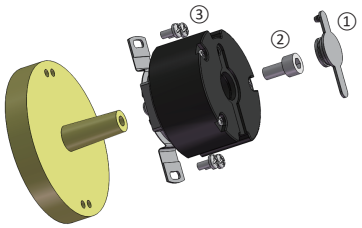
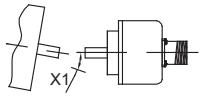
产品安装：

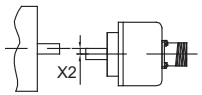


①取编码器，将编码器防尘塞取下。
②将螺钉通过编码器的轴孔紧定在电机轴上。
③用4枚螺钉固定弹簧片，然后用防尘塞封堵上。

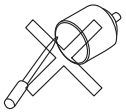
安装注意事项：

① 

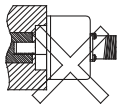
编码器与被测物体轴之间的角度偏差X1＜1.5°。

② 

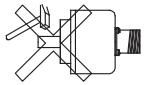
编码器与驱动输出轴之间的径向偏差X2＜0.1 mm。

③ 

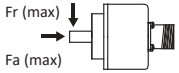
禁止局部或部分拆卸或改装编码器。

④ 

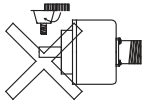
编码器与外部连接需要避免刚性连接。

⑤ 

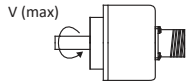
编码器是高精度仪器，安装时严禁敲击和磕碰，安装或使用不当会影响编码器的性能和寿命。

⑥ 

安装时注意编码器允许的轴向/径向最大负载，严禁超过最大值。

⑦ 

禁止对编码器轴进行打磨、切割、钻孔等任何加工处理。

⑧ 

注意不要超过编码器的极限转速，否则可能出现信号丢失。

绝对值多圈25位NRZ协议编码器EAM48

机械特性：

工作温度	-20 ℃ ... +85 ℃
贮存温度	-30 ℃ ... +105 ℃
最大转速	6000 rpm
防护等级	IP54

电气参数：

电源供电(+Ub)	5 V ± 5 %
电源供电状态电流	≤200 mA
单圈分辨率	25 bit(33554432)
多圈分辨率	16 bit(65536)
备电电池电压(BAT+)	3.6 V
备电状态电流(均值)	≈35 µA
输出模式	RS485(NRZ协议)
波特率	2.5 MHz
数据位	8
校验位	无
停止位	1

端子配置：

信号	+Ub	0V	A	B	BAT+	BAT-	屏蔽
色标	红	黑	蓝	蓝/黑	棕	棕/黑	⏚

+Ub:电源供电电压; BAT+:电池供电电压; A,B:通信线

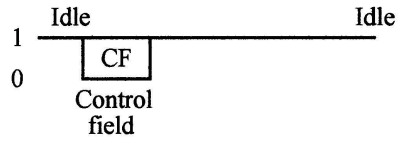
E22125687A/0

我们保留在不事先通知的情况下进行技术更改的权利。 |EN & CN| 创建日期: 15.09.25 | UM_E_EAM48 25 bit_V1.0_EN&CN

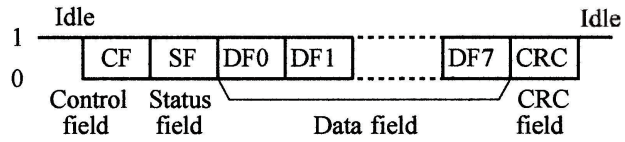
协议说明：

①读数据格式

发送指令



接收数据

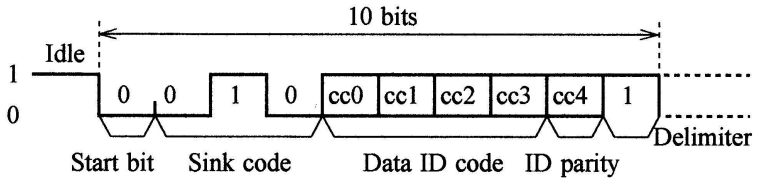


解析接收数据：

以数据ID=3为例：

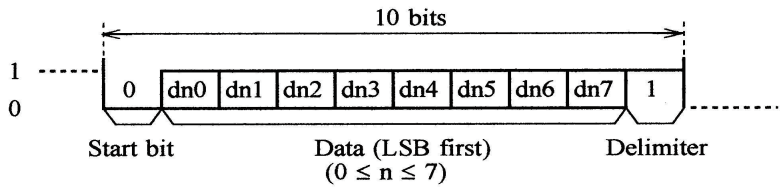
0x1A	0x1A	0x00	0x80	0x1C	0x37	0x19	0x45	0xB4	0x84	0x00	0xDD
主机CF	从机CF	SF	ABS0	ABS1	ABS2	EnID	ABS3	ABM0	ABM1	ALMC	CRC

CF



功能项目	数据ID	代码				校验位
		cc0	cc1	cc2	cc3	cc4
读取数据	ID 2	0	1	0	0	1
	ID 3	1	1	0	0	0
	ID 4	0	0	1	0	1
	ID 5	1	0	1	0	0
写EEPROM	ID 6	0	1	1	0	0
读EEPROM	ID D	1	0	1	1	1
重置	ID 7	1	1	1	0	1
	ID 8	0	0	0	1	1
	ID C	0	0	1	1	0

DF (DF0~DF7)

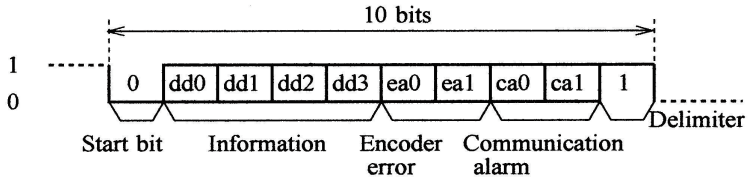


数据ID	DF0	DF1	DF2	DF3	DF4	DF5	DF6	DF7
ID 2	ENID							
ID 3	ABS0	ABS1	ABS2	ENID	ABS3	ABM0	ABM1	ALMC
ID 4	ABS0	ABS1	ABS2	ABS3				
ID 5	ABS0	ABS1	ABS2	ABS3	ABM0	ABM1		
ID 7	ABS0	ABS1	ABS2					
ID 8	ABS0	ABS1	ABS2					
ID C	ABS0	ABS1	ABS2					

ALMC

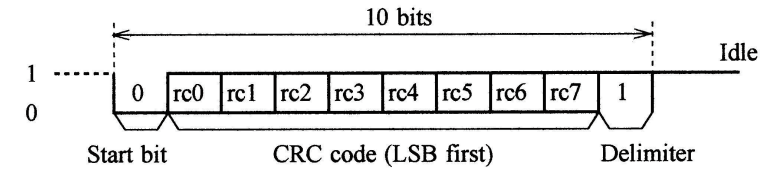
二进制位	Bit0 (DF7)	Bit1 (DF7)	Bit2 (DF7)	Bit3 (DF7)	Bit4 (DF7)	Bit5 (DF7)	Bit6 (DF7)	Bit7 (DF7)
报警触发	1	1	0	0	0	0	1	1
报警描述	超速	位置状态	-	-	-	-	电池报警	电池警告

SF



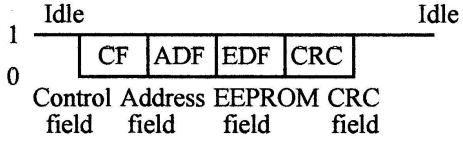
注：无报警和错误，该信息全为0。

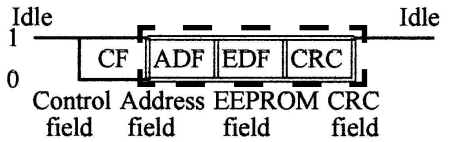
CRC



CRC校验多项式为 G(X) = X8 +1 (X= rc0~rc7)

②写EEPROM格式

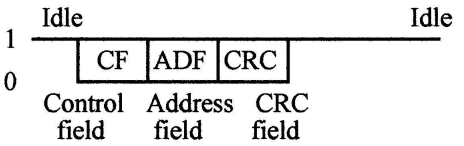


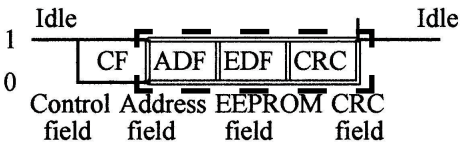


注：虚线处数据，取决于“发送指令”。

1. 例如
   “0x32 0x7F 0x02 0x4F”，将“0x02”页设置为当前页面；
   “0x32 0x0A 0x18 0x20”，将数据“0x18”保存在当前页面的“0x0A”地址中；
2. 每次上电后，默认页为“0x00”。

③读EEPROM格式





注：虚线处数据，取决于“发送指令”。

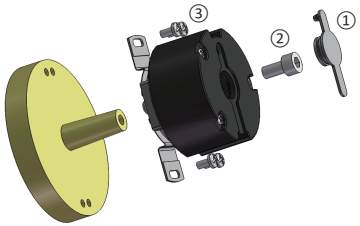
例如：“0xEA 0x0A 0xCF”
读取当前页中的“0x0A”地址中的数据。

绝对值多圈25位NRZ协议编码器EAM48

E22125687A/0

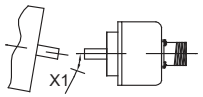
我们保留在不事先通知的情况下进行技术更改的权利。 |EN & CN| 创建日期: 15.09.25 | UM_E_EAM48 25 bit_V1.0_EN&CN

ENCODER INSTALLATION

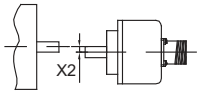


①Open the cap on the rear cover of encoder
②Fix the encoder on the cone shaft with a screw
③Fasten the spring with 4 screws, and then install the cap

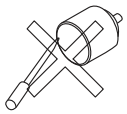
INSTALLATION ATTENTION

① 

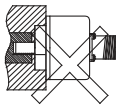
The angle deviation between the encoder and shaft is X1<1.5°.

② 

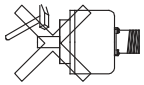
The radial deviation between the encoder and shaft is X2<0.1 mm.

③ 

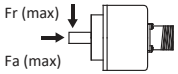
No modification.

④ 

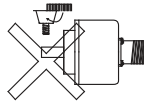
Don't use rigid connection between encoder and flange.

⑤ 

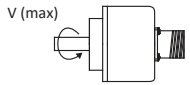
No hammer and impact.

⑥ 

Axial and radial load not beyond the limit.

⑦ 

No maching to the shaft.
(Inc. skiving, sawing, drilling)

⑧ 

Not beyond V(max) , otherwise signal will be lost.

25 BIT NRZ ABSOLUTE MULTI-TURN ENCODER EAM48

MECHANICAL FEATURES

Operating Temperture	-20 ℃ ... +85 ℃
Storage Temperature	-30 ℃ ... +105 ℃
Maximum speed	6000 rpm
Protection class	IP54

ELECTRICAL PARAMETERS

Power supply voltage (+Ub)	5 V ± 5 %
Current of main power	≤200 mA
Single-turn resolution	25 bit(33554432)
Multi-turn resolution	16 bit(65536)
Battery (BAT+)	3.6 V
Current of battery(avg)	≈35 μA
Output type	RS485(NRZ)
Baud rate	2.5 MHz
Data bit	8
Check bit	/
Stop bit	1

TERMINAL ASSIGNMENT

Signal	+Ub	0V	A	B	BAT+	BAT-	Shield
Color	RD	BK	BU	BU/BK	BN	BN/BK	⏚

+Ub:Power supply voltage; BAT+: Battery supply voltage; A, B: Communication wire

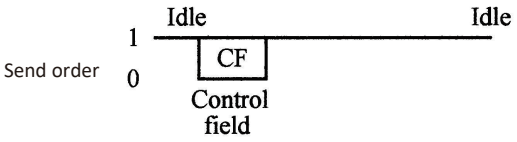
E22125687A/0

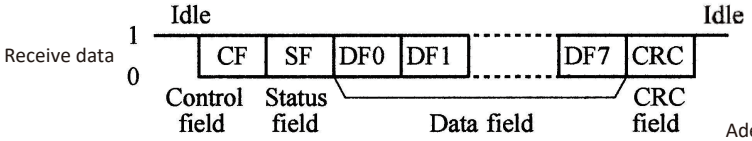
We reserve the right to make technical alterations without prior notice. |EN & CN| Creation date: 15.09.25 | UM_E_EAM48 25 bit_V1.0_EN&CN

25 BIT NRZ ABSOLUTE MULTI-TURN ENCODER EAM48

PROTOCOL SPECIFICATION

①Read data format



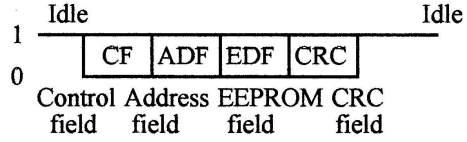


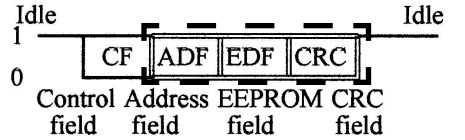
Parse the received data

For example, data ID=3:

0x1A	0x1A	0x00	0x80	0x1C	0x37	0x19	0x45	0xB4	0x84	0x00	0xDD
Adevice CF	Bdevice CF	SF	ABS0	ABS1	ABS2	EnID	ABS3	ABM0	ABM1	ALMC	CRC

②Write EEPROM format

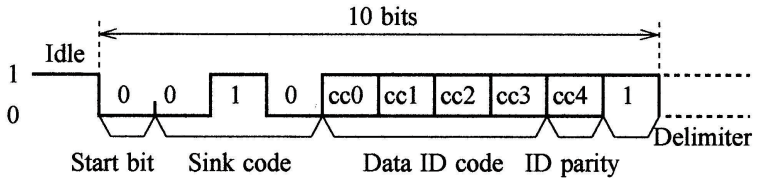




The data in the dotted line depends on the sending order.

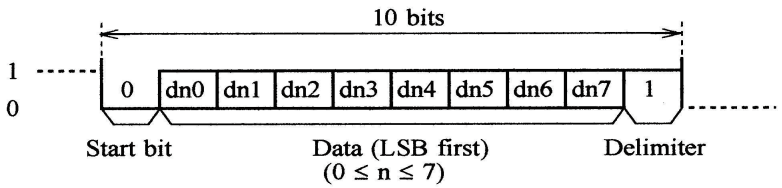
1.For example:
"0x32 0x7F 0x02 0x4F", set the page of"0x02" to the current page;
"0x32 0x0A 0x18 0x20", save the data "0x18"in the address"0x0A"of the current page.
2. After each power-on,the degault page is"0x00".

CF



Application	Data ID	Code				Parity
		cc0	cc1	cc2	cc3	cc4
Data readout	ID 2	0	1	0	0	1
	ID 3	1	1	0	0	0
	ID 4	0	0	1	0	1
	ID 5	1	0	1	0	0
Writing to EEPROM	ID 6	0	1	1	0	0
Readout from EEPROM	ID D	1	0	1	1	1
Reset	ID 7	1	1	1	0	1
	ID 8	0	0	0	1	1
	ID C	0	0	1	1	0

DF (DF0~DF7)

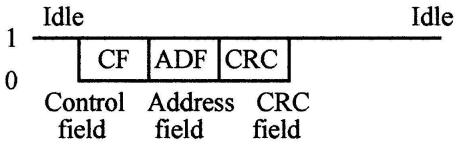


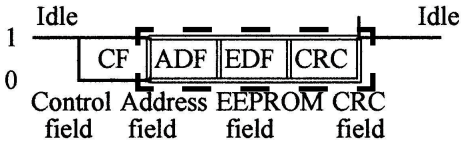
Data ID	DF0	DF1	DF2	DF3	DF4	DF5	DF6	DF7
ID 2	ENID							
ID 3	ABS0	ABS1	ABS2	ENID	ABS3	ABM0	ABM1	ALMC
ID 4	ABS0	ABS1	ABS2	ABS3				
ID 5	ABS0	ABS1	ABS2	ABS3	ABM0	ABM1		
ID 7	ABS0	ABS1	ABS2					
ID 8	ABS0	ABS1	ABS2					
ID C	ABS0	ABS1	ABS2					

ALMC

Binary digit	Bit0 (DF7)	Bit1 (DF7)	Bit2 (DF7)	Bit3 (DF7)	Bit4 (DF7)	Bit5 (DF7)	Bit6 (DF7)	Bit7 (DF7)
Alarm trigger	1	1	0	0	0	0	1	1
Alarm type	Over speed	Location	-	-	-	-	Battery alarm	Battery warning

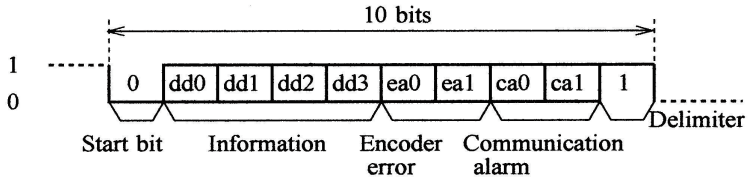
③Read EEPROM format





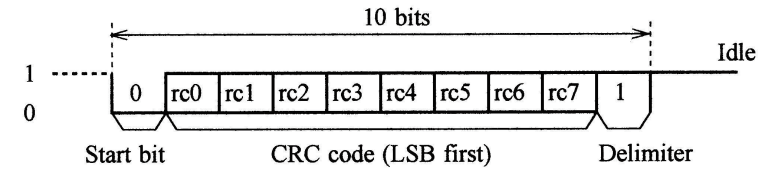
The data in the dotted line depends on the sending order.

SF



If there are no alarms and errors, the data is all zero.

CRC



CRC check polyomial is G(X) = X8 +1 (X= rc0~rc7)

For example: "0xEA 0x0A 0xCF"
Read the data of address "0x0A" on the current page.

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