

1 填空

-
- ```

graph LR
 1.1[1.1] --- 0.176[0.176]
 1.1 --- 0.088[0.088]
 1.1 --- 1.2[1.2]
 1.1 --- 1.3[1.3]
 1.1 --- 1.4[1.4]
 1.2 --- 1.2.1[优点]
 1.2 --- 1.2.2[缺点]
 1.3 --- 1.3.1[优点]
 1.3 --- 1.3.2[缺点]
 1.4 --- 1.4.1[直流]
 1.4 --- 1.4.2[交流]
 1.4.1 --- 1.4.1.1[电流]
 1.4.1 --- 1.4.1.2[电压]
 1.2.1 --- 1.2.1.1[电驱兼容性好]
 1.2.1 --- 1.2.1.2[电路简单, 适合于低成本简单应用]
 1.2.1 --- 1.2.1.3[电流电压纹波小]
 1.2.2 --- 1.2.2.1[效率高]
 1.2.2 --- 1.2.2.2[仅用于小功率场合]
 1.3.1 --- 1.3.1.1[效率高]
 1.3.1 --- 1.3.1.2[适合于大功率级应用]
 1.3.1 --- 1.3.1.3[适合于数字化控制]
 1.3.2 --- 1.3.2.1[电驱兼容性问题]

```

8  
E其实也不是不行

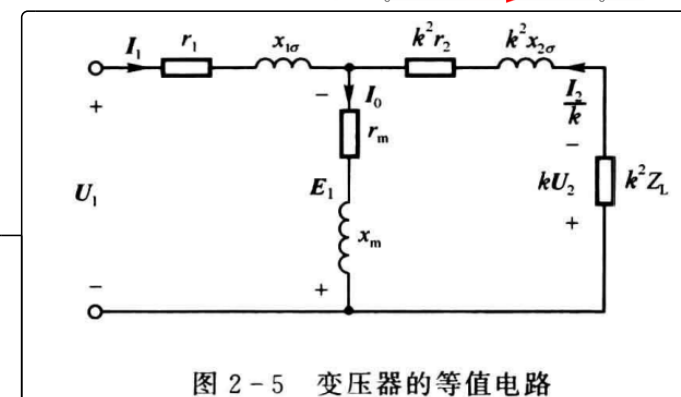
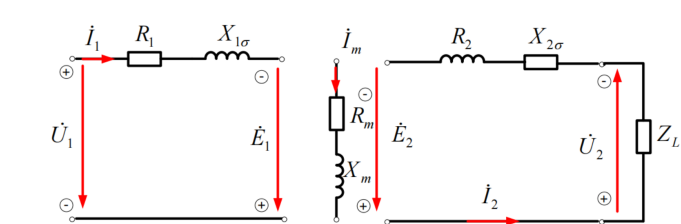
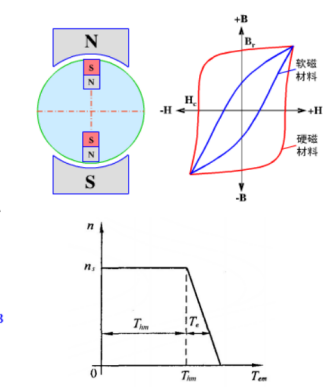


图 2-5 变压器的

2 单选

- |       |   |
|-------|---|
| 2.3 A |   |
| 2.4 B |   |
| 2.5 D |   |
| 2.6   | B |
|       | F |
| 2.7 B |   |
| 2.8 C |   |

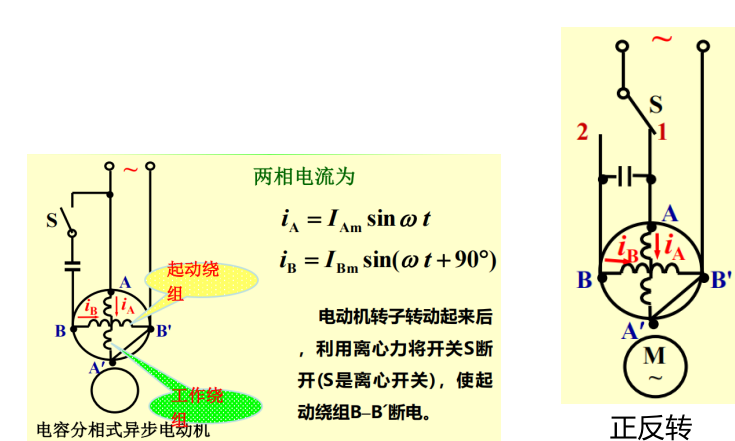
### 基本原理



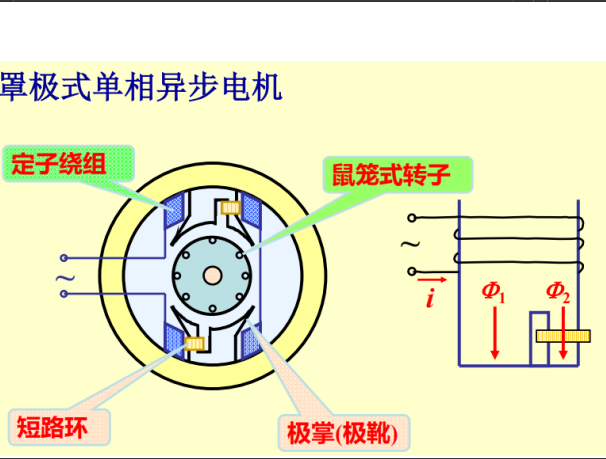
- |        |                      |
|--------|----------------------|
| 2.9 C  | 的作用, $T = T_C + T_D$ |
| 2.10 B |                      |
| 2.11 D | 应该是绝对式               |

3 多选

- |          |             |
|----------|-------------|
| 3.1 ABCD |             |
| 3.2 ABC  |             |
| 3.3 AC   |             |
| 3.4 BCD  |             |
| 3.5 ACD  | CD只是正方向不同而已 |
| 3.6 ACD  |             |
| 3.7 BCD  |             |



- 

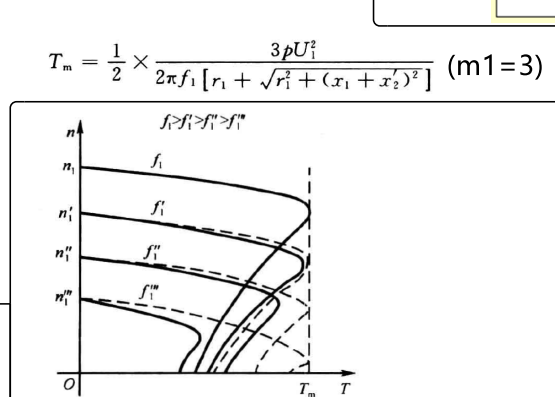


- |         |   |
|---------|---|
| 3.9 BCD | A |
|---------|---|

老师当过厨子吗

#### 4 简答

- ## ■ 卷带说明还有争议
- 应该不行
- The diagram shows a motor (M) connected to a pulley system. A belt (B) is driven by the motor and passes over a series of pulleys. A sensor (S) is positioned to detect the belt's position. The sensor output is connected to a counter (计数单元) which displays a value (N). The belt has a width of 100mm and a thickness of 1mm. The pulleys have diameters of 100mm and 10mm. The motor is labeled M=0.1kW and the sensor is labeled S=0.1kW. The counter is labeled N=0.1kW.
- 每个周期可以测出一个位置 但不一定准确
- 进阶
- 启动频率变化
- The graph shows a trapezoidal frequency response. The vertical axis is labeled 'f' and the horizontal axis is labeled 't'. The frequency starts at a low value, rises linearly to a peak, remains constant for a period, and then falls linearly back to the initial value.
- 定时测角 高速场合
- 4.3
- M法测速 (定时测角)
- 定时测角
- 选用高速场合
- The diagram shows a motor with a timing diagram. The motor is labeled '电动机' and the timing diagram is labeled '定时测角'. The timing diagram shows a series of pulses with a period of  $\frac{60}{n}$  and a width of  $\frac{60}{n \cdot P}$ . The motor speed is labeled  $n$  (r/min) and the pulse frequency is labeled  $P$  (Hz).
- 分辨率
- $\frac{60}{n} (m_s = 1)$
- $\frac{60}{n \cdot P}$
- 每转产生的脉冲数为P
- 检测时时间t
- 检测时脉冲G
- 检测时脉冲数m



当频率很小时,  $x_{\text{顺抗}}$  很小, 此时  $r_1$  大小不容忽视, 因此  $T_m$  减小

当频率很小时,  $x$  感抗很小, 此时  $r_1$  大小不容忽略, 因此  $T_m$  减小

$\text{Fpn}(n, t) = n \cdot \frac{2^{2n-1}}{2} \cdot (\text{Sum} - \text{Sum})$   
 $u = 2 \cdot \text{Sum} \cdot t = 2 \cdot 2 \cdot \text{Sum} \cdot t = 4 \cdot \text{Sum} \cdot t$   
 $\text{Fpn}(n, t) = \text{Fpn}(n, \text{Sum} \cdot t)$   
 $\text{Fpn}(n, \text{Sum} \cdot t) = \text{Fpn}(\text{Sum} \cdot 2 \cdot \text{Sum} \cdot t, \text{Sum} \cdot t)$   
 $\text{Fpn}(n, \text{Sum} \cdot t) = \text{Fpn}(\text{Sum} \cdot 2 \cdot \text{Sum} \cdot t, \text{Sum} \cdot t)$   
 $\text{Fpn}(n, \text{Sum} \cdot t) = \text{Fpn}(\text{Sum} \cdot 2 \cdot \text{Sum} \cdot t, \text{Sum} \cdot t)$

- [illegible]

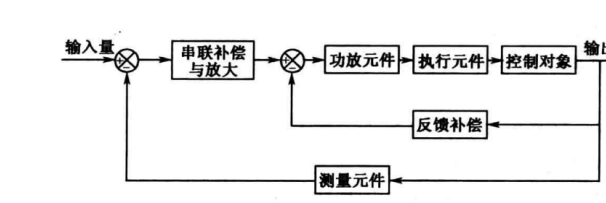


图 0-7 曲柄肘杆机构的示意图

- |     |                     |                                                                                                |
|-----|---------------------|------------------------------------------------------------------------------------------------|
| 4.7 | ■ <b>执行元件</b>       | 其功能是驱动控制对象，控制或改变被控量(输出量)<br>其功能是将检测测量值送到执行元件并转换成另一种容易实现和使用的量(如电压)                              |
|     | ■ <b>测量元件</b>       | 测量元件一般称为传感器，在过程控制中又称为变送器<br>其功能是将检测信号放大                                                        |
|     | ■ <b>放大元件</b>       | 放大元件又可分为前置放大元件和功率放大元件<br>功率放大元件的输出信号具有较大的功率，可以直接驱动执行元件                                         |
|     | ■ <b>补偿元件(校正元件)</b> | 为了保持系统稳定并使系统达到规定的精度等性能指标，控制器的设计往往还要在系统中增加一些元件，这些元件称为补偿元件<br>补偿元件的作用是改善系统的性能，使系统能可靠地工作于预期的性能指标。 |

- ### 5.1 假设 只有一个电机 我也不知道有几个

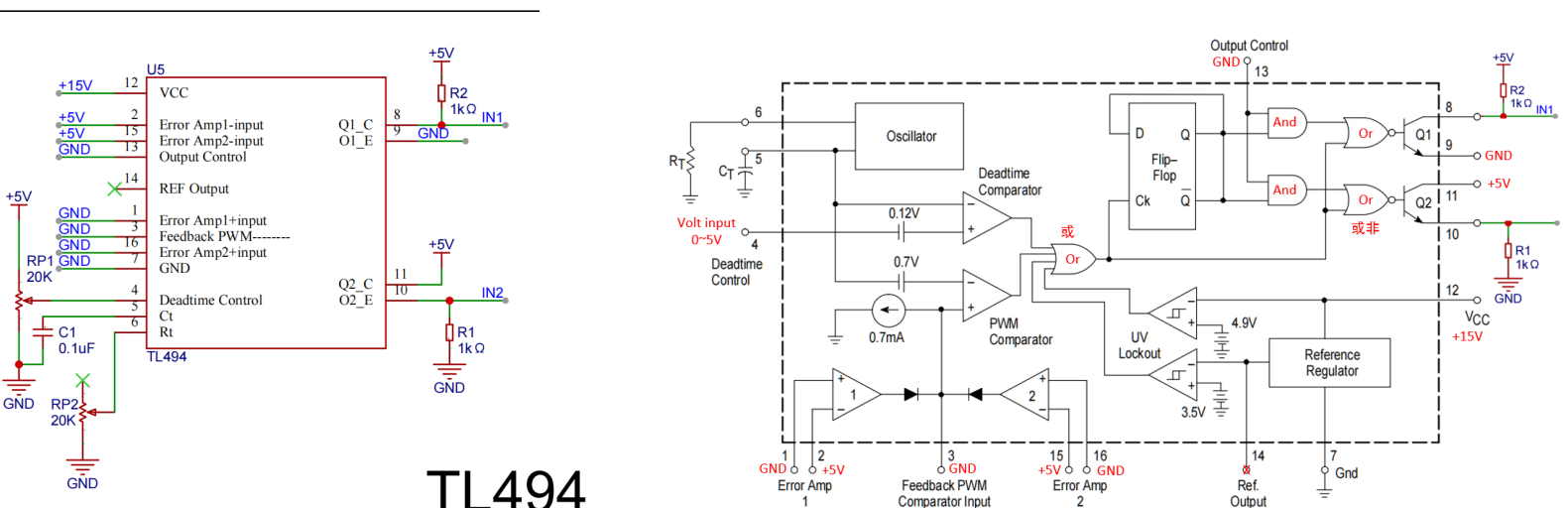
$$a = 10 \text{ m/s}^2$$



$$T_{\text{max}} = T_f + m a r = 161 \text{ N} \cdot \text{m}$$

$$N_N = 60 \frac{v_{\text{max}}}{2\pi r} = 191 \text{ rpm}$$

$$T_N = \sqrt{0.2 (T_f + m a r)^2 + 0.2 T_f^2 + 0.2 (T_g - m a r)^2}$$

$$= \sqrt{0.2 (20 \text{ m}^2 + 3 T_f^2)} = 0.637 \text{ N} \cdot \text{m}$$



- 6.1
- |   |                                                                                     |
|---|-------------------------------------------------------------------------------------|
| 5 |  |
| 8 |  |
| 9 |                                                                                     |

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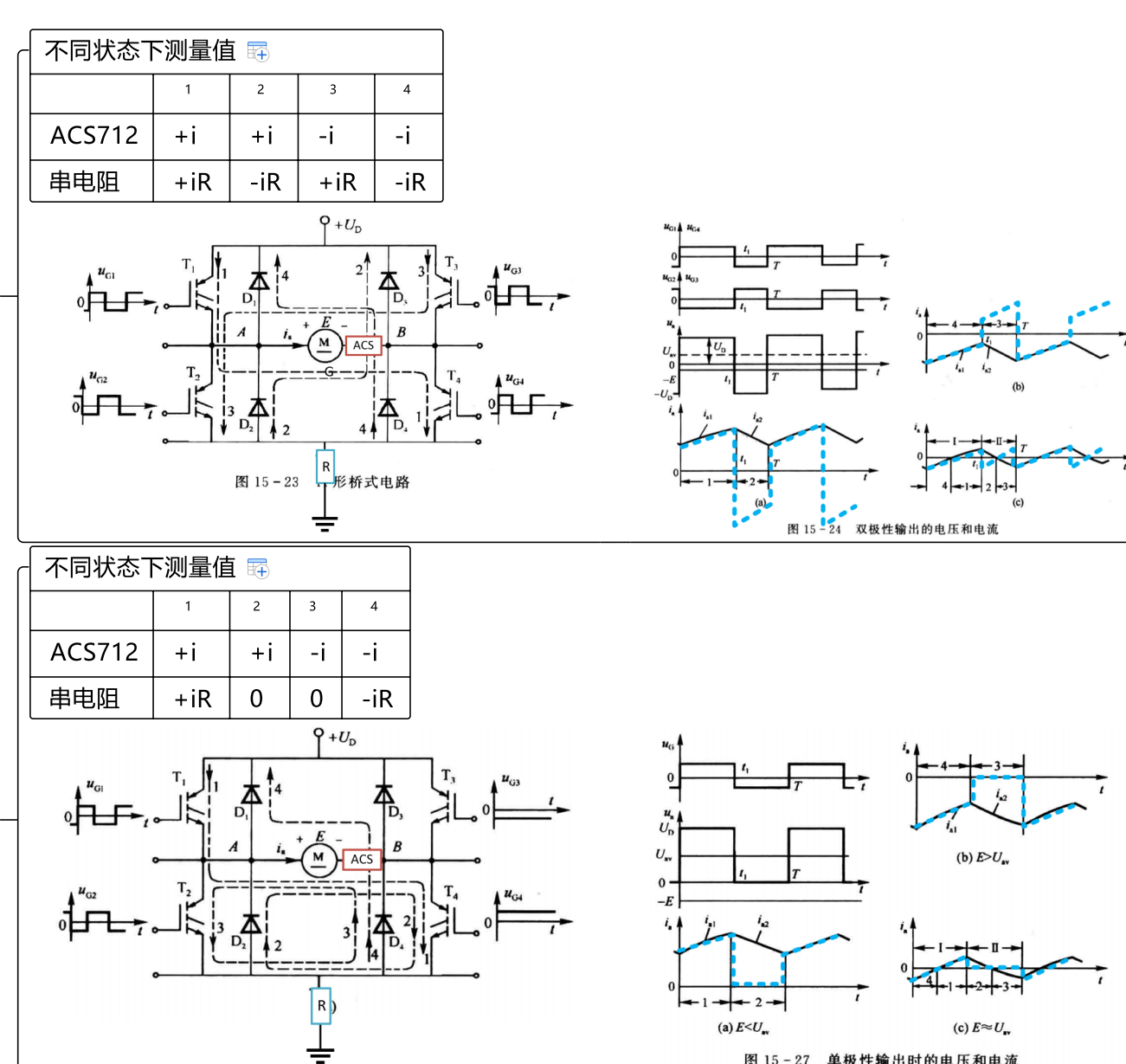


图 35-27 单极性能比较时的电压源电路

