0	
	23	Ch23 Derivative Time	INT16	0	
	24	Ch24 Derivative Time	INT16	0	
	25	Ch25 Derivative Time	INT16	0	
	26	Ch26 Derivative Time	INT16	0	
	27	Ch27 Derivative Time	INT16	0	
	28	Ch28 Derivative Time	INT16	0	
	29	Ch29 Derivative Time	INT16	0	
	30	Ch30 Derivative Time	INT16	0	
	31	Ch31 Derivative Time	INT16	0	
	32	Ch32 Derivative Time	INT16	0	
0x7007	1	Ch1_32 HIAL	INT16	0	Ch1~32 上限报警
0x7008	1	Ch1_32 LOAL	INT16	0	Ch1~32 下限报警

6.2 Ch □ Operation Command

名称	位	检测方式	说明
启停命令	bit0	电平	0：停止；1：运行
	bit1		预留
AT 实行	bit2	边缘（上升沿）	0->1 AT 实行，上升沿有效
预留	预留		预留
AT 取消	bit4	边缘（上升沿）	0->1 AT 取消，上升沿有效
手动 / 自动	bit5	电平	0：自动；1：手动
主机掉线保护	bit6	电平	0- 关闭，1- 开启，EtherCAT 连接失效时，通道设备停止运行
位 7~11	bit7~11	预留	预留
仪表标志	bit12~14	电平	000- 默认； 100-4 路仪表（101-8848）； 111-8 路仪表；　011-6016； 010-6032
轮询状态	bit15	电平	0- 正常，1- 当前通道不轮询

注 1：手动和自动的状态，只有在运行的状态下才支持，即停止状态时，不区分手动和自动状态。
注 2：写入命令时，对应位的初始值为 0，当检测到有此位有改变时，才会写入温控仪表。不同位互不影响。
注 3：写入命令时，仪表标志位只在仪表起始地址生效。

七 . 保修条件

感谢您选用宇电产品，当报价表、合同等没有提及特别说明事项时，本公司将依照如下条款实行。

1、保修期限

本产品自购买之日起，在正常操作使用且未经拆修的情况下，2 年内享受免费保修服务。

2、保修方式

修期内，经确认属产品质量问题的，按以下方式处理：购买后 1 个月内出现故障，免费更换同型号新机；超过 1 个月且在保修期内出现质量问题，免费维修。

3、非保修范围

以下情况不属于保修范围：

1) 未按产品说明书、产品目录等规定的使用条件、环境及注意事项使用；
2) 非本公司或未经本公司授权的人员私自拆机、改装、修改程序；
3) 因火灾、自然灾害、电压异常、第三方行为等非产品本身质量原因造成的损坏；
4) 产品的自然损耗、外观磨损及易损耗零部件自然消耗；
5) 其他非本公司或非产品本身原因导致的故障。

4、修受理要求

申请保修服务时，客户需提供有效购买凭证、产品序列号；凭证型号与实物型号一致、无涂改。

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